ENTERPRISE TECHNOLOGY STRATEGY and SERVICES

2022 ANNUAL REPORT

State of Rhode Island, Department of Administration

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About ETSS

The Enterprise Technology Strategy and Services (ETSS) team formally includes the Division of Information Technology (DoIT) and the Office of Library and Information Services (OLIS). DoIT is 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.

Office of the CDO/CIO IT PPMO, VMO, Finance
Cybersecurity & Risk

Agency & Enterprise Applications	Infrastructure & Operations	Office of Library & Information Services
Agency & Enterprise Application Management, Data Analytics, Digital & Web Services	Network, Voice, Cloud, Virtual, Endpoints, IT Services Delivery, Mail Operations, Incident Response	ETSS Knowledge Management, Talking Books, State assistance to local libraries

Figure 1: ETSS Organization

Under the leadership of the State's former Chief Digital Officer (CDO) and Chief Information Officer (CIO) Bijay Kumar and interim CDO / CIO and Chief Information Security Officer (CISO) Brian Tardiff, ETSS successfully strategized and addressed the technology challenges of this past year with a core focus on governance, staff competency and capacity, process improvements, and technology modernization. These efforts and the dynamic nature of

technology manifest itself in continuous refinements to DoIT's functional organizational structure, lean IT processes, and strategic improvements of State applications and technologies. The CIO/CDO conducts ETSS all-hands meetings, quarterly business reviews with all supported agencies, quarterly leadership offsites, and structured weekly/monthly meetings. Vendor quarterly business reviews and technical business reviews are also conducted to ensure DoIT is abreast of vendor activity and potential IT improvement opportunities. This defined cadence enables the organization to maintain a shared structure and vision, align resources, sustain team morale, and drive technology and IT service advancements.

ETSS understands the reliance that State government has on secure, reliable, and intuitive IT systems for the delivery of critical services to Rhode Islanders. In support of these services, our core functional responsibilities include management of IT projects for the Executive Branch, 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 networked infrastructure and connected technology.

The Division's core functional areas (towers) are Agency and Enterprise Applications, Infrastructure and Operations, Security, IT Project Management, IT Vendor Management, and IT Finance.

- The Chief of IT Agency and Enterprise Applications manages the State's application portfolio and actively engages with State agency leadership to develop strategies to digitalize State government processes.
- The Chief of IT Infrastructure and Operations provides a secure and resilient network and private and public cloud. It also oversees the managed endpoints to access the suite of IT services and applications across the enterprise.
- The Chief of IT Security (CISO) works to implement and assess security frameworks, controls, and policies to ensure that all IT projects, vendors, infrastructure, systems, applications, and data are protected and managed to the lowest level of risk possible.
- The IT Portfolio and Project Management Office (PPMO) manages the lifecycle of the IT product portfolio and maintains a standardized reporting platform to track all IT projects to successful completion.

- The IT Vendor Management Office (VMO) reviews and negotiates 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 PPMO. To ensure consistent execution of the governance process, the PPMO, VMO and CFO work in close collaboration

DoIT's blended staff of contractors and 195 full-time employees is tasked with both maintaining operational excellence and modernizing the State's IT portfolio, thereby driving strategy for secure, sustainable, scalable 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.

DoIT provides either direct support or assistance to all members of the Executive Branch. This support is either through the assignment of dedicated IT resources, or support in the delivery, configuration, management, governance, cybersecurity, or operations of critical IT systems or services. DoIT continues to serve in a leadership role in the standardization of cybersecurity and IT services and systems across all of Rhode Island.

Information Technology Strategic Drivers

SECURE	SCALABLE	SUSTAINABLE

ETSS tracks national trends and advances in public and 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, including Rhode Island.

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 identified this year align with existing ETSS priorities and reflect the growing reliance on secure, scalable, and sustainable constituent-focused digital transformation at the state level.

Digital Government

The proliferation of internet-based services and capabilities have increased our constituents' and business partners' expectations regarding convenient and personalized digital experiences. Digital transformation refers to strategic cross-cutting organizational change as well as the implementation of digital technologies and elimination or reduction of burdensome and time-consuming paper-based processes. Our focus on the digitalization of processes aligns with the Department of Administration's Rhode Island 2030 plan and is our core Key Performance Indicator. We intend to accomplish this objective by partnering with our agency partners to assess, prioritize, and establish critical online and/or paperless processes using the appropriate technology to ensure secure, scalable predictable, equitable, consistent, timely, and cost-effective business processes.

In the 2022 Digital States Survey produced by the Center for Digital Government, Rhode Island received our second consecutive **B+ grade**. 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, and this grade reflects our continued commitment to the digitalization of constituent services and business processes.

ETSS continues to engage in a wide range of resident and State business-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.

Digital Records Management	• Digitization of Records • Online Forms, Digital Signatures
Content Management	• Web Content Management, Kiosks • ChatBots, Virtual Assistants, Social Media Integration
Analytics & Reporting	• Data Sharing, Data Transparency, Data Visualization • Self Service, Predictive Analytics
Workforce Enablement	• Digital Academia • Digital Workspace / Collaboration Tools
Legacy Modernization	• Enterprise Resource Planning • Informix, Mainframe, Access (..other legacy) transformation
Connected Devices	• Internet of Things • OS Agnostic
Business Process Automation	• Omni Channel One Stop Shop • Digital Workflows
Infrastructure & Operations	• Cloud Enablement • Business Continuity & Disaster Recovery
Security / Privacy	• Multifactor Authentication • Role Based System access & Modern Monitoring
Digital Innovation	• Block Chain • Artificial Intelligence, Smart Cities, 5G Enablement

Figure 3: Digital Themes

Division of Information Technology - DoIT

Office of the Chief Digital Officer / Chief Information Officer

Enterprise IT Governance

IT Governance is at the core of our IT modernization and transformation efforts. Our well-defined IT project governance has driven the successful oversight and completion of application, infrastructure, and security projects of varying scope and budget across State government. The integration of a defined security governance framework has enabled a more strategic approach toward the implementation of a cybersecurity defense in-depth architecture. Making the enterprise policy library, which aligns with the selected NIST Cyber Security Framework, accessible to external vendors and partners helps 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.

The state implemented an IT project approval policy that defines the governance process for all IT projects. This governance process 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. This process provides ETSS leadership the opportunity to align all proposed IT projects with the broader technology and business strategies in the State.

Portfolio and Project Management - PPMO

The DoIT Portfolio and Project Management Office (PPMO) works to actively manage the IT product portfolio lifecycle by executing the IT governance processes, tracking and reporting of all IT projects, and aiding agency project teams in project delivery as necessary. In CY2022, the PPMO tracked 37 projects to completion; this total does not reflect agency-level projects that did not require PPMO-level project management. The number of completed IT projects by agency is displayed below, with further project details in Appendix A.
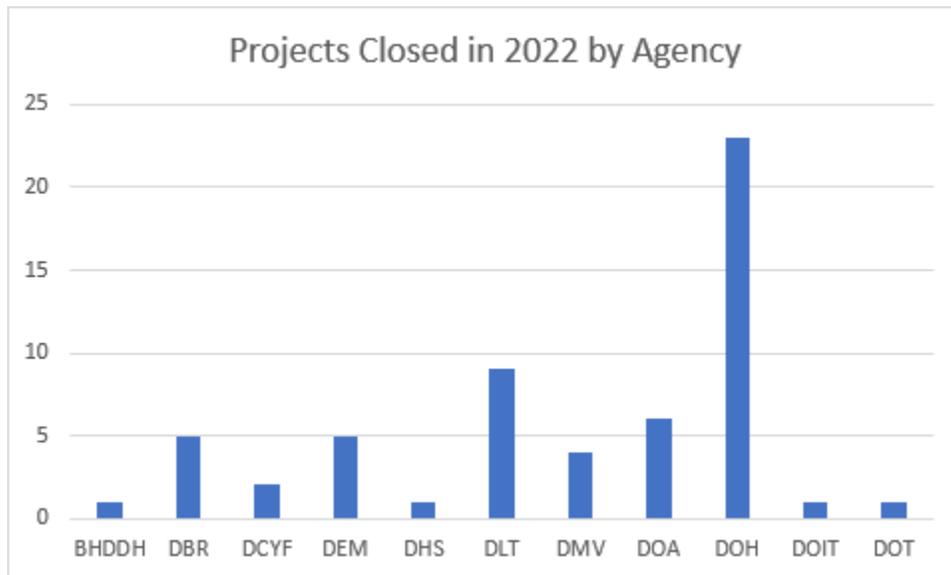
Figure 4: Completed Projects

The PPMO has implemented a digital project pipeline and review input process. All projects are captured once they enter the pipeline and updated through project approval and delivery. Projects that are identified as large or critical must complete all required documentation to ensure the appropriate level of rigor is applied for success of project delivery. The PPMO maintains a SharePoint reference site that provides clear direction on project governance, project monitoring, and project tools. The Advisory 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 align with the strategic goals of the Division, serve the purpose of the agency and constituents adequately, and comply with standards and policies. The PPMO is currently tracking 49 active projects, including RFPs in flight. RIDOH has eight open projects and DoIT has seven. The remaining projects are spread across the other agencies, as illustrated below and outlined in Appendix B.

Active Projects CY 2022
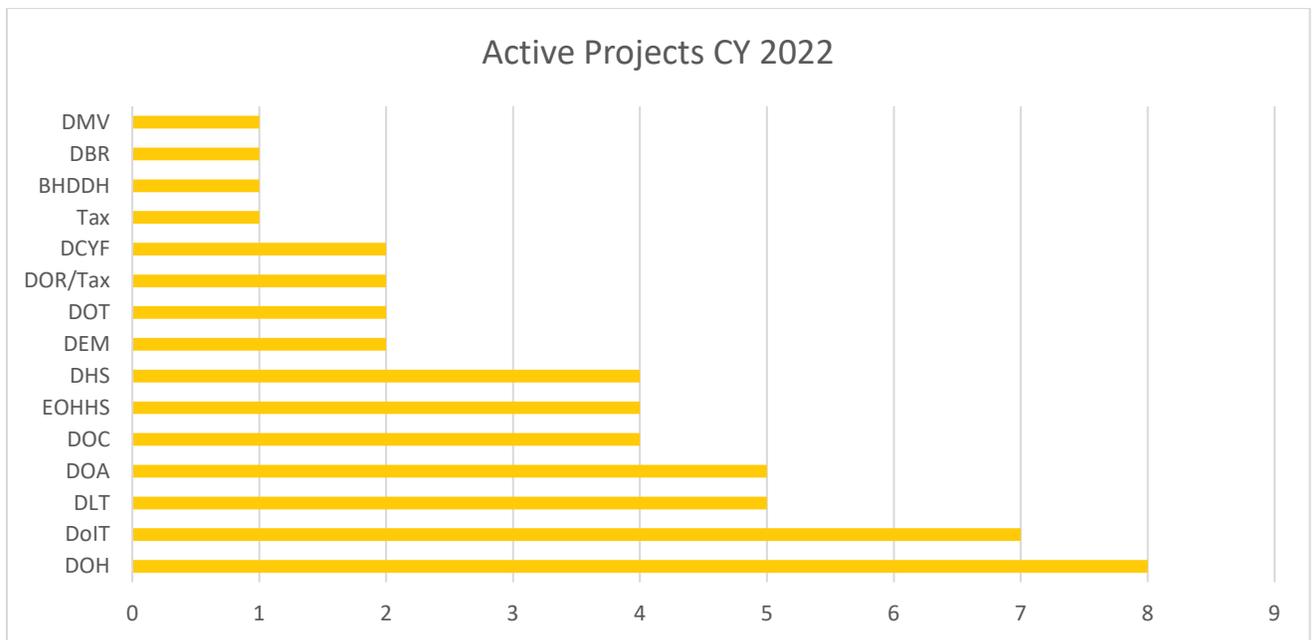
Figure 5: Active Projects

IT Vendor Management - VMO

The mission of IT Vendor Management Office (VMO) is to enable efficient and effective procurement of IT third-party products and services. The IT VMO proactively partners with IT Towers (Agency and Enterprise Applications, Infrastructure and Operations, Security) and State agencies during procurement and renewals of IT services, hardware, software, and contractor

staffing. VMO continues to focus on optimizing IT contract delivery by identifying ways to reduce the contracting cycle time, by negotiating favorable terms and pricing, and by mitigating risk through vendor governance and performance.

In CY2022, VMO delivered strategic contracts such as Software as a Service (SaaS) ERP [HR, Payroll, and Finance Implementation], RICHIST [Child Welfare] Planning Vendor, Cannabis Solution, and other cloud-related and COVID-19 projects. Key renewals included Microsoft Enterprise Licensing renewal, SunGard disaster recovery renewal, and Amazon Web Services (AWS) cloud consumption renewal with Carahsoft.

Key Sourcing Initiatives for Agencies

- Department of Administration

    - ERP SaaS Implementation and support related services: Delivering a negotiated cost savings of about $3.4M and value add / cost avoidance of about $8.7M
        - SaaS ERP Implementation and Support RFP – System Implementation
        - SaaS ERP Software
        - SaaS ERP IV&V services
        - SaaS ERP Staffing RFP
        - ERP Advisory services contract award and Amendments

    - Knowledge Services; managed and processed over 200 consultant hires and extensions

    - eCMS content management contract renewal

    - Master Price Agreement for Software Services, MPA227

- Department of Labor and Training

    - 4 contracts with a total contract value of about $4.5M

- Department of Business Regulation

    - 6 contracts with a total contract value of about $1.5M and total negotiated savings of about $1.2M

- Department of Environmental Management

    - RFP for DEM FoxPro and Agri modernization

- Department of Children, Youth and Families

- o RICHIST renewal

- o Via RFP, planning vendor contract for Comprehensive Child Welfare Information System (CCWIS)

- EOHHS / Department of Human Services

  - o Medicaid Enterprise System; planning vendor contract for Medicaid System

  - o RI Bridges Independent Verification and Validation contract with Vendor CSG

  - o DHS and Governor's Office; RFP for Rhode Island Start Early System (RISES).

- Department of Health

  - o Contract extensions for Infosys' Salesforce (SF) M&O and 401Health.

  - o Salesforce License renewal

- Enterprise Infrastructure, Security, Network and Telecom Services

  - o RFP – Disaster Recovery, SunGard

  - o MS Office 365 and SQL Enterprise renewal

  - o MPA RFPs – 308, 390, 227, 188, 367

  - o Ernst & Young Cybersecurity Assessment.

The following graph depicts the monthly metrics on various contract artifacts such as Purchase Request Accounting Form, renewals, agreements, amendments, NDAs, and audits managed for compliance with vendors.
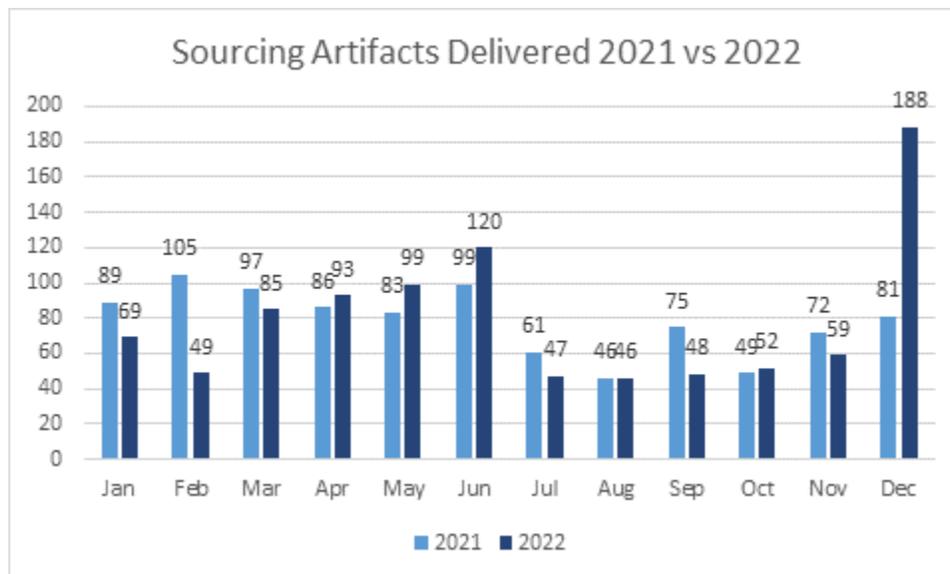
Figure 6: VMO Artifacts

IT Procurement Savings VMO maintains and documents the ongoing commercial negotiations and savings across procurement categories – labor, hardware, software, and services. Savings are captured under two broad segments: 1) cost savings that are negotiated as part of contract negotiations during RFP and renewals; and 2) cost avoidance including additional negotiated value-added services such as additional scope, labor hours, or new tool investments.

Calendar 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	$ 8,146,562
2021	$ 5,912,826	$ 854,849	$ 6,767,676
2022	$ 8,880,358	$ 8,681,399	$ 17,672,546
TOTAL	$ 28,943,377	$ 18,186,653	$ 47,240,819

Table 1: VMO Contract Cost Savings

Budget Cost Control and Fiscal Management

ETSS 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 Funds 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 2023 is expected to have a total IT spend of approximately $272 million.

Having a fully operational finance function within DoIT has enabled better control over the roughly $51 million DoIT Internal Service Fund budget. Along with comprehensive chargebacks of IT costs, DoIT finance has enabled proactive budgeting and escalation of potential issues. The breakdown of the DoIT budget is depicted in table 2 on page 15.

Total	$ 51,348,410
Allocated to:	
RI FANS	$ 1,633,482
Office of the CDO / CIO	$ 2,547,279
Infrastructure and Operations	$ 32,807,101
App/Dev (DMV/DOR/DBR/DLT)	$ 2,348,346
App/Dev (DOA/DEM/DOC/DOT)	$ 6,431,013
App/Dev (DOH/BHDDH/DCYF/DHS)	$ 3,617,631
Project Management Office	$ 1,963,558

Table 2: 2021 Budget

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) and encompasses the projects listed in Table 4 below. In CY2022, the RI.gov portal processed **2,188,946** transactions and collected **$130,364,167** in funds on behalf of the State entities served; **$126,088,495** was remitted to the State to finance agency operations. The difference funded NIC RI's maintenance and development of the portal.

Agency	Transactions	Gross Collected	Remitted to State	Retained NIC RI
Division of Motor Vehicles	854,358	$38,771,607.79	$37,630,392.50	$1,141,212.59
Dept. of Environmental Management	74,894	$7,983,008.44	$7,173,384.64	$864,752.90
Division of Information Technology	10	$623,682.00	$0.00	$623,682.00
Division of Taxation	455,474	$12,723,078.94	$12,277,766.06	$445,307.63
Secretary of State	117,410	$6,240,695.95	$5,922,569.08	$335,433.34
Dept. of Human Services	35,461	$7,920,161.89	$7,695,420.26	$224,742.16

Agency	Transactions	Gross Collected	Remitted to State	Retained NIC RI
Dept. of Business Regulation	34,801	$5,244,821.49	$5,062,150.48	$182,825.09
Dept. of Transportation	13,101	$3,066,007.50	$2,941,630.00	$124,377.00
Enterprise Content Management	1,226	$86,595.06	$0.00	$86,659.69
City of Pawtucket	13,395	$12,888,146.70	$12,830,594.52	$57,555.25
Dept. of Labor and Training	8,841	$1,242,188.26	$1,190,178.47	$52,009.79
Office of the Attorney General	53,747	$1,112,205.98	$1,064,150.00	$48,056.00
Dept. of Education	7,301	$1,731,000.00	$1,689,700.00	$41,300.00
Dept. of Health	84,143	$16,772,684.07	$16,747,544.20	$26,970.17
Town of Bristol	3,096	$3,214,677.36	$3,191,327.39	$23,350.36
Univ. of Rhode Island	1,659	$589,637.20	$572,709.00	$16,928.20
Dept. of Administration	412,141	$109,221.31	$91,788.11	$10,707.20
Dept. of Children, Youth and Families	7,758	$89,217.00	$77,580.00	$11,637.00
City of Newport	1,042	$42,036.00	$33,931.00	$8,105.00
Central Collections Unit	654	$188,914.81	$185,027.19	$3,887.71
Division of Public Utilities and Carriers	0	$3,228.84	$0.00	$3,228.84
Ethics Commission	4,202	$2,101.00	$0.00	$2,101.00
Town of Westerly	962	$32,234.78	$29,920.80	$2,313.98
Office of the General Treasurer	836	$9,553,720.16	$9,553,720.16	$1,672.00
Town of Cumberland	763	$27,779.05	$26,073.00	$1,706.05
Town of Exeter	524	$43,997.40	$42,576.90	$1,420.50
Town of Little Compton	260	$31,161.30	$30,225.09	$936.21
Town of Narragansett	282	$12,231.78	$11,620.20	$611.58
City of East Providence	115	$3,993.00	$3,463.00	$530.00
Town of Burrillville	212	$3,901.90	$3,376.90	$525.00
Town of Richmond	164	$5,812.13	$5,538.36	$273.77
Other Municipal	29	$954.00	$819.00	$135.00
Town of Hopkinton	58	$2,367.80	$2,243.77	$129.25
Lt. Governor	27	$1,096.50	$1,075.00	$21.50

Table 3: Portal Transactions

Information Technology Investment Fund 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 in the capital plan and could have a significant positive impact on operations. The ITIF-approved projects in CY2022 for IT initiatives totaled over **$69.4 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 imperative to collaborate with the General Assembly to think more critically and creatively about how to fund necessary system upgrades and replacements and ensure that a highly skilled IT talent pool is deployed to support technology in the State.

IT Projects Approved by Calendar Year		
Approved Projects in CY 2022		
Department	**Project Title**	**Budget Approved (Multiple Years)**
DOA	eProcurement	$1,695,688
DOA	Enterprise Resource Planning (ERP) FY23 OpEx	$1,100,000
DOA	APRA Request Management Portal	$6,000
DOA/DoIT	Proofpoint e-Discovery	$380,312
DOC	SATS - Substance Abuse Tracking System	$300,000
DOA	DOA ERP Implementation – OpEx FY23 SFRF Originally*	$2,200,000
DEM	DEM Permit and Licensing IT Investments*	$5,800,000
DOC	Wi-Fi and Tech at the ACI*	$3,300,000
RIBridges	RIBridges Mobile Access and Child Care Tracking*	$6,700,000
DBR	Gateway to Government*	$2,500,000
DOR	DOR Tax Modernization – STAARS Cloud Migration and Other IT*	$2,300,000
DLT	DLT Mainframe legacy Modernization*	$19,400,000
BHDDH/ESH	Electronic Medical Records System*	$24,400,000
(Approved in 2022) **Subtotal**		**$69,482,000**
Approved Projects in CY 2021		
Department	**Project Title**	**Budget Approved (Multiple Years)**
DOA	eProcurement	$ 691,000
DOA	Enterprise Resource Planning (ERP)	$50,000,000
DCYF	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) **Subtotal**		**$71,562,266** *

* PLEASE NOTE: Enterprise Resource Planning (ERP) and RI Child Welfare Information System (RICHIST) Replacement totaling $67 million were approved via FY2022 Enacted Budget out of separate funding that is tracked and maintained in the fund.

Table 4: ITIF Approved Projects

Approved Projects in CY 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 CY 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	RI Bridges	$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 CY 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	RI Bridges System M&O Advisory Services	$469,600
DOH	Childhood Lead Poisoning	$511,600
EOHHS/RI Bridges	Augmented Testing Capacity	$102,800
DMV	RIMS/REAL ID	$2,256,312

Department	Project Title	Budget Approved
DOH	Vital Records	$522,000
CCRI/RIC	Integrated Guided Pathway	$697,500
DEM	Expansion of Digital Records	$300,000
DCYF	Child Welfare Information System Modernization	$303,225
DOA/Purchasing	eProcurement/Civic Initiatives	$751,250
DEM	Berthing Management Database	$78,000
(Approved in 2018) Subtotal		**$6,658,190**

Approved Projects in CY 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	RI Bridges	$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**

Cybersecurity and Risk Management

As agencies continued to adopt remote work practices, the DoIT security team worked to make that process as secure and transparent to the users as possible. With the creation of new VPN roles that allow users to access all the same resources they can from the office, the need for desktop computers has decreased, reducing our footprint of devices and, in turn, our threat landscape. We have also deployed cloud-based remote monitoring capabilities, providing DoIT the ability to automate security incident response both on and off the State network.

To measure cybersecurity and IT risk management program maturity and the progress made against the three-year security plan defined in 2018, a third-party cyber program assessment was conducted in the summer of CY2022. The State's overall maturity increased by a measurement of 20%. This is a tribute to the organizational commitment to mitigating cybersecurity threats across the enterprise over the last four years—efforts made possible through user participation in the annual cybersecurity awareness training campaign, continued adoption and adherence to enterprise policies, IT systems modernizations, and investments in advanced security and data protection tools and capabilities.

Access to Public Records Act (APRA) and e-Discovery requests are commonplace in today's environment, and to expedite and simplify the task of conducting these requests, the security team deployed a new archive and e-Discovery tool, enabling streamlined and timely search and discovery capabilities.

As phishing continues to be the top attack vector for bad actors, users remain the biggest risk factor to any organization. According to the annual Verizon Data Breach Report, 82% of breaches in CY2022 were caused by human error. The push for greater participation in the security awareness and training program continues, with training completion rates trending slightly lower this year. Monthly phishing tests continue, and staff reporting using the Report

Phish tool has increased significantly since last year. This increase was due in part to the implementation of Report Phish capabilities for mobile devices, providing reporting capabilities regardless of where and how users access State email.

DoIT is working to mature the cybersecurity posture of not only Executive Branch agencies, but the State of Rhode Island as a whole. The Federal government introduced the State and Local Cybersecurity Grant Program, and the State has declared its intent to participate. Led by the State CIO / CISO and the newly created Rhode Island Cybersecurity Planning Committee, the grant is designed to identify and help address the cybersecurity program risks of Rhode Island's municipalities.

Agency and Enterprise Applications – A&EA

The Agency and Enterprise Applications (A&EA) tower of DoIT continues to execute against previously defined strategic initiatives and continues to partner with agencies to modernize and transform business operations through strategic planning. As trusted advisors to business partners (Executive Branch agencies) we continue to build user-focused, scalable, sustainable, and secure solutions on modern platforms and products. During CY2022, the A&EA team:

1. Continued to execute technology enablement in support of the State's response to the COVID-19 pandemic.
2. Completed contracts for Enterprise Resource Planning (ERP) implementation.
3. Completed the Grants Management Project (GMS).
4. CCWIS Modernization planning vendor.
5. Worked with Division of Purchases to roll out electronic solicitations via Ocean State Procures (OSP).
6. Worked with DLT to issue a DLT Modernization Strategic Plan RFP.
7. Worked with business partners to secure funds for a new Electronic Medical Records system for Eleanor Slater Hospital and the Rhode Island Psychiatric Hospital.
8. Continued on a path to implement enterprise low-code/no-code platforms-as-a-service as the standard application modernization and implementation strategy statewide.

These accomplishments represent significant strides for the A&EA tower that will enable enhanced execution, strategy, and operation of IT across all Executive Branch agencies. However, a large majority of A&EA progress made in CY2022 was 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 proud of the successes achieved despite the challenges posed by the continuing pandemic.

Enterprise Initiatives

Learning Management System (LMS) The Web Services Team provides technical and data support for the Statewide Learning Management Software (LMS). The LMS solution, managed by the Human Resources Division, 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 of Rhode Island employees and potentially 2,000 external users.

Enterprise Content Management System (eCMS) In CY2022, the award-winning Enterprise Content Management System (eCMS) project was completed on time, on quality, and on budget. Over the course of two years (July 1, 2020 - June 30, 2022), the eCMS project delivered all platform requirements and achieved the following critical success factors:

- Consolidated over 80 State of Rhode Island Executive Branch agency websites into a unified, citizen-centered platform.
- Enabled agencies to rapidly deliver world-class digital services with limited internal State resources.
- Engaged with cross-functional partners to drive excitement and advocacy across the agencies.
- Simplified infrastructure for scalability, security, sustainability, and efficiency.
- Verified content quality to foster citizen engagement and trust.
- Provided platform authoring tools that can be quickly taught and easily adopted.

- Exceeded performance benchmarks based on page-load speeds, mobile friendliness, security, and accessibility.

- Better connected Rhode Islanders to government services.

- Measured citizen engagement and satisfaction.

- Fostered reliable and effective customer support.

- Ensured the best user experience and visual design based on modern techniques, thorough research, and expertise.

Today, eCMS-hosted RI.gov website visitors are presented with an impressive digital experience in a secure and reliable environment. Informative and relevant content is delivered in a mobile-friendly, consistent brand manner, exceeds all accessibility (Section 508 ADA) requirements, and offers translations at a touch of a button.

From an administrative standpoint, agency content authors can now maintain their websites in a stable, secure, and scalable cloud-based platform. Through a convenient and intuitive interface which requires no knowledge of programming or complex technologies, staff can ensure content integrity through effective publishing workflows, measure success with detailed analytics, and rapidly deploy a wide range of digital services. In short, the creation of new websites which once took months to complete can now be deployed within a matter of days (if not hours). An interdepartmental, public-private achievement for the State of Rhode Island, the eCMS delivers government information and digital services that is citizen-centric, accessible to all regardless of technology or ability, offers rapid download times to foster digital equity, and dramatically changes how residents interact with their state government.

The Rhode Island eCMS was recognized by industry and government peers as the winner of the 2022 Center for Digital Government, Government Experience Project Award and winner of the 2022 International Acquia Engage: Leader of the Pack – Public Sector Award. These awards recognize the achievements and best practices of states, cities and counties that are radically improving the experience of government services and honor organizations that bring together marketers and technologists to imagine, build, and deliver the most ambitious digital experiences.

Rhode Island's eCMS is a cloud-based platform built within the Drupal 9 content management system and leveraging the Acquia Cloud Site Factory. It includes many features for content authoring and workflow approval, flexible layout and content components, multiple color themes, support for 'dark mode' and other user customizations, multiple language support, system-wide notification alert capability, and a wide range of other features all available without the need for custom coding or advanced technical knowledge.

The platform is a completely custom enterprise-scale system, developed using agile practices within the timespan of eight months. Following a detailed, three-phase approach, the eCMS project was initiated June 2020 and completed on time, on quality, and on budget with a completion date of June 30, 2022.

- **Phase 1** of the eCMS project focused on the design, development, and deployment of the platform, culminating in the launch of three COVID-response resources on December 21, 2020. This suite of COVID-related websites, such as COVID.ri.gov, was deployed ahead of schedule to connect Rhode Islanders with pandemic-related resources. Another key accomplishment relative to Rhode Island's COVID response was the development and implementation of the Pandemic Recovery Office website https://pandemicrecovery.ri.gov. This resource provides citizens with a robust and intuitive transparency portal to review the distribution of federal COVID-19 stimulus funds, including but not limited to those provided under the Coronavirus Aid, Relief, and Economic Security (CARES) Act, and the American Rescue Plan Act (ARPA). During this phase, a considerable amount of agency and user discovery was conducted to determine specific business needs, design preferences, and functional requirements, while identifying and removing content ROT (redundant, obsolete, and trivial information.) This provided the foundation from which critical elements of the platform architecture were developed, including content model development, menu structures, deploying key functional elements, determining user roles and publishing workflows, integrating the Quahog design system, and drafting training materials.

- **Phase 2** closed in February 2021 and concentrated on the integration of several pilot agencies which allowed the State to enhance the eCMS functional capabilities, verify key decisions made in the build process, and scale the entire platform accordingly. Specifically, the hosting environment was configured in accordance with security, accessibility, and information architecture best practices. To ensure the sustainability of the platform, the eCMS team also initiated an engaging, informative, and continuous training program for agencies that are part of the eCMS franchise. In addition, a detailed documentation and feedback website is now available on the live service, https://documentation.ecms.ri.gov.

- **Phase 3,** which was divided into five migration sets of 15 sites each, ran through June 2022 and integrated the remaining Executive Branch agency websites into the platform. During each three-month migration set, the eCMS project team solicited agency and stakeholder feedback in an iterative manner by conducting weekly design and content review working sessions. In addition, recommendations were made to realign, consolidate, rewrite, or remove content based on current best practices.

Along with the eCMS training program initiated in Phase 2, a direct communication campaign and a series of Digital Academies are in flight to allow eCMS administrators, publishers, and authors the opportunity to learn more about the platform, share success stories, identify potential issues, and discover best practices regarding maintaining digital content.

With 75 state agency websites successfully deployed within the eCMS platform, the State of Rhode Island is now able to engage with cross-functional partners to drive excitement and advocacy across all state agencies, simplify infrastructure for scale and efficiency, foster reliable and effective customer support, better connect Rhode Islanders to government services, exceed citizen technological expectations, and deliver world-class digital services with limited internal state resources.

Prior to the start of the eCMS project, state sites were developed and maintained across a variety of different technologies based on each agency's available resources. Some sites were

static websites built using HTML, CSS or JavaScript. Other agencies had dedicated web development teams, allowing them to build more advanced, dynamic custom websites.

Occasionally, agencies leveraged content management systems to host and maintain their websites. This resulted in a disparate experience for citizens, businesses, and visitors. Agency sites had inconsistent designs, leaving users unsure if the resource they were viewing was an "official" Rhode Island government site. Navigation mechanisms were inconsistent, inconveniencing users who needed to explore multiple agency sites to find information. There was no centralized space for documents and information, resulting in multiple versions of the "truth" across different sites.

Part of the implementation of the eCMS platform included the development of Quahog, a comprehensive, component-based visual design system applied to all Rhode Island government websites (https://state-of-rhode-island-ecms.github.io/ecms_patternlab/public/). By developing a bespoke design system, this tool provides the state the ability to deliver timely and informative content that reinforces constituents' trust. Quahog is focused on reinforcing brand guidelines and a unified look and feel by using a strategy of common typography, predefined color themes and built-in user preferences that prioritize accessibility and inclusivity.
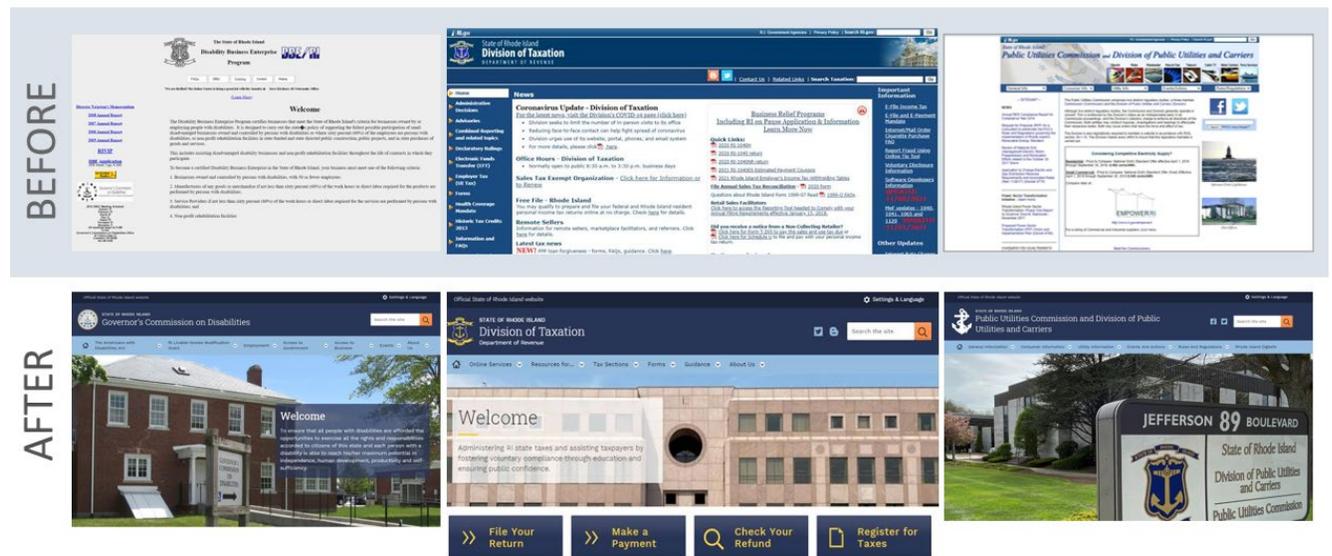
Figure 7: Digital Facelifts - Before / After Examples

The Quahog design system supports four key factors: accessibility, user preferences, variation within a family of themes, and speedy performance. Website authors choose from five color themes, each supporting light and dark mode viewing. Based on a palette of 27 colors (including grays) and 12 transparent colors, each theme was rigorously tested to conform with the W3C Web Content Accessibility Guidelines 2.1, Level AA (WCAG 2.1 AA), the international standard of technical requirements for making websites, mobile apps, and other digital content accessible to people with disabilities. Site visitors can toggle between light or dark mode or use their own system preference, along with adjusting font sizes, line height, word spacing, and default language. Knowing that many site visitors will be on mobile devices, each design component treats the mobile experience as a first-class counterpart to desktop.

Every design pattern is accessible for screen readers and mobile devices. Color contrast, keyboard navigation, semantic labelling, and alternate text enforcement all contribute to a highly accessible site. Extra labels and help text have been added to add context to actions and follow best practices for use of ARIA (Accessible Rich Internet Applications) attributes.
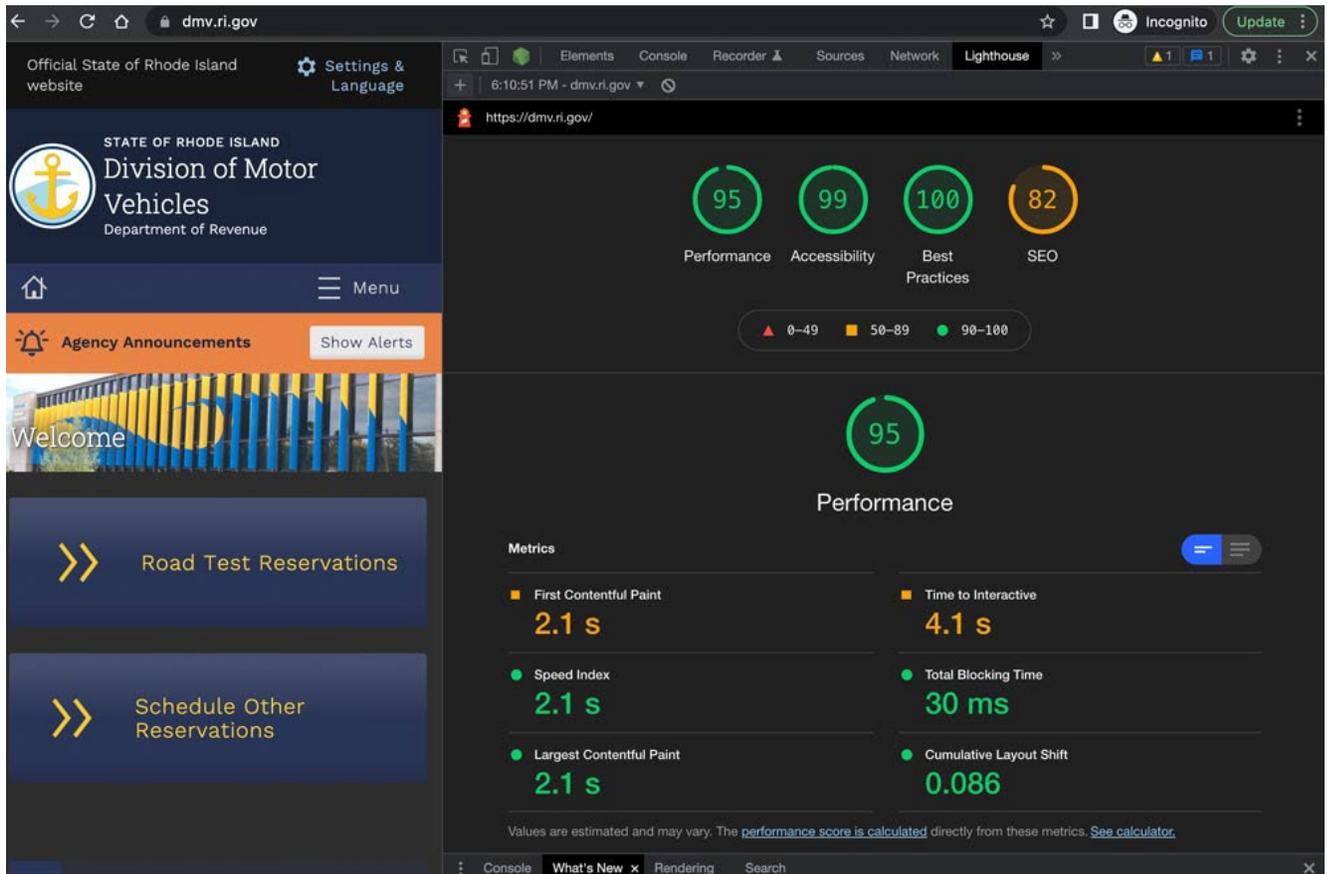
Pages are checked against Lighthouse, an open-source, automated tool for improving the quality of web pages. In addition to accessibility audits, the tool provides scoring based on a performance budget (i.e., how efficient the page loads) and Search Engine Optimization (SEO). The State of Rhode Island eCMS-hosted webpages consistently reach an average score of 95/100. Design components are built as lightly as possible, using the least amount of code, and relying on the smallest visual asset file sizes possible.

The first sites to launch on the new system went live four and a half months after the first line of code was written. A total of 15 new sites were launched within just eight months, with content being delivered to users three to four times faster in the new eCMS system than with previous websites. New websites, such as https://governor.ri.gov, saw a significant increase in web traffic. This Rhode Island Governor's website was seeing 1,110 pages views per day on the old platform. After transitioning to the eCMS platform, the website began seeing 3,500 page views per day.

Rhode Island's COVID informational website (https://COVID.ri.gov) was developed and deployed in one month (launching December of 2020). During the first month following launch, the informational hub was seeing an average of 25,000 views per day. The website has seen approximately 4.8 million views to date.

Agencies no longer need to rely on IT teams to design, develop, and deploy world-class digital solutions. Through the eCMS low-code / no-code platform, time-sensitive online resources can now be deployed within hours by non-technical agency staff. This yields a significant ROI for all participating agencies.

Through robust site analytics, agencies can now collect performance data (average response times, transaction duration, system uptime percentage, etc.) and make data-driven decisions on how to improve all aspects of their digital resource to meet evolving citizen needs. Indeed, the eCMS platform delivered a 3-4X improvement in overall performance which fosters digital equity throughout Rhode Island.

Digital and Web Services

Throughout CY2022, the ETSS Web Services Team continued to provide 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 that conform to ETSS policies, federal guidelines, and web design / development best-practices.

The overall responsibilities of the Web Services team focus on four primary areas:

- **Website Design, Development, and Support** – The majority of Web Services Team activities focus on supporting State agencies as design, development, and content consultants for legacy (static) websites or deploying modern, secure, and citizen-centered agency websites and microservices via the Enterprise Content Management System (eCMS).

- **Program and Application Support** – Along with web design and development, the Web Services Team also offer technical support for the Statewide Learning Management System (Absorb LMS) and proprietary applications such as Tableau, WuFoo, NeoGov, Adobe Creative Cloud Suite (Dreamweaver, Photoshop, etc.), Acrobat DC, YouTube Studio, and Google Analytics.

- **Daily Service Tickets and General Requests** – Providing economical, efficient, and effective support and service to State agencies, the ETSS Web Services Team completes an average of 74 service requests per month that are received via ServiceNow, email, and phone.

  Training and Consultation Services – Online and in-person training opportunities for operating within the eCMS and information architecture best practices are offered on a weekly basis. In addition, consultation services are provided relative to web design/development, graphic design, social media, analytics, accessibility compliance, digital transformation, and RFP support.

Working in conjunction with agency stakeholders, state partner NIC RI, and Acquia Cloud hosting, **45** State of Rhode Island government websites were successfully deployed into the new Enterprise Content Management System (eCMS) platform in CY2022:

Agency	Domain
Rhode Island Emergency Management Agency	https://riema.ri.gov
Department of Human Services: Office of Veterans Affairs	https://vets.ri.gov
Treasury Department	https://treasury.ri.gov
Treasury Department: Investments and Finance Division	https://investments.treasury.ri.gov
Treasury Department: Office of Debt Management	https://debt.treasury.ri.gov
Department of Corrections: Probation and Parole	https://paroleboard.ri.gov
Rhode Island Ethics Commission	https://ethics.ri.gov
Department of Administration: Division of Purchases (eProcurement)	https://ridop.ri.gov/
Department of Administration: Division of Capital Asset Management and Maintenance	https://dcamm.ri.gov/
Department of Administration: State Properties Committee	https://statepropertiescommittee.ri.gov/
Department of Corrections	https://doc.ri.gov
Department of Corrections: Correctional Industries	https://correctionalindustries.doc.ri.gov
Department of Administration: Pandemic Recovery Office	https://pandemicrecovery.ri.gov/
Department of Business Regulation: Fire Safety Code Board of Appeal and Review	https://fsc.ri.gov
Department of Business Regulation: Office of the Fire Marshal	https://fire-marshal.ri.gov
Department of Business Regulation: Rhode Island Rehabilitation Code	https://rbfc.ri.gov
Department of Administration: Office of Management and Budget	https://omb.ri.gov
Department of Business Regulation	https://dbr.ri.gov
Department of Business Regulation: Division of Design Professionals	https://bdp.ri.gov
Department of Administration: Office of Energy Resources	https://energy.ri.gov
Department of Labor and Training: Governor's Workforce Board	https://gwb.ri.gov
Executive Office of the Governor – Litter Free Rhody	https://litterfree.ri.gov
Department of Business Regulation: Contractors Registration and Licensing Board	https://crb.ri.gov
Department of Business Regulation: Building Code Commission	https://ribcc.ri.gov
Department of Business Regulation: Building Code Commission (E-Permitting Portal)	https://permits.ri.gov
Department of Business Regulation: Office of the Health Insurance Commissioner	https://ohic.ri.gov
Department of Public Safety	https://dps.ri.gov
Department of Public Safety: E 911 Telephone System	https://ri911.ri.gov

Agency	Domain
Department of Public Safety: Capitol Police	https://capitolpolice.ri.gov
Department of Public Safety: State Police	https://risp.ri.gov
Department of Administration: Office of Accounts and Controls	https://controller.admin.ri.gov/
Department of Labor and Training: Employer Tax Section	https://uitax.ri.gov
Department of Administration: Office of Employee Benefits	http://employeebenefits.ri.gov
Department of Administration: Office of Diversity, Equity, and Opportunity	https://dedi.ri.gov
Executive: Governor's Commission on Disabilities	https://gcd.ri.gov
Department of Administration: Statewide Planning	https://planning.ri.gov
Executive: Governor's Commission on Disabilities (DBERI)	https://dbe.gcd.ri.gov
Department of Administration: Office of Energy Resources (DRIVE)	https://drive.ri.gov
Other Committees, Agencies: Division Of Public Utilities	https://ripuc.ri.gov
Department of Environmental Management: Climate Change	https://climatechange.ri.gov
Department of Environmental Management	https://dem.ri.gov
Department of Environmental Management: Seafood RI	https://seafood.ri.gov
Department of Administration: OMB / Tobacco Settlement Finance (TSFC)	https://tsfc.ri.gov
EOHHS Home and Community Based Services Workforce Training	https://caringcareers.ri.gov
Department of Behavioral Healthcare, Develop Disabilities and Hospitals: SEOW	https://seow.ri.gov

Table 5: CY2022 eCMS Launches

NIC Rhode Island Partnership

The Rhode Island DEM Launches RIO At the end of February, NIC Rhode Island and the Rhode Island Department of Environmental Management (DEM) launched RIO, or Rhode Island Outdoors, at RIO.ri.gov. Based on the NIC OneOutdoor system, the product was custom configured to facilitate all aspects of outdoor recreational license and permitting from agent sales to enforcement. As of November, the system had issued over 91,000 privileges and collected more than $1.4 million dollars in fees.

In September, NIC RI leveraged a live call center used by other OneOutdoor customers to stand up a toll-free support line, exclusively to assist local sales agents. Trained customer service representatives are now available to offer support from 7 am-10 pm seven days a week.

Additionally, the operation launched a partnership with the Rhode Island Office of Library and Information Services (OLIS), the DEM, and four participating libraries to assist customers seeking exemption from the system's SSN requirement. Previously, customers could only get exemptions via an in-person visit to the DEM main office. The library cooperative offers customers wider geographical access as well as evening and weekend service.

On December 20th, Commercial Marine licenses were incorporated into the RIO system. This will be followed by recreational boating registrations in the second quarter of 2023. Not only will the site offer 'one-stop shopping' for RIO customers, but also allow the DEM and Division of Information Technology (DoIT) to decommission an antiquated legacy system that had been historically used to support recreational and commercial DEM licensing.

Enterprise Content Management System NIC Rhode Island continued work on the award-winning Enterprise Content Management System (eCMS). Work on phase one of the project was wrapped up in June of 2022 with the completion of the core build and multiple website migrations to the new framework. In July, the operation executed a new statement of work with the state's web services team to migrate additional agency sites and provide ongoing maintenance and support for the growth of the system.

New DMV Service The RI Division of Motor Vehicles (DMV) selected the new design of the state's license plate after receiving nearly 300,000 online votes via a system designed by NIC Rhode Island. Additionally, the operation built and launched a new plate remake online ordering solution for the DMV. This new service offers customers a way to browse the many available plate design options and even preview what their completed plate will look like prior to making their final selection.

Oversized Overweight Permitting Improvements The Department of Transportation (DOT) requested several upgrades to its oversized, overweight permitting system. These included an email-based alert feature to notify the trucking community about emergency conditions that might impact their travel as well as the ability to copy permits. Another addition was an innovative notification system for the DOT's regulatory counterparts in the Commonwealth of Massachusetts and the State of Connecticut. This functionality programmatically sends an alert email to those entities when permits that meet certain criteria

are issued for Rhode Island trips that would cross into, or from, those other state jurisdictions. The neighboring state alert feature launched in November.

Additional New Services and Improvements In October, NIC Rhode Island partnered with the Division of Taxation to launch Where's My Child Credit? This new service allows citizens to get information about the status of their child tax credit rebates online. The easy-to-use, no-cost service greatly reduces phone calls and email inquiries that would have otherwise needed to be addressed by Tax.

A fully upgraded PayStub RI service was launched in October. The application allows all state employees to view their payroll and wellness information. The upgrades included several enhancements to ensure the long-term stability and security of the system as well as migration to our improved hosting environment.

Our real-time election results service was again used by the Board of Elections for both the statewide primary in September and the general election this past November. On election nights, thousands of users accessed our service to get up-to-the-minute results soon after the polls closed. Along with the public pages, NIC Rhode Island again generated a series of data files designed to be used by various media outlets as they reported on races throughout the night.

Data and Analytics

The appetite for data and analytics (D & A) continues to grow for agencies and business units, and DoIT is expanding its capabilities to further cement the role of centralized IT in this field. DoIT and DOA are launching a pilot to establish a data analytics system based on Snowflake. Data from separate systems, including financials and budget, will be uploaded to provide greater insight and trends.

In CY2022, the D & A team provided data management services such as database administration, analytics, dashboards, and reports creation to various agencies. The team continued to work with agencies such as DOA, RIDOH, OMB, DCYF, and DOC with the SQL server administration tasks of maintenance and upgrades, and data engineering tasks of on-premises systems. In the analytics space, D & A provided support and guidance in design, development, and deployment of PowerBI dashboards and reports on Governor's office initiatives such as

SFRF (State Fiscal Relief Fund) management and PRO (Pandemic Recovery Office) grant management, providing reporting assistance in RI Transparency Portal.

Cloud-based data engineering efforts over the last year consisted of guidance and support on database design, data processing, and delivery of a reporting solution for the DLT data team's AWS Data Lake. The team also continues to support EOHHS in the planning for migration of the EOHHS ecosystem application to AWS Relational Database Service (RDS).

Along with agency services, the D & A team was actively pursuing to design and implement a modern and scalable enterprise data governance model with data democratization mind, enabling data-driven decision-making with improvised data sharing capabilities among internal agencies and external vendors.

During the third and fourth quarters, the team executed preliminary research on the establishment of a State enterprise data lake, with the goal of implementing a scalable, easy-to-maintain, and cost-effective data platform that can accommodate the demand (ad-hoc and planned) from various agencies and address data sharing with agencies and vendors in accordance with prescribed governance and compliance requirements.

Agency Initiatives

Department of Administration - DOA

Enterprise Resource Planning (ERP) RFP In accordance with the "State of Rhode Island Enterprise Applications Strategic Plan" in 2019 (http://www.doit.ri.gov/erp-strategic-plan/), the State is driving to modernize its Enterprise IT applications. 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 licensing of a SaaS ERP solution. Through CY2022, the State had been in the process of evaluating to serve and provide services in the following capacities:

(i)   Systems integrator (SI)

(ii)   SaaS software and licenses

(iii)   Independent verification and validation (IV&V) services

(iv)   Staff augmentation services

The ERP project will replace a portion of the State's legacy applications that were written over 30 years ago. This is one of the largest initiatives that the State has undertaken to modernize its enterprise applications. The current procurement identifies a systems integrator to implement a SaaS solution for the existing Human Resources, Payroll, and Finance systems across the state. The implementor is working with the Department of Administration as well as the agencies to ensure that the implementation is adopted statewide. The implementation is expected to be carried out in the following phases:

Phase	Description	Time
1 – Global Design	Document "to be" business processes (through configuration and customization)	4 months
2 – HR/Payroll	Roll out HR / Payroll (with T&A)	20 months
3 – Finance	Roll out Finance with necessary Integration Services (excluding overlap with HR rollout) M&O support for HR / Payroll	6 months

The State will leverage this project to not only implement software, but also drive significant changes to State policy and 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 the 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.

- Improve reporting functionality to allow enhanced financial analysis and management.

- Improve customer (internal, external) service with self-service capabilities (vendor, customer bill payments).

- Increase workforce management mobility – processes of transferring employees or potential employees from one location to another.

- Add 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 as the vendor to provide a SaaS/COTS solution to the Grants Management System (GMS), supporting the entire grants lifecycle process from grant initiation through renewal and closeout. GMS provides two distinct but interrelated functions that make up the grant business process where:

- The State is the recipient (Grantee) of federal funds/assistance from federal agencies.

- The State is the issuer (Grantor) of federal funds as subawards.

Designating the State as a Grantor enables State agencies to monitor subrecipients to help manage and mitigate risk for their subawards. Primary users will be the Department of Administration, State agencies (program and financial staff), and external entities (applicants and subrecipients).

With a project kickoff in August 2021, the system implementation included integration with the State's financial system (RIFANS) and the configuration of the State as Grantee and State as Grantor functionality. Phase 1 (RIFANS integration and State as Grantor) was completed by December 2021. In CY2022, the project focused on Phase 2 (State as Grantor) where the team engaged in the system configuration for two program types – Standard Grantor and Complex Grantor program types. Functionality for both program types was rolled out to 18 agencies in monthly cohorts from April to December 2022. The Grantor functionality helped 18

agencies set up **28 Standard Programs** and **12 Complex Programs** from April 2022 to October 2022. This project was completed in December of 2022.

In addition to serving as the workspace for state agencies to manage the external financial assistance received, the system will act as the one-stop shop used by the State to advertise sub-award funding opportunities, review and accept applications for subaward funding, and manage subawards issued by State agencies. Additionally, GMS is integrated with RIFANS to allow for a nightly data transfer between the systems. This integration allows agencies to manage, track and report on granular grant activity in a complete manner. State agencies can also associate payroll data with their awards using a unique ID, linking their payroll transactions with specific grants.

As agencies fully adopt the system, the automated business workflows will improve efficiency and promote transparency in managing programmatic and financial aspects of grants throughout the entire grants lifecycle. The system also provides Statewide visibility into grants performance to support planning, analysis, and decision-making across government. More importantly, GMS meets financial management requirements outlined in the UGG (2CFR 200.302(b) (1)). It reduces the repetitive single audit findings and provides stronger oversight of federal awards and subawards, especially in federal spending and state match requirements.

The high-level project objectives for the Grants Management System were to:

- Increase funding through Federal/private opportunities to support State programs.
- Improve customer service and access throughout the grant and subaward life cycle.
- Implement performance metrics to monitor, measure, and report on the effectiveness of grants and related subawards.
- Achieve the highest possible public benefit return on funds.
- Demonstrate greater accountability for grant funds.
- Comply with State and Federal laws to significantly reduce audit findings, especially those related to the Federal Single Audit conducted each year by the Auditor General.

eProcurement – Ocean State Procures (OSP) Ocean State Procures (OSP) streamlines the State's procurement processes by giving agencies a single point of access to suppliers and online procurement tools. The OSP Web Procure can be used by centralized and non-centralized state agencies, quasi-agencies and municipalities. It is intended to replace the legacy solicitations process (RIVIP) and the legacy order management process (RIFANS Sourcing module).

Sponsored by the Division of Purchases, Centralized Solicitations went live with 98% of its portfolio in CY2022. This includes multiple bid types, such as RFPs, RFIs, RFQs, Phased bids, etc. Specialized bid processes for RIDOT also went live in CY2022. This specialized process has seen increased use of the Vendor Registration portal and the Bid Board, allowing vendors a more streamlined process to respond to State procurements. Internally, the portal has allowed users to create, evaluate, and award bids in a more efficient manner. Additionally, a large change management effort was undertaken in CY2022 to ensure standardized configuration templates were used by agencies to accelerate implementation timelines. By increasing the adoption of standardized templates and utilizing existing RIFANS data for pre-configuration development, the State was able to realize efficiencies in implementation of the system across agencies. These efficiencies were also realized in improved testing, configuration testing, and post-implementation support.

As part of the implementation of OSP, the State focused on training delivery through CY2022. The State worked with the vendor to provide training through multiple frameworks, including instructor-led training, train-the-trainer, and the Learning Management System. Additionally, post-production support and training has improved customer support and accelerated implementation.

Pandemic Recovery Office Portal The Pandemic Recovery Office (PRO) serves as the central office for policy coordination and compliance for federal COVID-19 stimulus funds, including the Coronavirus Aid, Relief, and Economic Security (CARES) Act; and the American Rescue Plan Act (ARPA); and the State's $1.13 billion State Fiscal Recovery Fund (SFRF) allocation.

Prior to DoIT's support, the PRO staff was manually tracking and consolidating Pandemic Recovery spending using various sources and spreadsheets. This was a monthly process due to the availability to the information. The DoIT team worked with the PRO and their partner to help improve the data sourcing and presentation, utilizing the State's cloud and visualization tools. With this effort, the DOIT worked with the PRO on the following activities:

- Created a web portal for public access view into the Pandemic Recovery spend.
- Created a centralized data repository.
- Automated the daily upload from the State's financial system.
- Utilize Power BI to improve the visualization of the information.

Equal Employment Opportunity Reporting The Division of Equity, Diversity and Inclusion (DEDI) supports a diverse, inclusive culture by advancing equitable opportunities for all who work for or conduct business with the State. The Division has historically received biweekly reports on employee and minority counts by agency from various sources, including the mainframe system, in hard copy attachments. The DEDI staff spent over 10 hours to summarize these reports into formats that provided the legislature with more meaningful information. Because these reports were "hard copy," there was no simple system capability for historical trend analysis.

The DoIT team worked with DEDI to review the process and provide a long-term, sustainable solution. Utilizing the State's infrastructure and existing toolset, the team is extracting prior years of information and updating the biweekly reports directly into a single data repository. The benefits of the new system include:

- Ability for DEDI to perform historical trend reporting and analysis of EEO information archived since 2016.
- Automated, up-to-date reporting, using this new centralized data repository, refreshed biweekly when payroll is issued.
- An easy-to-use dashboard that delivers EEO metrics with immediate information, including views that can be filtered by agency, minority counts, age, race, job description and other pertinent information.

- The dashboard's self-service portal, allowing DEDI staff to preconfigure and save their own views and reports and to share those views with colleagues.

The EEO Reporting solution has resulted in significant cost savings, reduced time to run reports, and there is now a repository for historical data.

Executive Office of Health and Human Services - EOHHS

Medicaid Enterprise System (MES) Planning Vendor Procurement The MES Planning Vendor Procurement initiates a seven-year strategic effort to secure new contracts to replace the legacy Medicaid Management Information System (MMIS) and related systems and services. As of May 2022, the Office had secured a planning vendor, North Highland, and kicked off the one-year assessment of existing functionality, setting goals for each module to guide the program's procurement direction. This effort will produce a number of deliverables, including a MES Strategy Map, As-Is/To-Be Process Flows and Architecture, a Static Code Analysis Report, a Gap Analysis, Project landscape, an MES Runway and MES Transformation Work Plan. In year two, 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 and Finance, Provider Management, Care Management, and Data Management.

Community Resource Platform Procurement and Launch During CY2022, EOHHS continued to expand the capabilities and utilization of the community referral platform and partnership with technology company Unite Us, which assists in systematically screening for health-related social needs and connects Rhode Islanders to the health and social service resources in their communities. The SaaS-based 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. In addition to providing tools for Medicaid partners and Rhode Island's Office of Veterans Services, the platform has added users from the Department of Corrections and the Department of Health. Over the past year, the average monthly referral volume has increased 55%, and the number of resolved cases has increased by 37%. The community-based organization network has grown with an additional 92 partners, representing an additional 94 programs increasing the user base by 907 individuals to process the receipt of referrals. United

Way 211 was onboarded as the coordination center to strengthen referral responsiveness and improve outcomes. The onboarding included integration with the United Way 211 resource directory.

Quality Reporting System (QRS) EOHHS continues to work with IMAT Solutions to enhance the 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

    iv)   Data dissemination

During CY2022, work continued with the National Committee of Quality Assurance (NCQA) to achieve certification in the Data Aggregator Validation (DAV) program and to help ensure the accuracy of aggregated clinical data. Additional work is ongoing to enhance data visualization dashboards and increase quality measure validation.

Ecosystem Cloud Migration 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. Originally established as an internal state resource, the Ecosystem has matured into a vital asset for state and non-state partners to examine trends across populations and time. 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 to AWS in 2021, the Ecosystem team has expanded tools for publishing data with Snowflake, as well as ETL management with Talend and Data Rocket.

Person Centered Options Counseling (PCOC) and Long-Term Supportive Services (LTSS) SaaS Solution EOHHS continues the cross-agency initiative that began in 2021 to ensure Rhode Islanders have access to high quality PCOC via a centralized Enterprise solution by expanding the transition to Long-Term Services and Support (LTSS) Services. This initiative promotes one IT cloud-based solution for all ancillary functions, establishing an LTSS e-record at the point of

entry and providing information that follows the person across agencies, providers, and the service continuum. The WellSky SaaS product was leveraged for its low-code configurable capabilities, which allowed the pilot phase for PCOC, which addresses the Pre-Eligibility and Entry phase for LTSS, to be executed in a few months. The CY2022 efforts focused on incorporating the InterRAI Assessment for a standardized functional assessment instrument and kicking off the Eligibility and Access phase which includes Application Assistance, Eligibility Determination, and Person-Centered Planning/Conflict Free Case Management processes.

Department of Human Services - DHS

Rhode Island Bridges (RIB) System In Rhode Island, the Executive Office of Health and Human Services (EOHHS), the Department of Human Services (DHS) and HealthSource RI (HSRI), the State's health insurance exchange, are charged with promoting health, nurturing quality of life, and supporting our most vulnerable residents by preserving and improving access to quality health coverage and care, as well as ensuring efficient, effective, and timely delivery of human services. The State's work on RI Bridges serves approximately one third of the State and is a critical part of these efforts. Our highest priority remains ensuring that Rhode Islanders receive timely and accurate benefits.

State Fiscal Year 2022 (SFY2022) represented another positive step forward for the RI Bridges system. The system reached new levels of stability despite the continued impact of the COVID-19 public health emergency. The incident backlog declined to a low of 59 tickets in June 2022, a reduction of 40% since the prior year. The backlog of system defects also declined by approximately 60% as the team successfully delivered 519 problem tickets. With the implementation of new Service Level Agreements (SLAs), the average time to market of problem tickets also decreased substantially (33% reduction), especially for Severity 3 and 4 tickets. Most tickets are now being addressed within three months or the next available Patch Release, leading to 97% of the outstanding problem tickets having resolution release dates scheduled at any given time. Although Severity 1 and 2 tickets remain very uncommon, the team promptly addresses those issues by leveraging off-cycle releases when needed to minimize any business impact. These positive trends highlight the predictability and reliability

of the development and testing practices across the Software Development Life Cycle (SDLC), as well as the continued effectiveness of the governance framework.

The technical team also completed the following key upgrades:

- TCPs

- Mule ESB

- Opentext Extreme Engine

- Log4j

In addition to delivering all required M&O services, the team implemented many system enhancements that allowed the State to make significant progress towards achieving the following business outcomes:

- Improving the SMS/Email capabilities.

- Expanding the HealthyRhode Mobile App with new features.

- Adding the ability to send digital notice stuffers.

- Adding CHAT within the HIX workflow on the Customer Portal.

- The QHP Easy Enrollment and introduce SEP logic changes.

- Delivering enhancements in support of the PHE Unwinding.

- Automating Asset Verification System queries.

- Allowing Passive Renewals for Complex Medicaid.

In March 2022, the State participated in the CMS Certification Review process, which included completing the intake requirements and performing demos of much of the functionality provided within RI Bridges. The State has provided the additional information requested by CMS and held an additional demonstration to further clarify processing of newborns. Based on this comprehensive review and assessment, CMS approved the State's request for certification of the RI Bridges module.

The State currently has four major application enhancement releases planned for the Federal Fiscal Year (FFY) 2023. The first occurred in November 2022, and three more are scheduled for 2023. The scope planned for these major releases will focus on delivering the following business outcomes:

- Implementing certain State policy changes related to budget initiatives passed as a part of the SFY23 State legislative process.

- Improving worker productivity by improving Home and Community Based Services workflow, streamlining the transition from youth to adult programs and adding efficiencies to the Medicaid redetermination process.

- Improving the customer experience by enhancing the ADR notices for the LTSS Program.

- Maintaining reliable Medicaid eligibility for people known to the Office of Child Support Services (OCSS).

- Delivering enhancements outlined in the SNAP ARPA Grant FFY2023.

- Automating the interface between RI Bridges and National Grid to provide a 25% discount on electricity bills to Rhode Islanders by leveraging the Weatherization Grant.

- Leveraging the TANF Block Grant to implement various State budget initiatives related to RIW and CCAP.

- Implementing a pilot SNAP Health Incentives Program (HIP) to promote healthy food access and nutrition among Rhode Island SNAP recipients, RI Bridges Medicaid Eligibility and Enrollment (EE) Implementation Advanced Planning Document (IAPD) OMB Approval Number: 0938-1268 5].

- Supporting the Home and Community Based Services expansion initiative.

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 throughout FFY2023 as the team continues to deliver ongoing improvements across the program. The focus will be on reducing the cost of ownership through continued automation and modifying the SDLC to improve incident response times and time to market for system defects. In addition, the implementation of the State UAT model will also continue to be a top priority for the team.

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

RI Bridges | System Scope and Impact

RI Bridges is one of the most comprehensive eligibility + enrollment systems in the nation.

409,000+ Customers Served	**1.3 Million** Correspondence Sent Per Year	**1,300+** Batches	**20,000+** Business Rules	**99.8%+** System Uptime
1,500 Workers	**$440 Million+** Yearly Benefits Issued	**200+** External Interfaces	**5 Million** Lines of Code	**64** Technical Tools
1,800+ External Providers	**250,000+** Daily Online Transactions	**160+** Reports	**2,800+** Screens	**4,100+** DB Tables

It serves as a lifeline to onethird of Rhode Islanders.

105,000+ households depend on SNAP and RIW benefits

325,000+ residents have Medicaid coverage

5,500+ families receive childcare

39,000 individuals enrolled in affordable healthcare

What's New in FY23?

Building from a position of strength, our joint team remains focused on delivering savings for the State, revolutionizing the customer experience, and preparing for end of the PHE

Deliver Savings for the State

Piloting innovative new programs like "Eat Well Be Well" and the DHS National Grid Discount Program

Upgrading key technical products like our reporting and secure access management tools to maintain currency and reduce license costs over time

Continuous improvements to accelerate our SDLC and drive further M&O efficiencies

Revolutionize the Customer Experience

Enabled more customer actions to be completed via the Mobile App, such as updating mailing address and phone number, resetting password, and creating a customer portal account

Implement FY23 Budget Initiatives to increase benefits available to Rhode Islanders – e.g. expanding RIW eligibility to 60 months, and disregarding the first $300 of income

Preparing for the End of the PHE (Public Health Emergency)

Reopened DHS field offices while shifting to a hybrid model to reduce physical footprint and improve service

Added Text Messaging to RI Bridges to provide timely reminders for Renewals + Verifications

Resume Medicaid Terminations and Renewals following the end of the PHE to meet CMS compliance and **retain FMAP funding**

More Innovation on the Horizon

Streamline Home-Care Based Services (HCBS) applications and case management process

Expand HealthyRhode Mobile App to improve Customer Experience and Enhance Efficiency

Enable Parents to use a Mobile App to check their kids in to Child Care Centers

Veterans Home Electronic Med Administration Records (eMAR) The Rhode Island Veterans Home continues to enhance its administrative and clinical documentation and processes. Prior automations have included admissions, order entry, pharmacy, and Electronic

Medical/Health record (EMR/EHR) capabilities. During CY2022, automation work continued with pharmacy orders and electronic document management. The Veterans Home is now looking into additional integrations with lab data.

Adult Protective Services Case Management The Office of Healthy Aging rolled out a new Case Management System for Adult Protective Services in October of 2022. This built on work from 2019 that had moved the Adult Protective Services Investigations and Intake into the WellSky Human Services, highly configurable SaaS solution. Now the case management functions are integrated into the same system for improved workflows. This effort aligns with the EOHHS Long Term Supportive Services effort to build cross-agency workflows within this same platform and to promote a "no wrong door" approach.

Rhode Island Start Early System (RISES) During CY2022, DoIT collaborated with DHS and the RI Department of Education (RIDE) to assess the current business processes and tools for managing high-quality, accessible, and affordable early learning opportunities, crucial for young Rhode Islanders. An As-Is Assessment, Gap Analysis, and Roadmap were developed. DHS is currently procuring a system that encompasses business functionalities that are utilized by various stakeholders, including state agencies (DHS and RIDE), families, early learning workforce members, early learning providers (including DHS-licensed providers and Local Education Agencies), and early learning technical assistance and quality vendors. RISES will also provide a public-user interface that can be used by providers and consumers. Specifically, DHS is seeking an experienced vendor to implement a technology platform that is highly configurable and built to be as seamless as possible for the entities it serves, with a centralized database that allows for easy data retrieval from any function and a document repository. It must have flexible architecture to facilitate State and Federal compliance changes and program changes (high configurability) and allow for interfaces and integration to native technology systems, including the integrated eligibility system (RI Bridges). The solution must also have dynamic reporting capabilities with the ability to save report criteria.

Child Care Inspection System The DHS Office of Child Care implemented the OpenGov software solution for managing childcare inspections and monitoring that replaced manual effort by the DHS Child Care team using various spreadsheets. This change allows for inspection

and monitoring reports to automatically post to the consumer search website as required by Administration for Children and Families. This allows licensors to utilize a digital form while conducting inspections that automatically creates the inspection report. It also allows, within the same application, licensors to update outstanding items as they are resolved. The new inspections and monitoring system receives a daily feed from the licensing system of record (RICHIST) that populates facility data as licensors need. OpenGov's reporting capabilities allow the Office of Child Care to quickly determine common non-compliance items as well as repeat non-compliance items.

ORS IT/MIS Replacement inFormed The DHS Office of Rehabilitation Services is replacing their existing System7™ Case Management System with inFormed, a SaaS (software-as-a-service) solution. The solution provides intuitive workflows for counselors, data-driven decision-making for agency leadership, efficient IT back-office administration and state-of-the art accessibility support. The platform has been designed to support and enhance the agency's modernization investment in comprehensive WIOA management tools. inFormed is powered by Amazon Web Services GovCloud, a government-grade cloud computing environment that complies with all regulatory performance, security, and privacy requirements.

Call Center and Interactive Voice Response (IVR) Enhancements As part of ongoing efforts by DHS to reduce Call Center wait times and enhance self-service options, DHS has embarked on several enhancements to their IVR and Call Center. To ease wait time, callback functionality was introduced in mid-summer. In addition, development is in progress for a real-time integration with the Integrated Eligibility system to provide up-to-date status information across the DHS programs and allow appointment scheduling and modifications through the IVR.

Department of Children, Youth and Families - DCYF

New Comprehensive Child Welfare Information Systems (CCWIS) DCYF and DOIT released an RFP in November 2021 to procure the services of a vendor to assist with planning for the implementation of a new Comprehensive Child Welfare Information System (CCWIS). The State selected Public Consulting Group (PCG) as the awardee. The state submitted the PCG

contract to ACF for federal approval on May 12, 2021, and approval was granted on July 18, 2022.

DCYF and PCG officially kicked off the project on August 8, 2022. The project initiation and planning phases of the project have been completed. A full requirement's analysis was executed, and the business requirements document was delivered. The project is on schedule to have the implementation RFP and implementation APD completed and ready for submission to ACF by the end of March 2023.

The graphic below depicts the high-level project timeline which is subject to update based on the recommendations developed during the planning phase.

CCWIS TIMELINE – EXECUTIVE VIEW

Based on ACF (Administration for Children and Families) guidance and lessons learned from other States, and a 2019 RFI, DCYF plans to execute a 9-12 mo. planning phase prior to a 24-mo. implementation of a modernized CCWIS system. Funding (APD), RFP, and contracting processes also require ACF review. DCYF & DOIT project a system go-live in CY 2025.

Aug 2022
Planning Phase Begins

Nov. 2023
Implementation phase begins

April 2022
Planning phase APD and RFP sent to ACF for review

March 2023
Implementation APD and RFP sent to ACF for review

October 2025
Projected system go-live *(TBD based on planning phase)*

Family First (Federal Level Requirement) Change to RICHIST The implementation of federal Family First legislation requires several modifications to the existing RICHIST system. The state's five-year Family First Title IV-E Prevention Services Plan was approved by the Administration for Children and Families (ACF) on October 17, 2022. Modifications to identify prevention candidates open to either DCYF or the Family Care Community Partnerships (FCCPs) have been completed. Additional changes are required to the RICHIST federal reimbursement logic to ensure the state is accurately identifying and requesting federal reimbursement for eligible services.

Adoption and Foster Care Analysis Reporting System (AFCARS) The Administration for Children and Families (ACF) has issued new federal regulations regarding the submission of state data relating to children and youth in foster care, adoption, or guardianship placements. The new regulations increased the number of data elements being reported from 66 to 185 and required historical data to be reported. Previous regulations required only point-in-time data. RICHIST was modified to collect all AFCARS data elements that were not previously available in the system.

Masterfile Records Imaging System The Department's PaperVision imaging system was upgraded to allow for the scanning and electronic searching of Masterfile records. Masterfile records are index cards containing adoption and child welfare data prior to 1980. These index cards are in the process of being scanned and indexed to allow all DCYF staff the ability to complete a Masterfile background clearance electronically.

Department of Behavioral Healthcare, Developmental Disabilities and Hospitals - BHDDH

ESH Capsule/Bernoulli Ventilation Management System Refresh DoIT performed a complete platform upgrade on the Eleanor Slater Hospital (ESH) Capsule/Bernoulli Ventilation Management System, including new servers, workstations, paging system, networking equipment, and software. The previous vendor (Bernoulli) was purchased by Capsule, requiring a new platform to be supported.

DDD Wi-Fi in Group Homes DoIT coordinated the installation of resident Wi-Fi in 22 Division of Developmental Disabilities (DDD) group homes.

ESH Digital Dental Imaging System The State installed a new the Eleanor Slater Hospital (ESH) Digital Dental imaging system on two campuses. The system replaced chemical-based film development.

ESH PDI Radiology Service DoIT coordinated the migration of an Eleanor Slater Hospital (ESH) on-premises Radiology system to a new radiology service and decommissioned the legacy equipment.

ESH Census system modifications DoIT modified the legacy Eleanor Slater Hospital (ESH) Informix Census system and reports to accommodate the new RI State Psychiatric Hospital.

Audio/Video Installation DoIT coordinated the installation of nine televisions and multimedia equipment in six conference rooms and the BHDDH Command Center.

ESH Anonymous Staff Reporting Hotline The Joint Commission directed Eleanor Slater Hospital (ESH) to implement a solution for anonymous incident reporting by staff members. The implementation of the web-based product, Lighthouse Hotline Reporting System, now provides employees with a secure and anonymous method to report issues by telephone, email, internet, or fax.

DDD Case Management Implementation The Department has been implementing a SaaS case management platform to manage all workflow processes within the Division of Developmental Disabilities (DDD). The Therap SaaS implementation is an end-to-end web-based platform that can manage caseloads from the perspective of the State and community providers. DoIT performed a service code rate adjustment for authorizations to comply with the DOJ Consent Degree, implemented Multi-Factor-Authentication for all BHDDH Therap user accounts, and migrated the remaining legacy system functionality into Therap, which allowed BHDDH to discontinue use of the legacy DDD financial and tracking systems.

SharePoint Intranet Implementation 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 allows remote employees to access the site without using the VPN.

RICLAS Network File Share Migration to SharePoint DoIT and BHDDH reorganized and migrated 100k RI Community Living and Supports (RICLAS) network files shares to a new SharePoint site and implemented necessary technical controls, administrative controls, and governance.

Department of Health - DOH

Rhode Island COVID System (RCS) DoIT has continued to develop and maintain this state-of-the-art COVID-19 response system that manages the operational COVID data. DOIT also 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. Many community partner portals allow for K-12 test result entry, specialty case management needs, and more. Some response activities have been reduced or put on hold (for example, state-run testing sites), but the RCS system is prepared to ramp back up in the event of a surge over the winter.

As part of the effort to stabilize and improve the RCS system, DoIT has worked to implement new tools within the platform designed to improve performance and quality of work. The first tool is Copado, a deployment tool that enables quick implementation of code across the many development, quality assurance, user acceptance testing, and production environments. This tool reduces the time it takes to deploy code from several hours to only a few minutes and enables rapid and easy rollback of individual changes where needed. The second tool is Datagroomr, which is a Salesforce machine learning data cleaning tool. This will be used to reduce duplicates within the data and manage patient matching across various lab, vaccine, and call center data, improving the overall quality of the data in the system. This data cleaning should make it possible to implement a new, efficient, citizen-facing experience.

RIVERS - Vital Records Upgrade The Department has 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 not to have an electronic death registry. This new system enables 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 and await data entry. More timely death reporting is critical for reducing fraud, waste, and abuse across a variety of state and federal programs.

Licensing System Conversion (MLO) Since the late 1990s, RIDOH had been using a vendor to support a variety of professional and facility licensing programs with a software

called License 2000. This software reached its end-of-life term with the vendor, requiring the State to migrate to their newer web-based application, My License Office (MLO). After a multi-year conversion process that ran into multiple challenges, RIDOH completed the migration of the licensing system to the new software successfully in August 2022. The new software offers new opportunities to digitalize more licensing applications and enable new digital functionalities to support the licensing programs into the future.

ArcGIS Enterprise Much of public health data is related to locations of specific individuals in the State and their health experiences. Effective geocoding associated with these data sets has been a challenge in the past because the ArcGIS Online technology was not HIPAA compliant, limiting the detail allowed in datasets published to ArcGIS online. To mitigate these challenges, RIDOH and DoIT successfully implemented a private ArcGIS Enterprise platform to support RIDOH, which will enable more powerful data analysis functionality in a fully secure, HIPAA compliant environment. This is anticipated to further enhance the analysis and data-driven efforts of RIDOH across a number of public health challenges, such as the COVID-19 pandemic, the Monkeypox outbreak, the opioid epidemic, and more.

Data Modernization DoIT has partnered with RIDOH to begin the implementation of a CDC-funded data modernization initiative. The goal of the data modernization initiative is to create integrated, real-time public health data and surveillance that can protect us from any health threat. The initial stages of implementation completed in CY2022 include recruiting data modernization staff, establishing data and IT governance for RIDOH, conducting a current-state assessment of application interoperability efforts, and beginning the development of a Data Modernization Plan. The Data Modernization Plan is expected to be completed in 2023, which will create a foundational plan for future modernization efforts.

Lab Ordering interfaces – DOC, PPNE DoIT and the Rhode Island State Health Laboratory (RISHL) have nearly completed two digital lab interfaces with key customers of the RISHL: Department of Corrections and Planned Parenthood of New England. These interfaces enable digital lab requisitions to be sent from the customer organization to the RISHL, yielding rapid digital return of the results. This will eliminate a fully paper- and fax-based process that

currently is used today and increase the efficiency of lab ordering and resulting for all participating organizations.

Department of Corrections - DOC

Intranet SharePoint Conversion The Department of Corrections heavily utilizes a robust Intranet to share resources between its teams and to display key information, policies, and standard operating procedures for the correctional and administrative staff. In alignment with the Enterprise strategy of streamlined and user-friendly technology, the Department decided to move from sharing resources via the Intranet to SharePoint. The new Intranet empowers Division leaders to equip their teams with digital tools for success. Unique user permissions give program owners the ability to self-serve and update information immediately. The SharePoint Intranet lays the groundwork for future, specialized digital resource hubs that meet the needs of each unit.

Interview Questions App The Department of Corrections prides itself on thorough and fair hiring practices. To meet this goal, the Department maintains an HR-curated list of questions pertaining to specific jobs. Candidates interviewing for a position are each asked the same questions tied to that opening and generated from this list. At the conclusion of the interviews, the questions are then retired for a set time before they can be asked again.

DoIT was charged with automating this manual process. The programming team utilized PowerBuilder to create an application that stores and queries over 2,000 approved questions, tagged and sorted by job classification and skill parsed. The once manual process of picking questions is now condensed to the click of a button.

Department of Transportation - DOT

Primavera Unifier Implementation In CY2022, the pilot for replacing the Project Management Portal (PMP) system was completed. The State is currently moving forward with a production implementation in a hosted SaaS solution. Unifier will provide the ability to efficiently plan and prioritize projects with configurable business processes and workflows, Dashboards, Reports and KPIs to monitor project health. Activities in Unifier include processing

progress payments, requests for information, shop drawings, tracking materials testing and certified payrolls, construction daily reporting, and other general project information.

e-Construction Headlight Software Enhancements Integrations between the on-premises Project Management Portal System (PMP) and the hosted Headlight System were completed in CY2022, providing 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. The next phase of the project is to provide a material sampling and testing plan framework along with integrations with Unifier, to be completed in 2023.

Oracle Financial Management System (FMS) Upgrades and Enhancements The next major application release to R12.2.12 and its database to 19.17 is scheduled to go live in Q1 CY2023. This upgrade is fully compliant with Oracle's recommendation and requirements. The following upgrades and enhancements were implemented in CY2022:

- Reduced the number of reports to reconcile AP accruals with one new fiscal year AP Accruals report to assist in analyzing and reconciling AP Accruals during a fiscal year.

- Converted 40+ Oracle legacy reports into XML.

- Introduced bulk attachments, allowing users to reference SharePoint URLs of all the attachments associated with Invoices, POs, and Awards in Grants.

- Implemented the Oracle Time and Labor enhancement, replacing 70% of the paper timecard approvals with online approvals.

Custom Application Enhancements and Upgrades The Department's 18 Legacy Construction Material Testing applications along the Legal Claims application 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 platform.

Department of Environmental Management - DEM

Enterprise Licensing System In February 2022, phase one of the RI Outdoors (RIO) (rebranded Tyler Tech's OneOutdoors enterprise recreational licensing system) system went live for hunting and fishing licenses that were migrated from a NIC RI custom-developed product. Through RIO, citizens will be able to purchase a fishing or hunting license or commercial fishing license and renew their boating and recreational vehicle registrations 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 who are looking to take advantage of our state's natural resources.

The Office of Boating Registration and Licenses administers the State's boat and recreational vehicle registrations as well as the issuance of licenses for commercial marine fishing, recreational fishing, and shell fishing. When completely implemented, the commercial marine fishing and boat registration systems will move from unsupported legacy systems to the new RIO system and will include legislative restructuring of the commercial marine fishing licenses. This system offers a significant upgrade to the former licensing and registration systems. DEM and DoIT have nearly completed phase two of the project (legacy commercial marine licensing system replacement) with most components of which went live in December 2022. Phase three (legacy boat and vehicle registration system replacement) will go live in April 2023. The DEM Coastal Resources Office located at the port of Galilee will also be part of the RIO Enterprise Licensing system, allowing to sell and renew select commercial marine fishing licenses.

Modernization of DEM FoxPro and 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. DEM secured funding for the project from the American Rescue Plan Act (ARPA). In early CY2022, DEM released 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. This project is in the final stages of the RFP process, and

DEM plans to award a contract to a vendor(s) in the first quarter 2023 and kick off the project shortly thereafter.

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 NIC RI 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. The final phase of the project, converting PDF/A documents into microfilm (the state's official record), has been completed and will allow DEM plan for destruction of the old paper records.

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 CY2022, DEM implemented an Online Exemption Module to allow farms to submit web forms to request exemption from inspections. This project is complete and in the maintenance phase.

Department of Labor and Training - DLT

Pandemic Response 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. Pandemic-related IT activities continued into CY2022, including modifying systems to return to non-pandemic operations, and adhering to new business processes, while pandemic-specific items, such as PUA (Pandemic Unemployment Assistance), were decommissioned.

Unemployment Insurance Online Plus (UI Online+) The Department, in conjunction with AWS Professional Services, developed a new AWS cloud-based front-end customer facing Unemployment Insurance application. Following a pilot release at the end of 2021, the Department released UI Online Plus fully as the primary public-facing application in CY2022. The Legacy front-end was decommissioned with the launch of UI Online Plus. UI Online Plus includes initial applications and weekly certification processing in the IVR/IWR and enhanced chatbot capability. The system provides an enhanced user interface and more flexible scalability and elasticity to allow the Department to adjust capacity to meet changing demands. UI Online Plus integrates with the legacy AS400-based systems of record. In CY2022, as a result of a competitive procurement process, a new vendor, Infosys, was brought in to replace AWS Professional Services for maintenance and operations as well as continued enhancements of UI Online Plus functionality. The work performed on UI Online+ also included thorough review and refinement of existing claimant processes and investments in technology designed to combat UI fraud activity that had increased exponentially across the nation and Rhode Island throughout the pandemic.

BackToWork Virtual Career Center 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's Research Data Lake as the source of information for the Virtual Career Center. In CY2022, as a result of a competitive procurement process, a new vendor, Infosys, was brought in to replace MavenWave. The Google Cloud Platform was transitioned from vendor ownership to State control and ownership

Data Lake 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. The Department continues to work on formalizing data governance and development of a data dictionary to support additional data related activities.

AWS Connect Call Center The Department has expanded the Unemployment Insurance Call Center capabilities and capacity by moving to the AWS Connect call center platform. Ongoing maintenance and operations support have been transitioned to Infosys. Additional

functionality and modifications continue to be made to improve the user experience and access to DLT services.

Procurements The Department and DoIT developed an RFP for a Strategic Planning vendor to assess DLT's technology landscape and to make strategic recommendations for modernization of DLT's legacy systems.

IT Governance – Vendor Management The Department and DoIT transitioned from AWS Professional Services, MavenWave, and Kenzan to Infosys under competitively procured Cloud Applications Maintenance, Operations, and Enhancement. The initial development model was utilizing Scrum management methodologies, but the way of working has transitioned to a disciplined Agile model that provides an improved management structure for the vendor engagement.

IT Governance – Pilot of A&EA Application Development M&O Model The Department and DoIT continue to pilot and refine the IT Governance model for the development, maintenance, operation, and enhancement of agency business applications. The Governance structure establishes communication and decision-making lines among 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. Processes for requesting, prioritizing, and tracking work are also enhanced in this refreshed governance model. The Department is using JIRA for application development activities to establish and improve on process flows, resulting in increased transparency and accountability.

Additionally, unit-specific IT Prioritization Committees have been established for the Unemployment Insurance and Workforce Regulation and Safety Units to bring enhanced governance and visibility to the DLT Business Unit/Assistant Director level, while allowing the overall IPC to focus on more strategic agency-wide initiatives. 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 - DBR

Blockchain/Digital Identity The Department of Business Regulation, in conjunction with DoIT, launched a limited pilot implementation of blockchain technology to become more efficient, transparent, accurate, secure, and business friendly. The implementation included a sample selection of Certified Public Accountants to apply for a digital CPA license via the pilot blockchain and integrate with the Department's CAVU licensing platform. The entire digital process will be added to the CPA's Citizen Wallet. In addition, the capability of integrating with the State's DMV licensing system was established. In partnership with the Secretary of Commerce, an RFP will be released in CY2023 to further expand on the work completed in the pilot program to create Digital Identity functionality for businesses and citizens of Rhode Island.

Medical Marijuana Program The Office of Cannabis Regulation selected two vendors to work on the Seed to Sale, Commercial Licensing, Home Grow, and Patient / Caregiver / Authorized Purchaser online platform. The Metrc Seed to Sale platform, which launched in November, requires facilities to enter in all inventories and allow tracking of all products. The OCR selected MTX to develop the remaining modules of the program's platform utilizing Salesforce. The project kicked off in June and is set to go live in February 2023. The system will be used by the OCR as well as the Department of Health for registration cards.

eLicensing System Upgrade The Department of Business Regulation is reviewing a cloud-based upgrade to the current eLicensing System, CAVU. Tyler Technologies acquired CAVU and has since provided an upgrade that would move the current application to a modern cloud-based platform that would require very minimal programming, updated functionality, and less vendor dependencies for changes. The upgrade would also remove the need for maintaining virtual servers in-house.

Department of Revenue - DOR

Division of Taxation - STAARS Migration to Cloud This project migrates existing on-premises infrastructure and the STAARS application to a hosted solution maintained by Revenue Solutions Inc. within the MS Azure Government Cloud. The existing infrastructure was implemented in 2013 and has now reached end of life. RSI already supports taxation agencies in

other states in the cloud. This project, which expect to realize experiential gains and adherence to best practices, is on track, with a cut-over date of August 2023.

Division of Municipal Finance (DMF) MS Dynamics Power Apps Portal and Modernization 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. The MS Dynamics Power Apps Portal modernized and streamlined interaction between the municipalities and other entities, such as telecommunications companies, to interact with the Division of Municipal Finance. Automated workflows, outbound correspondence, and enhanced reporting with digital submission of documentation were realized in Phase 1 when the DMF Portal was stood up in March of 2022. Since then, the Telecommunication Companies in Rhode Island have utilized this portal to submit the PSCT filings electronically. The next phase will provide all 39 municipalities access to the portal, allowing them to file and submit online documents to the Division of Municipal Finance quickly and securely. All phases of this project are expected to be fully complete in Q1 of CY2023.

Central Collections Unit (CCU)- MS Dynamics Power Apps Modernization This project is to modernize the Central Collections Unit case management system, provide automated workflows and reporting. The application has been developed and is currently in User Acceptance Testing. PowerBI has been integrated with this application for automated reporting. It is scheduled to go live in Q1 CY2023.

Division of Motor Vehicles - DMV

DMV Registration Inquiry The Division of Motor Vehicles launched a new online service that allows citizens to check on the status of their registration. The new service was developed within our State's Amazon Managed Services environment and is able to validate against all registration types.

Knowledge Lake The Division of Motor Vehicles embarked on an upgrade to the current Knowledge Lake scanning and document repository system. All DMV, AAA, and dealership staff

were trained on the new scanning process, which will allow for easier search functionality. Migration of the document repository system to the Azure cloud is in progress.

Chatbot The Division of Motor Vehicles, in coordination with the Division of Information Technology, Amazon Web Services, and the Peraton team, have worked to implement the Chatbot functionality to the website hosted on the State's Amazon Managed Services.

Infrastructure and Operations – I&O

IT Service Management Program / Support Services

DoIT has continued to focus on improving user experience by enhancing and introducing new features on our ServiceNow self-service portal http://rhodeisland.service-now.com/sp. An interactive virtual agent helps guide users on how to submit incidents, search articles and features, and use the chat bot to 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. This feature is typically referred to as Level 0 support, where an individual can search for and follow instructions to resolve basic issues. Level 1 support is delivered through our Enterprise Support Desk. Our agents provide user support either over the phone or by leveraging remote tools to access user's devices. The team handles password resets, VPN access, and other basic issues that can be resolved in a timely manner. If the Support Desk is unable to resolve the issue, they will then escalate an incident or request to the appropriate Level 2 team (Agency Tech Support). Our onsite agency support staff member draw on their years of experience and knowledge to provide more in-depth technical support for issues that cannot be handled by Level 1.

Efforts are also underway to introduce a Service Catalog. A Service Catalog provides users with a list of services offered by DoIT and introduces automation in request resolution resulting in faster service request processing, which frees up the DoIT team to concentrate on tasks that add value to the agencies. By allowing users to make and track requests on their own, a service catalog made accessible via a self-serve portal will result in improved user satisfaction.

Cloud Services

The Cloud Services Team continues to be the trusted advisor for our partner agencies within the Executive Branch. 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. ETSS DoIT's Cloud Services Team will support the RI Government Vision and RI Government Ops 2030 roadmap focusing on supporting Digitalization and Cloud.

As we continue to deliver our services with a "Cloud Smart" focus and strategy, we will enable agencies supported by DoIT to leverage the most efficient applications and service delivery methods. In addition to growing the cloud program featuring AWS, DoIT 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 DoIT 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.

We will look to deliver on an expected increase in demand in 2023 for Cloud Services by expanding our operational capabilities with the onboarding of Cloud Managed Services Provider for both Cloud Operations and Cloud Brokerage services. This will allow ETSS DoIT Operations to manage the foundational resources and services that make up the platform for which applications are deployed. Application owners will be able to engage Cloud Brokerage Services to support net-new application development resources, cloud migration services, and other cloud advisory services in accordance with the broader cloud strategy.

Client Services Team

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. With a renewed focus on citizen identity, we

will define a strategy to leverage a managed identity provider with the goal of centralizing citizen identity in support of statewide digital transformation. 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 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 to reduce operational complexity by integrating directly with the device vendor. This integration has resulted in an 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.

Collaboration Technologies

The substantial investment in Microsoft 365's collaboration suite of tools is increasingly leveraged across State government. Our clients utilize this toolset to enable a more efficient, collaborative workforce; this development has proven 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 is important to maximize the return on investment, increased productivity, and an improved user experience. To date, 856 Teams sites and 1,057 SharePoint Online sites have been created and deployed, as well as One Drive for business drives for all licensed users, replacing on-premises based storage. Active usage in SharePoint Online has increased 35% year over year, and usage of Teams and SharePoint Online as primary document storage has increased 21% year over year. Using native integration across multiple Microsoft 365 Collaboration Services and the other services within the platform has created a cohesive full stack of services, making it much easier to leverage work product, collaboration, communication, data, and functionality together without leaving the platform. DoIT has secured our cloud connected identities and resources through Azure Active Directory (AD) with

Microsoft multi-factor authentication (MFA) across the enterprise. Users have access to an online library with hundreds of training videos that empower employees to reap the full benefits of Microsoft 365. We are investing in Power Platform for low-code/no-code solutions in our drive to support digitalization of paper-based and manual processes to help speed up services delivery and collaboration among teams throughout the Enterprise.

Hosted Infrastructure and On-Premises Services

The Enterprise Operations Center (EOC) is the State's premier hosted data center, holding a desirable Tier II designation for reliability and functionality. DoIT continues to heavily leverage this investment for the majority of Executive Branch production system workloads, both virtual and physical. The EOC serves as the home of the private cloud infrastructure we offer to all our Executive Branch clients. In CY2022, the ETSS on-premises platform and architecture team completed the majority of its major modernization initiatives 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 a large number of individual physical server hosts, enterprise-class IP networking, and storage area networking (SAN) components, this private cloud architecture enables the virtualization platform leveraged by all 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 on-premises operations model include reduced risk by providing high availability and disaster avoidance, and increased reliability, scalability, and reduced time-to-market for systems and services. Along with the virtual platform upgrade, a completely re-architected backup platform has been implemented to address limitations in the legacy system. The State also now leverages a hybrid external cloud service for long-term retention to increase availability and reduce costs significantly over time. With this new hyper-converged virtual infrastructure in place, the enterprise and agency teams have a modern, secure, and scalable platform for all workloads that cannot immediately move to the state-of-the-art cloud services offerings mentioned above.

DoIT supported agencies and self-supported entities hosted in our data center (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, thereby taking advantage of our reliable facilities management and leveraging a State of Rhode Island investment that can benefit constituent servicing organizations.

Networking and Telecommunications

The ability to connect to cloud and on-premises services is reliant upon a secure, resilient networked infrastructure. Efforts in this area include the upgrade and replacement of core networking (wired and wireless) architecture components to provide for greater capacity and security and to support the modern, mobile workforce demands.

DoIT continues to deploy new, Gigabit 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 continues to improve network service delivery to remote agency locations through the continued deployment of secure cellular-based network devices. DoIT is also exploring SD-WAN solutions to realize reduced costs and improved levels of service for agency partners.

The enterprise-wide telephone system upgrade, completed in CY2022, 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 position the State for the deployment of more modern telephone and call center capabilities.

The deployment of FirstNet devices continued 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.

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. The mail 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, with CY2022 cost avoidance totaling $994,400. A barcode sorter enables application of all postal discounts afforded to a large mailer. On average, 1,520,000 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 1,800 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 CY2022, providing a complete print-to-mail solution.

Office of Library and Information Services - OLIS

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 CY2022, OLIS fulfilled 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 throughout the year in compliance with the Minimum Standards for RI Public Libraries. Participation in statewide delivery service has returned to 85% of pre-pandemic levels, and participation in statewide programs such as the Summer Reading Program has rebounded to pre-pandemic levels. OLIS' robust program of professional development for library staff and statewide meetings continued through primarily virtual channels, with some in-person sessions.

OLIS' focus for much of the year was administering its $2,230,333 American Rescue Plan Act (ARPA) grant to Rhode Island libraries to support pandemic recovery. Grant application, tracking, and reporting were managed through a fully digital process 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 CY2022, OLIS processed 102 new federally-funded ARPA and LSTA grants ($941,000) along with 61 state-funded grants ($11 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 in April 2021. As of the program's conclusion in September 2022, OLIS awarded over $1.25 million as direct grants to libraries, $890,000 for statewide projects, and $70,000 to directly support library workforce development. Direct grants included over $900,000 for technology purchases, such as computers, tablets, self-checkout machines for library materials, and audio-video equipment for virtual and hybrid programming; all public libraries received funding for technology, and

additional funding was provided to libraries in distressed communities. Statewide projects included additional resources and promotion of AskRI, the online resource center, to support education and workforce development through the acquisition of a K-12 tutoring service (Tutor.com), job and career resources, and on-demand video learning for IT and business skills (Udemy). Other statewide projects supported digital skills training at libraries, the summer reading and learning program, and the development of a statewide eBook platform. Library workforce development grants supported paid internships at local libraries for students enrolled in the University of Rhode Island's Graduate School of Library and Information Studies (GSLIS) and diversity scholarships for students enrolling at GSLIS.

Library of Rhode Island (LORI) Grants for Youth Services OLIS awarded over $45,000 to public libraries to support summer reading programs and inclusive book collections using federal funds provided through the Library Services and Technology Act, administered by the Institute of Museum and Library Services. A $30,000 grant to the RI Center for the Book supported children's reading programs, including Kids Reading Across Rhode Island, a statewide project to promote engagement with books. Grant funds were also used to support book award programs for children and teens, including providing book sets to eligible libraries to promote reading.

Continuing Education In CY2022, OLIS offered 83 programs attended by 872 library staff, exceeding pre-pandemic attendance. Programs to serve the professional development needs of library staff statewide are offered virtually and in-person, with the majority being virtual, a reflection of a changed preference for virtual programming as a direct result of the pandemic. Ongoing professional development opportunities for librarians include special interest groups for topics in librarianship, leadership training for library directors and trustees, ongoing pandemic recovery, and general library topics. OLIS also provides asynchronous and on-demand learning opportunities through the OLIS Library Learning Center, a learning management system that includes content developed by state library agencies nationwide along with locally produced content. In CY2022, 309 library staff logged 1,652 sessions in the Learning Center; popular topics included customer service, accessibility, grant writing, and management.

Data and statistics OLIS annually collect public library data on library funding, services and resource-sharing. Additional data was collected in CY2022 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 also provided an ARPA grant to the association to fund four scholarships at URI's Graduate School of Library and Information Studies (GSLIS) for students in demographics underrepresented in the library field. In addition, OLIS used ARPA funds to support professional field experience internships at public libraries for 13 GSLIS students.

Summer reading program The LORI Grant Program awarded $40,000 in non-competitive grants to 42 to fund programming and educational supplies for children, teens, and adults at libraries across the state. Over 14,000 children and teens participated in CY2022 Summer Reading Program, a 34% increase from CY2021 and comparable to pre-pandemic attendance. Over 47,000 children, teens, and adults attended in-person educational programs at libraries, nearly doubling the 2021 in person attendance and tripling pre-pandemic attendance. Virtual attendance decreased from 9,000 in CY2021 to 1800 in CY2022, demonstrating a clear preference for in-person programming.

Operations

State aid to libraries – operating In SFY2022, the General Assembly increased State Aid to Libraries for operating cost to its statutory level of 25% of local appropriations and expenditures (RI General Law 29-6-2). It awarded $9.8 million to municipalities to support public library service in accordance with state statutes and regulations.

State aid to libraries – capital In SFY2022, $1.9 million was distributed to reimburse nine library construction projects, and Jamestown and Narragansett were awarded reimbursement funding for new library construction projects. Jamestown will renovate its current library and will receive $2.1 million in state reimbursement on a $4.4 million dollar project. Narragansett will retrofit a commercial building and will receive $3.2 million in state

reimbursement on a $9.2 million dollar project. Both projects are expected to be completed in the Fall of 2023 (SFY24) and will start receiving reimbursement in FY2025.

Statewide Reference Resource Center (AskRI) The Providence Public Library was awarded $1.1 million to provide support for online electronic resources for all Rhode Islanders through AskRI. The award was increased from $700,000 in FY21 to continue subscriptions to resources purchased with ARPA funding, including Tutor.com, an online tutoring service for K-12 students; Job and Career Accelerator for jobseekers, Udemy, which supports the development of workforce skills especially in information technology; and Flipster, which is a source of online magazines for children, teens, and adults.

Library of Rhode Island (LORI) delivery One hundred seventy-nine 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 remained 10 percent below pre-pandemic levels due to lower participation by school libraries, which continued to experience staffing shortages and challenges with the online catalog that the school library consortium used for interlibrary loan. Delivery volume in CY2022 was around 75 percent of pre-pandemic levels.

Talking Books Library Nearly 1,300 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 eight percent below pre-pandemic levels, and membership has declined by 18%. 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, and new enrollment has increased 17% over 2021 numbers, new enrollments remain substantially below pre-pandemic levels (23 percent). The decrease in total enrolled members is also attributable to a major project that updated patron records while purging the catalog of deceased members and those who no longer use the service.

APPENDIX A

ETSS Projects Closed in CY 2022

Project Title	Agency
State Epidemiological Outcomes Workgroup (SEOW) Website	BHDDH
Inquiry and Inspection System Modifications and Ongoing Hosting	DBR
Cavu Server Upgrade	DBR
Blockchain POC -> Production Pilot	DBR
SFM Physical-to-Virtual Migration	DBR
Network Switch Upgrades - Building 68	DBR
Binti Contract Renewal	DCYF
DCYF NTT DATA Contract Renewal	DCYF
Volunteer Management Software	DEM
Electronic Document Management	DEM
Licensing RIO SOW Modification	DEM
ER Incident Response Software	DEM
Asset Tracking Software	DEM
App DHS 21.09.002 RIVMC Veteran Grave Flagging Website	DHS
UI Online Admin Portal for ID Admin Portal for ID verification	DLT
Employer Tax Move (From Tax to DLT)	DLT
DLT Gender Options	DLT
DLT UI Data and Reports Process	DLT
Konica Minolta Contract Renewal	DLT
RESEA Auto Emails	DLT
Hope and Skipper Chatbot	DLT
Unemployment Insurance Phase 2 (UI Online+)	DLT
Electronic Payment Cards - TDI & UI	DLT
DMV File Search Tool	DMV
Quonset CDL Road Test Office	DMV
Forte Payments Processing	DMV
Registration Status Inquiry	DMV

Enterprise Content Management System	DOA
DOA Transparency Portal: Program Performance Measures (PowerBI)	DOA
DOA Transparency Portal: Government Budget Bar Graph (PowerBI)	DOA
Pandemic Recovery Grant Fiscal Tracking Portal/Website	DOA
eCMS - enhancements	DOA
RI E-911 Valor Systems - contract renewal	DOA
Promium ELEMENT LIMS Renewal	DOH
COVID-19 IDL	DOH
Annual support & maintenance for Rhapsody Integration Engine	DOH
COVID-19 Salesforce - OwnBackup	DOH
Qualtrax Software Renewal	DOH
Scaling SMART Health Card	DOH
CVENT, Virtual Conferencing Platform	DOH
Vital Records System Implementation	DOH
System Automation Contract (L2K - MLO)	DOH
Document Management Solution - CFP	DOH
COVID AWS Intermediary Data Layer Upgrades	DOH
Copado Implementation for Salesforce	DOH
RIDOH L2K SSIS Package	DOH
Traumatic Brain Injury (TBI) Registry	DOH
Participatory Budgeting Pilot - Digital Tool	DOH
Upgrade RIDOH current L2K licensing application to MLO	DOH
DOSP Heatmap Dashboard Creation	DOH
CDC Community Health Worker Initiative	DOH
CDOE/CVDOE Services and Coordination	DOH
Forensic Network Change	DOH
Health System Transformation Services	DOH
GIS Enterprise Deployment	DOH
Datagroomr Salesforce Tool Implementation	DOH
New Mainframe merging DLT and EOC into one	DOIT
eConstruction Headlight Software	DOT

APPENDIX B

Active ETSS Projects by Phase (as of 12/15/2022)

Execution and Control Phase	
Project Title	**Agency**
Therap Case Management Phase 3	BHDDH
Cannabis Program Solutions and Services	DBR
Digital Business Credentialing	DBR
RICHIST Replacement Strategic Plan	DCYF
Electronic Document Management (OWTS Phase II)	DEM
OneOutdoors	DEM
Childcare Inspection Monitoring System	DHS
RI Bridges Mobile Access and Childcare Tracking	DHS
OHA APS Case Management	DHS
ORS - IT/MIS Replacement	DHS
Network RI Upgrades (Woon\WW)	DLT
UI Self Service Status Letters	DLT
OnBase Imaging System Upgrade	DLT
KnowledgeLake Cloud Application Migration	DMV
Informix Stabilization Project	DOA
EEO Reporting - Power BI	DOA
Grants Management System	DOA
eProcurement	DOA
RIDE eCMS Migration (Scott Gausland)	DOA
GE EMR Gateway Pro	DOC
Evidence Tracker - Winfacts Module	DOC
Winfacts Enhancements (Gang Affiliation)	DOC
DOC Wifi and Tech at ACI	DOC
Efforts to Outcomes database	DOH
Database for Immunization QA	DOH
Salesforce Gov Cloud Plus Migration	DOH
COVID-19 DataLake HIRS to WFR	DOH
Lab Beast Prelog Upgrade	DOH
RI Hope Initiative and RIDOH Intermediary Database Project	DOH
Electronic Lab HL7 Orders and Results Interface	DOH
Crossroads MIS User Group M&E	DOH
Network Redundancy and Resiliency	DOIT
Telephone and Call Center Upgrade	DOIT
Privileged Access Management	DOIT
Database Encryption	DOIT
Hyper Converged Infrastructure	DOIT

New Mainframe, merging DLT's and EOC's into one	DOIT
Central Collections Unit Modernization	DOR
MS Dynamics for DOR/DMF	DOR
STAARS Migration to the Cloud	DOR
eConstruction Phase II (Headlight Software)	DOT
MES Planning Vendor Procurement	EOHHS
Community Referral Platform	EOHHS
Ecosystem Enhancements for Publishing SQL Databases	EOHHS
Initiation Phase	
Project Title	**Agency**
Electronic Health Records	BHDDH
DCYF Policy System	DCYF
Licensing FoxPro Modernization	DEM
GWB Agiloft Upgrades	DLT
Workers Comp Fax Server	DLT
Mainframe Legacy Modernization	DLT
ERP Implementation	DOA
Infacts Replacement, Offender Management System	DOC
Proofpoint Archive and e-Discovery	DOIT
AASHTOWare's Bridge Software (Brm) Cloud Upgrade	DOT
LTSS IT Modernization	EOHHS