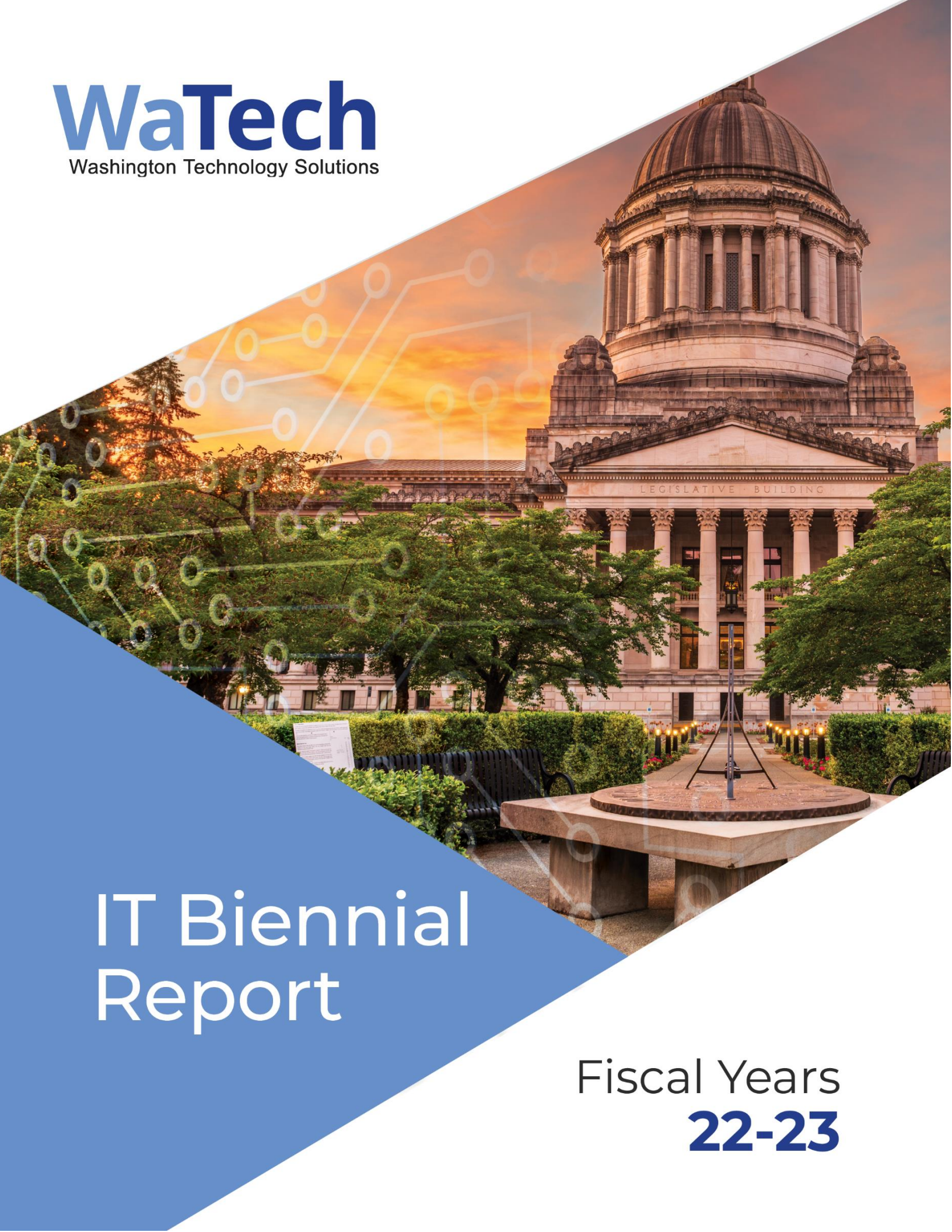


WaTech

Washington Technology Solutions



IT Biennial Report

Fiscal Years
22-23

Letter from the State CIO

I am pleased to present the FY22-23 IT Biennial Report, which provides an in-depth look at our state's efforts to modernize and transform its IT systems. This report not only analyzes the progress made in implementing our IT strategic plan but also evaluates the performance, execution and outcomes of major projects.

Key milestones highlighted in this report include:

- **Foundation for Connected Government:** We've laid significant groundwork for a connected government that will ultimately allow Washingtonians to access a common portal for services like their experiences with the private sector.
- **IT Governance Transformation:** Our existing IT Governance activities have been transformed with a focus on refining and strengthening practices. New governance groups include the IT Investment board, Enterprise Security governance and Enterprise Architecture committee. An important addition has been to include business leaders in the governance process, ensuring a holistic approach to decision-making.
- **Innovation and Modernization Initiatives:** The initiation of the Innovation and Modernization Fund program, backed by funding from the Legislature, marks our commitment to staying at the forefront of technological advancement.
- **Enhanced IT Project Outcomes:** We have improved outcomes of major IT projects by updating policies and refining oversight processes, focusing on project management, transparency, and emphasizing architecture principles and a sound technical architecture.
- **Advancements in Identity and Access Management:** Significant progress has been made in the state's identity and access management strategy, alongside advancements in data, business, and governance architectural domains.
- **Office of Cybersecurity (OCS):** OCS has made significant strides in developing centralized services and functions across state government to effectively combat cyber threats.



This report is a culmination of our team's dedication and hard work, capturing the essence of our technological journey over the past two years. It provides a deep dive into the strategies employed, the challenges faced and the significant milestones we have achieved.

We have worked to ensure this report is comprehensive and transparent. The insights and lessons it contains are guiding the modernization of the state's IT systems and fostering a culture of continuous improvement and innovation.

Your feedback is highly appreciated as we strive to advance our technology landscape for the benefit of all Washingtonians. Thank you for your ongoing support and collaboration as we navigate the evolving technological landscape.

A handwritten signature in black ink that reads "William S. Kehoe". The signature is written in a cursive, flowing style.

William S. Kehoe, State Chief Information Officer

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Technology performance report structure

WaTech is legislatively mandated to prepare and lead the implementation of a strategic direction for information technology in state government. The 2021-2025 Washington state IT Strategic Plan serves as the framework for the five primary section headings of this report:

- Efficient & Effective Government
- Accountable IT Management
- IT Workforce
- Enterprise Architecture
- Security & Privacy

Section topics also cover requirements within the following state RCWs:

- RCW 43.105.205
- RCW 43.105.220
- RCW 43.105.225
- RCW 43.105.235
- RCW 43.105.245
- RCW 43.105.265
- RCW 43.105.287
- RCW 43.105.341
- RCW 43.105.369

Executive Summary:

The 2021-23 IT Biennial Report, required under RCW 43.105.220, portrays a state on the edge of technological transformation.

Advancements that were once fodder for science fiction have become commonplace, but some of our state government IT systems are reliant on technology that's the equivalent of a Model T in the age of electric cars, self-landing rockets and artificial intelligence.

As a result, the delivery of state services today isn't much different than it was decades ago. We still force people to navigate multiple agency websites and fill out forms over and over to get what they need.

The state's technology investment of more than \$4.3 billion during the past biennium helps set the stage for a better future by funding investments in technologies, systems and processes that will drive the state toward a more modern, connected government and a more efficient resident experience.

This report highlights the large amount of work now underway with engaged business and IT staff from multiple agencies, which is funded by these investments:

Efficient & Effective Government: Moving the state to a better future is complicated. It requires understanding where you are, figuring out a path forward, providing the leadership needed to arrive at your destination, and doing all the work needed to create a modern, connected government while ensuring no one is left behind. Key components of this effort include:

- Understanding where we are: The state's financial system collects information on where the state's IT dollars are spent. WaTech benchmarks this information against 185 government and private entities. One key finding: Our research indicates the state invests less in off-the-shelf software compared to others, and more on legacy, custom-built applications which are more expensive to maintain and replace. Tight agency budgets, business-driven and legislative deadlines requiring modifications to existing systems and funding cycles have helped fuel a growth in this trend.
- A path forward: WaTech, in coordination with its partner state agencies created an [Enterprise IT Strategic Plan](#) that provides roadmap to a better future. The plan includes strategic goals that include an advanced digital government that reduces barriers to access and supports a diverse, resilient workforce.
- Providing leadership: An IT enterprise governance framework was expanded to include non-IT business leaders during the biennium to focus on the state priorities, policies, strategies and objectives needed to create a modern connected government.
- Doing the work: Since the last biennium, emphasis has been placed on helping agencies identify legacy applications to support modernization efforts. The Legislature also provided funding for an Innovation and Modernization (IM) Fund at WaTech in 2023 that provides agencies with greater flexibility to implement innovative technology solutions that have a

shorter timeline, low cost, and provide high business value and solutions that accelerate legacy system modernization that can be rapidly deployed. In addition, WaTech has initiatives underway to support a connected government that include developing an enterprise data strategy, implementing an enterprise identity and access management platform, and modernizing the state government web portal and laying the groundwork on a resident portal.

Accountable IT Management: In this era of accountability, we want to ensure transparent and responsible IT management. With an overarching goal to optimize resource utilization and ensure project success, the state has introduced robust mechanisms for monitoring and managing IT investments, including:

- Project Oversight: Rigorous monitoring and evaluation mechanisms have been established to ensure transparency and effectiveness in IT project management.
- Strategic Advisory Services: These services provide crucial guidance to agencies, aiding in the successful execution of large, highly visible IT projects.
- Resource Optimization: Strategies are in place to maximize the use of resources, ensuring fiscal responsibility and operational efficiency.
- Performance Measurement: To ensure alignment with state objectives and deliver value, the focus is on providing transparent dashboards and reports that highlight quantifiable outcomes and progress. We also conduct regular assessments to ensure that our efforts are in line with the desired objectives.

IT Workforce: The state faces the challenge of nurturing an IT workforce capable of driving this transformation. Initiatives are underway to attract top talent, foster skill development, and create an inclusive work environment that supports remote and flexible work arrangements, including:

- Talent Attraction: Initiatives target attracting skilled professionals, vital for driving the state's modernization initiatives and technological advancement.
- Skill Development and Training: Focus on upskilling the current workforce to meet the evolving demands of a modern IT landscape.
- Work Environment Enhancement: Promotion of remote and flexible work options to foster a progressive and inclusive workplace.
- Diversity and Inclusion: Prioritizing a diverse IT workforce to reflect and support the multifaceted needs of Washington's population.

Enterprise Architecture: Enterprise Architecture (EA) is at the heart of this transformation, serving as a blueprint for aligning technology with the state's strategic goals and providing:

- Strategic Alignment: EA serves as the linchpin in aligning technology initiatives with the state's strategic vision.
- Cloud Adoption and Integration: Concentrated efforts on cloud strategies to modernize data management and service delivery.
- Efficient IT Infrastructure: Development of an interconnected IT framework that enhances operational efficiency across agencies.
- Innovative Technological Solutions: Emphasis on integrating cutting-edge technologies to streamline processes and improve services.

Security & Privacy: In the face of escalating cyber threats, the state is committed to reinforcing its security and privacy protocols. This involves enhancing cybersecurity frameworks, implementing rigorous privacy measures and ensuring compliance with the latest standards. The state is dedicated to protecting its digital assets and the privacy of its citizens, recognizing that a secure digital environment is foundational to a connected government. Work to strengthen the state's security posture during the biennium included:

- Cybersecurity Enhancement: Strengthening cybersecurity policies, services and controls to protect state digital assets and data against increasingly sophisticated cyber threats.
- Privacy Protocols: Implementing stringent privacy standards to safeguard resident data and maintain public trust.
- Compliance with Standards: Ensuring adherence to the latest security and privacy regulations and federal frameworks.
- Foundational Security: Acknowledging that robust security and privacy measures are fundamental to the success of a connected digital government.

This report reflects the state's march towards a future where government services are seamless and user-friendly. It envisions a state where technological agility, efficiency and innovation are not just aspirations but realities, ensuring that every Washingtonian benefits from the dividends of this digital transformation.

Section 1 - Efficient and effective government

Enterprise IT Strategic Plan

The state IT strategy needs to support, improve and modernize the way government services are delivered to Washingtonians. Maturing the state’s strategy helps support the commitment to use innovative and transformative solutions that enable the state to provide essential government services in an efficient manner. WaTech collects detailed information on the state’s technology investments to show how agencies support state priorities as identified in RCW 43.105.220. That data, collected from agencies on an annual basis, was used to build this report and validate the alignment to the 2021-25 IT Strategic Plan (Figure 1).



Figure 1 - 2021-2025 Enterprise IT Strategic Plan

Next biennium will be anchored on the new [Enterprise IT Strategic Plan for 2023-2025](#) (Figure 2) and will guide the state’s journey toward a transformative future for a “Connected Government, Strong Communities, Better Washington.” The plan lays out the vision to revolutionize enterprise IT by nurturing the state’s greatest asset -- our talented workforce -- to leverage innovative technology solutions and better data insights with the goal of achieving equitable outcomes for all communities.

The new strategic plan is the direct result of the collaboration and commitment of more than 100 business and IT leaders from across diverse state agencies. They came together over the course of 13 strategic planning workshops, generating more than 2,000 ideas and themes, and collectively determined the four strategic goals that will drive our work to achieve the vision.



Figure 2 - 2023-2025 Biennium IT strategic plan.

Governance expanded to include business leaders

During the biennium, the IT Enterprise governance framework was expanded to include business leaders (Figure 3). The governance framework focuses on state priorities, policies, strategies and objectives. These groups meet on a regular basis to provide guidance and steering for strategic vision and planning for enterprise IT initiatives and projects.

Enterprise Governance Framework

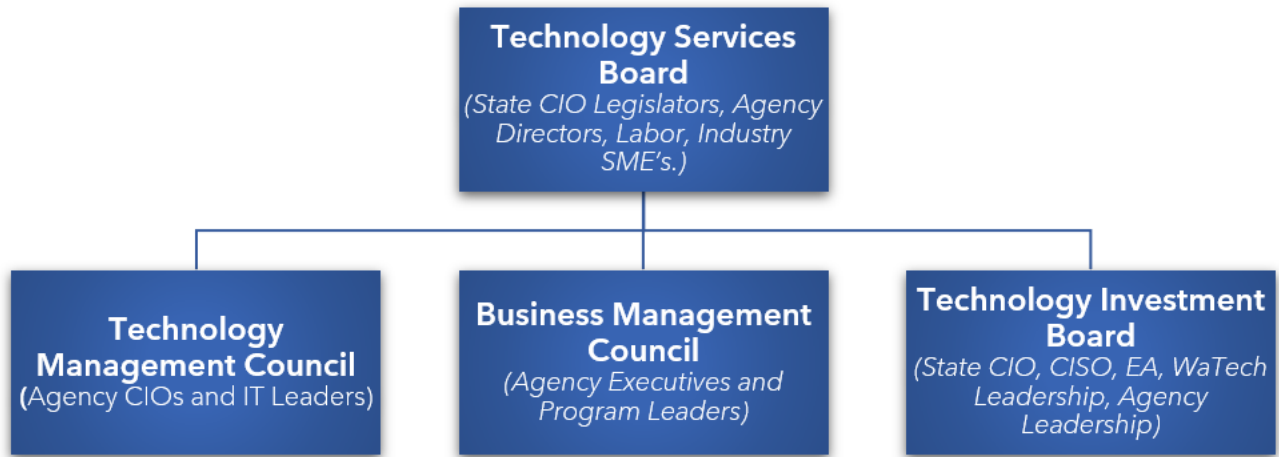


Figure 3 - Expanding governance framework to include business leaders.

Information Technology (IT) investment assessment

“Cost Pools” and “Technology Towers” are standard terms used for benchmarking the state’s IT spending against other public and private organizations.

State agencies invested over \$4.3 billion in the 2022-23 biennium (see Table 1). Based on information submitted to the WaTech by state agencies, labor continues to represent the largest proportion of overall IT spending.

2022-23 STATE IT INVESTMENT				
Cost Pool	2022	2023	2022-23 Total	% of spend
Internal Labor	\$667,677,175	\$765,245,821	\$1,432,922,996	33.3%
Hardware	\$258,680,217	\$312,259,976	\$570,940,193	13.3%
Internal Services	\$237,386,208	\$223,732,822	\$461,119,030	10.7%
Outside Services	\$230,971,781	\$333,559,719	\$564,531,500	13.1%
Software	\$223,236,744	\$289,605,413	\$512,842,157	11.9%
Other	\$161,444,588	\$146,287,644	\$307,732,232	7.1%
External Labor	\$121,113,103	\$142,249,055	\$263,362,158	6.1%
Telecom	\$76,519,181	\$78,013,180	\$154,532,361	3.6%
Facilities & Power	\$28,270,566	\$12,147,950	\$40,418,516	0.9%
Total	\$2,005,299,564	\$2,303,101,580	\$4,308,401,143	100%

Table 1: (NOTE: “Internal Services” contain agency expenditures to central service agencies)

Benchmarking against other government and private entities

Benchmarking is performed to educate and inform state managers and policymakers on industry benchmarks that strengthen decision making and professional development in technology. When benchmarking the state IT investment against 185 private and public sector organizations using the eight industry Cost Pool standards, there are three categories where the state technology investment is outside the median. These categories are *Hardware*, *Software* and *Other* with the following analysis:

1. The state is low on software investment, which can be attributed to a high count of custom/in-house built applications in the state portfolio.
2. The hardware investment is high with the greatest investment in end user devices followed by network equipment, which is attributed to the high number of state remote workforce and continued migration to cloud solutions.
3. Washington’s investment in the *Other* category is the highest of all entities and is attributed to over \$94 million in grants payments made from the University of Washington to University Hospital.
4. It should be noted that the state internal and external labor investment benchmark has shifted from one of the highest in the previous biennium to being in the median range by the end of 2023.

Figure 4 provides details on all eight categories with highlights on the three categories where the state is far outside the median.

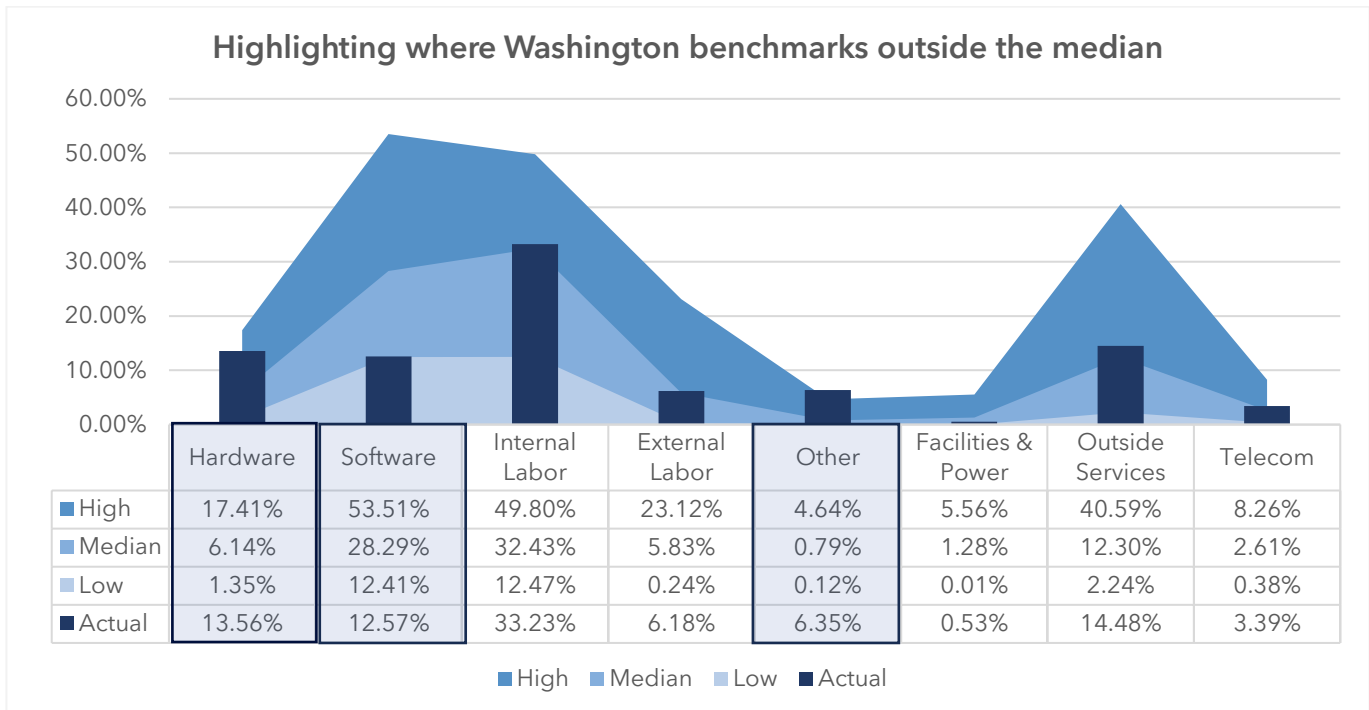


Figure 4 - This chart benchmarks state IT spending against 185 benchmark entities. The dark blue bars represent actual state spending. The waves (shades of blue) represent high, medium and low benchmarks. This chart shows the state's spending on software.

When expanding the benchmarking analysis to the 11 industry Technology Towers, data indicates the state underfunds more technology than others in the benchmark group. There are five categories where the state is outside the median. These categories are associated with applications and security/compliance (Figure 5).

It should be noted that the low investment cost in compute, storage, platforms and applications is associated with systems used to meet business needs. Also noteworthy is the low benchmark level of the state’s security and compliance investment, especially with the increased cybersecurity threats to government entities over the last biennium.

Highlighting 5 critical technology categories where Washington benchmarks low

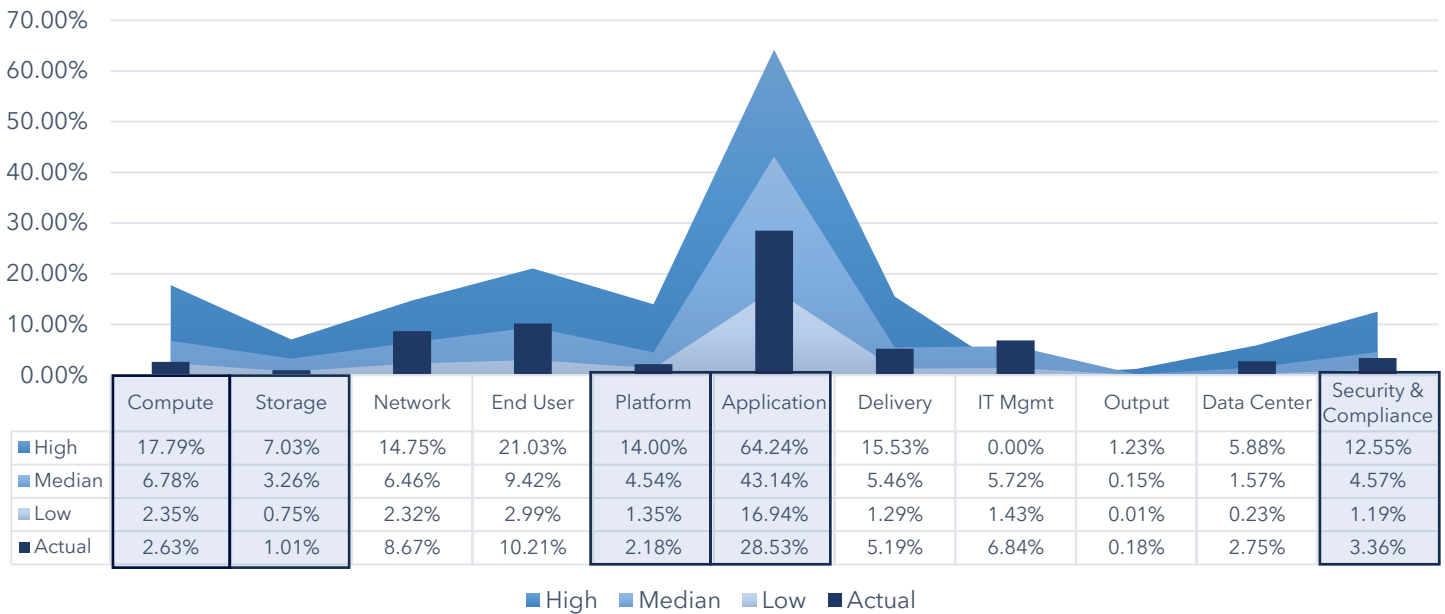


Figure 5 - The five critical categories that benchmark lower than the median of the other 185 public and private sector entities needs more analysis to determine if we are underfunding IT in the state. (The dark blue bars represent actual state spending. The waves (shades of blue) represent high, medium and low benchmarks.

Benchmarking IT investment across functions of government

Looking at technology investment by governmental function, higher education continues to represent the largest share of spending (see Figure 6 and Figure 7). However, statute exempts higher education from requirements to assign IT costs to technology towers.

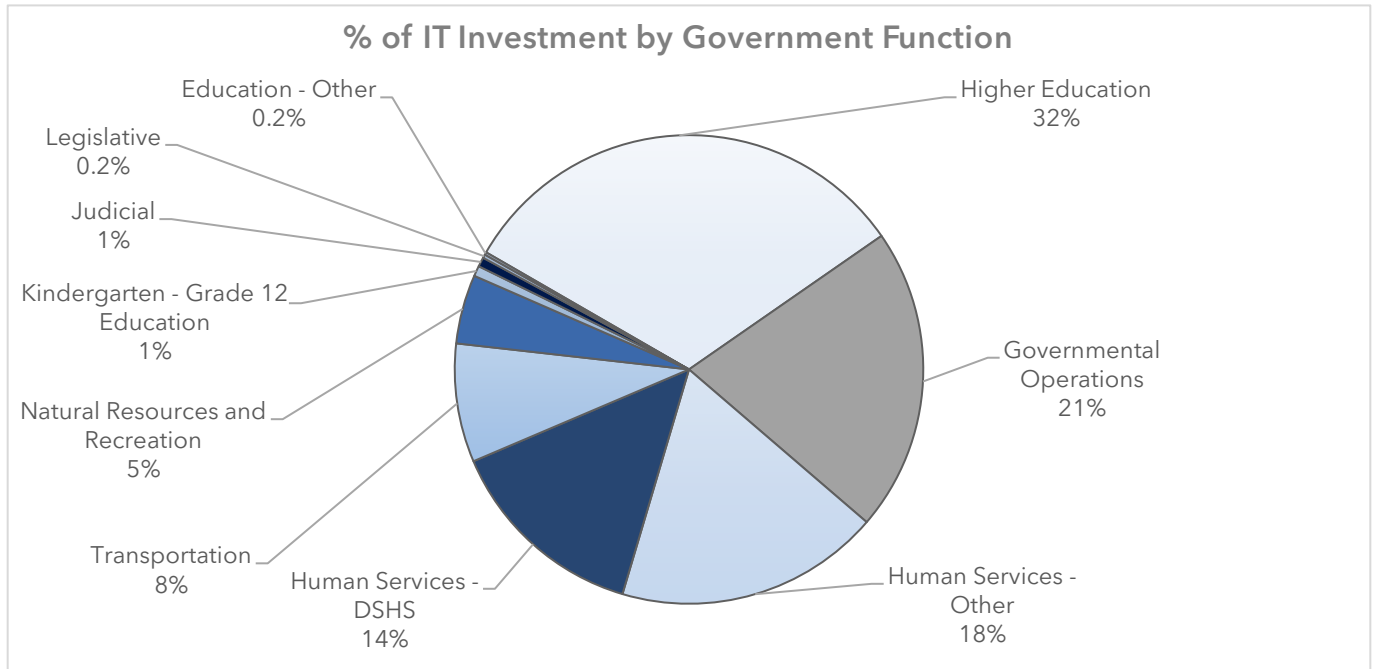


Figure 6 - Percentage of technology investment by different functions of government.

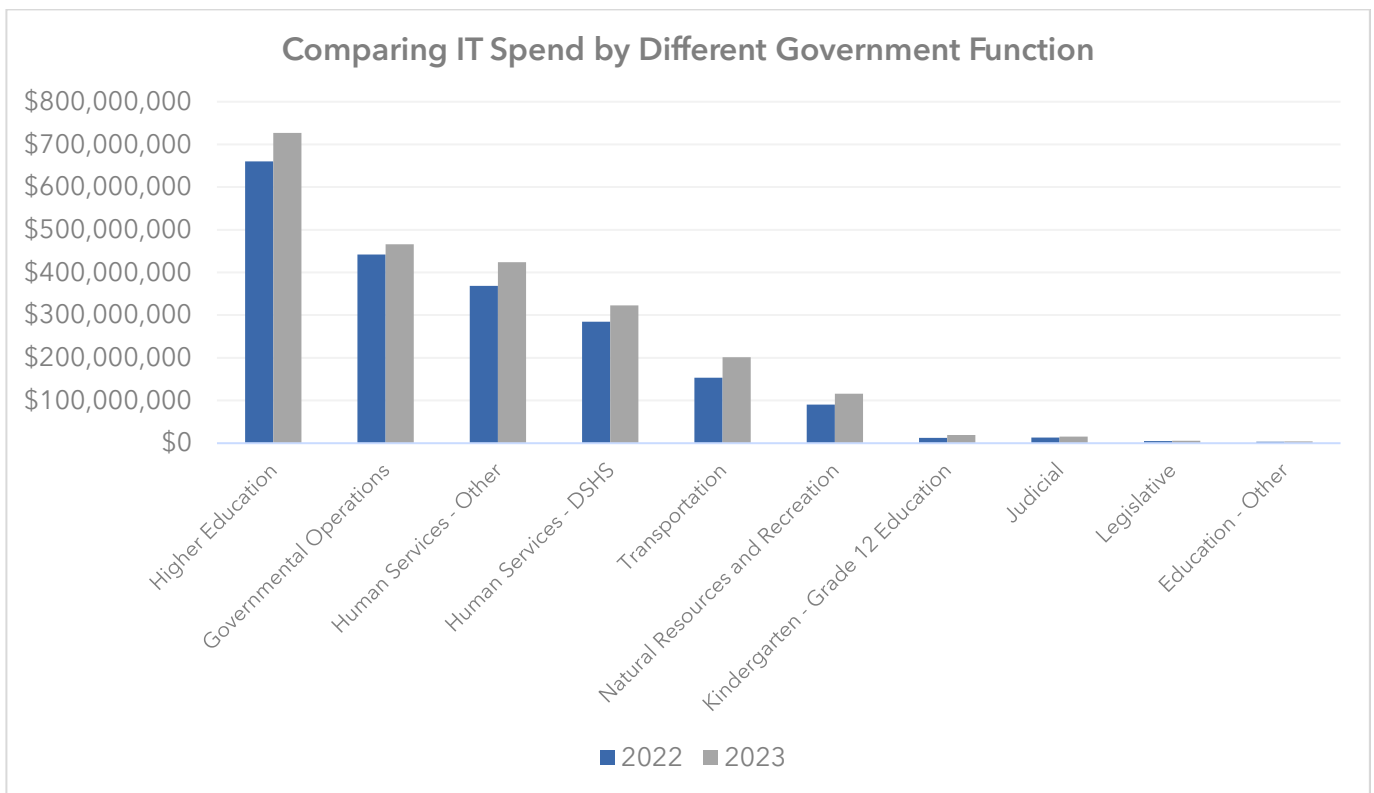


Figure 7 - Function of government IT investment trend over the biennium.

New investment versus maintenance and operation

Agencies report technology investments by new acquisitions development (i.e., new spend), and by maintenance and operations (M&O). Figure 8 includes itemization of expenditures by new acquisition, maintenance and operations, payments to central service agencies (classified as Data Processing Interagency) and unmarked IT spending. Unmarked IT spending includes hardware and software investments that agencies did not identify as IT when coding the payment information into the state Agency Financial Reporting System (AFRS).

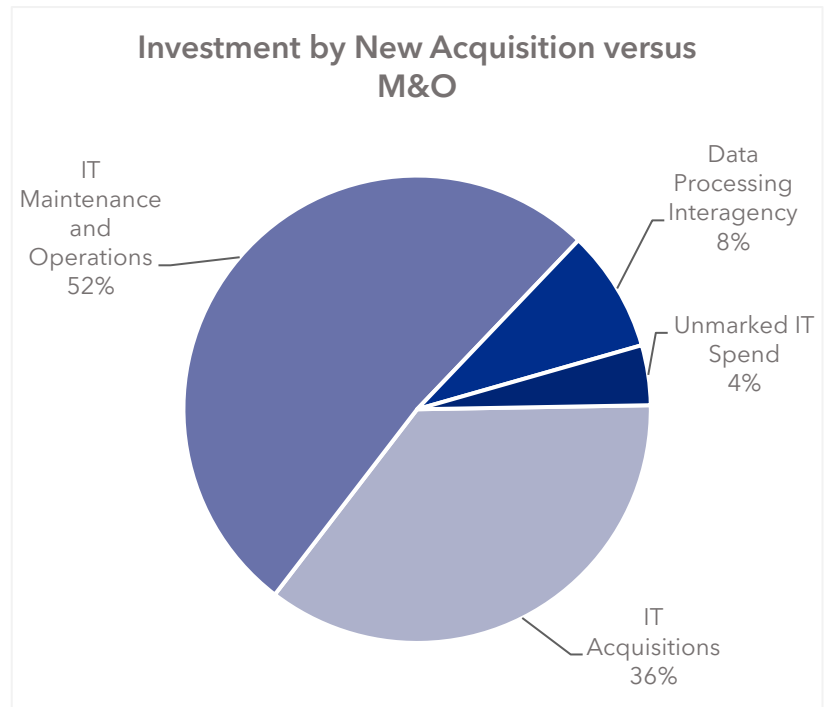


Figure 8 - UW reports over \$500M investment in IT however registers \$0 IT M&O in the state financial system. Data Processing Interagency are payments to central service agencies.

M&O increased over the biennium, which is an indicator that agencies continue to dedicate resources to supporting legacy solutions versus implementing a modernization strategy that transforms business processes and applications.

Investment by technology tower

When asked to assign cost pools to technology towers (see Figure 9), state agencies in the Technology Business Management (TBM) program, reported "application" attracting the largest amount of IT investments followed by "end user," which includes support of workforce desktops, mobile devices, and desktop software. Investment in network technology rounds out the top three technology towers.

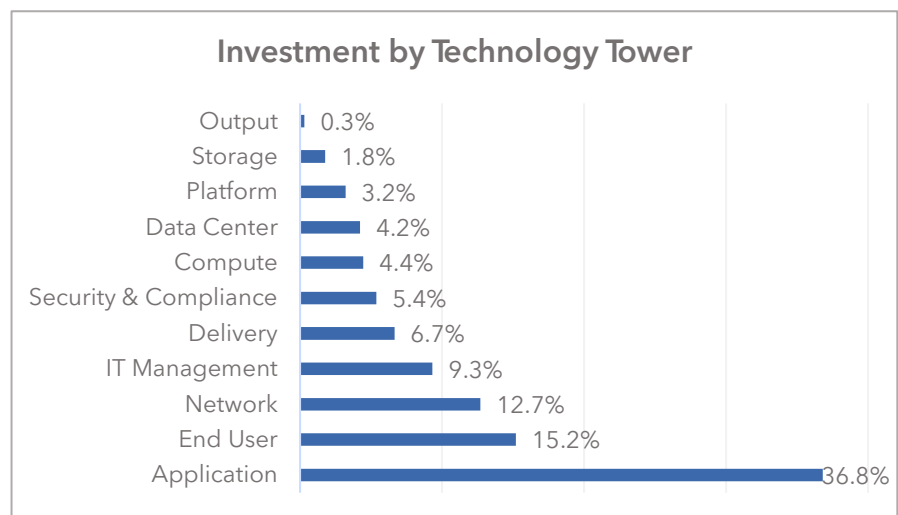


Figure 9 - Agency reported investment through the state TBM Program.

Improving accuracy on cloud technology investment reports

As agencies continue to adopt modern cloud technology emphasis has been placed on optimizing cloud investments. Many agencies are purchasing Infrastructure as a Service (IaaS) from the same third-party vendor that provides Software as a Service (SaaS).

In 2023, over \$20 million for IaaS from Microsoft Azure, Amazon Web Services (AWS) and Google Cloud Platform (GCP) were being mischaracterized in the state financial system as SaaS maintenance.

To address this issue, TBM Program is working collaboratively with the Office of Financial Management (OFM) Accounting Services to educate and train agency accounting staff statewide on proper coding practices for cloud technology to improve accuracy in the next biennium.

The need for modernization

Washingtonians are demanding modern access to state services. Efforts needed to meet the demand include modernization of application, systems and business processes. You can't modernize technology without looking at business needs and customer needs. There is also no benefit if you modernize an application and continue legacy business processes.

How does this work lead to enabling technology? Agencies need to concentrate on business process modernization first, then focus on technology modernization.

Many agencies are unable to meet Washingtonians' demands due to their legacy systems. In this report, a legacy system is defined as any system that presents a constraint or risk to the line of business that it supports. These range from mainframe systems using the COBOL programming language created in 1959, to outdated operating systems such as Windows 2003.

Additionally, if the state does not modernize it will be difficult to bring in the younger generations as employees.

Funding modernization

WaTech is required in RCW 43.105.235, to evaluate state agency IT budget requests and submit recommendations to the OFM regarding funding all or part of the request. The reviewing and ranking of agency-submitted technology-related decision packages (DPs) are performed on an annual basis.

As part of the 2023-25 biennium DP process, WaTech changed the consultation conversation to emphasize the agency's strategic alignment and modernization strategy. To better identify DP requests that were modernization efforts, agencies were asked to identify the technology type of investment (archetype) associated with their funding request. Figure 10 highlights the categories for the funded DPs.

What is a legacy system?

A legacy system is defined as any system that presents a constraint or risk to the line of business that it supports.

These range from mainframe systems using the COBOL programming language created in 1959, to outdated operating systems such as Windows 2003.

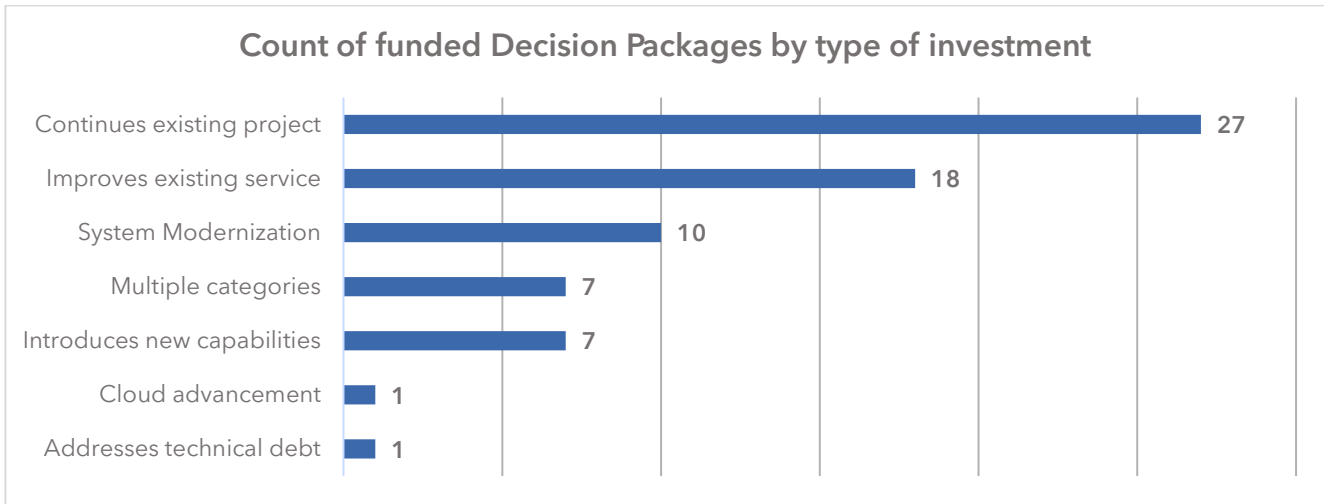


Figure 10 - Using Decision Package type of investment categories to better identify modernization efforts.

The 2023-25 biennium comprehensive report submitted to the Legislature and available to the public was published in October 2022. Both the PDF and electronic interactive versions are available at [Decision Package Prioritization | WaTech](#)

Innovation and Modernization Fund

Agencies continue to grapple with a substantial amount of technical debt and feel the urgency to modernize their IT systems to take advantage of emerging technology. The Innovation and Modernization (IM) Fund was established in 2023 from an appropriation created by the Washington state Legislature. By creating a dedicated appropriation, agencies can submit project proposals for IM funds as critical business needs arise. The fund was approved for \$3 million in the 2023-2025 budget.

WaTech established an IM program during the last quarter of FY23 with the objective of getting projects funded quickly, so agencies could start utilizing funds to solve business problems through innovative technology and accelerate legacy migration at the beginning of the FY24-25 biennium.

The funding provides agencies with greater flexibility to implement technology solutions that have a shorter timeline, low cost and provide high business value that can be rapidly deployed. Additional guidance on IM Program funding:

- Smaller-scale system replacements or technology that can modernize an existing application are ideal candidates.
- Funds are available for startup and project costs only.
- Agencies applying for IM funds must be able to demonstrate how they will fund the ongoing maintenance and operations costs.

IM Program Principles

- Fund as many projects as possible.
- Minimize the administrative burden on participating agencies.

- Large-scale, transformative projects would still need to seek funding through the state’s budgeting process.

More information is available on the [IM Program website](#) and the [IT Project Dashboard](#).

State enterprise application portfolio - Legacy application modernization progress

Since the last biennium, emphasis has been placed on helping agencies identify legacy applications to support modernization efforts. In 2023, the state application portfolio policy was updated to streamline required data capture and add questions that help agencies flush out their legacy applications.

The Gartner® TIME model was incorporated into the application inventory template to help agencies identify and categorize legacy applications.

Several agencies installed process improvements to centralize their agency application portfolio data capture. As a result of these improvements agencies discovered more applications in their agency portfolio.

It is important to determine the importance of applications to the agency business, so agencies are asked to identify and categorize the applications by four business criticality categories: mission critical, business essential, user productivity and historical.

Using Gartner® TIME model to identify and categorize legacy applications.

The TIME Analysis model is based on questions that assess an application's quality and business value.

- **T**olerate: High-quality application but low business value.
- **I**ntest: High-quality application and high business value.
- **M**igrate: Low-quality application but high business value.
- **E**liminate: Low-quality application and low business value.

Application business criticality definitions

- **Mission Critical:** If unavailable there is widespread business stoppage with significant revenue or organizational impact; risk to human health/environment; public, wide-spread damage to organizations reputation.
- **Business Essential:** If unavailable there is direct negative customer satisfaction; compliance violation; non-public damage to organization’s reputation; direct revenues impact.
- **User Productivity:** If unavailable there is impact to employee productivity.
- **Historical:** Needed for historical purposes.
- **User Productivity:** If unavailable there is impact to employee productivity.

Figure 11 provides insight into the number of legacy applications in the portfolio and their impact on the agency business.

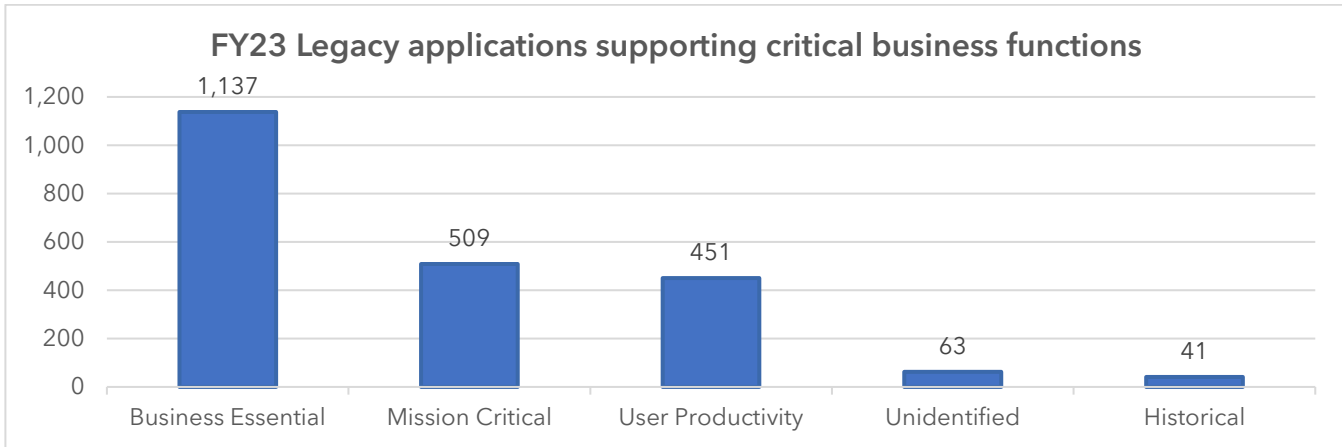


Figure 3 - Identifying the number of applications that are critical to meeting the agency mission.

Over the last three years there has been movement in the state application development profile. Many agencies have made progress decreasing the number of custom/in-house built applications. There is a corresponding increase in commercial off the shelf (COTS) solutions. While Software as a Service (SaaS) solutions have remained steady over the last three years.

In 2023 we started collecting data on the number of applications built on Platform as a Service (PaaS). Application on PaaS increases agility, allowing agencies to adapt and respond to quickly changing business landscapes. See Figure 12 for the three-year trend.

COTS vs. SaaS vs. PaaS

- **COTS (Commercial Off the Shelf)** solutions need to be installed, configured and managed by the agency.
- **SaaS (Software as a Service)** solutions are accessed online through a subscription from a provider rather than bought and installed on agency computers.
- **PaaS (Platform as a Service)** provides on-demand access to a complete, ready-to-use, cloud-hosted platform for developing, running, maintaining and managing applications.

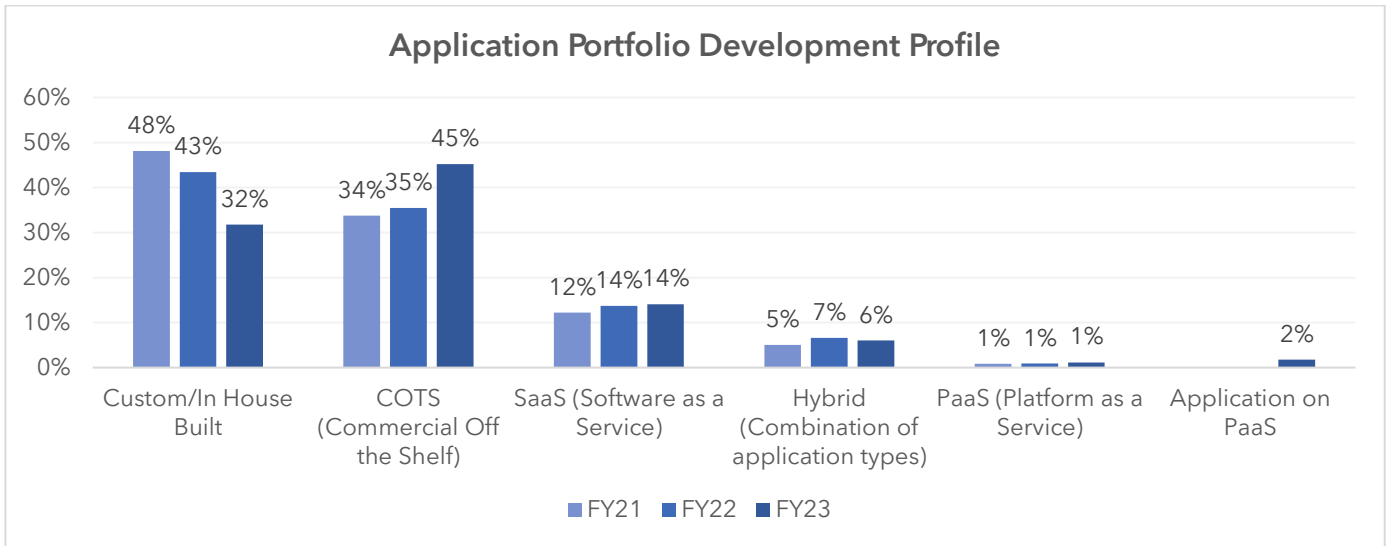


Figure 12 - Trending the state application development profile.

An additional analysis was performed to identify agencies with custom/in-house built and COTS applications that were identified as legacy. Figure 13 provides insight into the top 17 agencies and their percentages.

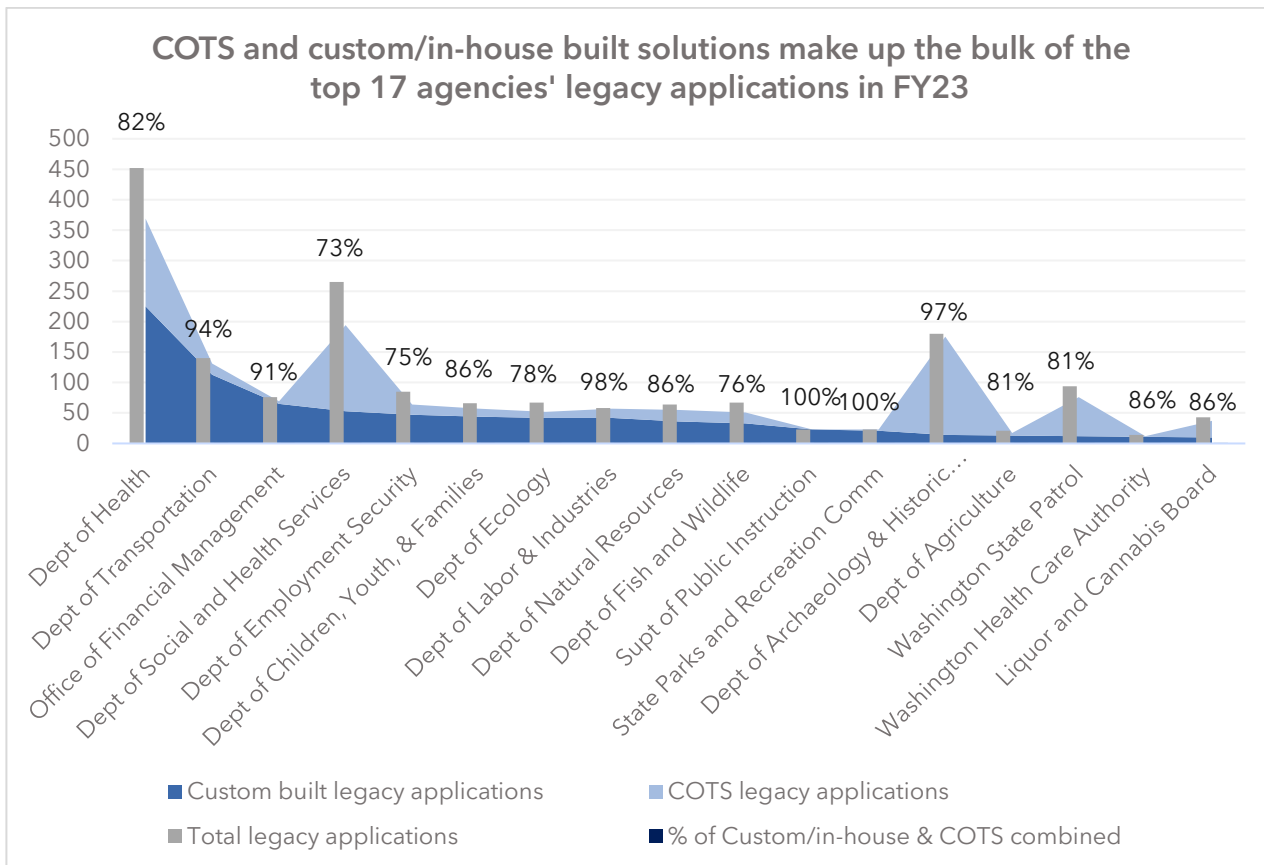


Figure 4 - Top 17 agencies with an application portfolio that is considered legacy.

Activities to analyze, identify and prioritize legacy application modernization

Recognizing the state portfolio has an overabundance of legacy applications, emphasis has been placed on providing tools that help agencies identify and prioritize modernization of legacy applications. Additional questions in the inventory template help agencies identify applications that constrain the business, are using aging technology or have other risk factors. Also included in the template was the Gartner® TIME model to support identification and prioritization analysis.

Figure 14 highlights 714 mission critical/business essential applications identified by agencies as being legacy and custom/in-house built.

We are investing in projects that focus on modernization such as the One Washington program, Workers Compensation Modernization, Healthcare Enforcement and Licensing Modernization Solution (HELMS), the Innovation and modernization fund, etc. Legacy applications associated with modernization projects will continue running until the modernization work is complete.

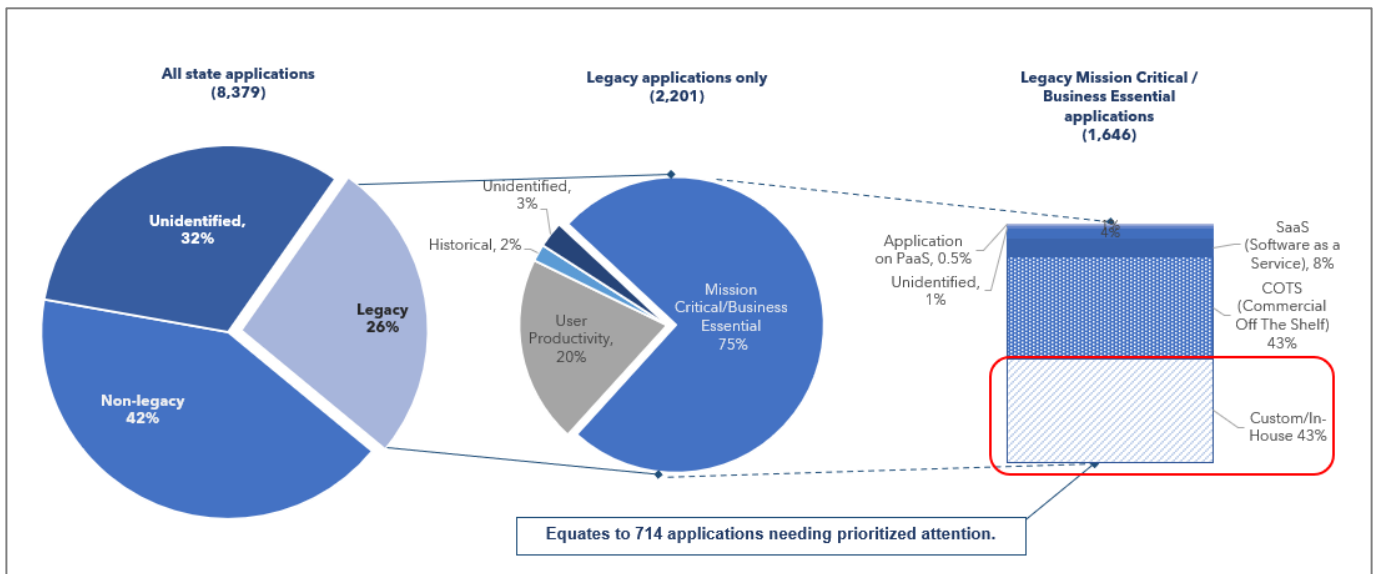


Figure 5 - Narrowing down candidates for legacy modernization prioritization.

Addressing legacy applications next biennium

Looking at the data, the highest percentage of IT investment is on applications and many agencies are spending a lot of money and staff time keeping outdated systems alive versus using those funds and staff time to modernize and reduce the application portfolio by decommissioning the legacy systems. Figure 15 provides a breakdown of the application investment by cost pool and Figure 16 illuminates the percentage of agencies whose overall internal labor is supporting applications.

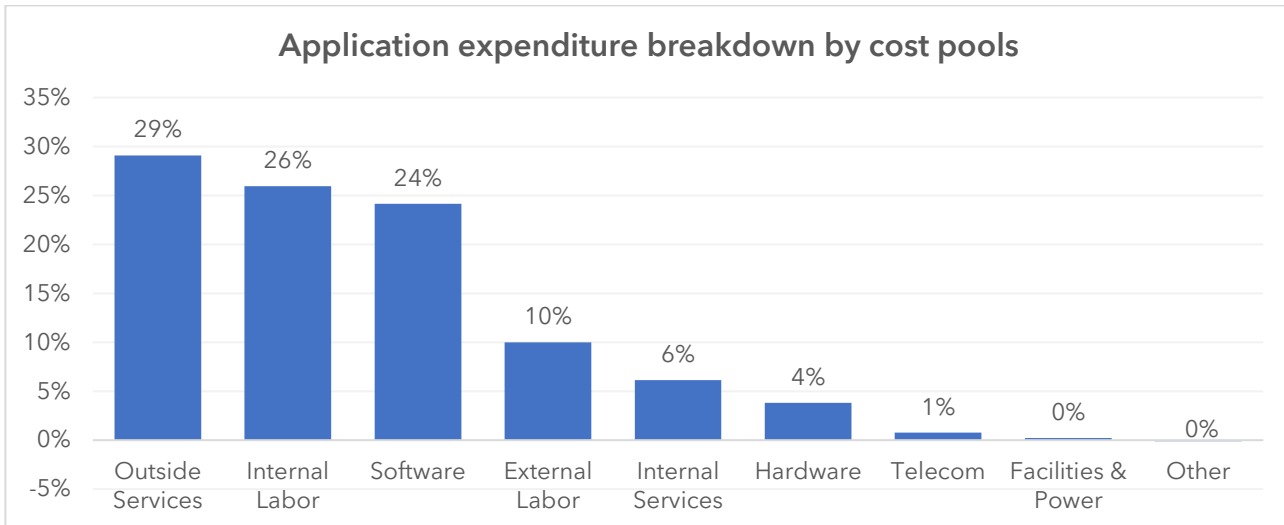


Figure 6 - Software cost is 24% however the aggregate total of people cost is 65% when you combine outside services, internal and external labor.

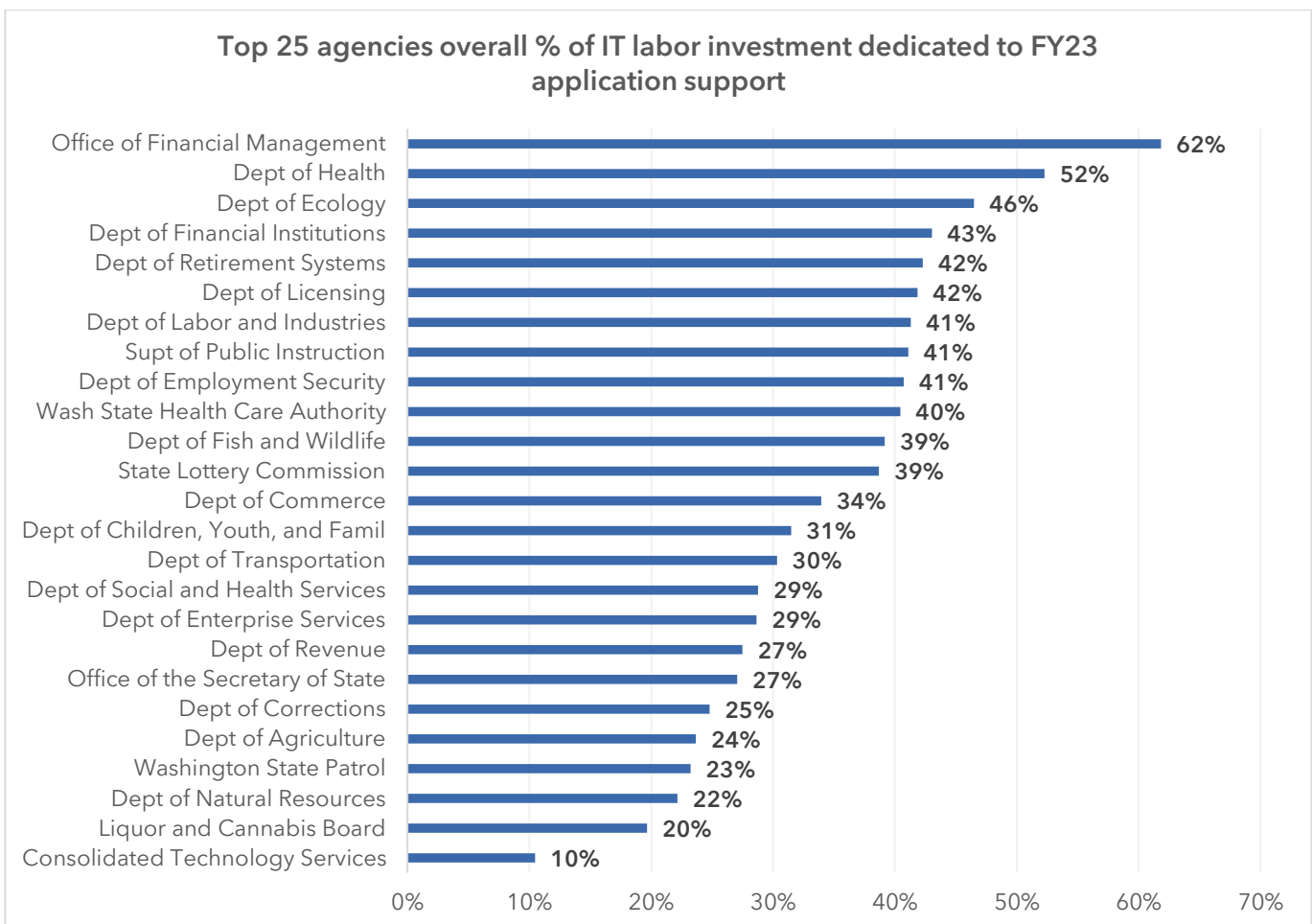


Figure 7 - Top 25 agency investment of internal labor assigned to applications.

During FY22-23, the state Portfolio Management Office and TBM Program initiated efforts to mature agencies' IT portfolio practices. These efforts will continue through the next biennium with the goal of maturing IT portfolio practices and analysis to support informed decision making.

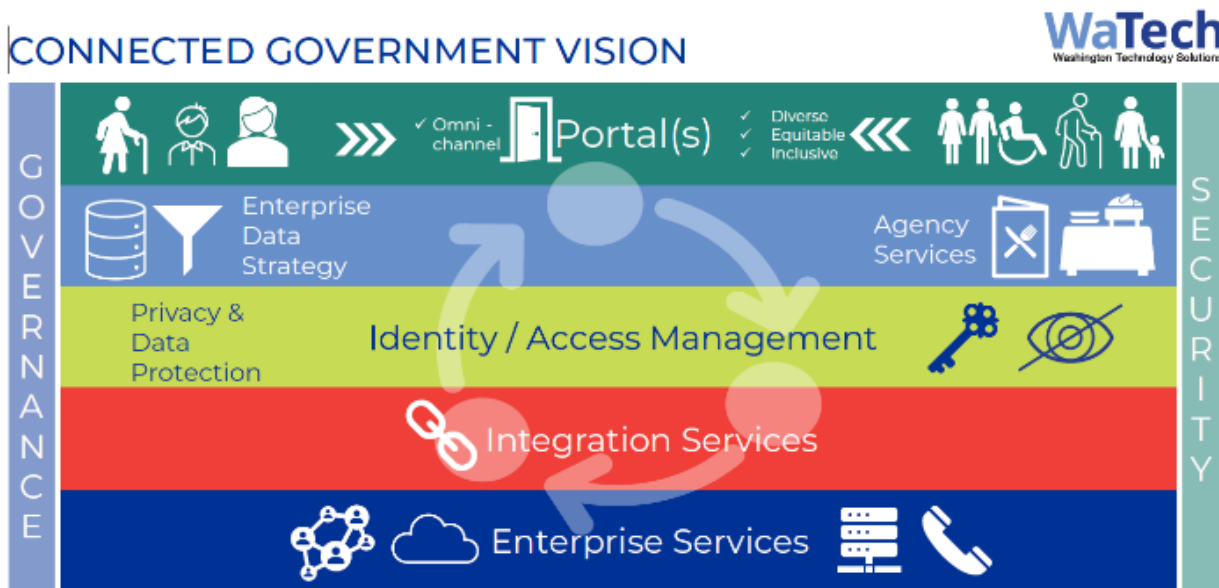
Work efforts in progress that will continue next biennium:

- Increase the number of agencies participating in the TBM program application and business capabilities kick start models. These models equip agencies with cost and portfolio data on their application and business capabilities so they can use data to gain additional insight into solutions in place to support the business and services for Washingtonians.
- Recurring IT Portfolio Management and TBM program education series and work sessions. This includes presentations to governance groups and agency decision makers.
- Expanding participation in the statewide IT Portfolio Community of Practice that was initiated in FY23.

Initial work on connected government

Over the biennium there was increased focus on the customer experience when accessing state services. The state needs to do a better job of understanding and reproducing the experience the public has at home in state government. Washingtonians should have a common portal for services – just as they have come to expect when working with the private sector. The goal is to provide a common portal for services where Washingtonians can go right to what they need, just like what they experience when shopping online. They shouldn't have to understand the way the state is organized to figure out which department provides certain services.

Initiatives underway to support Connected Government include modernizing the state government portal and laying the groundwork for a resident portal.



WA.gov replaces Access Washington as state government portal

Originally launched in 1998 as the state government portal, before many agencies had their own websites, Access Washington was an award-winning leader in government portals throughout the early 2000s.

In 2020, WaTech began a human-centered design project to reimagine and redesign the portal. In July 2022 the new, modernized WA.gov website was released. Hundreds of Washington residents participated in the human-centered design process including user research and usability testing activities.

The new website highlights the beauty of Washington state with imagery. It also offers new, custom, content which provides instruction and guidance around complex cross-agency processes or services. Important agency updates or services are highlighted on the homepage of WA.gov as well as throughout the site on related topic pages.

The new WA.gov site is on a mobile-responsive and accessible platform that is flexible and robust. WaTech is now partnering with agencies to migrate statewide content from standalone or agency sites to WA.gov. The first feature migrated to WA.gov was the [Professional License search tool](#), which was migrated from the Department of Licensing.

Resident Portal expansion

The Washington state Resident Portal is an extension of WA.gov and is a front door to government services in Washington. It will improve Washingtonians' lives with an equitable experience and will provide a tailored way to access government services. From enrolling in low-income assistance programs to enrolling your children in school, the Resident Portal is a vital service that connects people to its government.

The Resident Portal project is a priority WaTech strategic initiative that provides easier access to government information and services, provides content to guide residents through complex multi-agency processes, and eliminates duplicative content and systems where it can.

Our government agencies often work in silos, each with its own domain and expertise, but not enough time or resources to effectively partner across agencies to provide a simple, integrated user experience for residents. The Resident Portal reduces the number of doorways a resident must enter and navigate, and it brings state services together in one place, creating an integrated experience to access Washington government.

Broadband progress to address disparities in access

The Washington State Broadband Office (WSBO) at the Department of Commerce was formed by the Legislature in response to the need to expand access to reliable, resilient, affordable, high-speed internet to all parts of our state. Initially envisioned as a small policy office, WSBO quickly took on critical operations in engaging communities to invest state and federal funds in statewide broadband infrastructure projects, as well as directly advancing access and affordability work through a commitment to lead with equity. The office is now looking ahead to many opportunities of providing

broadband access to all Washingtonians. This has been a significant issue, particularly in rural communities, and has impacted the ability of state residents to receive services.

Broadband infrastructure construction

The WSBO administers federal and state funding to increase household, business and anchor institution broadband access. Eligible entities include local governments, federally recognized tribes, non-profit organizations, and public-private partnerships. Progress has been made to address the disparities in broadband access over the biennium. Washington state has been allocated \$1.23 billion in federal funding over the next five years for broadband.

Across these programs the WSBO has awarded an additional \$312 million to support the construction of:



48
Projects



23
Counties



36,043
Connections

Planning for the future

With approximately 236,000 unserved broadband serviceable locations throughout the state, the WSBO has ambitious plans to ensure broadband service for these locations as provided for by the Bipartisan Infrastructure Law's Internet for All program. Specifically, the Broadband Equity, Access and Deployment (BEAD) program provides the funding needed to close this technology gap for Washington.

- Funding from BEAD will be used for broadband infrastructure projects that connect unserved and underserved locations and community anchor institutions across the state.
- WSBO has worked through Broadband Action Teams and other local and tribal groups to ensure that the statewide plan incorporates community-driven input.
- WSBO is also leading a focused tribal engagement effort to ensure that the 29 federally recognized Tribes within Washington have many opportunities for formal government-to-government consultation and engagement.
- WSBO is taking public comment on a comprehensive five-year action plan and state digital equity plan.
- Volume 1 of the BEAD Initial Proposal, which includes the WSBO challenge process, will be released for comment shortly. Volume 2 will be released for public comment in fall 2023.

Digital Equity Services

The Digital Equity Unit's mission is to advance digital inclusion for all Washington residents to participate and collaborate online to thrive in today's global society. This team drives strategies, objectives and performance through collaborative actions by promoting digital inclusion through affordable access, internet connectivity, adoption and digital skill building. The unit collaborates closely with the WSBO to promote sustainable digital inclusion strategies by:

- Eliminating barriers for residents' access to devices and tools to maintain reliable, affordable, high-speed broadband service.
- Providing residents with the information, support, and skills to obtain and cultivate digital knowledge and skills to advance digital inclusion. These digital inclusion initiatives support education, workforce development, access to government services, social connectivity, information access and telehealth.
- Empowering residents to navigate digital resources in ways that promote self-sufficiency, participation and collaboration.
- Partnering with Tribes, various levels of government (state, local, county) and communities through continuous learning and skill sharing by in-person and digital platforms.

Digital Equity Services Results



Over 212,000 households and individuals benefitted from digital navigation services.



Over 32,500 individuals and households were provided with digital literacy skill building training, which included navigating online with an internet-connected device.



Over 106,000 internet-connected devices were distributed to individuals and households.



Over 18,000 individuals and households received assistance in getting signed up with the Affordable Connectivity Program.

Digital equity plan to provide Internet for “ALL” in Washington

Washington state has developed a statewide Draft Digital Equity Plan to map out how to bring internet connectivity and the skills needed to benefit from it to all Washingtonians. The vision is for everyone in Washington to have affordable broadband internet technology as well as the tools and skills needed to participate in our digital society.

The plan goals include:

- Eliminating barriers.
- Provide Washington residents with infrastructure, devices, and tools to maintain reliable, affordable, high-speed broadband service.
- Empowering residents.
- Provide Washington residents with digital knowledge, skills and support to ensure everyone benefits from digital inclusion.

- Ensuring sustainability.
- Establish and build partnerships to deliver and sustain broadband service and support programs for learning and engaging in civil society.

The Department of Commerce and WaTech collaborated on the development of the Digital Equity Dashboard that is scheduled for launch in the first part of 2024.

Diversity, Equity and Inclusion advancement

Diversity, Equity and Inclusion (DEI) is a framework aimed at creating environments where all can flourish. Understanding DEI principles, policies, and framework through training and education will help create an inclusive workplace of belonging. When people feel valued by their employer and coworkers, they perform at their best. A diverse workforce that feels a sense of true inclusion and belonging will better understand and respond to the needs of a diverse customer base.

Awareness and understanding of the root causes of barriers to digital equity calls for leaders to scrutinize the distribution of resources, opportunities, and roles. The honest evaluation of the effects of barriers to equity and the disparities that arise creates an environment where everyone has opportunities to contribute ideas, skills, knowledge and experiences. Efforts to decrease the digital divide will be made using a person-centered, data-driven approach.

The Washington State Pro-Equity Anti-Racism (PEAR) Ecosystem Plan & Playbook outlines the framework and tools that Washington state agencies will use to create a PEAR ecosystem in which all Washingtonians have full access to the opportunities, power, and resources they need to flourish and achieve their full potential. Implementing Washington's Pro-Equity Anti-Racism (PEAR) Ecosystem Plan & Playbook (Executive Order 22-04) is a critical dimension of the state's pursuit of bridging opportunity gaps and reducing disparities, including racial and ethnic disparities, statewide and across state government.

While this PEAR framework will be utilized in all aspects of business and relational partnerships, two areas of investment stand out:

Accessibility

People who interact with technology are extraordinarily diverse, with a wide variety of characteristics and contexts. It cannot be assumed that everyone is using a traditional monitor, browser, or keyboard or has the same abilities or digital access. Accessible technology works by complying with accessibility best practices and standards.

Information technology accessibility means that all people can perceive, understand, navigate and interact with electronic information and be active, contributing members of the digital world. WaTech has established a community of practice within existing resources to coordinate with accessibility professionals within state agencies. As of July 2023, this community has over 130 members.

An enterprise accessibility program will focus on promoting best practices, developing policies, providing accessibility guidance and reviews to agencies, and ensuring timely and relevant policies are maintained. This program will provide leadership, partnerships and communities of practice to

assist with implementing best practices to ensure agencies are best equipped to incorporate accessibility into their technology design principles.

Workforce Development, Education, Training and Digital Literacy

Changing advancements in technology have resulted in flexible new ways of working and engaging with government and services. Residents of the state need to be able to connect and communicate effectively online, learn, collaborate with peers, and perform other business and work functions. In addition, users need education to be able to recognize risk, protect their information and otherwise stay safe online. As a state we will need to expand and revise how digital literacy is provided to educate for a digital future that is inclusive, sustainable and collaborative. An opportunity to provide job opportunities exists and cannot be exclusive of those who have been historically left behind.

Section 2 - Accountable IT management

Technology policy rewrite

WaTech manages statewide IT policies that govern the use of technology in state government and during the biennium has worked to modernize the IT policy process. While IT policies do not lapse, they do have required sunset review dates. Unfortunately, the maintenance of the policy stack has not been kept up to date, and entering FY23, over 70% of state technology policies were past their sunset review date and needed to be revisited.

WaTech began a concerted effort to formalize the policy review processes and introduce rigor and structure to the policy portfolio. The policy manager drove policy updates through appropriate governance processes that included technical and business representatives from agencies who assessed the business, technical and fiscal impact of policy changes. By June 2023, 15 technology policies and standards were adopted and approved.

The state's primary IT security standard, titled 141.10, was initially adopted in 2000, and over the last 23 years requirements were added, however no comprehensive rewrite was performed to address the changing security landscape.

In 2023, the standard was broken into separate policies and standards using the National Institute of Standards and Technology (NIST) guidance to provide structure and inform the content. This approach aligns the policies with industry standards and provides a better framework for agencies to plan their security program, work with vendors and discuss specific security aspects.

Additionally, this work brings the security policies and standards closer to the direction established in legislation [RCW 43.105.450](#). Ten security policies and standards out of a planned 25 were approved during FY23. The remaining 40% will be rewritten in FY24.

By the end of the next biennium, 100% of the IT policy portfolio will be updated and no longer past their sunset review date.

Service Action Plans (SAP) for WaTech Enterprise IT Services

WaTech performed an in-depth review of the enterprise service catalog, and outlined the goals, plans and activities for each service over the next one to five years. The agency established meaningful goals that will improve, expand, contain or discontinue enterprise services.

The planning process was done through the eyes of the customer (i.e., state agencies, local and Tribal governments, and non-profits) and each describe how these activities will add value and benefit to the organizations consuming WaTech enterprise services.

The outcome of that effort is a collection of Service Action Plans (SAPs), informational documents for more than 60 IT programs and services WaTech manages. These are services agencies use and depend on to deliver critical services to the residents of Washington state every day.

These service action plans are designed to provide a high-level overview of current service offerings to help customers understand each service more fully. The plans also continue the effort to address IT service gaps and improve service delivery across the state enterprise.

It's important to note, these SAPs are also a part of a broader connected government strategy. By sharing information and being more transparent about WaTech services with customers, this work will help transform public service by presenting an efficient, "one-face-of-government" experience that translates to easier, more equitable access to state services by all Washington residents.

[Access the full list of SAPs on WaTech's website.](#)

Major IT projects oversight

Major IT project oversight is integrated, streamlined and focused on the highest value to ensure the best use of resources to support on-time, on-budget IT projects that deliver planned outcomes.

There were significant changes to the oversight process this biennium: the introduction of WaTech Strategic Advisory Services, which is targeted to ensure project success, and the Oversight Transformation project, which aims to improve oversight processes and templates while increasing collaboration and partnership with agency partners.

Initiating Strategic Advisory Services

With a project portfolio of more than \$1 billion and growing, it is an expectation from the Governor's Office and the Legislature that WaTech will provide strong leadership and engage with agency and project leaders on a consistent basis to improve the outcomes, processes, and performance of enterprise programs and projects at-risk that are part of the WaTech oversight services portfolio.

To better support and increase the successful implementation and completion of these programs and projects, the WaTech Strategic Advisory Services was created.

The service engages programs and projects that are part of the CIO Portfolio early and often and leverages the associated authority to require agencies to receive, evaluate and take actions on recommendations.

WaTech implemented this service to ensure project success in the following areas:

- Contract review and negotiation.
- Project consulting.
- Procurement and deployment of expert resources.
- Steering committee membership.
- Stakeholder coordination and communication.
- Agency leadership consulting.
- Deliverable and document review.
- Decision package strategy and development.

Examples of programs and projects that are part of the WaTech oversight services portfolio include the One Washington Program (OneWa), the Worker’s Compensation System Modernization project (WCSM), and the Health & Human Services (HHS) Coalition Integrated Eligibility & Enrollment (IE&E) Program. These programs and projects are large, complex and high-profile, often spanning multiple agencies, and are high-risk not only to the lead agency but the enterprise as well.

CIO Portfolio of Projects

- Department of Health Enforcement Licensing Management System (HELMS)
- Enterprise Electronic Health Record
- Health and Human Services Integrated Eligibility and Enrollment Program (IE&E)
- Labor and Industries Workers’ Compensation Systems Modernization (WCSM)
- Office of Financial Management (OFM) One Washington
- University of Washington Finance Transformation (UWFT) Program

One Washington project and program

One Washington is a comprehensive business transformation program to modernize and replace the aging Agency Financial Reporting System (AFRS) and related business processes with a modern Enterprise Resource Planning (ERP) solution from Workday. One Washington has examined the state's business functions and is now in the process of implementing Phase 1A (Core Financials). The most pressing part of this phase is the Legacy System Remediation (LSR) workstream, which includes a total of 28 agencies remediating over 100 supporting systems to align with Workday. This is in addition to the changes required by nearly all state agencies to use Workday as their new financial system. As of June 2023, the program maintains a status of moderate risks though the schedule was being elevated to high risk as the program works to address issues resulting from poor or incomplete planning related to testing activities. The program is expected to complete Phase 1A in June of 2025 and will proceed with Phase 1B, 2, and 3 in order deploying Expanded Financials and Procurement, Human Resource and Payroll, and Budget in that order.

Workers’ Compensation Systems Modernization (WCSM)

The Worker’s Compensation System Modernization project (WCSM) consists of replacing the Department of Labor and Industries (LNI) largest Business Transformation (BT) project portfolio of 104 legacy applications. Together, these systems manage Washington’s injured workers claims (53 watech.wa.gov)

business processes with 61 subsystems), benefits and payments (13 business processes with 14 subsystems), and employer accounts (31 business processes with 36 subsystems). Its goals are to improve L&I's overall stakeholder experience through improved, customer-centered service delivery by modernizing the systems and related processes.

The project began in FY2020 with a proposed completion date of October 2027, at an estimated \$303.8 million. It completed gate 4 planning phase. Based on issues recently identified, LNI was issued an Advisory Memo recommending the development of a Technology, Architecture, Modernization, and Procurement Plan (TAMPP) to remediate the issues.

LNI and WaTech are working closely together to implement those recommendations. When completed, the system will provide a foundation of updated business practices based on modern core and enabling technologies to both serve the existing stakeholders and expand LNI's capabilities. These are expected to include advanced analytics and other needed capabilities to support Washington's commitment to efficient, effective, connected government through continuous process improvement.

Healthcare Enforcement & Licensing Management System (HELMS) Licensing Modernization (HELMS)

The Department of Health's (DOH) new Healthcare Enforcement & Licensing Modernization Solution (HELMS) will replace and transform its legacy Integrated Licensing and Regulatory System (ILRS). HELMS will be Washington state's system for managing the licensing and enforcement processes for healthcare providers, facilities and related stakeholders. The legacy ILRS system is comprised of 11 applications and 18 databases. The prime component of ILRS, eLicense, is a highly customized, commercial off-the-shelf (COTS) product implemented in 2008.

The project started in February 2016 with preliminary planning and in earnest in December 2017 with an estimated completion date of August 2024. To date, \$16.5 million of the estimated \$31.8 million has been spent. HELMS completed Gate 7, Configuration and Testing.

By the end of FY23, DOH was issued an Advisory memo due to serious concerns regarding progress and management of the project. The Advisory memo outlined several action items and conditions for continuing including a hold on future Information Technology Decision Packages until those conditions are met. DOH and WaTech are collaborating to address the issues identified. When completed, the new system will vastly improve DOH's licensing and enforcement of Washington's healthcare regulations.

HHS Coalition

The Washington Health and Human Services Enterprise Coalition (HHS Coalition) is a collaborative that provides strategic direction, cross-organizational information technology project support, and federal funding guidance across Washington's HHS organizations. The HHS Coalition includes the following organizations: Department of Children, Youth, and Families (DCYF), DOH, Department of Social & Health Services (DSHS), Health Benefit Exchange (HBE), and Health Care Authority (HCA).

WaTech and the Office of Financial Management (OFM) are ex-officio members that advise on issues around compliance with statewide IT policies, and state financial budget and legislative processes.

HHS Integrated Eligibility and Enrollment Program (IE&E)

The HHS Coalition organizations administer over 75 health and human services programs, supported by a patchwork of IT systems. Collectively, the organizations propose to address the client and technology challenges through a set of enabling technologies known as Integrated Eligibility & Enrollment or IE&E, to jointly deliver new and improved services to our clients, customer partners, and staff. This IE&E Platform and Tracker project solution will establish a foundational solution platform and focus on addressing an initial set of customer needs so Washingtonians have more transparency for eligibility and enrollment activities and more clearly understand actions they need to take to complete applications or reviews. The approach and scope have been approved by the HHS governance bodies. Additionally, this program will solidify the enterprise Project Management Office (ePMO) approach to managing the program and the associated program management structure, tools and processes.

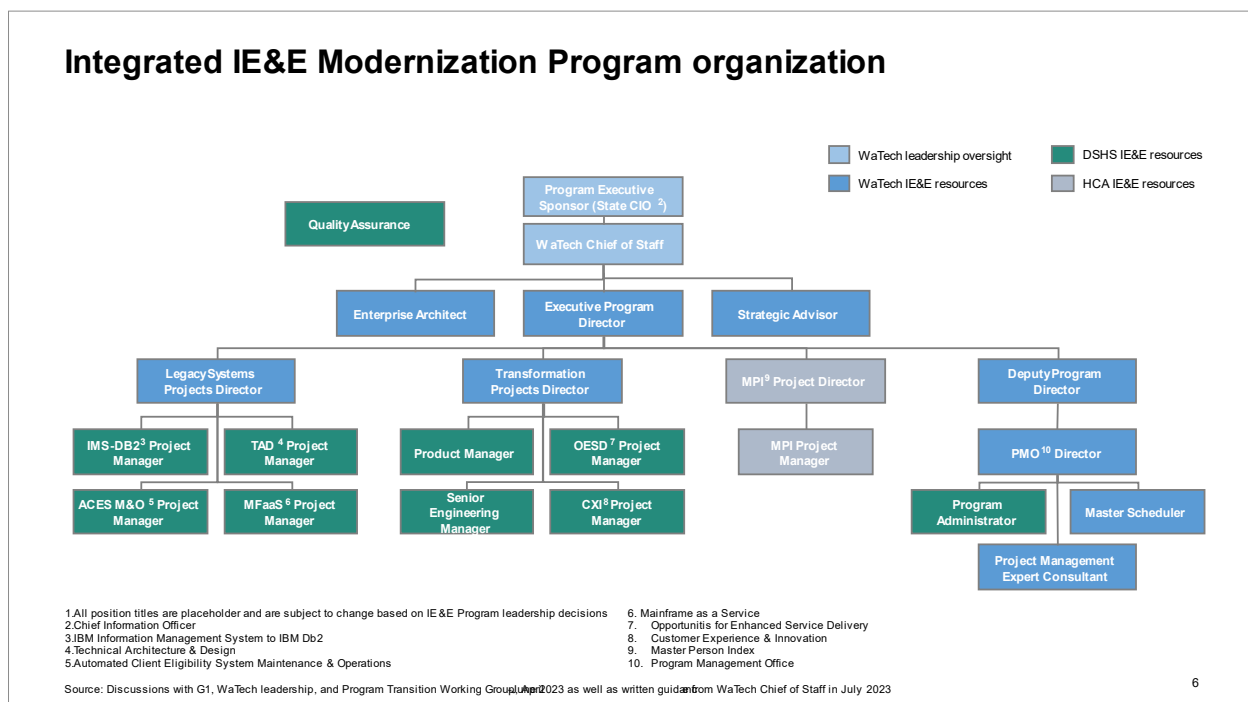


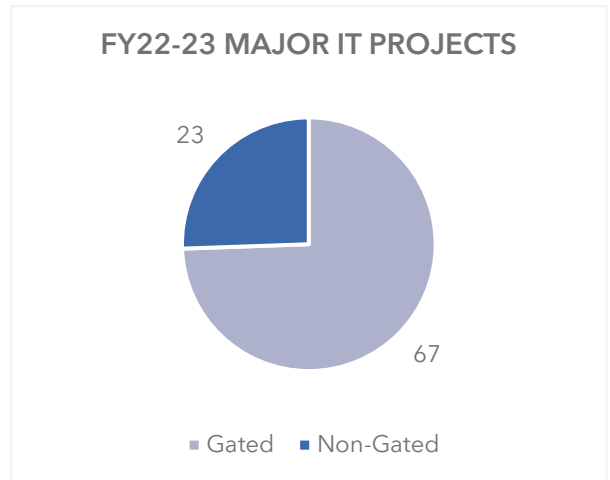
Figure 8 - IE&E complex program structure organized across DSHE, HCA, DOC and WaTech.

Electronic Health Records (EHR) Project

The objective of the Electronic Health Records (EHR) projects is to procure and configure a single enterprise platform instance and licensing that DSHE, HCA, and Department of Corrections (DOC) can leverage as the EHR platform foundation and build upon it based on individual agency client and program needs and requirements.

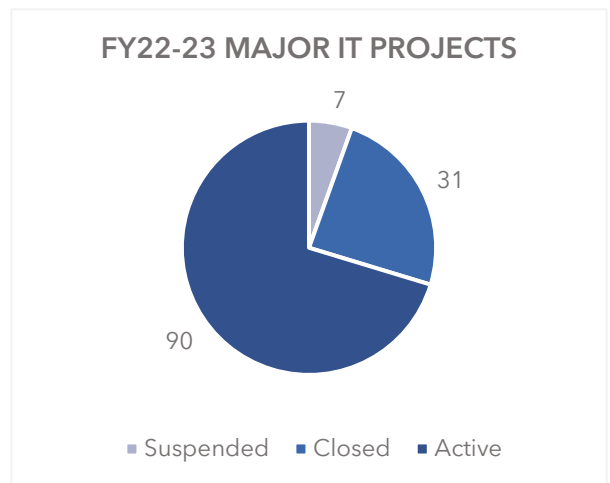
2022-23 oversight projects

Through the 2022-23 biennial cycle, WaTech provided independent oversight to 90 IT projects for more than 30 state agencies and valued at over \$1.7 billion. Based on language in legislation, 67 projects were gated and 23 were non-gated. For projects assigned to the gated process, a percentage of total funding is retained and released to the agency only after successful completion of project stages. WaTech evaluates and notifies the authorizing environment when a project is certified to proceed to the next stage. Throughout the oversight lifecycle, project health is assessed to ensure successful delivery of a project’s objectives. WaTech will continue to partner with agencies to ensure successful delivery of their major IT projects and initiatives.



Suspended and closed projects

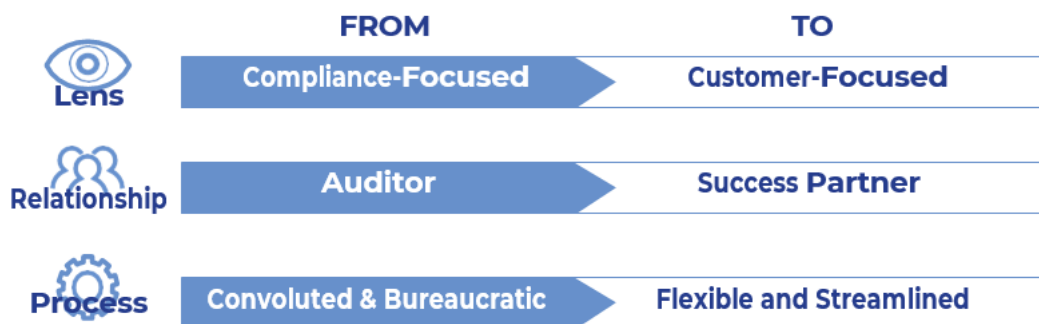
During the 2022-23 biennium reporting period, seven projects were suspended and 31 were closed.



Oversight Transformation

WaTech works in partnership with state agencies to implement successful, fiscally sound projects to further their delivery of essential government services. IT project oversight is integrated, streamlined, and focused on highest value to ensure the best use of resources to support on-time, on-budget IT projects that deliver planned outcomes. The Oversight Transformation effort spans a nearly two-year effort to deeply change the oversight ways of working, streamline artifacts and processes, and ensure that project success is the focus of oversight efforts.

Oversight Transformation Movement



Takeaways:

- The Oversight Transformation will continue to focus on compliance and be more relationship-driven.
- WaTech is viewed as a partner; engagement is early (up front) and often to help build a solid foundation borne out of best practices.
- Employ a One WaTech mindset; bring these disciplines in to support projects (it takes a village).
- How are we monitoring projects and key indicators, working with QA, to ensure that we get early reads on areas of trouble and intervene with a multi-disciplinary approach?
- It's all our responsibility to ensure projects are successful.
- Boldly intervene with the success of the project in mind.

Principles

- Focus oversight on delivering the highest value and working in partnership with agencies to effectively manage, mitigate and minimize project risk to deliver successful project outcomes.
- Emphasize trust, respect, and partnership, recognizing the unique environments and strengths when applying the oversight process.
- Allocate resources for highest value and maximum efficiency.
- Align our knowledge, skills and abilities with the size, complexity and risk level of projects.
- Apply best practices and lessons learned.
- Maintain the professional independence of oversight.
- Maintain transparency and be responsive and accountable to the authorizing environment.

Benefits

- Enable agency project and program success.
- Provide the best customer experience possible through continuous improvement.
- Enhance a system of accountability within the authorizing environment.
- Strategic alignment.
- Transform service and delivery.
- Champion governance and accountability.

Network trends

The state is in the process of finalizing a blueprint to integrate security and network capabilities to improve the state's adoption of cloud services like Artificial Intelligence (AI), better support the state's remote workforce, and the State Government Network (SGN).

The basis of the Blueprint is Gartner's Secure Access Service Edge (SASE) framework, which blends security and networking capabilities into a hybrid multi-cloud digital ecosystem that state government can take advantage of.

Software Defined – Wide Area Network (SD-WAN)

By aligning with an industry-recognized [framework](#), the state is able to consolidate capabilities to improve system performance and government efficiency.

- A comprehensive assessment of [SD-WAN](#) technology as an enterprise solution was completed. This work included successfully completing an in-depth Proof of Value of SD-WAN capabilities. It was determined that SD-WAN would make it easier for state agencies to consume cloud services.
- SD-WAN enables dynamic delivery to the Next Generation Government Network (NGGN). The NGGN brings agency remote offices closer to leveraging the meshed resiliency of the Internet.

Next Generation Firewalls

Deployment of Next Generation Firewalls ([NGFWs](#)) started in the biennium and will be completed in the FY24-25 biennium.

- This technology involves enabling Unified Threat Management ([UTM](#)) features on new state [firewalls](#).
- NGFWs with UTM defenses improve the state's security intelligence and decrease the state's digital footprint to better safeguard state data from external threats.

Cloud Government Network

The plan is developed to deploy a Cloud Government Network (CGN) within the clouds.

- The state enterprise CGN interconnects Azure, AWS, and GCP (cloud-to-cloud model) as a centrally managed ecosystem facilitating state agencies to safely access cloud resources.
- This involves minimizing the amount of virtual infrastructure needed in the clouds to support state government lines of business while safeguarding state agencies from virtual threats.

Secure Service Edge

The strategy is being finalized on how to enable centralized visibility while proactively remediating threats and securing endpoints holistically. This strategy is known in the industry as Secure Service Edge ([SSE](#)).

- SSE is inclusive of Secure Web Gateway ([SWG](#)), Cloud Access Security Broker ([CASB](#)), Zero Trust Network Access ([ZTNA](#)), and select capabilities in the SASE-NGFW pillar.
- SSE bridges the gap between a remote workforce, cloud services, and Enterprise solutions.
- This is also where Deep Packet Inspection ([DPI](#)) functionality comes into play.

By adopting WaTech's SASE Blueprint as part of a zero trust framework, the state can align lines of business with zero-trust leveraging Zero-Trust Architecture ([ZTA](#)) in a unified approach to improve business efficiency and system performance. When state agencies are more efficient, state

government is better connected to those we serve, which strengthens our communities leading to a better Washington.

Decline in legacy network transport technology

There has been a decline in the last remaining legacy transport technology (T1) used by state agencies while the high-speed Internet has experienced a plateau (Figure 18).

State agencies continue to depend on resources available through the internet. Even though the state’s adoption of the Internet remains level, we should see an increase over the next biennium due to the alignment with a modern SASE framework and leveraging commercial broadband Internet to increase the dependability and reliability of state government services to the residents of our state.

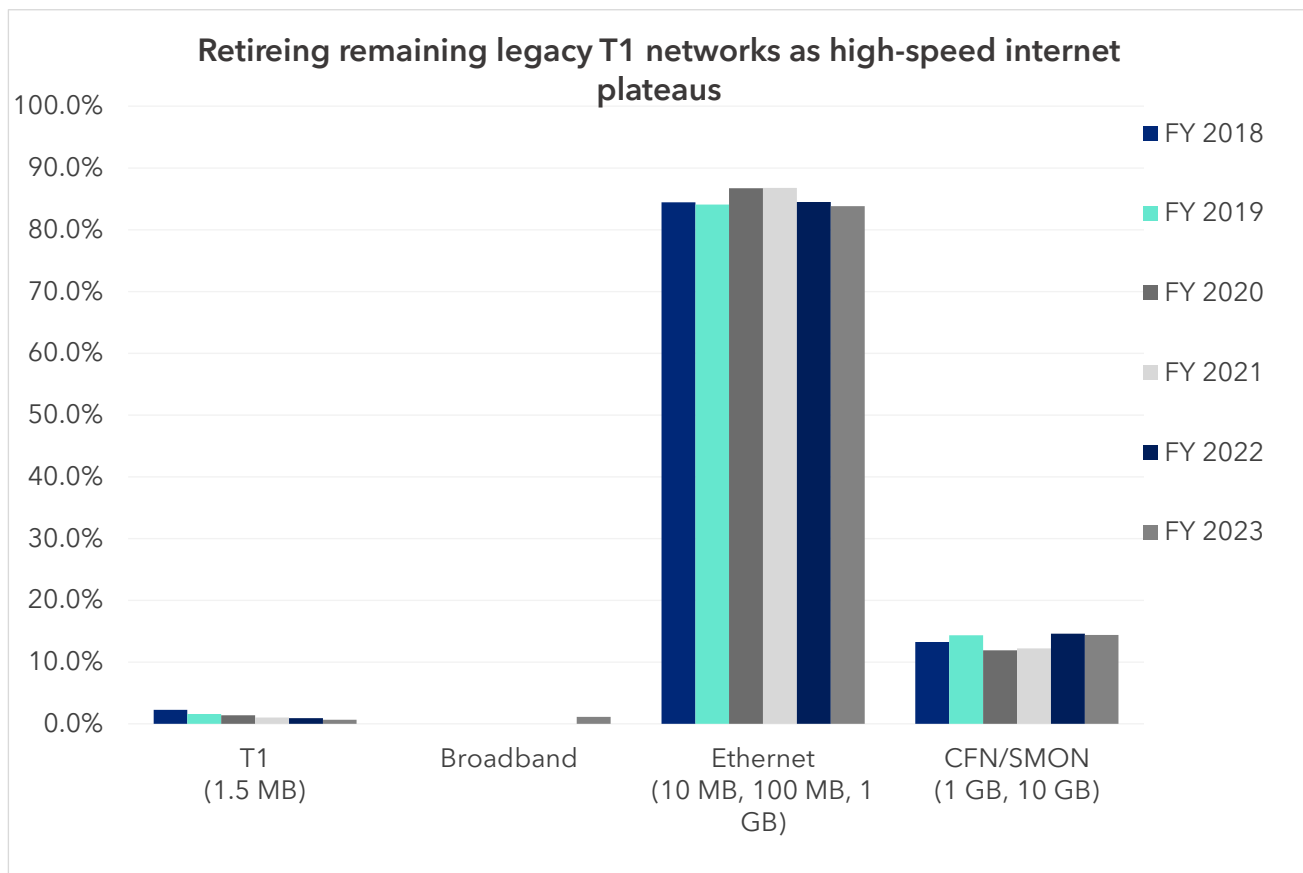


Figure 98 - Network ethernet and campus fiber network/State Metropolitan Optical Network (CFN/SMON) has leveled out.

As shown in Figure 19, the state’s internet use has increased more than 400% over the last two years, indicating that agencies are requiring more internet capacity to deliver services than ever before.

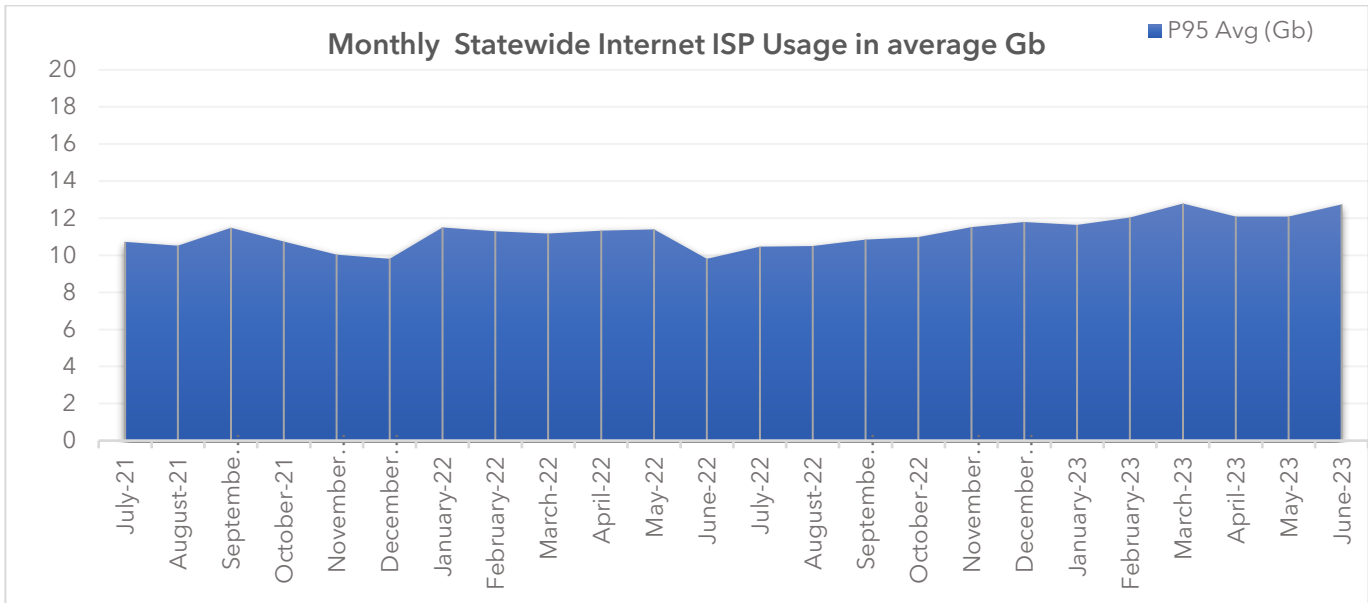


Figure 10 - Usage through the ISP carriers Wholesail and University of Washington gigapop.

Remote users continued access through Virtual Private Network (VPN)

The state enterprise Virtual Private Network (VPN) provided by WaTech offers mobile users secure internet access to agency networks from any location. The massive shift to remote work in early 2020 immediately tested the state’s enterprise VPN system. However, the state was able to procure necessary hardware to rapidly scale the system. From February to May 2020, the VPN user count jumped 157%, from 14,000 to 36,000 unique users accessing the system. It has remained near that level, slowly increasing to 38,000 by the end of June 2021, and 42,692 users as of September 2023. (Figure-20). By comparison, VPN usage five years ago (in 2016) averaged about 4,000 users a day.

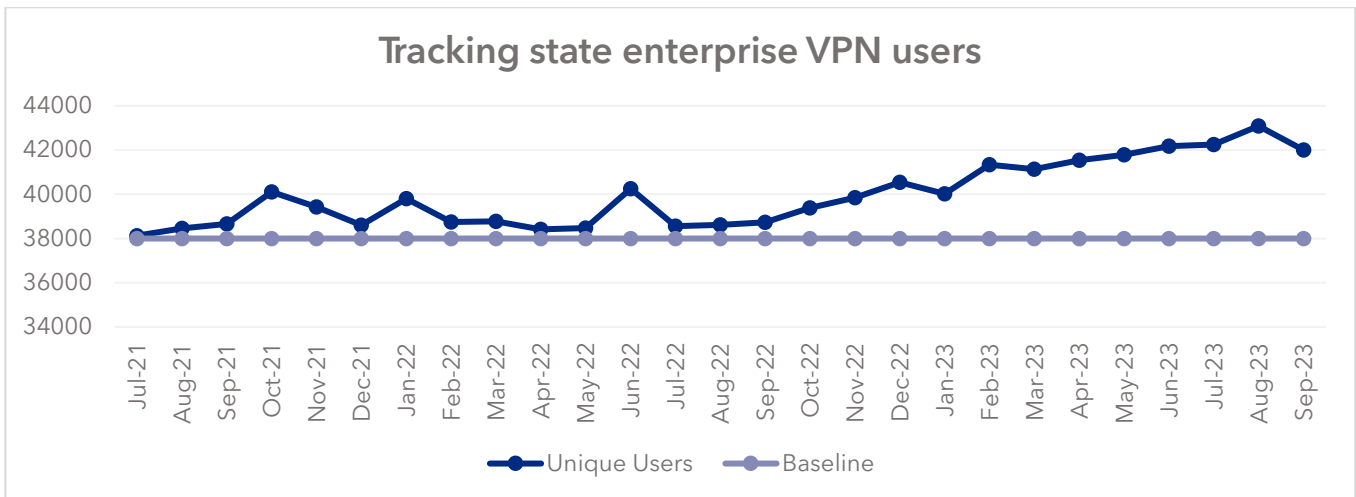


Figure 20 - State enterprise VPN utilization during FY22 and FY23.

Telephony trends

The advent and institutionalization of Microsoft Teams has changed the way the state communicates. Teams has a very useful presence feature that displays the status and availability of an individual's capacity to receive communications. In most cases instead of launching a phone call, it is customary to use instant messaging to briefly communicate. This is a much more efficient method of communication, allowing people to respond even if they are in a meeting or on another call. Instant messaging can easily be escalated into a call or a meeting using the Teams application. Teams has become the de facto conferencing tool of the state replacing both WebEx and the Audio-conferencing services. As the state workforce has moved to largely remote work, agencies have turned to Teams virtual conferencing to meet, communicate and collaborate.

Microsoft Teams can provide telephone service and has made significant inroads on the current on-premises phone system. At this point Teams provides telephone service to approximately 12% of the state's users and continues to grow. As the central service provider of phone service, WaTech was able to leverage existing phone network services and infrastructure to lower the cost of the service to members of the Enterprise

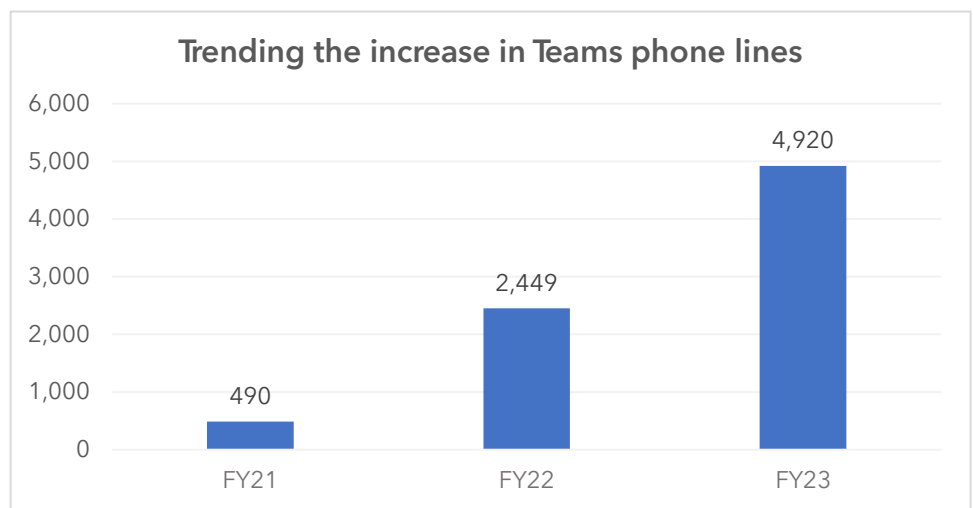


Figure 21 - Increased adoption of Teams phone lines.

Shared tenant. The move to a remote or hybrid workforce has become part of the culture. Since Teams is not location dependent, it works especially well in this environment.

The future of cloud-based communication system (WaTech Connect)

Call centers that provide services and benefits to constituents largely converted from working in offices to being remote. WaTech was able to rapidly deploy remote agent software and monitoring tools from the on-premises phone service to maintain access to these important services. It is anticipated that most of these call centers will continue providing services with largely remote agents for the foreseeable future. WaTech is now offering a cloud-based call center alternative called WaTech Connect that leverages Amazon Web Services to provide advanced features, functionalities, and increased scalability to the state enterprise. WaTech Connect, coupled with Microsoft Teams, eliminates the need for a premises-based phone system and the associated hardware and maintenance. So far six call centers from different agencies with over 220 agents have converted, with several more in process.

Challenges to on-premises communication system (Avaya PBX)

The sustainability of the on-premises PBX system faces challenges as users migrate to cloud-based telephone services, such as Microsoft Teams. WaTech has continued efforts to provide a high-quality, high-value telephone service with the on-premises PBX telephone platform for the government services still requiring this technology.

Efforts to reduce costs include:

- Consolidating systems, upgrading older systems, and combining Public Network access from widespread individual circuits onto a centralized digital access that leverages the state’s data network. In the movement to centralized Public Network Access, over 220 individual circuits have been eliminated.
- PBX systems have been consolidated, uniting offices and associated resources across the state.
- All of Washington’s prisons have been upgraded to modern, well-managed communications systems as have the state hospitals (Western State and Eastern State). Almost all these systems have been upgraded to the latest version of software.
- A WaTech-administered 911 management system was put in place with upgraded notification capabilities. This system allows the state to meet statutory requirements for 911 notifications.
- A cloud-based emergency notification option has recently been put in place. This system allows mass notification of emergency situations by email, SMS Text, and voice.

Other services such as analog lines and call center services are expected to decline as they are replaced by cloud-based or lower cost alternatives. As more users migrate, it is anticipated the support cost for on-premises PBX will rise, resulting in rate increases for users who are unable to migrate to modern solutions. See the estimated decline of PBX phones lines in Figure 22.

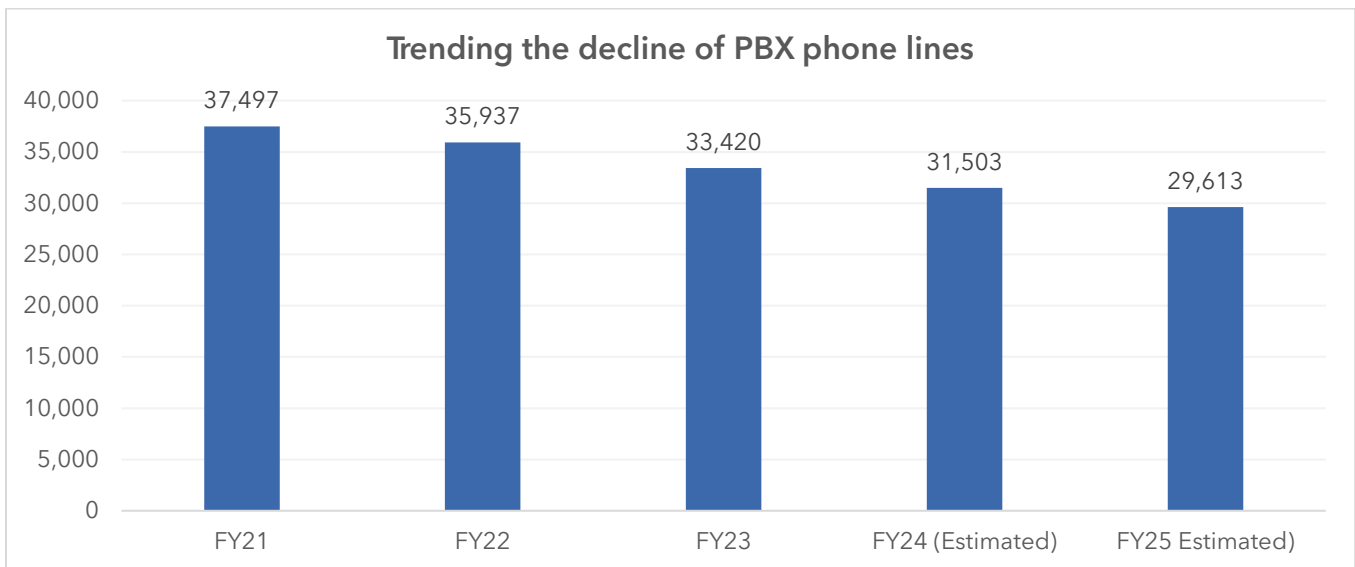


Figure 11- Trending PBX phone line declines as modern technologies become available.

Analog telephony lines (Centrex) retirement

Analog lines over copper facilities date back to the late 1800s and are now considered legacy. The providers of these services are focused on other opportunities, and resources have been drawn away from this line of business. Additionally, regulations that required this type of service to be available have been removed resulting in reduced availability and increased rates. Agencies are moving to electronic fax (eFax) products to replace lines used for faxing at a reasonable cost. To date, 139 analog fax lines have been moved to eFax and demand is growing. Other analog lines are used for special purposes such as alarms and elevators that can be replaced with network or cellular-based alternatives.

Optimizing Microsoft 365 services in the shared tenant services

Agencies continue to leverage services within the M365 Enterprise Shared Tenant. FY23 ended with 70 agencies supported within the Enterprise Shared Tenant. Additional changes over the biennium include:

- The decommission of the WorkSpace ONE hosted mobile device management (MDM) environment on June 30, 2023, resulting in 16 agencies and just over 9,000 devices migrated into Intune MDM solution hosted in the M365 Enterprise Shared Tenant. Additionally, 23,176 iOS/iPadOS devices and 500 Android devices are managed in Intune.
- Agencies continue to actively migrate their existing on-premises SharePoint sites into SharePoint Online, which reduces hardware, maintenance and support costs.
- Agencies are migrating their user data into OneDrive.
- Agencies have started leveraging the Power Platform services, which provides a set of low-code tools for building apps, workflows, AI bots and data analytics.
- The Criminal Justice Training Center (CJTC) was in the process of migrating into the M365 Enterprise Shared Tenant at the end of the biennium.
- Washington State Patrol and the Office of Secretary of State are developing plans to migrate into the M365 Enterprise Shared Tenant.

Azure Active Directory (AAD), which serves as the state workforce identity provider within the enterprise shared tenant, helped the state rapidly scale and improve its IT security posture. This positioned the state to seamlessly integrate with other third-party public cloud service providers, leading to the rapid growth of third-party cloud services. The result is over 1,500 state applications federated with the state AAD, making it easier for employees to authenticate and access integrated services from a wide range of public cloud providers.

Section 3 - IT Workforce

The IT workforce data represented in this report is from the state Human Resource (HR) office and is based on the Executive Branch; however, it should be noted that this data:

- Excludes higher education.
- Excludes non-employees.
- IT Professional Structure (ITPS) is restricted to ITPS job class codes (482*-487*).
- WMS IT and EMS IT are restricted to WMS and EMS jobs with Information Technology Market Segment.
- Reflects standard Human Resource Management Turnover action restrictions (includes separation actions; specific action reasons; perm work contracts).
- Action data excludes seasonal and non-perm work contracts.

Ability to attract top talent

Over the biennium, agencies expressed concerns about the lack of candidates for their job postings due to a tight market. There is also a concern if the state does not modernize IT solutions, it will be difficult to bring in the younger generations as employees.

It is crucial that the state focus on minimizing the time to hire as top-talent candidates often receive numerous job offers.

There were 2,324 recruitments registered in FY23 through NeoGov, which is the state’s HR enterprise online recruitment service (Figure 23).

According to the state HR office, a few agencies do not use the full functionality of NeoGov recruitment service, which results in not having the data to help identify core recruitment problems such as:

- **Time to hire** - The posting time isn’t helpful without the full process timing of posting to acceptance.

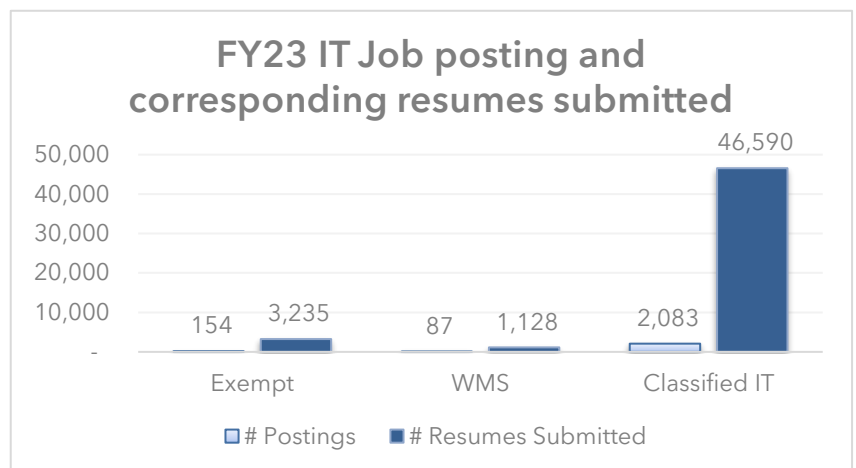
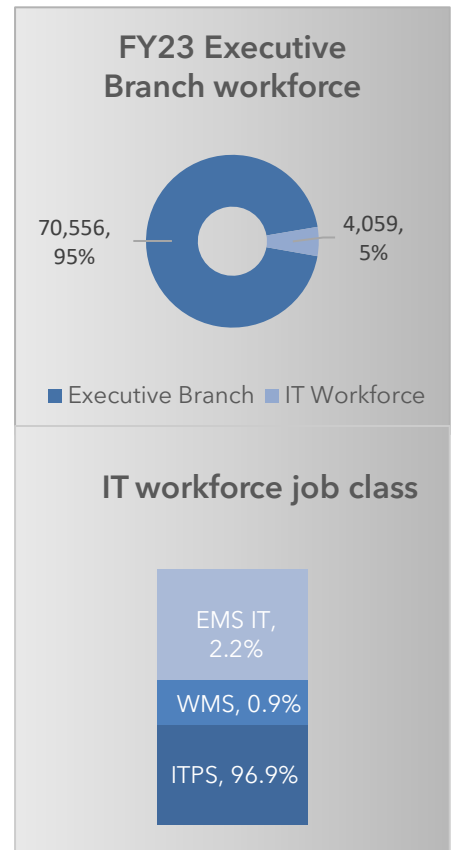


Figure 12 - Tracking the number of resumes submitted for state IT job postings in FY23.

- **Candidate quality** - The data shows approximately 22 resumes per posting but there is no data to know if they are qualified candidates.
- **Type of hire** - There is limited data to know how many successful candidates are existing state employees or new state government employees.
- **Turnover** - Despite a spike during the pandemic, IT turnover rate remains consistently low (Figure 24). For additional data on workforce visit [OFM's Washington workforce metrics dashboard](#).

Improvement activities happening in the next biennium include:

- IT innovation funds were approved to perform a proof of concept with the NeoGov Attract Candidate Relationship Manager module.
- State HR hired a new position for enterprise talent acquisition to help coordinate enhanced enterprise recruitment strategies.
 - One of the goals is for agencies to work together instead of competing for talent.
- The Enterprise Cloud Computing Program (ECCP) is a great proof of concept for upskilling existing staff to get the desired skill sets instead of trying to compete in the market for them.
- The Department of Enterprise Services (DES) added new data fields to NeoGov that will identify what jobs have remote work options. This change will provide a full biennium worth of remote workforce data at the end of FY25.

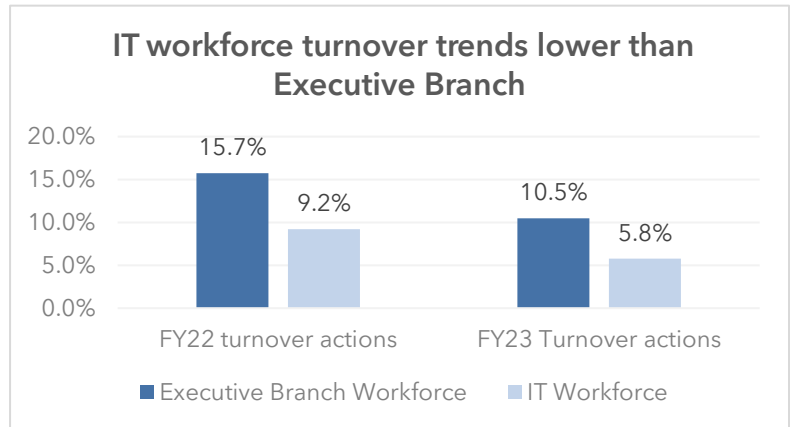


Figure 13 - Turnover is an action processed when an employee leaves Washington state service.

Remote workforce

What is needed to modernize the workforce work experience in state government? The modern work environment includes working remotely, out of state, out of country and flex hours. Being open to a modern workforce requires training and upscaling HR and payroll staff, and IT staff supporting remote workforce.

According to state HR, the enterprise Human Resources Management System (HRMS) was not built to capture out-of-state employment across the state enterprise. State HR has initiated work to address this challenge and will be capturing out-of-state employee data in the next biennium. Their intent is to gather more reliable telework data that requires agencies to update this information in HRMS.

There is value in adopting a remote workforce, especially to address hiring constraints. Agencies that have a flexible remote work policy report improving their ability to hire. WaTech was able to hire 103 net new IT staff during the biennium. Many new employees report being attracted to the agency due

to the flexible work schedules, ability to work from remote locations and support of staff who live out of state.

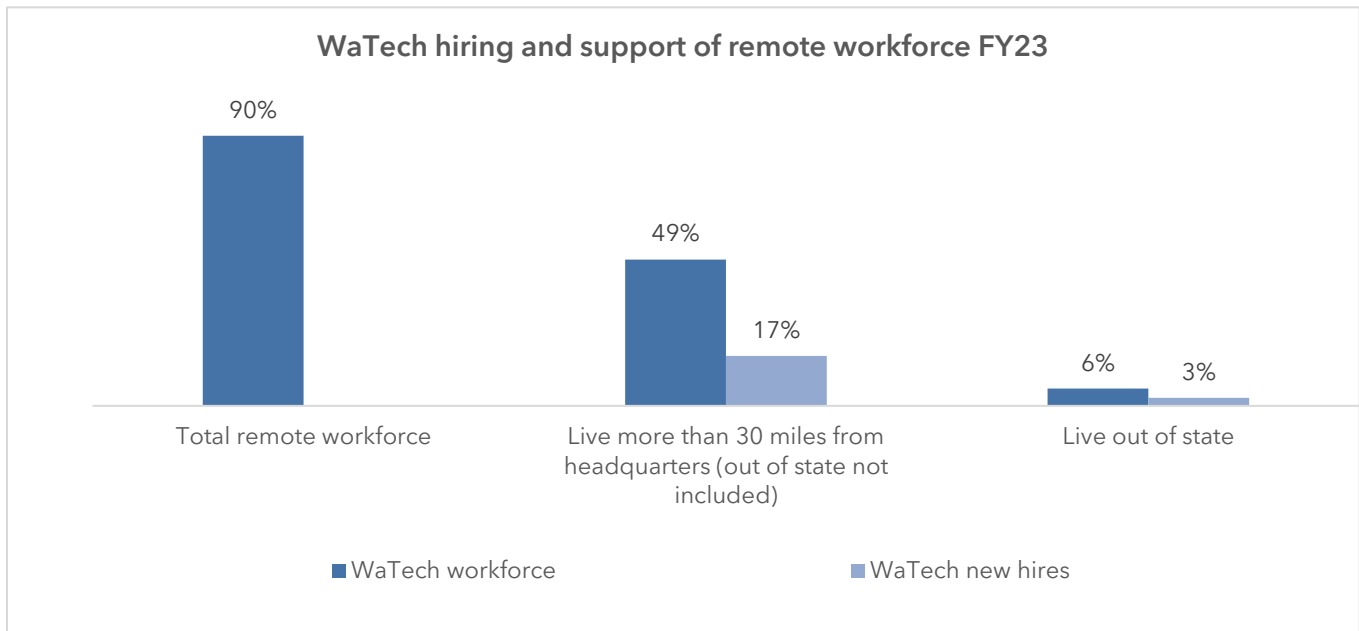


Figure 14 - Tracking WaTech remote workforce.

IT Professions Structure (ITPS) job classifications

The IT Professional Structure (ITPS) class was implemented in 2019 to:

- Ensure enterprise and organizational alignment and equity.
- Improve opportunities for career growth.
- Keep pace with the rate of information technology industry change.
- Improve the state’s ability to benchmark work internally and externally.

ITPS positions increased to 3,920 by the end of the biennium with the highest percentage being classified as IT application development and IT system administration (Figure 26). This is expected with the high number of custom/in-house built applications in the state portfolio.

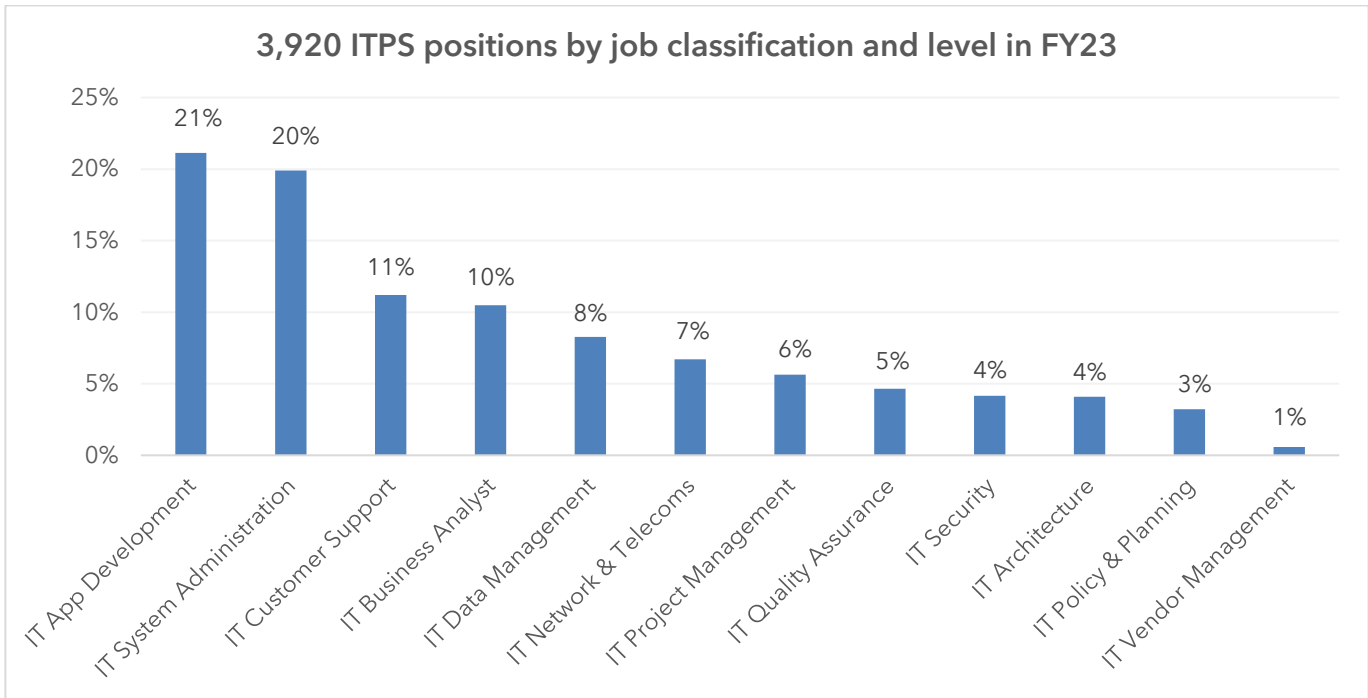


Figure 26 - Breakdown of the ITPS job class that makes up 96.9% of all IT positions in the state.

Age of IT workforce and why they are leaving

Over the previous two biennia it was reported that a high percentage of the state’s technology workforce was eligible to retire within the next five years. Over 46% of the existing IT workforce is over 50. (Figure 27). The state needs to continue to place emphasis on modernizing business processes and systems, to help attract the younger generations as employees.

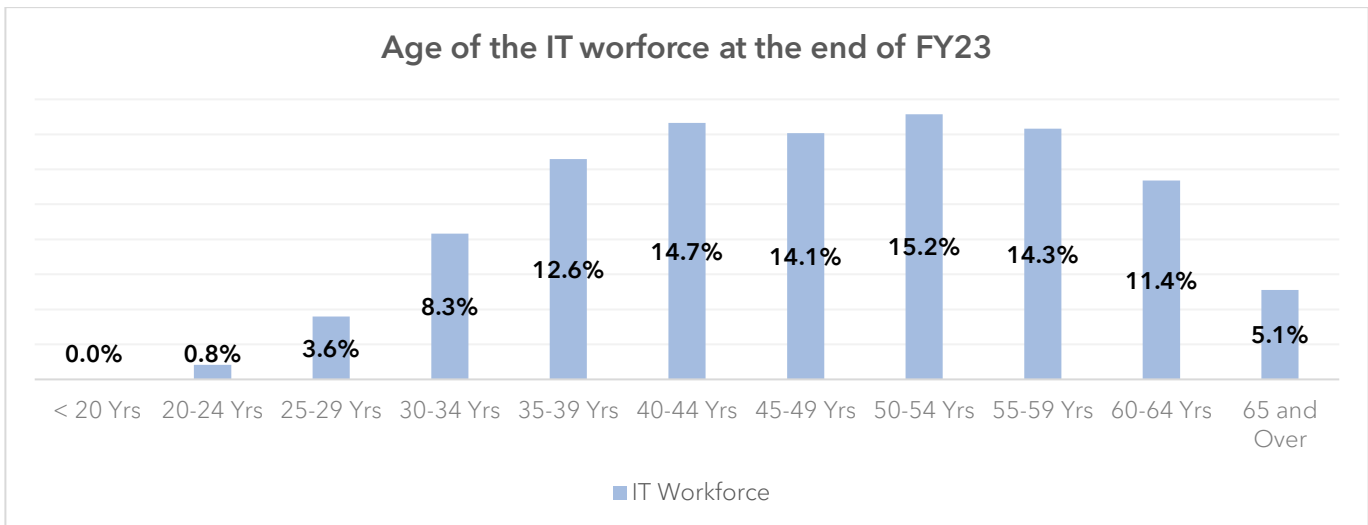


Figure 15 - The aging workforce in state IT.

During FY22-23, 544 of the IT employees exited state service for various reasons with 205 leaving to retire (Figure 28). See Figure 29 for the average age of retirees.

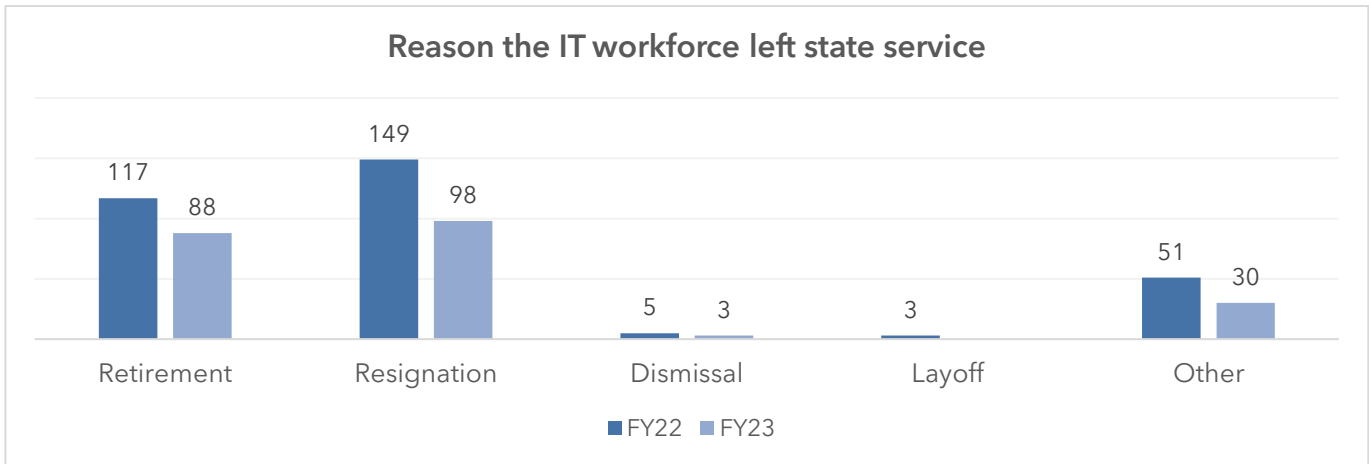


Figure 16 - Why IT professionals are leaving state service.

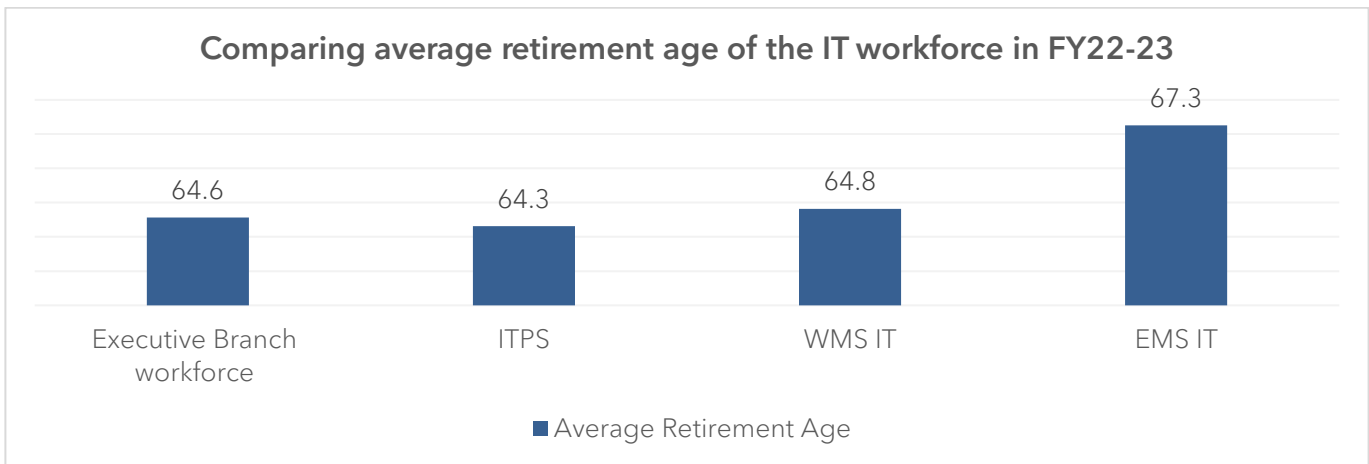


Figure 17 - Comparing retirement age between the IT workforce and executive branch.

FY23 ended with 439 permanent new hires in the IT workforce. See Figure 30 for their age range.

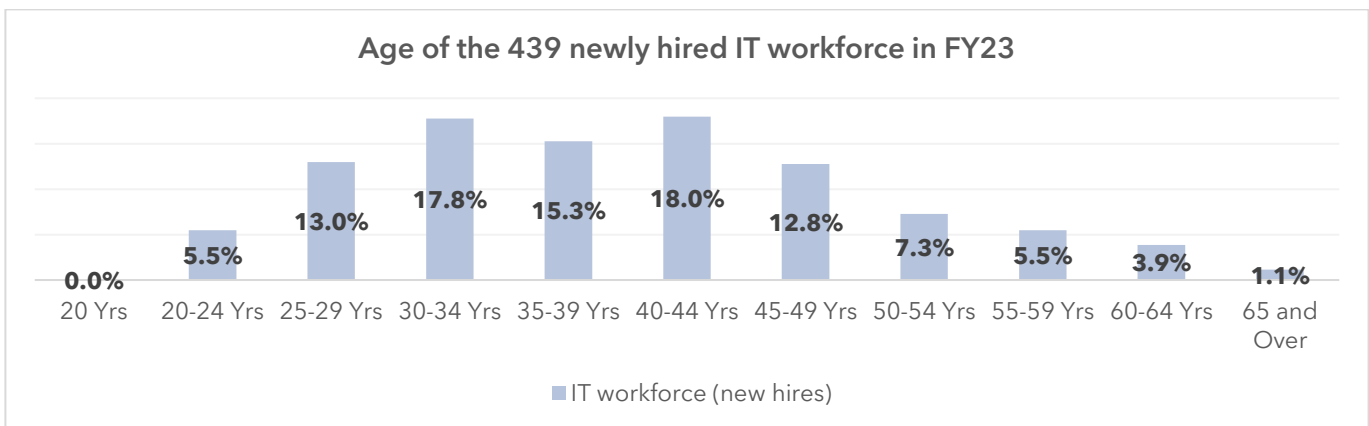


Figure 30 - The age of permanent new hires to the IT workforce in 2023

IT workforce diversity

With more emphasis on diversity, inclusion and equity, Figure 31 highlights the diversity of the 4,059 IT workforce and includes additional categories not captured in previous biennia.

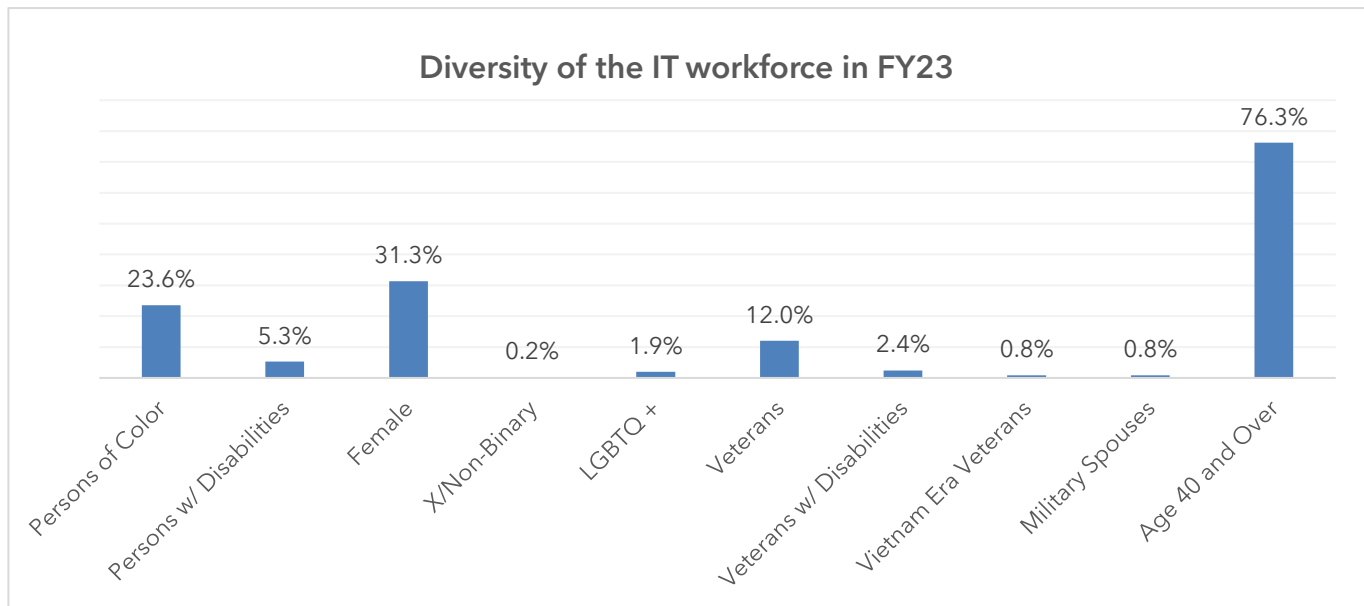


Figure 31 - Examining the diversity of the 4,059 staff that make up the IT workforce.

Figure-32 provides insight into the diversity of new hires to the IT workforce in FY23.

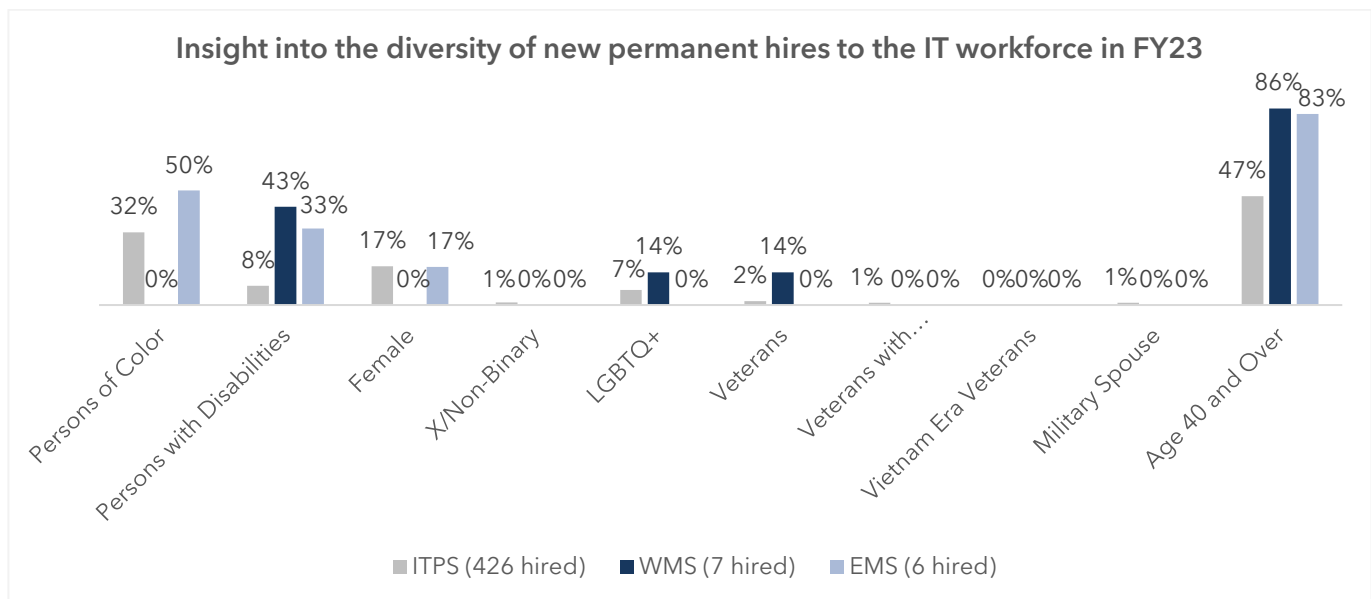


Figure 32 - Diversity of the 439 new hires in FY23.

Section 4 – Security and Privacy

Washington state has over 100 agencies that provide services to nearly eight million Washingtonians, making it one of the US's largest and fastest-growing governmental service delivery systems. The vast amount of information generated by the state enterprise is stored not only on the state government network (SGN) within the state data centers but also in the public cloud and third-party vendors' data systems. This diversity of information technology systems makes ensuring information security and privacy complex.

State Office of Cybersecurity: Proactive security and monitoring

During the 2022-23 biennium, WaTech's state Office of Cybersecurity (OCS) underwent significant changes, experiencing disruption and growth. However, during this time, the state faced increased cyber threats. There was a 38% increase in cyberattacks across all sectors of the U.S. economy in 2022. Governments were not exempt from these attacks, as research from independent cybersecurity company CloudSeK showed that the number of attacks targeting the government sector increased by 95% worldwide in the second half of 2022 compared to the same period in 2021. According to Arctic Wolf, a leading cyber research and training firm, almost 75% of local governments are attacked at a "near-constant" rate.

The rise in cyber-attacks can be attributed to the quick transition to digital platforms and remote work during the COVID-19 pandemic. This has expanded the potential targets for government attacks and led to increased cyber warfare by nation-states.

There are a few attributes that make government entities unique targets. Government agencies collect and store vast amounts of data, including information about citizens that can be sold on the dark web. Washington state is no exception. Within the state's information systems, there is information about every state resident, not to mention information about residents of other states and potentially other nationalities.

OCS took several measures to enhance the security of Washington state's information and assets, including:

- Publication of a catalog of cybersecurity services to be offered to state and local governments. For more details, see [WaTech OCS Catalog of Services Report 070122](#).
- Activities to prevent, detect and respond to cyber threats and incidents. The following sections provide details on these important activities.

Cybersecurity governance and framework

Early in the biennium, OCS formally convened the Enterprise Security Governance (ESG) committee. This committee is composed of members of OCS, agency Chief Information Security Officers (CISOs), and other cybersecurity practitioners from all state agencies. The purpose of this committee is to unite

and work together with a shared dedication to enhance the security posture of Washington state. The committee meets monthly to address information security risks with urgency and regularly assess and implement tools and services in a coordinated and consistent manner to safeguard the data of Washington state residents and the state's infrastructure.

An ESG workgroup was formed to assist in creating a new state incident response strategy for agency adoption. The workgroup review process is projected to conclude at the end of 2023 with the final version anticipated to be finished in early 2024.

To develop a centralized cybersecurity protocol for protecting and managing state information technology assets and infrastructure, OCS chose to identify and align future policies, standards, and control set selections to widely accepted industry frameworks from the National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF) and the Center for Internet Security (CIS).

Establishment of a risk management program

OCS is responsible for tracking and reviewing any risks that are not mitigated with the governor and legislative committees on a quarterly basis. At the close of FY23, the Technology Services Board (TSB) approved the Risk Management Policy and standards.

The policy outlines the necessary components of a risk management program following the NIST Risk Management Framework and the standard outlines the steps in conducting a risk assessment that adhere to the NIST Guide.

To support this work the Cybersecurity Program Risk Assessment service was initiated. This service includes facilitated sessions that identify and assess the following:

- The cybersecurity program risks an agency faces when delivering its mission-critical programs.
- An agency's current and target NIST CSF Implementation Tiers.

Security Operations Center and Managed Security Service Provider

The Security Operations Center (SOC) works to proactively identify threat-related activity and alert agencies when such activity is identified. Integral components of the SOC include:

1. Security Information and Event Management (SIEM) system that collects, analyzes, and correlates data from various sources, helps detect and respond to security incidents, complies with regulations, and improves their overall security posture.
2. Managed Security Service Provider (MSSP) is its continuous monitoring and risk management services, which is available 24/7/365. A new MSSP was implemented in 2023 providing advanced capabilities and ample potential for expansion.
3. State's Endpoint Detection and Response (EDR) solution that monitors and analyzes the activity of devices and detects threats, such as malware, ransomware, or unauthorized access, and responds by blocking, isolating or removing them from the network.

Vulnerability Management Program

The Vulnerability Management Program (VMP) scans for the same weaknesses in state systems that bad actors look for and helps agencies prioritize and remedy those weaknesses before they can be exploited. Significant advancements and enhancements were made during this biennium that include:

- Hiring a dedicated SOC analyst to manage the VMP.
- Improved criteria for increasing visibility of vulnerabilities based on criticality.
- Improved engagement and awareness with agencies.
- Advanced training for agency staff in utilizing the tools and systems to manage vulnerabilities.
- Facilitating the adoption of modern patch management solutions such as Intune.

External Attack Surface Management

OCS acquired a cloud-based External Attack Surface Management (EASM) platform to help the state identify, monitor and reduce its exposure to cyberthreats from the outside.

The EASM platform has become a vital component of the VMP enterprise toolbox and other vulnerability management tools; it proactively inventories and assesses risk and safeguards internet-facing and hosted assets against vulnerability exploitation.

Security Design Review to ensure design meets policy and standards

Expert-level skills and knowledge are used to ensure the Security Design Review (SDR) process and the security of the state is of the highest quality and meets information security requirements and best practices. The SDR team members serve as technical experts and escalation points for the state's enterprise security architecture strategy and designs. They apply their top-notch technical skills to architect and solve complex, high-risk enterprise security issues that could significantly impact the state's ability to provide mission-critical services to citizens and businesses while protecting the data collected and maintained by the state.

The SDR team completed 110 SDRs in 2022. In the first three quarters of 2023, they completed 249.

**Completed
Security Design
Reviews (SDR)**

110 in 2022

249 in 2023

Office of Privacy and Data Protection and OCS - an integrated approach

The Office of Privacy and Data Protection (OPDP) serves as a central point of contact for state agencies on policy matters involving data privacy and data protection, and as a resource for consumer privacy issues.

A best practice introduced during

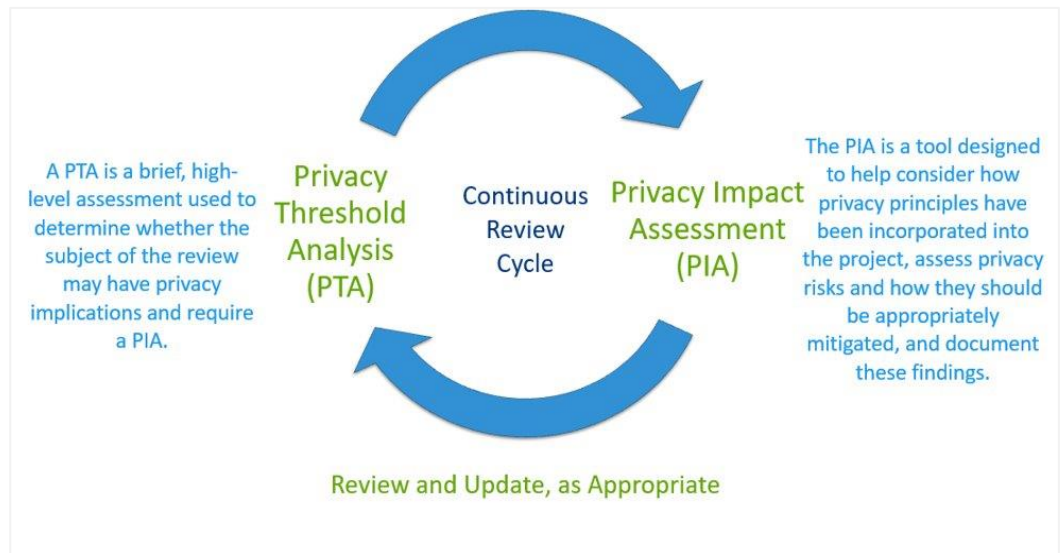
the biennium was the Privacy Threshold Analysis (PTA) and Privacy Impact Assessment (PIA) process. The PTA is a questionnaire used to determine if an information technology system contains Personally Identifiable Information (PII), and whether a PIA is required.

Agencies report being happy with the process and pleased to have a solution that helps them think more about the personal data they are collecting, using and processing to perform services for the state. OPDP received and processed more than 70 through the end of FY23.

In April of 2022, a comprehensive process review and refresh was established for SDRs performed in OCS, and a plan was developed to have an integrated security review process. The initial area of focus for integration was between the OPDP PTA/PIA process.

The integrated approach allows agencies to determine if they need a PTA based on specific project characteristics when submitting their project for security design review. Additionally, approval gates are in place to ensure that OCS does not approve projects requiring a PTA until all necessary privacy actions have been taken. The online functionality has also been extended to include tracking of the OPDP PTA process.

Online forms were introduced allowing agencies to submit projects for review along with a range of features, such as dashboards and modern collaboration tools. These features provide valuable insights and enable quick communication, which aligns with how users typically share information.



FY23 Privacy Threshold Analysis (PTA)

- 79 - Total PTA submissions.
- 24 = Number of agencies submitting.
- 57 = Closed PTAs.
- 10 = Open PTAs.
- 12 = Number of PTA submission requiring a Privacy Impact Assessment (PIA).

Infrastructure Investment and Jobs Act - State and Local Cybersecurity Grant Program

In the Infrastructure Investment and Jobs Act (IIJA) signed by President Biden in 2021, Congress established the State and Local Cybersecurity Grant Program (SLCGP) to “award grants to eligible entities to address cybersecurity risks and cybersecurity threats to information systems owned or operated by, or on behalf of, state, local, or tribal governments.” On Sept. 16, 2022, the Department of Homeland Security (DHS) announced this first-of-its-kind cybersecurity grant program for state, local, and Tribal (SLT) governments nationwide. During the four years of this grant program, Washington state anticipates approximately \$14 million to support cybersecurity across the state. In the first year, the state was authorized \$ 4,073,923.

WaTech’s OPDP and OCS collaborated with the Military Department's Emergency Management Division (EMD) on a grant application process. This process includes:

- Formation of a Grant Planning Committee comprising representatives from state, local (counties, cities, states, K-12 education, etc.), and Tribal organizations.
- Selection of cybersecurity program goals, objectives and potential projects.
- Creation of a statewide cybersecurity plan.

The plan goals include:

1. Improve the cybersecurity posture of all local governments.
2. Increase cybersecurity and privacy capacity at the state and local levels.
3. Develop enduring partnerships to support cyber resilience across the state of Washington.
4. Effectively use existing funds and identify sustainable funding options.

A process to request funding was established and 148 applications were submitted from various sectors such as state agencies, Native American Tribes, counties, cities, higher education, and K-12 institutions. The SLT committee evaluated and ranked the submissions based on their alignment with the Cybersecurity Plan Elements specified in the Notice of Funding Opportunity (NOFO). All 148 applications were evaluated and 115 were funded. WaTech leadership met with the jurisdictions that did not receive funding to adjust and improve their application for submittal in 2024.

Technology that is changing our world - Artificial Intelligence (AI)/Automated Decision System (ADS)

OPDP facilitated and led the Automated Decision-making systems Workgroup throughout the biennium. The purpose of the ADS workgroup is to develop recommendations for changes in state law and policy regarding the development, procurement and use of automated decision systems by public agencies. This expanded into the formation of the Artificial Intelligence (AI) Community of Practice, containing over 75 members from state agencies and local governments.

Over the next biennium work efforts will be targeted to include:

- [Interim Guidelines for Purposeful and Responsible Use of Generative Artificial Intelligence \(AI\) in WA State Government.](#)

- Create an AI Center of Excellence focused on developing and implementing guidance and policy around the responsible adoption of AI-enabled tooling.
- Develop a security document that provides agencies with specific risk treatment options to common AI-centered risks.
- Publish a research report that provides guidance on responsible AI governance, including strategies to operationalize across high-impact domains, and an overview of the opportunities and constraints of AI applications within state government.

Section 5 - Enterprise Architecture

The state Enterprise Architecture (EA) Program was established under RCW 43.105.265, which recognizes the importance of an ongoing EA Program in the state of Washington. Architecture is an essential part of developing an enterprise strategy for IT in state government and can be found in all areas of government from portfolio management to architecture models that enable the enterprise's evolution of modern technologies.

EA translates business vision and strategy to effective change across the state enterprise. EA shows how information, business and technology work together to accomplish the state's business objectives. Plus, it establishes programs critical to the technology ecosystem in Washington government.

One of EA's major value propositions is that the enterprise achieves significant value by sharing and reusing common solutions and strategic resources.

The EA Program actively engages with agencies on technology solutions to meet the needs of those we serve while also ensuring alignment with the enterprise IT strategies. There is collaboration with agencies to facilitate prioritization and decision making on enterprise-wide services. This collaboration is evident in the engagements the EA Program has with many of the state programs and initiatives.

EA activities that support continued agency engagements include:

- Monthly Enterprise Architecture Committee (EAC) meetings, which include statewide architecture representation and is focused on statewide initiatives and promoting EA maturity across the state.
- Monthly presentations at the Technology Management Council (TMC) and Business Management Council (BMC) on the state of Enterprise Architecture and the priorities of the EA community.
- EA provides dedicated resources to large statewide programs including One Washington, and the Health and Human Services (HHS) Coalition.

Identity and access management

There is increased recognition that consumers of Washington state services and our vendors expect to be able to interact with the state consistent with the basic levels of Identity Management provided by the private sector. The state needs to modernize our Identity Management (IAM) capabilities to

meet these expectations and to better manage access to systems and services in a controlled manner. The larger the data footprint, the larger the risk to data.

Specific drivers of our need to modernize IAM include:

- Existing enterprise solutions are limited to email-based authentication. The current model of federated identity verification has no single and comprehensive view of user identity. This has resulted in a disjointed user experience as users manage multiple portions of their identity across disparate systems (trust model).
- Consolidation of access to state services using an updated resident portal that will be a front door for access to all state services and will be dependent on IAM functionality.
- Ever-increasing need to mitigate access-related risks and potential fraud.
- Outdated policies driving increased waiver requests that increase barriers to delivery of services while proliferating siloed identity stores.
- Additional IAM functionality is needed to realize benefits associated with migration toward cloud computing.
- Supporting the state's Digital Equity goals by eliminating outdated technology and policies that increase barriers to services.
- Alignment to top priorities of national state CIOs. IAM is the National Association of State Chief Information Officers' (NASCIO's) sixth-ranked priority of their top 10 priorities for 2022.
- Mitigate identity sprawl by modernizing to meet federation needs and integration with other identity stores while maintaining a single source of truth for identity.

IAM Strategic Vision

Washington residents can access state digital services efficiently with confidence that their information is protected, and privacy is respected. The state reduces risk by verifying all users and authenticating all transactions while increasing digital equity and access to state services.

At the end of FY23, approximately 20 evaluators and over 30 observers from nine agencies participated in vendor demonstrations. A total of seven industry leaders showcased their IAM solutions, demonstrating their ability to meet requirements for a modern, cloud-based solution(s) for identity management that is equitable, usable, supportable and compliant with industry security standards.

Based on scoring results, three Customer Identity Access Management (CIAM) vendors and one Identity Management (IDM) vendor were selected by the IAM Sub-Committee and Steering Committee to develop a Proof of Concept (POC) for the next stage of the evaluation process that will occur in the FY24-25 biennium.

Enterprise Data Program

There is a multifaceted approach to continue the transformation of Washington state into a data-driven state government. In 2023, a State Chief Data Officer was hired, and the state Enterprise Data Program was established. The existing Open Data Program, which has served as a valuable resource

for our residents for years, was moved into the Enterprise Data Program which is instrumental in shaping the state's data landscape.

The Enterprise Data Program embodies a commitment to breaking down data silos and supporting state agencies in harnessing the power of data for better decision making and improved public services, while the Open Data Program continues to provide public access to non-sensitive, non-confidential datasets, promoting transparency and civic engagement. These synergistic programs will create a comprehensive and inclusive data ecosystem that benefits our state and its residents. We are committed to working collaboratively with state agencies and stakeholders to build a resilient, responsive and innovative government that leverages data as a strategic asset to inform decision-making, drive operational excellence and deliver value to Washingtonians.

Where the Enterprise Data Program is going

The imperatives for enterprise data in the state of Washington are clear:

- **Changing Landscape and Challenges:** Our state faces evolving challenges such as homelessness and the climate crisis. Currently, data silos hinder comprehensive understanding and collaboration. We envision real-time insights and cross-departmental data sharing, enabling a holistic approach to addressing these challenges.
- **Data-Driven Insights:** Because of the state's fragmented data, it is difficult to gain insights and comprehend service outcomes, which results in reactive policy and wasteful resource utilization. To better serve residents, we must refine our enterprise data ecosystem to glean data-driven insights that inform sound decision making.
- **Rapid Pace of Innovation:** To fully realize the potential of our data for better public services and government operations, we foresee an enterprise data platform that leverages cutting-edge tools and an enterprise data strategy that fosters the interdependent link between data and AI.

Given those imperatives, the objectives of the Enterprise Data Program are twofold:

- **Unified data ecosystem and breaking down data silos:** We are committed to breaking down data silos that have historically hindered collaboration and efficiency across state agencies. By fostering a culture of data sharing and integration and establishing a unified data ecosystem, we aim to create a seamless and interconnected data landscape that enables holistic data-driven insights and empowers proactive action.
- **Advancing Data Maturity:** We are committed to advancing the maturity of data across state agencies. This includes enhancing data quality, literacy and utilization capabilities to drive evidence-based decision-making and improved public services.

We plan to realize the objectives with the following three pillars of the Enterprise Data Program:

- **Enterprise Data Strategy ("the Brain"):** Our Enterprise Data Strategy dictates the tempo, sets the priorities, and charts the course for our data-driven journey. Like how the brain orchestrates our actions, our strategy steers our data endeavors.
- **Enterprise Data Platform ("the Nervous System"):** A unified Enterprise Data Ecosystem that breaks down data silos, fosters collaboration, and empowers advanced analytics and insight

generation. The Enterprise Data Platform functions as a complex neural network. It forms the intricate system of pathways through which data and insights flow, ensuring their seamless transmission and translation into action.

- **Enterprise Data Governance (“the Immune System”):** Enterprise Data Governance assumes the role of the immune system within our data ecosystem. It safeguards data quality and encourages purposeful and responsible application of data, much like the immune system protects the body from harm. Data governance ensures the integrity and trustworthiness of our data environment, preserving its health and vitality.

The Enterprise Data Program is taking a phased approach in building out these pillars, informed by specific use cases where data across multiple state agencies are needed. The program is partnering with Results Washington to work on a future state of performance management that harnesses enterprise data to drive efficiency and effectiveness. This vision will be realized through the planning and construction of an enterprise data infrastructure for performance data.

Open Data Program

The Open Data Program continues to guide and support agencies in ethically and reliably publishing high-value open data for transparency, legislative oversight, and agency and community involvement. Data can be published at no charge to agencies or viewers on the state’s official general-purpose open data portal, data.wa.gov.

In the last biennium, 28 agencies and five library systems, school districts, and local government entities published 2,500 assets that people accessed nearly three million times per month.

The top four agencies who published the most-viewed assets include:

1. **Public Disclosure Commission:** Contributions to Candidates and Political Committees.
2. **Department of Health:** Health Care Provider Credential Data.
3. **Department of Labor & Industries:** Contractor License Data.
4. **Department of Fish & Wildlife:** Thirty datasets on the state’s fish.

Agencies were encouraged to publish gateway webpages about their data, or “story” pages. These pages combine text, tables and charts to give visitors an overview of the data, its significance and possible uses. Over the past two years, the open data portal welcomed new state agency content including:

- **Chehalis River Basin Flood Authority:** Data and data features for flood warning systems.
- **Department of Children, Youth & Families:** Childcare needs and supplies.
- **Department of Enterprise Services:** State agency spending on technology contracts.
- **Department of Fish and Wildlife, Department of Ecology, Recreation and Conservation Office:** Salmon conservation.
- **Department of Health:** Hospital financial data and disease incidence data.
- **Department of Licensing:** Vehicle registrations and professional licensing.
- **Office of Superintendent of Public Instruction:** K12 education from the Education Research & Data Center.
- **Public Disclosure Commission:** Campaign finances.

- **Washington Criminal Justice Training Commission:** Investigations of alleged law enforcement misconduct.
- **Washington State Arts Commission:** Public arts.

Other Open Data accomplishments:

- Prioritized open data by hiring a full-time open data program manager.
- Added the Open Data Advisory Group to the IT Enterprise Governance groups.
- Partnered with Georgetown University's Beeck Center to launch the US State and Territory Open Data Leaders Network.
- Completed a usability assessment of the open data portal at data.wa.gov.

In the coming biennium, the open data program will partner with the Office of Financial Management to publish reference data such as official lists of counties, cities and state agencies. Reference data makes it easier to combine datasets because names and other content are standardized and can be matched between datasets. The program will help agencies use the new data to increase the number of datasets that can be combined and analyzed to provide new insights about how to deliver on state priorities.

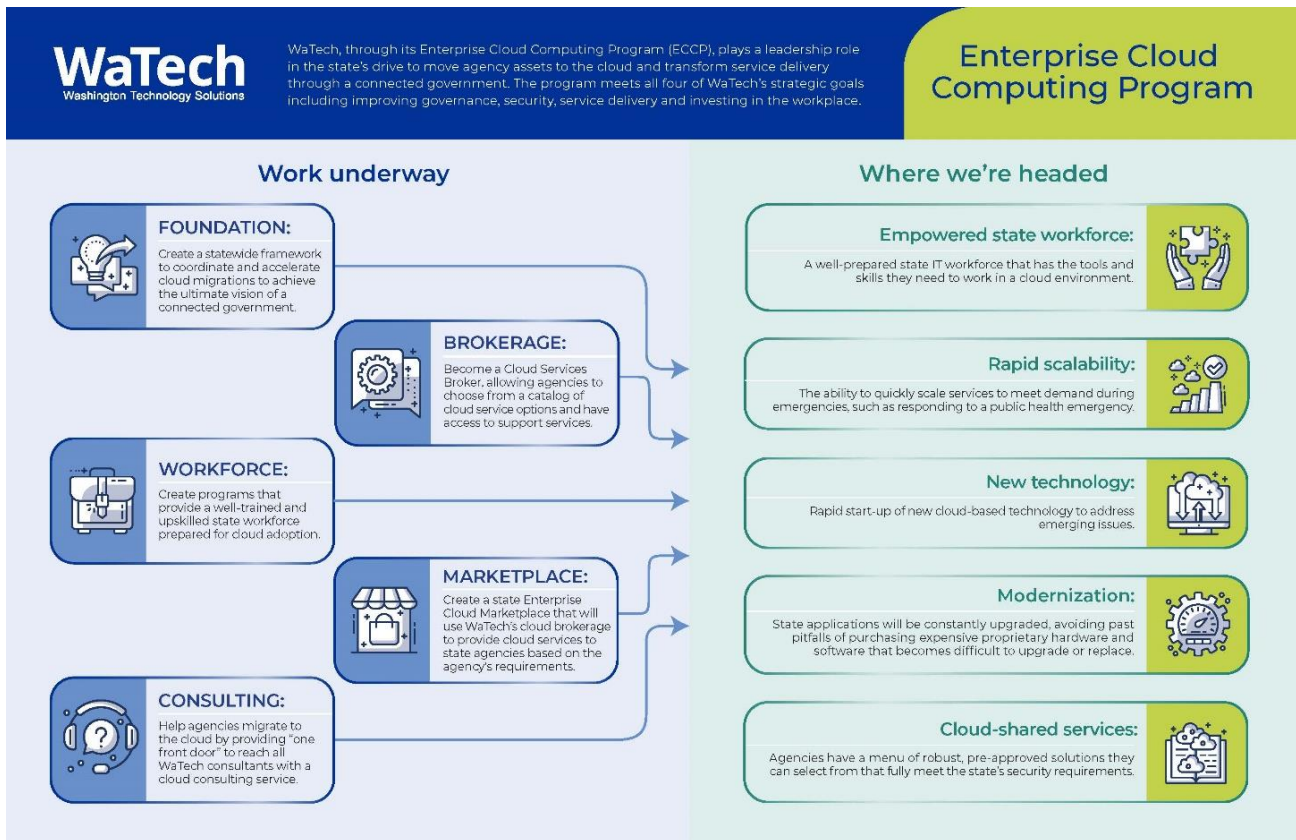
Cloud technology

The Enterprise Cloud Computing Program (ECCP) was created to provide leadership, governance, guidance, and resources to accelerate the strategic adoption of cloud technologies across Washington state government.

The overall mission of the ECCP is to accelerate efforts to modernize and transform the state information technology services that Washingtonians require by embracing cloud technology. This is an integral part of efforts to create a "connected government" where residents and visitors can access state government services more easily and directly, whether it's getting a license, accessing public health resources or bidding on a government project.

The ECCP has grown and matured since the beginning of the biennium. A statewide Cloud Smart Strategy was approved, a Cloud Architect and Cloud Business Intelligence Specialist were hired, and new vendors were brought onboard to help move work forward in the Foundation and Workforce Training and Readiness strategic areas.

Work completed over the biennium includes establishing a Cloud Capability Model; developing training personas for the 12 IT Professional Service job classes that will be the foundation of a cloud training program to assist state employees in their transition to the cloud; a pilot for automating cloud financial reporting in Apptio; and working with IBM to develop security reference architecture.



ECCP staff began work to gather baseline data to develop metrics around cloud migration. Data came from the state application inventory, survey results and direct data taken from Amazon Web Services, Azure and Google Cloud. Two accomplishments include:

- Making data more visible by importing cloud spend data through the TBM reporting software to populate cloud spend reports and create reconciliation reports.
- Identifying over \$20 million in FY23 for IaaS from Microsoft Azure, Amazon Web Services (AWS) and Google Cloud Platform (GCP) being mischaracterized in the state financial system as SaaS maintenance.

Significant progress was made in developing cloud training personas. WaTech partnered with the State Human Resources to survey state agencies and higher education institutions about their cloud training needs, develop training personas using the data collected, and send the personas through stakeholder review. Persona templates include an overview of the job family, typical cloud job roles, core competencies for the cloud, and links to upskilling resources. The ultimate outcome is a framework and platform that supports upskilling existing IT staff to work in the new cloud computing environment.

The program also completed facilitation between agencies, internal staff, contractors, and industry partners such as Microsoft, Amazon, IBM and others to finalize and publish the [Cloud SMART strategy](#). The strategy formalizes an approach to use public cloud technology and emphasizes a need to use

multiple public cloud service providers as well as integrating with the state’s on-premises ecosystem using a hybrid model. The strategy has five strategic themes (Foundation, Workforce, Consulting, Brokerage, Marketplace), 23 Objectives and 10 deliverables.

Cloud trends over the biennium

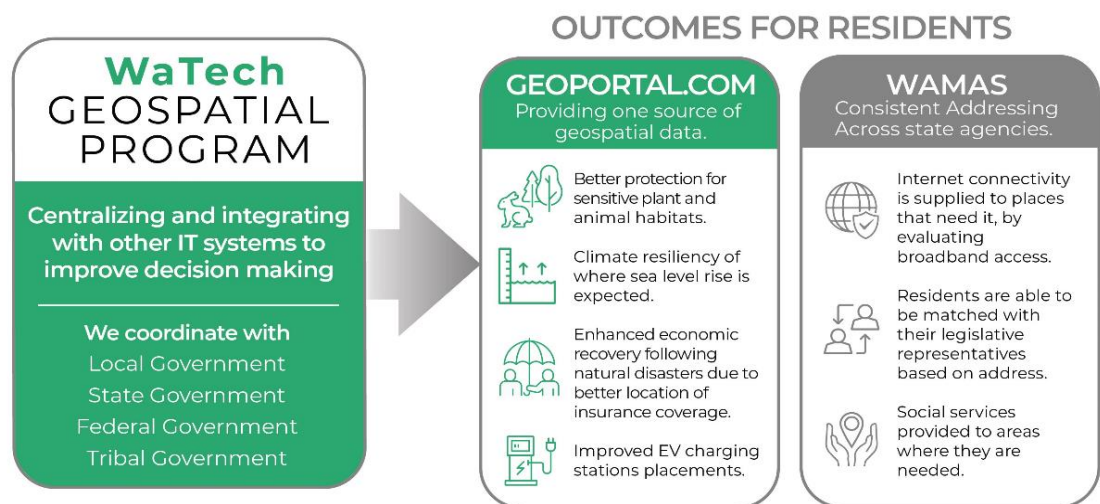
Pandemic-related activities forced a rapid shift toward use of M365 SaaS services to enable a remote workforce. That shift is now helping lay a solid foundation for broader use of the public cloud at enterprise scale in Washington state to enable acceleration of other cloud service models such as Infrastructure (IaaS) and Platform (PaaS). The ECCP has utilized a modern identity service to integrate with other major public cloud providers such as AWS to begin brokering multiple public cloud provider options to account for diverse agency needs. By utilizing a modern identity provider, participating agencies benefit by making it easier for employees to authenticate and access integrated services from a wide range of public cloud providers.

Many of the modern skills such as writing and maintaining code and using software development methodologies to deploy and manage software-defined infrastructure, are not yet commonplace within the state IT workforce. Making this transition to cloud technology will require long-term investments in the workforce over a multi-year transition period.

Geographic Information System (GIS)

The Washington State Geospatial Program Office endeavors to provide open data leadership, guidance, policy direction and oversight within the Washington state government. The office works closely with Geospatial Information System (GIS) departments throughout Washington state agencies to provide both partners and constituents with the geospatial information they require to make informed decisions. Protecting Washington waters is an area of emphasis.

Surface water and their connected riparian zones are critical in supporting water quality, along with the health and diversity of aquatic and terrestrial species throughout



Washington state. Understanding the location of the state’s surface water is needed for assessing, monitoring, and protecting these ecosystems and developing climate resiliency at statewide, watershed and local scales.

WASHD program: The National Hydrography Dataset (NHD) has been the Washington state standard for hydrography for state agencies. While the NHD has been a great source of data, it has needed improved accuracy to meet local government needs and to be useful for detailed analysis. Washington Department of Ecology has served as the data steward for the NHD but is now working on the transition from NHD to the new and soon-to-be-released 3D National Hydrography Program (3DHP) by United States Geological Survey (USGS). Last year Ecology received state funding to initiate a pilot project to determine the feasibility, cost and best methods of updating hydrography mapping statewide. This project has allowed the program to engage with stakeholders for the transition to the new USGS 3DHP, including stakeholder meetings to get feedback. This pilot has provided insight into both the benefits and missing elements of the 3DHP transition. Using this info, Ecology has developed a method to move forward to remap all hydrography data for Washington state while growing the stakeholder desires for a single accurate hydrography to benefit everyone.

GeoPortal platform

The GeoPortal platform goal is to continue successful efforts at the state to centralize data sharing using a common platform to efficiently share sensitive information among state agencies. It was developed specifically for natural hazard mitigation planning yet has already grown to include data sharing of school bus stops (Category 3 data due to location of children) between the Office of the Superintendent of Public Instruction (OSPI) and the Department of Transportation (WSDOT) to ensure correct signage and safety measures. The Department of Natural Resources (DNR) is using GeoPortal to share sensitive data with multiple state agencies to coordinate the protection of threatened and endangered habitats.

Centralizing big data, such as statewide 6-inch imagery, high-resolution land cover data, and elevation data, has typically been done on the GeoPortal platform. The size of these datasets (>100 terabytes) means that cloud hosting and other technologies must be implemented to provide scalable, analytical capabilities to our state agencies.

Additional funding is needed to improve the quality, access and availability of addressing services across the state. Due to limited funding in the last two bienniums, Washington Master Addressing Services (WAMAS), agencies' ability to use the same location when referencing an address or a specific (x,y) coordinate (x,y) has been limited. For example, having correct and consistent addressing/location across the state ensures that the Department of Revenue (DOR) and Department of Licensing (DOL) are using the same location for a resident paying sales tax and registering their car. The Department of Commerce (COM) and Washington State University (WSU) use address locations to confirm broadband access to homes within Washington and apply for grants to increase broadband availability. Addresses are also a primary way that residents interact with the government, pay taxes, receive services, identify their representatives in the legislature, determine school districts, and even receive package deliveries. The inconsistency of address locations is surprising, yet searches on Google, Apple, Amazon and others often provide different results, especially in rural areas and smaller cities of the state, where these companies typically update information every 18-24 months. Comparatively, the state enterprise GIS office updates this information every two months, comprehensively across the state to include those smaller, rural areas that are often overlooked.

WAMAS sources address information from local jurisdictions, merge that into a statewide dataset, and provide a seamless experience for residents to receive services and interact with government at all levels. Data used for WAMAS is updated every one to two months directly from our counties, providing a better resident experience and ensuring they are included in estimates of government services needed. With additional funding in the future, address location services can be integrated into more of standard IT applications at the state, centralized to ensure consistency, and include methods of handling sensitive addresses related to health and human resources to ensure privacy.

Section 6 - Innovation highlight over the last biennium

By embracing innovation and modernization, agencies can enhance information sharing and use technology to enhance the way the state provides services to Washingtonians. This section highlights two agencies' innovative approach to modernizing a business process and solution.

Department of Social and Health Services use of Robotic Process Automation

The Covid pandemic adjusted a lot of normal processes for Washingtonians receiving services through the Department of Social and Health Services (DSHS). There were 86,296 total unique head of household who received waivers and extensions for financial eligibility for healthcare during the pandemic. This ensured that they continued to remain eligible for services. Once the pandemic ended, DSHS had to review the eligibility of all 86,296 individuals. DSHS was required to renew eligibility based on information already available to DSHS resulting in new work. An automated process was needed to meet the required timelines.



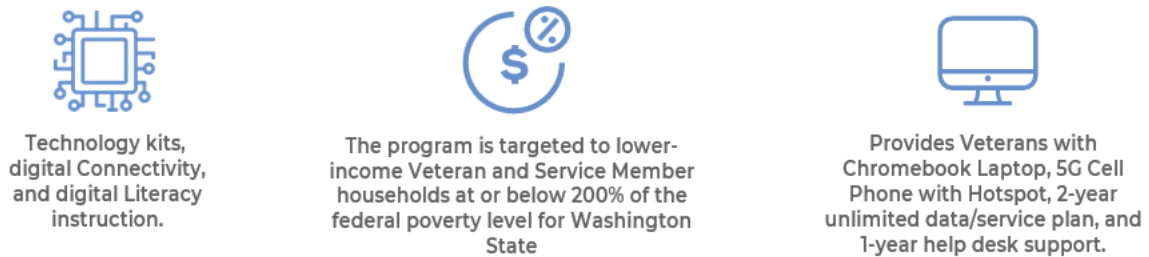
DSHS explored Robotic Process Automation (RPA) to assist with the renewal process that was required by The Centers for Medicare and Medicaid Services. The RPA bots work through the process to determine if a case can be renewed or if additional information is needed. By leveraging bot technology, DSHS was able to increase efficiency in the renewal process by cutting out repetitive tasks, yielding greater efficiency in getting clients renewed on services. This allowed DSHS to continue providing services to the most vulnerable individuals in Washington state without interruption, improving service delivery in the process. On average, of all cases the RPAs worked through, 22% of them were completed, mitigating the need for a case worker to deal with them.

Department of Veterans Affairs Digital Navigator Program (connecting Veterans and their families to earned benefits)

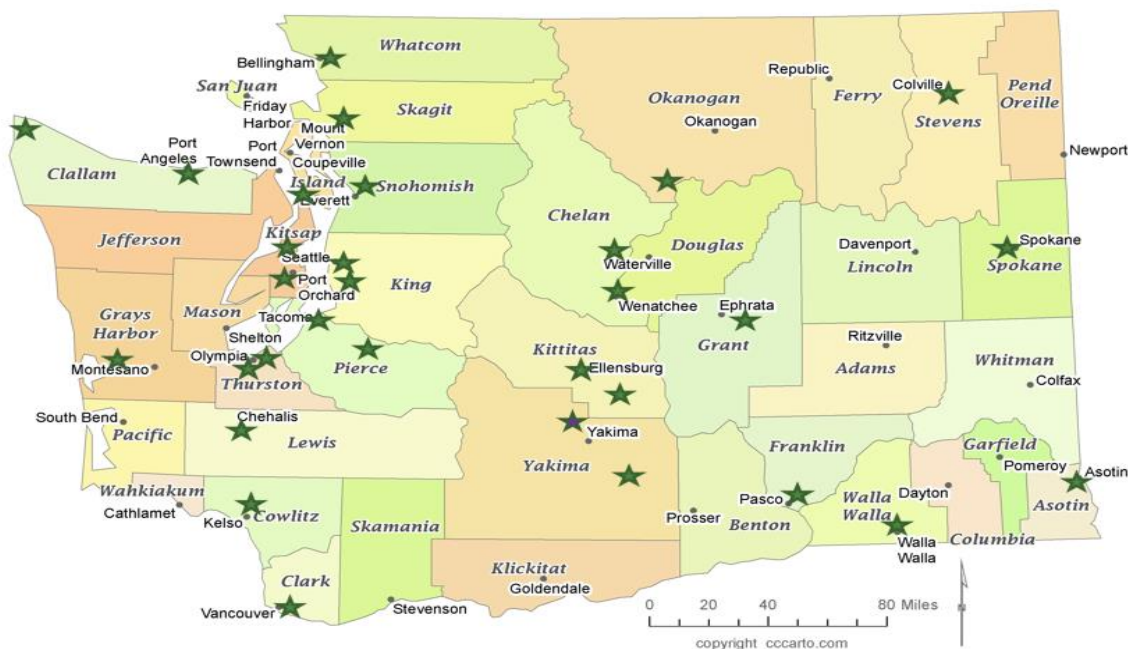
Geographic, transportation, and scheduling barriers frequently prevent Veterans from accessing and/or fully utilizing all their earned benefits. This is particularly true for our most vulnerable Veteran populations including those who are:



The digital navigator program is a grant-funded program within WDVA, funded by the Department of Commerce, that provides:



Places WDVA Served



Section 7 - Strategic plan for next biennium

In the next biennium, we will use the FY24-25 enterprise strategic plan to carry out the following initiatives that support modernizing state government:

Connected government: A priority includes advancement in activities that support a connected government and supports Goal #1, to create a government experience that leaves no community behind. Initiatives that support this effort include modernizing the state government portal, laying the groundwork on a resident portal and improvements to Identity Access Management (IAM).

Enterprise Architecture (EA) FY24 and beyond: Efforts to enhance statewide EA maturity next biennium involve developing an updated statewide EA strategy and roadmap that improves the state's ability to make effective and efficient technology investments.

This requires improving the effectiveness of statewide EA Governance to support the establishment of modeling tools that can be leveraged by agencies to advance their IT planning and design capabilities. Additional work will be the development of EA awareness material for state business and technology leaders to improve the effectiveness of EA in high-demand areas such as data analytics, data integration and master data management.

Enterprise Cloud Computing Program (ECCP) advancement: Advance the Enterprise Cloud Computing Program by:

- Publishing a statewide cloud governance model.
- Developing a cloud-shared service roadmap.
- Establishing cloud-related policies, standards and guidelines.
- Establishing an Enterprise Cloud Marketplace.
- Partnering with the Department of Enterprise Services on a cloud brokerage service.

Open Data: Efforts for the next biennium include finding ways to make it easier for users to find and use datasets. This means incorporating foundational data management elements that make it easier to combine, compare and reuse datasets, plus it entails updates to existing policies. Establish an open data user community and offer enterprise open data training to assist agencies with increasing the maturity of their open data programs.

Partner with key agencies to explore publishing data that reflects Washington State Pro-Equity Anti-Racism (PEAR) progress.

Maturing statewide IT Portfolio practice: IT Portfolio management work efforts in the next biennium include:

- Increase the number of agencies participating in the TBM program application and business capabilities kick start models. These models equip agencies with cost and portfolio data on their application and business capabilities so they can use data to gain additional insight into solutions in place to support the business and services to Washingtonians.
- Work with agencies to mature their portfolio process, so they have better insight into why they are recommending the agency invest more money in the legacy application versus retiring or

migrating them to a modern solution. Activities include expanding use of the Gartner® TIME model.

Advancement of Secure Access Service Edge (SASE) framework: Support advancement of the Secure Access Service Edge (SASE) framework while leveraging commercial broadband internet to increase the dependability and reliability of state government services to the residents of our state.

SASE will assist in mitigating the growing threat of SaaS sprawl. The underlying data generated by or imported into SaaS applications is causing important and possibly sensitive data to disperse across hundreds of different third-party SaaS apps as a result of the fast adoption of SaaS solutions.

Improvements to remote workforce data: State HR has initiated work to address the challenge of capturing out-of-state employee data in the next biennium. Their intent is to gather more reliable telework data which requires agencies to update this information in HRMS. Progress will be reported in the next biennial report.

Tracking innovative technology: Over the next biennium work efforts will be targeted to include:

- [Interim Guidelines for Purposeful and Responsible Use of Generative Artificial Intelligence \(AI\) in WA State Government.](#)
- Create an AI Center of Excellence focused on developing and implementing guidance and policy around the responsible adoption of AI-enabled tooling.
- Develop a security document that provides agencies with specific risk treatment options to common AI-centered risks.
- Publish a research report that provides guidance on responsible AI governance, including strategies to operationalize across high-impact domains, and an overview of the opportunities and constraints of AI applications within state government.

Improving the state's security posture: With the emergence of Generative Predictive Chat (e.g., ChatGPT), threat actors have a new tool at their disposal, making it easier to weaponize social engineering against employees that are harder to identify, automated, and make staff more likely to engage.

Over the next biennium, user awareness training will be focused on these emergent threats to ensure we are growing a security mindset, not just among general business staff but also across the executive leadership surface and the technical administrators for our technology systems.

Contact

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