# 2018
# ANNUAL REPORT

**COLORADO**
Governor's Office of
Information Technology

# CONTENTS

# Letter from the Secretary of Technology & State Chief Information Officer

It is with great enthusiasm that I present to you the FY18 Governor's Office of Information Technology Annual Report in accordance with C.R.S. §24-37.5-101 et seq. We have major accomplishments to celebrate from the past year that are shaping our direction as OIT moves into the next phase of maturity.

Over the last four years as Secretary of Technology and Chief Information Officer, it has been truly inspirational to experience OIT's evolution from getting "back to the basics" - a critical necessity for our customers - to being seen as a valued technology partner and paving the way for IT in the public sector. While we never lose sight of "keeping the lights on", we continually consider ways in which technology can transform the lives of Coloradans.

These are just a few examples of how our teams delivered exceptional customer service and impactful IT solutions for agency partners and the residents of Colorado in the last fiscal year:

- Delivered the Integrated Parks and Wildlife System (IPAWS), streamlining business functions for customers and allowing people to reserve a campsite, buy a fishing license, and apply for a hunting license all in one place.
- Expanded 24x7 Service Desk for agency customers to receive the help they need, when they need it.
- Implemented a Security Analytics and Endpoint Detection and Response toolset across the state to protect against cybersecurity incidents.
- Allocated approximately $115 million over five years with the passing of Senate Bill 18-002 to provide broadband grants for unserved rural areas of the state.

We will undoubtedly be presented with exciting opportunities and a new set of challenges to tackle over the course of fiscal year 2018-19. In the face of change, I am confident that we will come together as a team with courage, integrity, and respect serving our customers and always working toward our vision of enriching the citizen experience at every digital touchpoint.

Our team is proudly serving people serving Colorado each and every day, and we are proud to share some of the many ways we do so through this Annual Report.

Sincerely,

Suma Nallapati
Secretary of Technology & CIO

# SECTION 1

## INTRODUCTION

## *"Serving People Serving Colorado"*

The Governor's Office of Information Technology (OIT) is responsible for the operation and delivery of all information and communications technology (ICT) services across the executive branch agencies in the State of Colorado. Our charge is twofold: to provide best-in-class information technology services (IT); and to promote Colorado as the ideal location for IT companies and technology-based workers in conjunction with the Office of Economic Development and International Trade (OEDIT).

As the enterprise provider of technology, OIT drives innovative solutions, provides quality service, acts as a broker for new IT services, and supports the agencies whose missions are to serve Colorado's residents. We oversee technology initiatives across the enterprise, partner on project implementations, lead technical standards, and maintain applications for state agencies. Through our Office of Information Security, OIT is also responsible for information security across all public agencies[1]. Our enterprise approach facilitates the agile delivery of cost-effective, reliable, accessible, and secure IT services to state agencies that improve citizen access and engagement with government services, while increasing accountability and transparency.

Our **passion, purpose,** and **motivation** is to serve the state of Colorado. We collaborate with customers to provide day-to-day digital support and present smart solutions that transform government through IT. We push ourselves to deliver next generation, integrated technology in order to create a dynamic end-user experience for Coloradans and offer the expertise our customers expect.

Our **mission** is to securely enable the effective, efficient, and elegant delivery of government services through trusted partnerships and technology. We measure our achievements by whether our outcomes are successful and relevant (effective); eliminate waste and duplication, and provide the best value at the lowest cost (efficient); and deliver services in a way where the employees and public feel respected and elevated through their experience (elegant).

Our **vision** is to enrich the citizen experience at every digital touchpoint. Every interaction Coloradans have with the state is an opportunity. Our customers directly serve the public, and OIT is the IT service delivery partner that can elevate their experience. We strive to empower a seamless interaction between the state and the people we serve. Our work includes expanding broadband coverage across the state, leading the way for enterprise solutions that support effective collaboration, streamlining processes for more efficient service, and enhancing security to keep data and systems safe.

We envision a future where the entire journey of any Coloradan receiving state services is dependable, simple and fast no matter how many agencies or applications are involved; customers get the services they need, when they need it, wherever they are.

We envision a future where the entire journey of receiving state services is simple and fast no matter how many agencies or applications are involved on the back-end; customers get the services they need, when they need it, wherever they are.

At OIT, we recognize that how we deliver is as important as what we deliver. Our **core values** define our character, and each employee is expected to embody the values in all the work we do. Because it is critical that we embody service, integrity, teamwork, respect, and courage in all that we do, these values are incorporated into every employee's annual performance plan[2].

[1] As defined in C.R.S. §24-37.5-402(9)
[2] The state's performance plan cycle is from April 1 to March 31; the fiscal year is from July 1 to June 30.
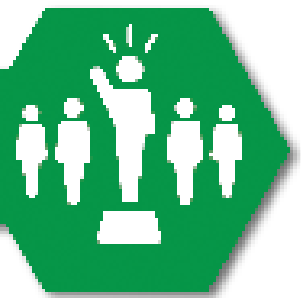
## SERVICE
Serving the people of Colorado
Intentionally and generously serving others for a better Colorado

## INTEGRITY
Demonstrating credibility and sincerity in our work
Inspiring confidence and trust in the Governor's Office of Information Technology through our personal conduct

## TEAMWORK
Collaboratively working together at OIT and across the state
Working cooperatively with others and engaging in constructive dialogue to overcome difficult challenges

## RESPECT
Appreciating and acknowledging the role, diversity, and contribution of those with whom we work
Consistently conducting ourselves in a way that shows regard and thoughtfulness to others

## COURAGE
Pushing boundaries to foster positive change
Proactively and positively pursuing the transformations necessary to address tough issues and drive innovation

## A Brief History

The Governor's Office of Innovation and Technology was created in 1999 (and renamed Governor's Office of Information Technology in July 2006) to serve as an advisory organization to the governor and state agencies. At that time, information technology services and support were provided by each state agency in an independent, and at times, redundant manner. The result was a disparate infrastructure, duplication of functions and services, increased security risks, failing projects, and the inability to leverage statewide procurement opportunities.

The overwhelming bipartisan passage of SB08-155[3] considerably shifted how IT services would be delivered to executive branch agencies in Colorado state government. As a result of this legislation, all IT functions, systems, and assets were consolidated from 17 executive branch agencies into a single organization - the Governor's Office of Information Technology - in July 2008.

Much like a merger of 17 diverse companies, the consolidation brought with it significant challenges but also provided an extraordinary opportunity to plan, enable, and implement truly transformative and lasting change for the state of Colorado. OIT took this historic opportunity to challenge the status quo and create an enterprise IT organization that is more effective in the delivery of a full range of technology solutions and services not only for today but also for the future.

Recognizing the important role information technology plays in the state's economic development efforts, in 2011 Governor John W. Hickenlooper expanded the state's Chief Information Officer (CIO) responsibilities to include the role of Secretary of Technology. Sumana (Suma) Nallapati was appointed to this dual role in June 2014.

[3] Codified in C.R.S. §24-37.5-101 et seq.

# OUR IMPACT BY THE NUMBERS

*As the enterprise provider of information technology, the Governor's Office of Information Technology (OIT) presence spans across the state. Here are a few compelling stats about OIT:*

**900+** employees in 70 locations across the state

Serving more than **31,000** state employees in 1,300 state agency locations across Colorado
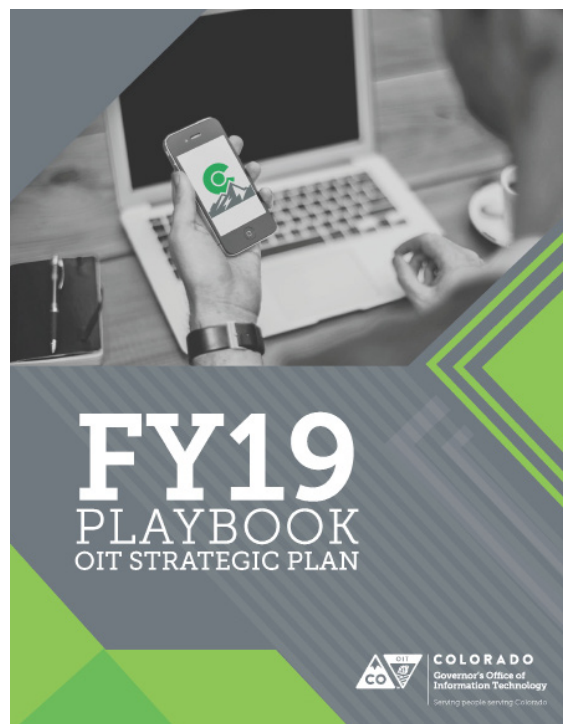
Average **31,300+** service tickets monthly

**~8.4 million** security events detected daily

# SECTION 2

## BUSINESS OVERVIEW & OPERATIONAL ACCOMPLISHMENTS

## The OIT Playbook

The OIT Playbook is our strategic and operational roadmap that defines specific key initiatives and goals we want to accomplish during the course of the fiscal year. The Playbook also provides our stakeholders (i.e., customers, employees, Colorado General Assembly, and partners) with a guide towards our future - where we aim to be and how we will get there - while linking our core mission, vision, and values to our strategies and goals.

The strategic initiatives were not created in a vacuum. Instead, we incorporated a bottom-up approach, obtaining input from leaders and staff from each of the functional groups[4] as well as customers to help determine our most important goals for the year. Additionally, OIT worked with our agency partners to make sure their business needs helped inform our direction. The team plans, metrics, goals, and initiatives laid the groundwork for the enterprise Playbook.

*Of note, OIT's submission* Strategy of Success: Playbook and 5-Year IT Plans *was the recipient of the NASCIO 2017 State IT Recognition Awards in the State CIO Office Special Recognition category.*

## Strategic Planning Methodology

In May 2014, the Office of the Governor selected a new strategic planning methodology. The *4 Disciplines of Execution*® (4DX) has been instrumental in providing the executive branch with a common language and consistent method for developing and measuring strategy execution.

OIT quickly adopted this methodology and has been pleased with the process and results. This methodology employs four concepts to align and progress an organization toward common goals. These four disciplines, which specifically target the routine and behavioral change necessary to drive organizational improvement, are: (1) Focus on the Wildly Important; (2) Act on the Lead Measures; (3) Keep a Compelling Scoreboard; and (4) Create a Cadence of Accountability.

[4] As an Office of the Governor, OIT does not have divisions. Instead, the term Functional Group (aka Functional Unit or Functional Office) refers to the primary groups under an Executive Leadership Team member's (ELT) oversight. In FY18, there were six functional groups, the offices of: financial services, information security, customer, technology, Broadband, and communications. The term Functional Team refers to the individual teams within each functional unit (e.g., Enterprise Applications is a functional team within the Chief Technology functional unit, HR is a functional team within the Customer Office, etc.). See Appendix A.

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# Wildly Important Goals and Playbook Results

Since FY15, OIT has kept a steady focus on four major areas: Service Excellence, Information Security, Employee Engagement, and Strengthening Colorado's Technology Landscape. In FY18, we continued to target these areas to drive positive behavioral changes throughout the organization. We also added a new WIG to show the state's commitment towards ensuring all Coloradans have access to reliable, cost-effective broadband.

## Delivering effective solutions and reliable customer service

Achieve and sustain 75% customer satisfaction as measured by Customer Service Index Rating consistently through June 30, 2018.

## HOW IS IT MEASURED?

*Customer Service Index*. It looks at multiple measurements covering satisfaction, delivery, and performance.

## RESULTS

### EXCEEDED
June metric surpassed the target at >76%

# Securing Colorado Through Innovation

Achieve and sustain 97.5% of the environment equipped with security tools to reduce risk through June 30, 2018.

## HOW IS IT MEASURED?

As in previous years, we continued to monitor via the McAfee Risk Index and maintain a score of 11 or below, which is well under the industry standard of 20. In FY18, however, we had increased cybersecurity focus on system hardening for preventing attacks.

## RESULTS

### EXCEEDED
99% of the environment is equipped with security tools

# Ensure All Coloradans Have Access to Reliable, Cost-Effective Broadband Internet

85% of rural households have access to broadband by December 31, 2018.

## HOW IS IT MEASURED?

% of Rural Households with Access to High Speed Broadband
(Defined by the FCC as 25Mbps downstream/3Mbps upstream)

## RESULTS

### ON TRACK
83% of rural households had access to broadband as of October 31, 2018.
This reporting data represents the best estimate of rural household coverage based on the quality of data sources.

# Strengthening Colorado's Technology Landscape

100% expansion of customer touchpoints for future digital enhancements reported to the Governor's Office by increasing from 150 touchpoints to 300 by June 30, 2018. This will provide consistency in customer user experience across all executive branch websites.

## HOW IS IT MEASURED?

We look at strengthening technology in the state through an advanced digital transformation program that will provide consistency in customer user experience across all executive branch online presence, which includes online services, official and affiliated websites, and social accounts.

## RESULTS

### EXCEEDED
This goal was met in the third quarter with more than 300 digital touchpoints enhanced and indexed

# Advancing Employee Support and Collaboration to Drive Customer Service Improvement to Deliver Superior Performance

25% increase in OIT's collaboration and engagement community by June 30, 2018. Collaboration and engagement communities will drive employee retention, engagement, and knowledge sharing across OIT.
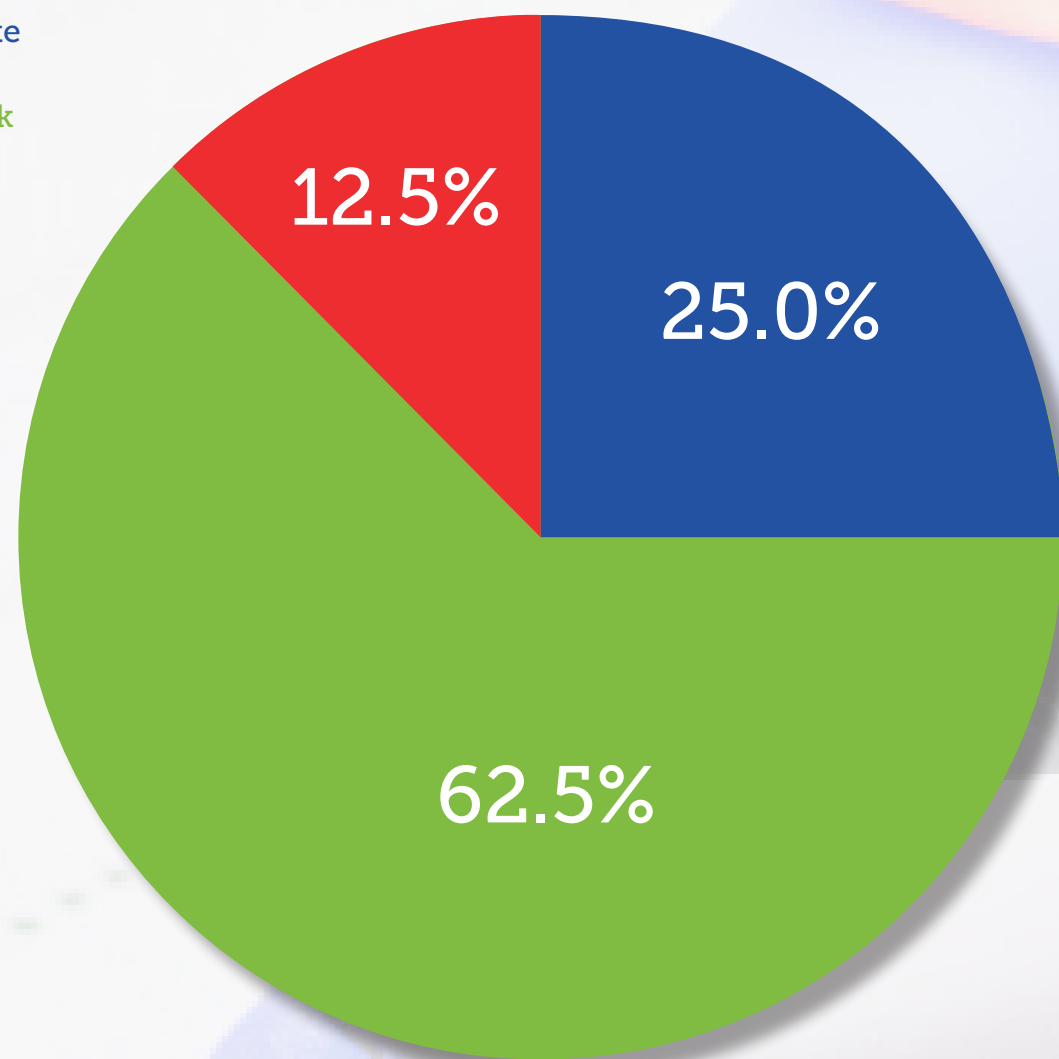
## HOW IS IT MEASURED?

The increase of new employee membership to OIT+ collaboration community.

## RESULTS

### EXCEEDED
Membership in the OIT+ Community as of June 30, 2018 far surpassed our goal of a 25% increase

**Complete**

**On Track**

**At Risk**

12.5%

25.0%

62.5%

Sixteen enterprise initiatives, some of which are multi-phased or multi-year, arose out of the FY18 WIGs and were incorporated into the OIT FY18 Playbook. We are proud of our year-end results.

- **4** (25%) initiatives were completed and closed out.
- **10** (62.5%) of the initiatives had achieved key milestones and are on target for an on-time completion.
- **2** (12.5%) initiatives were at high risk of not being accomplished on time and/or are facing major roadblocks.

# Playbook Activities and Accomplishments

The following are just a few examples of our key

WIGs and Playbook initiatives, and serve to show how they tie together. A full list of the sixteen enterprise initiatives is found in Appendix C.

### Delivering effective solutions and reliable customer service

Delivering consistent, high quality services to our agency customers is our priority. As we improve our service ticket handoffs, clarify expectations and processes, and equip our technology professionals with the tools they need to best serve the customer, we are creating a more positive end-to-end customer experience across all channels.

### Securing Colorado through innovation

OIT is responsible for the state's information security governance, architecture, risk, and compliance, as well as provisioning user accounts and overseeing
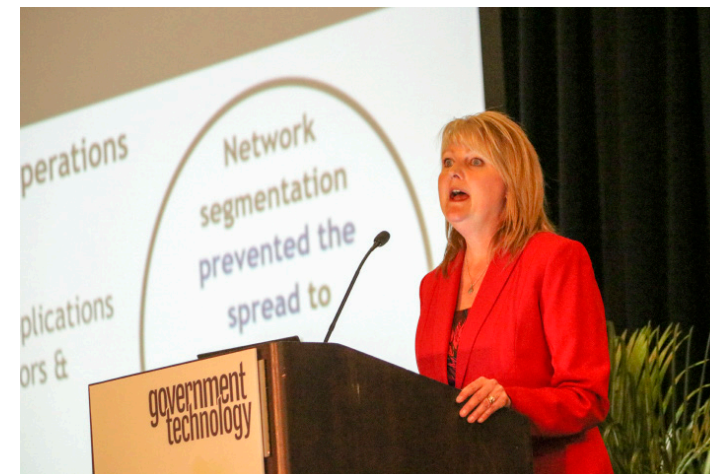


CISO Debbi Blyth speaking about the state's security practices at the Colorado Digital GOvernment Summit

day-to-day security operations. We strive to preserve the confidentiality, integrity, and availability of state and citizen data. In FY18, we had a new cybersecurity focus on system hardening for preventing attacks.

Though the measurement for the WIG changed to review the specific components that made up the McAfee Risk Index, we maintained a score of 11 or below, which is well under the industry standard of 20.

### Ensure all Coloradans have access to reliable, cost-effective broadband internet

The Broadband Office was created to lead a statewide effort to expand broadband coverage and capacity in Colorado. Access to affordable and reliable broadband service is critical to advancing Colorado's economic growth and competitiveness. High-speed broadband service helps create new jobs and attract new industries, expands markets for new and existing businesses, enables Coloradans to better access educational opportunities and resources, facilitates the delivery of healthcare services, and helps protect the public's safety. Greater deployment of broadband services will improve long-term quality of life for many Coloradans.

### Strengthening Colorado's technology landscape

In addition to providing support to executive branch agencies, OIT is responsible for promoting a robust IT ecosystem throughout Colorado in collaboration with key stakeholders. We contribute to growing IT economic development by partnering with local communities to attract new tech companies to our community, developing young tech talent, and fostering relationships with local technology companies to strengthen their commitment to the state.

### Advancing employee support and collaboration to drive customer service improvement to deliver superior performance

At OIT, we are fostering an environment where employees take pride in delivering critical services that impact our entire state. We believe that together we can create a culture where we all feel connected to each other and to our work, leading to better outcomes for our customers. OIT has seen consistent employee engagement score increases since 2013.

*"State government can't set up a business, but it can create the ecosystem that ensures employers and employees have the tools they need, and we can create every incentive to ensure that happens."*

Gov. John Hickenlooper

# WIG #1
## Delivering Effective Solutions and Reliable Customer Service

IPAWS, AgLicense, UIM, Trails, LIMS, agency infrastructure refreshes; stabilized others such as DeCORuM and various EHR initiatives.

Streamlined and modified the project lifecycle.

Maintained meaningful customer relationships in the midst of continual change and transformation, and high customer satisfaction scores while improving first call resolution and mean time to resolve.

Expanded 24x7 major incident service to all agencies.

Delivered Year in Review for each agency using a standard format including SLC compliance metrics.

Incorporate Agile, change management and support model principles.

# WIG #2
## Securing Colorado Through Innovation

A Governance, Risk, and Compliance (GRC) tool was implemented to aid in fulfilling audit requests, tracking security assessments and remediation efforts, and to ensure important compliance data is maintained in a single location and available when needed.

The Risk and Compliance team worked with agencies to complete the Corrective Action Plans and the System Security Report for the IRS systems and prepared for the IRS onsite audit that occurred April 2018.

A Security Analytics and Endpoint Detection and Response toolset was fully implemented across the state. This purchase was enabled through a FY17 Decision Item, and will increase visibility and protection against cybersecurity incidents.

Two-factor authentication was enabled for remote access.

Multiple simulated security incidents were practiced through tabletop exercises, involving partners such as the Colorado National Guard, Regis University, and other state and local responders.

# WIG #3
## Ensure All Coloradans Have Access to Reliable, Cost-Effective Broadband Internet

Senate Bill 18-002 passed which allocates approximately $115 million through 2023 to the Broadband Fund for grants for unserved areas of the state.

Completed the evaluation process regarding the FirstNet proposed plan and provided the Governor with a recommendation as to whether to opt-in or out of the plan.

One of six states in the initial implementation of the national verifier program for the Lifeline program. This is the first step towards implementing new program rules that permit low-income individuals to qualify for a $10/month subsidy towards their broadband bill.

98% of Colorado school districts have access to internet capacity that meet national standards.

Received approval to move forward on state tower project as part of overall telecommunications infrastructure plan in partnership with CDOT.

OIT embarked for the first time into public cloud-based Infrastructure as a Service working with both AWS and Google.

Completed the Education Chromebook Project for the Department of Corrections.

# WIG #4
## Strengthening Colorado's Technology Landscape

OIT selected a partner to facilitate digital signature across the state. This key technology will offer a more digital experience for Colorado residents.

The Digital Trunked Radio System Team built and replaced three emergency communication towers.

The State of Colorado and Theresa Montano, OIT's Technology Accessibility Coordinator and Solution Architect, were honored at the Blind Institute of Technology's annual Gala for her work to improve technology accessibility for the blind and visually impaired (BVI) community.

Completed processing statewide enterprise GIS data sets for land ownership and address points.

The Learning & Development program was improved with more offerings and a focus on achieving strategic results tied directly to job requirements.

OIT achieved a 72% overall employee engagement score and had 77% participation in the 2017 Statewide Employee Engagement Survey.

# WIG #5
## Advancing a Culture of Employee Support and Collaboration

Talent Acquisition processes were improved by 20%, decreasing time to fill to meet our critical business needs.

Heard directly from employees through strategy sessions and focus groups, with the mindset of developing initiatives that provide employees the support they need to be successful.

28% of OIT employees joined the OIT+ Community within the first three months from launch, and participation continued to steadily increase.

# ACCOMPLISHMENTS FROM FY18

Many of OIT's projects and initiatives span several years and build upon past achievements. Thus, even as we look forward to the next fiscal year, it's important to look back at some of the many accomplishments attained by OIT in FY18!

# ADDITIONAL KEY ACCOMPLISHMENTS

The Governor's Office of Information Technology engages in many projects and activities in its pursuit of continually improving the IT support and services it provides to state employees as well as the applications that enable Coloradans to do business with the state. The following are just a few examples that highlight our work over FY18.

## Improving the Customer Experience

### Colorado Benefits Management System (CBMS) Transformation Project

OIT laid the groundwork through months of planning, analysis, development and testing to prepare for the CBMS Transformation Project. This impressive, three-phased project will modernize the 15-year-old system by moving it from locally maintained servers to Amazon Web Services, a secure, cloud-based platform, and making significant enhancements to make the system easier to use. When complete in FY19, the result will be a modern, scaleable, robust and reliable system that will enable OIT to be more responsive to county and client needs. Colorado is leading the nation in the adoption of cloud services for integrated eligibility and enrollment systems. It is worth noting that this team also completed an amazing 261 projects totaling 167,151 hours of work to enhance and maintain CBMS.
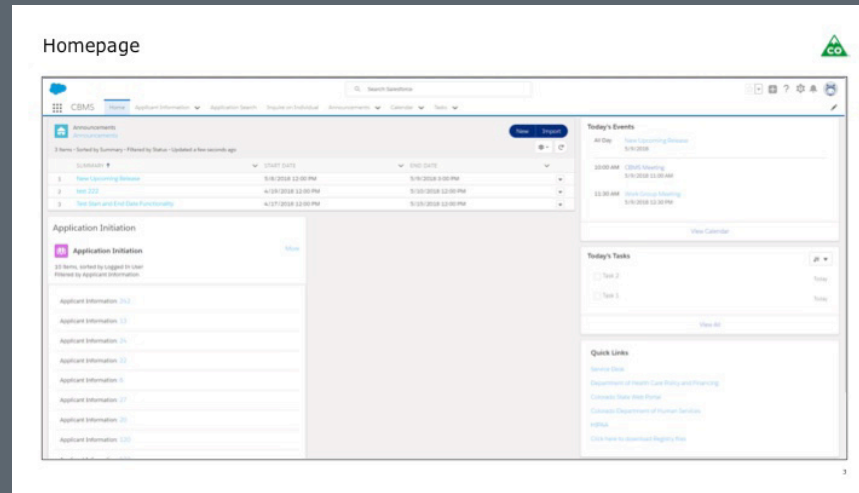
### MyBizColorado

Multiple state agencies, including OIT, worked together to create a new website called MyBizColorado in June 2018. This mobile-accessible site is a one-stop-shop designed to make it easier for Colorado's budding business owners to do things like apply for sales tax and professional licenses.

### Accessibility

OIT hired the state's first ever Technology Accessibility Coordinator and Solution Architect to improve technology accessibility for the blind and visually impaired (BVI) community, and ensure all applications are developed with a mobile accessibility requirement.

## Exploring Emerging Technologies to Improve State Government

To provide the best possible customer experience for Coloradans interacting with their state government, OIT embarked on several digital transformation efforts in FY18, and which will continue into FY19, including:

- Taking advantage of research to, among other things, enable the deployment of cutting-edge information security technologies to outpace emerging threats. The passage of SB 18-086 is also instrumental in our pursuit to improve security in the state. We are exploring the costs of blockchain technology and how it might be used to help protect the vast amount of data entrusted to us, solve digital identity-related problems, and to ensure the integrity of distributed security workloads. We are identifying potential use cases and initial pilot opportunities to leverage this emerging technology, and have included a requirement within our project governance process to investigate potential uses for blockchain as significant projects are introduced.
- Creating myColorado, a mobile application to provide a seamless user interaction with state agencies. The goal of this app is to improve online transactions by meeting customers anywhere and at any time through the user's smartphone. As a one-stop shop, myColorado will also reduce the need for people to create multiple accounts and enter the same information multiple times to access common state-provided services. myColorado is expected to be available in FY19 with the first offering the ability to renew driver licenses and/or motor vehicle registrations.
- Exploring artificial intelligence and machine learning to respond to inquiries via chatbot technology. We will begin testing this with our Service Desk in FY19.
- Creating a Smart Directory with enhanced search results and customized experience by standardizing and indexing the state's online footprint.

## Modernizing Applications to Help Agencies Be More Efficient

### DeCORuM

In collaboration with the Department of Corrections (DOC) and an application software vendor, OIT continues it work on a multi-year, multi-phased project called DeCORuM to create a single, web-based electronic Offender Management Information System (eOMIS) that will more efficiently manage the state's prison population. During FY18, the team continued to improve Electronic Health Records (Phase I) by developing a new pharmacy application to replace the legacy pharmacy application. In addition, behavioral health audit requirements were implemented and development of behavioral health audit reports continues into FY19.

Work on Phase II - Offender Management also continues to move forward. The first release is under development and quality assurance testing. Work was adapted to include common functionality between the offender management and parole entities. Phase II is the core functionality of the project, and will eventually result in usage by approximately 8,000 DOC and private prison employees.

### Colorado DRIVES

OIT worked on the final leg of the multi-year, two-phased project to replace the state's aging Driver License System (DLS) and Colorado State Title and Registration System (CSTARS) with one, integrated modern system called DRIVES for the

the Governor's goal of reducing wait times in state driver license offices to an average of 15 minutes. To assist the driver license offices user community, an Operations Support Center (OSC) was formed to provide temporary telephone support as they transitioned to the new system.



Division of Motor Vehicles (DMV). Phase One work was completed in FY17, which brought to life the new web-based Driver License component to more than 58 state and county DMV offices, and the eServices platform was expanded to enable the public to transact a greater variety of services online. OIT then went to work with the vendor partner to convert the title and registration process over to DRIVES with a go-live date of August 2018. With the completion of this major project, Coloradans now have an online web portal that allows them to pre-fill applications and be informed about the correct documentation they will need to bring to the DMV. Prior to DRIVES, the general public had access to just three online services. With the portal, there are now 17 transactions that can be conducted online, allowing customers to skip a visit to an office. This project is considered a cornerstone piece towards improving customer service and meeting

Roadshows were arranged by the Department of Revenue to bring DRIVES to all county stakeholders; the training team (which included OIT) traveled more than 8,635 miles to visit 96 county offices and deliver 150 roadshows to more than 1,288 county employees.

### Unemployment Insurance Application Modernization

OIT is working with the Division of Unemployment Insurance on a multi-year modernization of its core technology systems - Colorado Unemployment Benefits System (CUBS) and Colorado Automated Tax System (CATS). In 2018, these systems were migrated from the mainframe to a more modern infrastructure. The project team is now focused on modernizing the claimant system within CUBS, which is currently scheduled to go live in early 2020.

### IPAWS

The Integrated Parks and Wildlife Systems (IPAWS) was delivered on Jan. 1, 2018, combining the licensing and park pass functionality into one system. This one-stop shop enables outdoor recreationists to purchase CPW products such as hunting and fishing licenses along with arranging campsites, and securing park passes, all in one transaction. This new purchasing system has also streamlined processes for Parks and Wildlife employees.

### Laboratory Information System (LIMS)

OIT worked with the Colorado Department of Public Health and Environment to replace its agency Laboratory Information Tracking System (LITS) with a modern, customized off-the-shelf application. The new system - the Laboratory Information System (LIMS) - is CDPHE's repository for processing crime lab information, and includes the scheduling and tracking of case status, chain of custody, analytical results, and reporting. The labor-intensive nature of data entry in the old system resulted in a substantial amount of lost time and revenue to both CDPHE and its customers. With LIMS, CDPHE expects to see cost savings through improved consolidation of resources, better alignment with staff work expectations, and consolidation of current software systems. Significant operational efficiencies are also expected to be realized in the areas of quality improvement, quality assurance, and enhancement of services.

### Electronic Brand Inspections

Implemented in December 2017, Electronic Brand Inspections replaced the paper-based process used by the more than 60 brand inspectors in the Colorado Department of Agriculture (CDA) any time a transaction involving livestock or livestock crossing state lines occurred.

## Automating Internal Processes to Become More Efficient

### eForms

After a short 13-week engagement, our Financial Services team rolled out a new Purchase Request form for PCard holders and made updates to the existing Electronic Funding Request (eREQ), Travel Request, and Expense Reimbursement forms. The simplified forms were designed based on employee feedback to improve the overall user experience and process flow, and keystakeholders were engaged before

the conversion to ensure the forms were intuitive and user-friendly. Among the many benefits of the new forms is the ability to view and manager them from any internet connected device including mobile phones.

# PERFORMANCE MEASURES

In addition to the targets defined in the Playbook, OIT annually develops a more tactical and operational set of performance measures that are integral to the day-to-day service delivery management and connect with OIT's mission. This complete set of metrics is called the OIT Enterprise Scoreboard. This internal scoreboard provides an executive summary aligned to OIT's Wildly Important Goals (WIGs). In all, nearly 100 performance measures were managed and maintained for each of these performance-based areas[5].
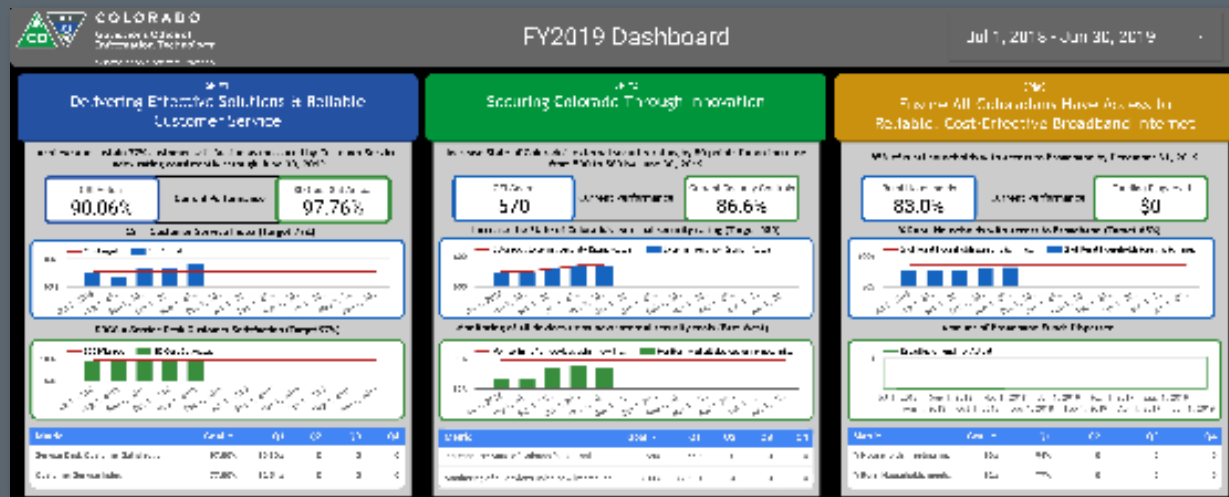


Produced monthly, the Scoreboard identifies trends, target metrics, and actual performance metrics. The Scoreboard has helped OIT achieve consistency of performance expectations against strategic priorities and has helped assure organizational alignment to our core objectives. In short, it tells us how we are doing and whether we are improving over time. In addition, the Scoreboard provides a foundation for data-driven decision-making and creates transparency and focus across the organization.

## OneView Dashboards

Just as OIT gathers metrics on our WIGs and operational goals, so do we gather data for each customer agency to provide them with a transparent snapshot of their IT projects and resources. These monthly dashboards help to ensure that we consistently deliver the IT services that align with our customers' highest business priorities.

[5] Examples include: Cost Savings and Avoidance, Number of Days to Complete a Contract, Employee Attrition, Mean Time to Total Resolution, System Availability, Project Health, and Statewide Security Awareness Training.

# SECTION 3

## FINANCIAL REVIEW

OIT's Financial Services team oversees the financial activities of OIT. They also oversee all IT-related financial activities for the executive branch and assist with IT financial planning, budgeting, procurement, contracting, accounting, and reporting. Specific duties also include:

- Management of enterprise budget, accounting, procurement and contracting processes
- Capital investment planning, financial modeling and cost reduction/containment activities
- Administration of procurement and vendor services
- Maximizing IT spend across the state
- Consolidation of enterprise-level contracts and procurements
- Financial analysis and trending

### Cost Savings / Cost Avoidance

Consolidation and implementing newer technologies has afforded OIT the opportunity to attain substantial cost avoidance through such activities as renegotiation and/or consolidating enterprise agreements, consolidating and/or decommissioning hardware and software licenses, and moving to cloud-based services.

OIT's implementation of Google Apps for Government in 2012 continues to show a significant return on investment. In FY18, the use of Google's services for 2-Step Verification resulted in a cost avoidance of more than $2.6M and a projected recurring cost avoidance over the next four years.

Through our deliberate actions, OIT achieved $2 million in cost savings achieved by the reduction of redundant applications and an additional $8.9 million in cost avoidance in FY18. More than $79.3 million in cost savings/cost avoidance have been realized since FY10.

## Process Improvement

In FY18, our process improvement teams coordinated and collaborated with OIT's functional areas on more than 25 efforts, leading to cost avoidance of hundreds of thousands of dollars and hundreds of hours of FTE time given back to OIT employees for more effective and efficient work. The team coordinates with the Governor's Office of State Planning and Budget (OSPB) on process improvement programs and partners with executive branch agencies for alignment of continuous improvement across the state as well as aligns OIT's ongoing efforts of CMMI/DevOps/ITIL/Agile to a single business outcome. The table below represents the projects completed during fiscal year 2018.

| Fiscal Year | Process Improvement Initiatives | Functional Group | Estimated Annual Work Hours Avoidance | Estimated Annual Cost Avoidance |
|---|---|---|---|---|
| FY18 | Strategy & Business Operations Reorganization | CFO | 528.0 | $22,680.00 |
| FY18 | Electronic Fund Transfer | CFO | 50.4 | $21,000.00 |
| FY18 | Identity & Access Management | CTO | 204.0 | $7,650.00 |
| FY18 | Data Center Access | CTO | 96.0 | $1,800.00 |
| FY18 | UIM Expense Reporting | CTO | 510.0 | $27,096.00 |
| FY18 | Health Facilities Renewal Process | CTO | 129.6 | $2,430.00 |
| FY18 | Utilization/Missing Time Reporting | CTO | 849.6 | $25,212.00 |
| FY18 | Central GA-999 and automated GAP templates | CFO | 1,248.0 | $56,097.60 |
| FY18 | Uploading invoices for payment through Covendis | CFO | 120.0 | $3,775.50 |
| FY18 | Uploading invoices for payment through Verizon | CFO | 84.0 | $2,055.55 |
| FY18 | Converting vendors to EFT payments | CFO | TBD | $4,079.97 |
| FY18 | Perceptive Phase II Improvements | CFO | 3,000.0 | $51,974.50 |
| FY18 | Concept Paper Process Changes | CFO | 516.0 | $5,463.99 |
| FY18 | Risk & Compliance initial inbox measurement | CISO | 186.0 | $8,892.87 |
| FY18 | Totals | | 7,521.6 | $240,207.98 |

## Appropriation Structure

OIT operates mainly as an internal service organization, and as such, is almost 100 percent funded via re-appropriated funds, and bills 100 percent of its costs and activities to users in accordance with federal and state governmental accounting standards and guidelines. OIT calculates its services rates on an annual basis and bills its services to the state departments on a cost reimbursement basis.

## Oversight

OIT is audited annually by the Office of the State Auditor (OSA) and the U.S. Department of Health and Human Services, Division of Cost Allocation (DCA). The OSA audits OIT's financial transactions and controls as part of the state's annual financial statement audit. Additionally, OIT's billing methodology is audited every year by DCA to ensure that our rate setting methods are sound, that OIT is billing each department in accordance with set rates, and that federal funds are not being used to subsidize state general or cash funded programs. OIT is proud of the fact that we have had no major findings from this annual federal review!
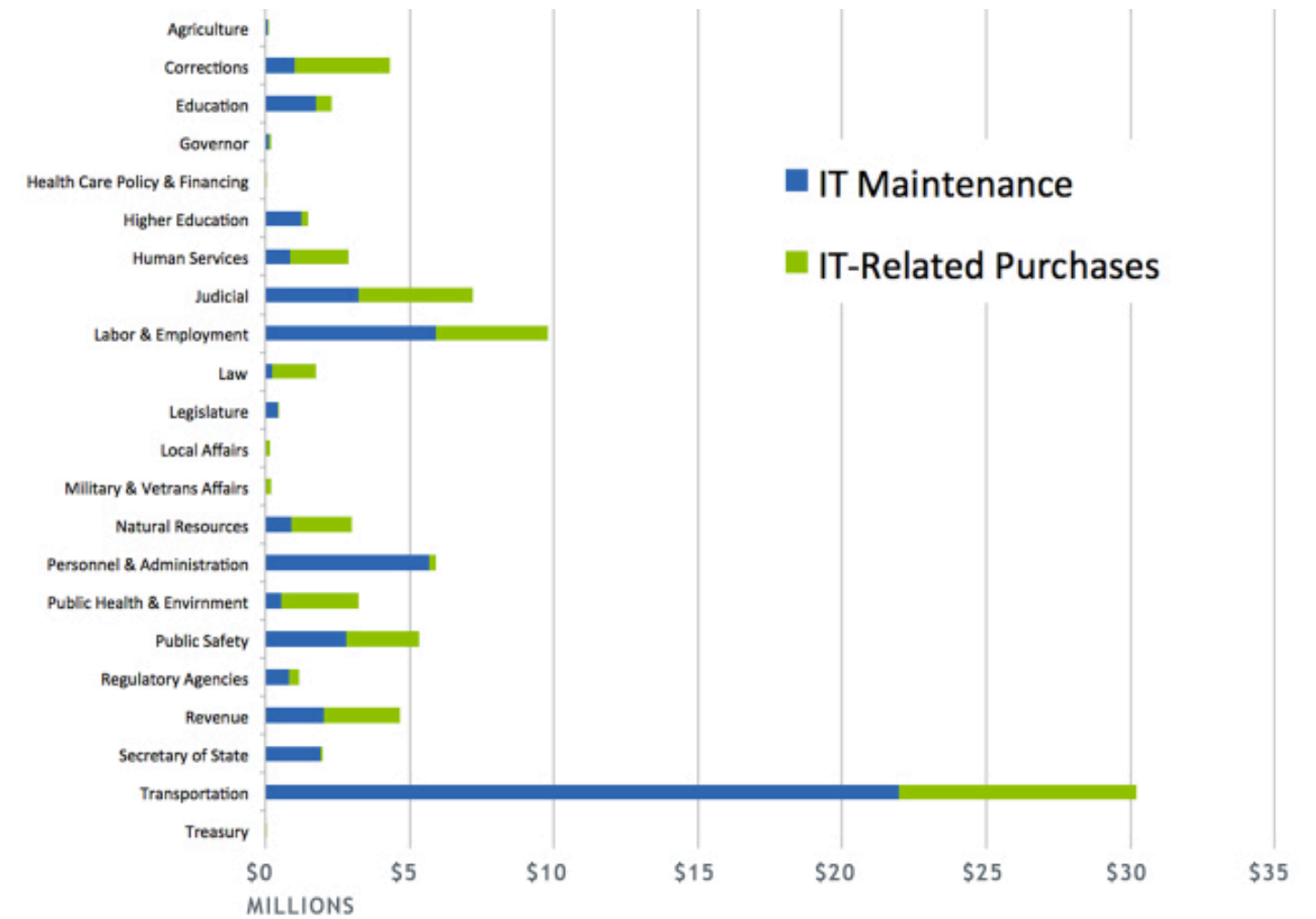
## IT Expenditures in Fiscal Year 2017-18

The total IT expenditures across executive branch agencies include costs that the agencies dedicate annually to OIT services (e.g., security, data center, network connectivity, long distance, etc.) as well as additional and significant costs associated with hardware, software (including lease costs, purchases, maintenance, support and licensing) and IT professional contractor services.

The following table summarizes the FY18 IT expenditures by agency.

| AGENCY | STATE FTE PERSONAL SERVICES | CONTRACTED IT SERVICES | OPERATING | TOTAL FY18 SPEND |
|---|---|---|---|---|
| Agriculture | | $77,630 | $293,728 | $371,358 |
| Corrections | | $239,430 | $9,836,909 | $10,076,339 |
| Education | | $79,536 | $2,890,907 | $2,970,442 |
| Governor | | $0 | $346,144 | $346,144 |
| Health Care Policy & Financing | | $0 | $158,372 | $158,372 |
| Higher Education | | $13,123 | $1,590,146 | $1,603,269 |
| Human Services | | $4,206,189 | $10,024,417 | $14,230,606 |
| Judicial | | $4,019,682 | $16,746,239 | $20,765,921 |
| Labor & Employment | | $3,253,149 | $9,448,083 | $12,701,232 |
| Law | | $477,527 | $2,996,190 | $3,473,717 |
| Legislature | | $0 | $797,539 | $797,539 |
| Local Affairs | | $58,612 | $226,972 | $285,584 |
| Military & Veterans Affairs | | $0 | $233,606 | $233,606 |
| Natural Resources | | $379,238 | $4,242,108 | $4,621,346 |
| Personnel & Administration | | $1,030,918 | $6,040,827 | $7,071,745 |
| Public Health & Environment | | $2,208,067 | $4,102,484 | $6,310,551 |
| Public Safety | | $1,068,086 | $9,012,331 | $10,080,417 |
| Regulatory Agencies | | $73,250 | $1,477,035 | $1,550,285 |
| Revenue | | $166,094 | $6,127,316 | $6,293,411 |
| Secretary of State | | $1,663,321 | $3,310,606 | $4,973,927 |
| Transportation | | $4,046,966 | $13,645,087 | $17,692,053 |
| Treasury | | $0 | $329,524 | $329,524 |
| **Total (without OIT)** | | $23,060,818 | $103,876,570 | $126,937,387 |
| | | | | |
| Office of Information Technology | $102,034,823 | $62,405,741 | $161,659,814 | $326,100,378 |
| **Total IT Expenditures** | $102,034,823 | $85,466,559 | $265,536,384 | $453,037,765 |
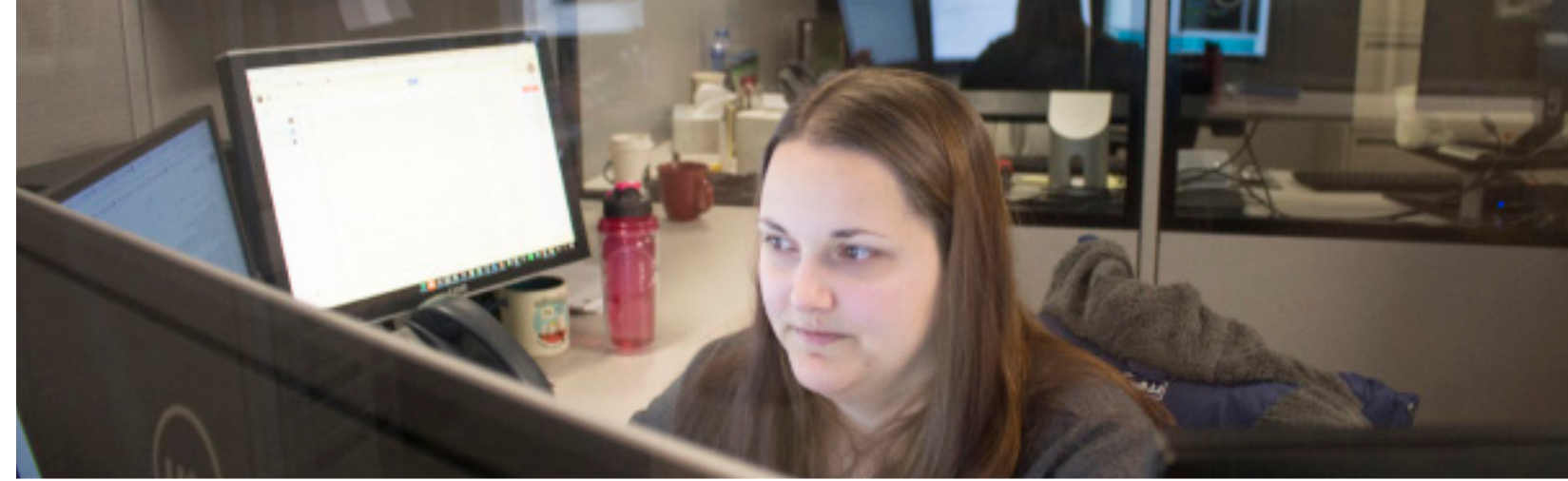
# SECTION 4

## IT ECONOMIC DEVELOPMENT

*Through private and public partnerships, Colorado will be recognized as a nucleus for innovation, technology, and economic growth -- the "Silicon Mountain of the IT Community."*

In 2011, the state CIO took on the added responsibility of Secretary of Technology. This dual-role was created to provide specific industry focus on attracting, growing, and retaining information technology jobs and businesses in Colorado in addition to overseeing all information technology services for the state. This move recognized the importance and strategic prominence that the technology industry has to the state's economic future.

The Secretary of Technology is charged with driving IT economic development for the state by promoting Colorado as a headquarters location for technology companies, attracting technology companies to relocate/expand here, and foster relationships with technology companies already in Colorado to strengthen their commitment to our state. In close collaboration with the Office of Economic Development & International Trade (OEDIT), our commitment to job creation helped contribute to 5,664 net new IT jobs being added to Colorado in FY18; bringing the total number of IT jobs in Colorado to approximately 118,600.

Other FY18 outreach activities included:
- Partnering with OEDIT to lead an IT economic development trip to India with Governor Hickenlooper, focusing on innovation, technology and cybersecurity. This was a wonderful opportunity to showcase Colorado as one of the fastest growing states in the nation, fueled by technology-related sectors. Our strong performance is attributed to various factors: a diverse economy, a hub for innovation and entrepreneurship, well-educated and skilled talent, a young and dynamic workforce, and a growing population.
- Partnering with the Colorado Technology Association (CTA) in the Colorado Tech Tour, which has expanded from one week of travel around the state annually to a year-round program of outreach in the tech sector.
- Continued partnership and participation  with local schools, universities, and nonprofit programs centered around building tech talent and internship career opportunities in the technology industry such as CareerWise.
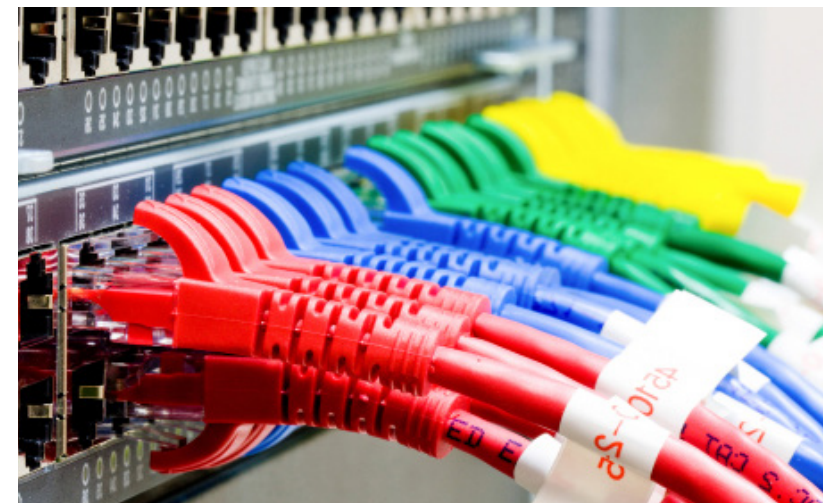


Clara Woodmansee, Ramona Gomoll, and Jonita LeRoy at a CareerWise event earlier this June

## FirstNet

The Colorado Public Safety Broadband Governing Body team successfully completed the evaluation of the opt-in/opt-out alternatives with the Colorado Public Safety Broadband Governing Body in December 2017 making a unanimous recommendation to the Governor to opt-in. Since then, the team has transitioned to working with FirstNet and AT&T to monitor and provide feedback on the operational rollout. In addition, we have established a Public Safety Technology Program focused on assisting the state's first responders adapt to and implement the plethora of new technology being made available to them.

## Broadband

The Colorado Broadband Office (CBO) was created to ensure Colorado's digital communications infrastructure and capabilities allow the state to compete in the global economy and make certain all Coloradans can participate in the digital age, regardless of zip code. Our overarching objective is to drive the development of communications infrastructure to enable broadband services not only for Colorado's residents, but for public safety and critical communications needs. Our strategy is based on coordination between state agencies, collaboration with local and regional stakeholders, and innovative public-private partnership solutions. The CBO has specific programs addressing rural availability, educational connectivity, and public safety and critical communications integration. Through these programs, the CBO team has been able to help communities create new jobs and attract new industries, expand markets for new and existing businesses, enable Coloradans better access to educational opportunities and resources, facilitate the delivery of health care services, and help protect Coloradans. While the CBO has ownership for the statewide strategy and key initiatives, the Department of Local Affairs (DOLA), the Office of Economic Development and International Trade (OEDIT), the Department of Regulatory Agencies (DORA), and the Colorado Department of Transportation (CDOT) along with other agencies play key roles in the effort to achieve the overall statewide objectives through a combination of funding, human resources, and complementary initiatives.



Our Broadband Development Program focuses on residential availability as well as institutional connectivity, with the overarching goal of universal broadband access by 2020. The state has seen rural broadband availability increase from 59 percent to 83 percent in the past three years. Other accomplishments include 98 percent of all school districts achieving the current FCC connectivity standards[6] and supporting the passage of legislation in 2018 to provide approximately $115 million over five years to fund rural broadband expansion without introducing new taxes or fees to consumers.

Our Critical Communications Program focuses on developing a statewide approach and developing solutions to the convergence of public communications and utility systems. The communications needs of key institutions (i.e., transportation, education, health care, public safety) are being transformed and converging at the same time. Systems that were once siloed and independent are becoming interdependent. The goal of this initiative is to ensure the state has a plan for the necessary infrastructure and system integration to ensure the continued growth of the state.

[6] FCC E-rate Modernization Order Summary lists short term bandwidth targets for schools as 100 Mbps per 1,000 students: https://www.fcc.gov/general/summary-e-rate-modernization-order

# SECTION 5

Awards & Recognition

**State CIO Office Special Recognition**
*Strategy of Success: Playbook & Five-Year IT Plans*

**Broadband Leadership award from Mountain Connect**
*Tony Neal-Graves, Executive Director - Broadband Program*

**Ping Identity 2018 Identity Excellence Awards - Better Together**
*Honorable Mention - State of Colorado and ID DataWeb*

David McCurdy,
Chief Technology Officer
*GoldenGov: State Executive of the Year*

Jerrod Roth,
Program Manager
*State Up & Comer*

Deanna Towne,
IT Director Supporting HCPF & CDHS
*State Up & Comer*

Alfritch Anderson,
Senior Manager - Security Operations
*State Cybersecurity Leader*

Colorado DRIVES
*State IT Innovation of the Year*

# SECTION 6

## SUMMARY

OIT continues to strengthen and build upon its' solid foundation year over year. When it comes to people, this is dramatically evident in our increased customer satisfaction and employee engagement scores, When it comes to our infrastructure, you see it in things like the reduced number of redundant applications, increased security controls and a new strategic direction on service delivery with a customer centric approach.

Because of the steadfast work, we are well positioned to explore and start taking advantage of innovative technologies. Indeed, over the course of FY18, we have been working on a technology transformation that is looking at using Chatbots to help our Service Desk support our customers, making the final push to transition away from the mainframe, and building out clouds for Infrastructure as a Service. Our teams have also been developing myColorado, a mobile app designed to provide a seamless and accessible customer experience for those accessing state services. myColorado will enable users to provide feedback as well as for state agencies to push notifications to account holders. We are very excited and proud of this app, which we anticipate to be released in 2019.

# APPENDIX A - OUR LEADERSHIP

### Brenda Berlin
Chief Financial Officer & Deputy CIO

### William Schoeppner
Deputy Chief Strategy Officer

### Laura Calder
Deputy Chief Financial Officer

- Budget
- Asset Management
- Business Operations
- Contracts
- Finance
- Legislative Affairs
- Payroll
- Performance Management
- Process Improvement & Transformation
- Procurement
- Strategy
- Vendor Services

### Anthony Neal-Graves
Executive Director
Colorado Broadband Office

- Broadband Strategy
- E-Rate

### Suma Nallapati
Secretary of Technology & Chief Information Officer

### William Chumley
Chief Customer Officer

### Dannette Matthis
Deputy Chief Customer Officer

### Ramona Gomoll
Chief People Officer

- Agency IT Directors
- Business Relationships
- Human Resources
- IT EcoSystem & Customer Service Portal
- Major Incident/Change Management
- Project Management & Business Portfolio
- Service Desk

### Deborah Blyth
Chief Information Security Officer

- Office of Information Security
- Risk & Compliance
- Security Governance
- Security Architecture Planning & Review

### David McCurdy
Chief Technology Officer

### Dan Santangelo
Deputy CTO & Chief Operating Officer

### Jonathan Gottsegen
Chief Data Officer

- Agency (Business) Applications & Service/Development & Support
- CBMS
- Chief Data Office
- Data Centers
- Database Services
- Deskside Support & Services
- Digital Transformation
- Enterprise Applications & Services
- GIS
- Google Apps for Government
- Mainframe, System & Server Administration
- Network and Voice Services
- Public Safety Communications Network & DTRS
- Security Operations & Access Control

### Brandi Simmons
Chief Communications Officer & PIO

- Agency Communications
- Health IT Communications
- Internal Communications
- Digital Media
- IT Economic Development
- Marketing & Branding
- Media Relations

# APPENDIX B –
## THE 4 DISCIPLINES OF EXECUTION®

The four disciplines, which specifically target the routine and behavioral changes necessary to drive organizational improvement, are:

### Discipline of Focus: Wildly Important Goals (WIGs)

Focus on the major areas where change can make the largest impact

Lag measures let you know if you've achieved the goal

Show the relationship: From [X] to [Y] by [when]

*Example:* Reduce weight from 150 to 140 pounds by 8/1/15

### Discipline of Leverage: Act on Lead Measures

Lead Measures are high-impact things the team must do to affect and reach the goal

Must be predictive and influenceable

*Example:* Go to the gym at least twice every week and consume a maximum of 2,000 calories per day

### Discipline of Engagement: Keep a Compelling Scoreboard

Provides a clear and widely visible display of progress

*Example:* Keep a diary that includes calories consumed per day, gym activities, and weight

### Discipline of Execution: Create a Cadence of Accountability

Holding each other accountable regularly and rhythmically through recurrent meetings

*Example:* Discuss weight loss activities with a trusted family member or friend who will provide honest and direct feedback

# APPENDIX C –
## FY18 PLAYBOOK INITIATIVE RESULTS

OIT selected sixteen enterprise initiatives to support the four FY18 WIGs, several of which span across one or more fiscal years. The following represents the status of the enterprise initiatives as of the end of the fiscal year.

### Mission-Critical Foundation

| INITIATIVE | STATUS |
|---|---|
| **HRWorks (Human Resource Information System)** <br> The Department of Personnel & Administration (DPA) and OIT are developing an enterprise Human Resource Information System (HRIS). The HRWorks project is a collaborative effort to consolidate approximately 80 disparate, outdated, and redundant systems into a modern, seamless solution that will eventually integrate with CORE, the state's financial system of record. Modules in the new HRIS will include central employee demographics repository, employee performance management, onboarding, payroll, and timekeeping. Development of the system is funded through a DPA FY16 Decision Item. | On Track |
| **Application Lifecycle Management** <br> Process and technology are being put in place to track all state-owned software applications from initial planning through retirement. This initiative was generated from the FY15 Eliminate Redundant Applications Decision Item. | On Track |
| **Identity Management** <br> Implementing an enterprise solution for Identity and Access Management that will provide secure access, authentication, authorization, and user account administration for all systems managed or supported by OIT. | On Track |
| **Database Monitoring** <br> Implementing a solution to monitor all state databases that will provide OIT proactive visibility into and analysis of database environments. To minimize cost, OIT is seeking to utilize existing tools to develop a solution; however, if existing tools do not meet functional needs, OIT will request FY19 funding. | At Risk |
| **Enterprise Wireless** <br> Implementing the Enterprise Wireless solution will make secure wireless internet accessible to employees, guests, and customers in state locations, providing them the ability to work efficiently and safely handle data. Providing this basic and expected business service directly responds to the needs of our customers. Funding for this project comes from the OIT FY16 Enterprise Wireless Decision Item that is billed back to the agencies based on FTE. | At Risk |

## Advancing Technology

| INITIATIVE | STATUS |
|---|---|
| **24x7 Service Desk**<br>The Service Desk provides 24/7 Major Incident Management (MIM) support to all agencies. Agencies can add after-hours support to their existing coverage. OIT offers the additional support as a contracted service through a third-party provider. OIT is exploring incorporating the offering into its standard suite of services. | Completed |
| **Advanced Security Analytics**<br>As part of our Secure Colorado strategy, OIT looks to improve security incident preparedness and intelligence with the use of a visualization tool. Visualization tools heighten an organization's ability to detect and respond to attempted cybersecurity attacks. This initiative is funded by an FY17 Decision Item. | On Track |
| **Citizen Portal**<br>OIT is leading an effort to create a mobile portal that will give Colorado's residents, visitors, and businesses seamless and interactive access to the services, information, resources, and support provided by state agencies at anytime, anywhere, and from any mobile device. | On Track |
| **Storage Software Maintenance**<br>OIT entered into an enterprise storage software Enterprise License Agreement (ELA) in December 2015, recognizing value in the following areas: annual maintenance covered for the software portions of our storage deployments, software mobility across storage platforms and new acquisitions, trade-in opportunity for legacy software, and reduced costs on new storage acquisition. OIT has carried the ELA through FY16 and FY17, and will include agencies in bill-back for FY18 and FY19. | Completed |
| **Endpoint Management**<br>Endpoint Management, through the Systems Center Configuration Manager (SCCM), allows administrators to manage large groups of Windows-based computer systems. The tool has been implemented in nine agencies and will be implemented for the remaining agencies (i.e., DPA, HC, OIT, GOV, DNR, CDPHE, DMVA, and DOR) during the course of FY18. | On Track |
| **Enterprise Content and Workflow Management**<br>To streamline process and eliminate overhead, OIT is evolving the state's ability to administer digital content throughout its lifecycle. Automation of workflows improves repeatable end-user experience and ease of tracking process improvements and operational metrics. | On Track |
| **Integration Services**<br>OIT will be deploying a standard technology service that will reduce cost and improve security and management for the reuse of data integrations and exchange of information between state systems. | On Track |
| **Network Monitoring**<br>Implementation of a network monitoring tool across all supported agencies to enable our teams to monitor and resolve faults, availability, and performance issues, as well as view performance and availability statistics for all monitored elements, among many other features. The initial deployment will monitor network segments and devices; it will later be configured to monitor servers and applications. | Completed |

## Next Generation Solutions

| INITIATIVE | STATUS |
|---|---|
| **eSignatures**<br>In March 2017, OIT promulgated a new rule (Rule 8 CCR-1501-9) to promote the development of secure electronic transactions for use in signing contracts, statements of work, and the like. OIT will be using this technology so that our new hires can electronically sign all required documentation. OIT is working with the agencies to determine their needs, as well as exploring various enterprise options and tools that provide for eSignature integration and workflow capability. There will be an emphasis on a solution that is out-of-box directly compatible/integrated with the major platforms supported by OIT, including Google, Salesforce and Workday, and that is mobile-friendly. | Completed |
| **Privilege Access Management (PAM)**<br>Data integrity is vitally important to any organization that depends on the accuracy and privacy of information. Therefore, managing the who, what, where, when, how and why regarding access to information technology cannot, nor should it be, underestimated. The implementation of Privilege Access Management (PAM) will make it harder for attackers to penetrate a network and obtain privileged account access and governs access to privileged accounts. | On Track |
| **Next Generation Colorado**<br>Developing the automation and operations to support quick service delivery, transparent cost modeling, scalability on-demand, high availability, and agility of workloads across the enterprise; recognizing data center modernization, operational management, and hybrid cloud solutions to span private and public IaaS models. | On Track |

# APPENDIX D - UPCOMING MAJOR MILESTONES

OIT embarked on or continued its work on several large initiatives that span across fiscal years. In FY19, we expect to reach major milestones on those projects including those on this page.

- Install FileOnQ system at the Colorado State Patrol Armory
- DNR/DOLA Network Infrastructure Phase II upgrade
- Major upgrade of the Colorado Auto Theft Prevention Authority (CATPA) License Plate Reader System
- Replace National Based Incident Report System (NIBRS)
- Automated onboarding and application access form for CDOT
- CDPHE Pilot Group for streamlining automated on and offboarding
- AgLicense - Phase III implementation
- Enterprise Wireless implementations
- Project Framework Continuous Process Improvements - project manager trainings
- Enterprise Service Desk - centralizing to a single email address for 11 of our customer agencies
- Glucometer (project closely related to BEHR)
- Automated onboarding for History Colorado
- Various end user equipment refreshes
- Office of Behavioral Health (OBH) PACS
- Unemployment Insurance Modernization - Phase I release
- Complete the History Colorado Community Museum Infrastructure Vendor Assessment
- Trails modernization release (largest to date)
- Implement Electronic Health Records for CDPHE
- CHATS modernization implementation
- Office of Behavioral Health (OBH) Licensing Database (Ladders)
- Firewall replacement for CDHS
- IT Service Management - Customer Service Portal
- Phone system replacement for DOR
- Division name change for CYF-DYS
- Server upgrades for the Business Utilization System (BUS)
- DRIVES Phase II implementation
- Workers' Compensation Modernization
- myColorado
- Office of Behavioral Health (OBH) eHR System (BEHR)

# FY18 Annual Report

Enriching the citizen experience at every digital touchpoint

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