

TEAMWORK
RESPECT
ACHIEVEMENT
INTEGRITY
LEADERSHIP
SERVICE

2016-2017 Annual Report





Doug Burgum, Governor of North Dakota



Shawn Riley, Chief Information Officer



Dan Sipes, Deputy CIO & Director of Operations

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The 2016-2017 Annual Report was produced by the North Dakota Information Technology Department (ITD).

It is a response to requirements outlined in [Chapter 54-59 Section 19](#) of the North Dakota Century Code.

This report provides an update on information technology progress made over the past year.

ITD's mission is to provide leadership and knowledge assisting customers in achieving their mission with the innovative use of information technology. Through our [Annual Customer Survey](#), our customers tell us how well we are achieving that mission.

94%

AGREE THAT ITD DELIVERS NEEDED SERVICES

93%

THINK ITD MEETS THEIR SERVICE EXPECTATIONS

95%

VIEW ITD AS A TRUSTED PARTNER

94%

BELIEVE ITD IS EASY TO DO BUSINESS WITH

92%

AGREED ITD IS ALIGNED WITH ITS MISSION

88%

BELIEVE ITD PROVIDES TECHNOLOGY DIRECTION

94%

ACKNOWLEDGE THAT ITD BUILDS STRONG RELATIONSHIPS

93%

SAY ITD PROVIDES A POSITIVE CUSTOMER EXPERIENCE

EXECUTIVE SUMMARY

Dan Sipes, Deputy CIO & Director of Operations



Dan Sipes, Deputy CIO & Director of Operations

Information Technology has become a foundational building block of providing government and education services to the citizens of North Dakota. We recognize that deploying IT solutions only creates value when those technology solutions align with and help support the mission of the government and education partners that we work with on a daily basis. All of the accomplishments you will read about in this report are the collaborative efforts of ITD and our partners in government, education and public safety, and we are grateful for the opportunity to assist them in achieving their mission.

Over the past year, we have worked closely with the public safety community on initiatives including FirstNet, coordination of a shared 911 call taking solution and partnering with the Statewide Interoperability Executive Committee on the evaluation of and progress towards a statewide interoperable radio network. The progress made in this space over the past year would not have happened without the collaboration of multiple state agencies and local public safety representatives towards a common vision.

Cybersecurity continues to be a primary focus for ITD, and we continue to make investments in our security infrastructure, policies and partnerships. Initiatives in this space include proactive identification and remediation of potential security vulnerabilities, increased adoption of multi-factor authentication for critical systems, implementation of next-generation endpoint protection, and raising state employee cybersecurity awareness through education and automated phishing testing.

ITD launched the State Website Platform, which leverages a single shared code base to provide efficiencies in creating new websites, adding new features, addressing security vulnerabilities and reducing ongoing operating costs for agencies using the platform. This platform utilizes our responsive design strategy, which allows websites to automatically adjust based on the screen size of a user's device.

We have been piloting cloud services from multiple vendors as part of our strategy to shift from a hybrid cloud posture focused on leveraging the existing environments in our data center, to a cloud first architecture that will be more focused on taking advantage of cloud technologies in the future.

ITD continues to partner with the education community by providing hosting and training for the PowerSchool student information system, which is used by all K-12 schools in North Dakota. The ETC and EduTech provide E-Rate consulting services, internet filtering, support for K-12 Office 365 and the K-12 Active Directory among other services to enable educators to better leverage technology in the classrooms. Our SLDS initiatives included a new ND Education Portal to provide services such as applying for scholarships, completing dual-credit applications in high school and sending high school transcripts via E-Transcripts.

While this report is a retrospective of the accomplishments over the past fiscal year (July 1st 2017 - June 30th 2017), we do not want to miss the opportunity to call out the IT transformation that is beginning with a new Governor and a new CIO.

In December 2016, Governor Doug Burgum took office as the 33rd governor of the Great State of North Dakota. In April of 2017, Governor Burgum appointed Shawn Riley as the state's new CIO. As we exit the fiscal year, three new pillars have emerged

to leverage the state's IT resources with the goal of providing world class information technology services. These are: Alignment of IT Services through building a unified shared IT service within the cabinet agencies, Operational Transformation of IT processes to achieve a higher level of efficiency, and identifying World Class Strategies that will enable the State of North Dakota to better serve and engage with the citizens and students of North Dakota. We look forward to being a part of this strategy as the state moves forward together.





STATEWIDE ALLIANCES

EDUCATIONAL TECHNOLOGY (EDUTECH)

EduTech provides innovative information technology services and educational technology professional learning to the North Dakota PK-12 community. Services are designed to give educators access, training, and support to use technology in their classrooms to improve teaching and student achievement statewide.

PowerSchool

PowerSchool is a web-based student information system designed specifically for PK-12 schools. It provides students and parents with the ability to access grades and attendance information, along with other features needed to provide efficient school management.

All public schools in North Dakota use PowerSchool, and the EduTech PowerSchool team provides training and support services to schools. The PowerSchool team also provides training, support, and data services for the State Longitudinal Data System (SLDS). SLDS is a data warehouse comprised of historical education and workforce training data. The objective of SLDS is to provide data on the outcomes of education and workforce training programs. The PowerSchool team hosts an annual PowerSchool Users Group for schools which is a valuable service to schools as it provides training and networking opportunities. Additionally, the PowerSchool team provides training and

support for North Dakota eTranscripts. eTranscripts is a subproject of the SLDS that allows students and counselors to send high school transcripts to North Dakota registered postsecondary institutions, members of the National Clearing House and to ND DPI for the State Scholarship.

This past year, several goals were achieved. The PowerSchool team developed a plan and began transitioning North Dakota school districts to the PowerTeacher Pro gradebook. The new upgrade allows teachers to access their gradebook from the web. As part of this transition, PowerSchool staff worked with many districts to update their reports using VisualPST software. Also, Clean Data is Good Data trainings continue to be developed and delivered to additional North Dakota school districts as they increase their utilization of the SLDS. Finally, another private school, Holy Family-St. Mary' of Grand Forks, underwent a PowerSchool implementation. These accomplishments help the state and educators better provide education to students.

Technical and Support Services

EduTech provides many statewide IT services to K12 schools and educational organizations to improve teaching, learning, student achievement, and productivity. In our Spring 2017 customer survey, the K12 community responded that:

- 99% view EduTech as a trusted partner
- 98% believe EduTech is easy to do business with

- 99% agree that EduTech is aligned to its mission
- 97% believe EduTech provides technology direction
- 97% acknowledge that EduTech builds strong relationships
- 99% say EduTech provides a positive customer experience

Services provided include

K12 Active Directory and Identity Management for 172,000 K12 teachers, students, and educational staff, centralizing usernames and passwords for a wide variety of services provided by the state.

Office 365, which provides email, calendar, and directory services; text-, video-, and audio-based chat; personal and collaborative file storage; group- and classroom-based communications and collaborations; and cloud-based services. We also leverage Office 365 to allow students and teachers to install Microsoft Office on their work and personal computers, which improves learning and productivity.

Office 365 Service Snapshot:

- 250,000 email messages daily
- 8,600 GB of content for collaboration and personal storage
- 19,000 installations of Microsoft Office (at no cost to the individual, school, or the state)
- More than 120 schools and educational organizations host their websites with EduTech

at no cost. We have taken the lead on assisting schools with meeting new regulations for Web accessibility in the Americans with Disabilities Act (ADA).

- ITD's networking and EduTech work together to deliver internet filtering services to ND K12 schools, ensuring compliance with the federal Children's Internet Protection Act. This ensures our state is eligible for E-Rate reimbursements that support the Statewide computer network and individual school telecommunications projects.
- EduTech operates a service desk specifically geared to K12 education and the needs of educators. The K12 service desk receives more than 12,000 customer requests annually via telephone, email, and self-service channels (not including self-service password requests). This service desk supports all the EduTech services, as well as services from our K12 partners, such as the North Dakota State Assessment, PowerSchool, Statewide Longitudinal Data System, and STAGEnet.

Professional Learning for Educators

EduTech provides professional learning and outreach services to North Dakota K12 educators through several capacities including face-to-face, online, and other mixed interaction formats that can involve a single school, a region, or the entire state. Our INSTEP program guides individual teachers in achieving

the next level of their educational technology capacity. Additionally, many rural schools utilize our Instructional Coaching service, offering a variety of both on-site and virtual support for teachers and administrators in the continuous improvement process. Contact hours for each educator that uses our services are tracked and graduate credit is processed on their behalf through North Dakota State University.

- One of our primary focuses is on improving teacher and student communication and collaboration using Office 365 and other educational technology services available to ND K12.
- EduTech offers many opportunities for students and educators to experience hands-on, STEM-based learning with Digital Making including activities that teach coding, building, and electronics on all levels from PK through 12th grade.
- Another important area of focus is in outreach services providing information and opportunities to schools via video and personally delivered content. Some examples include Classroom Video Enrichment experiences which offer students the ability to see a live knee surgery, Skype/video chat with experts, or meet and read with other students from across the state, nation and the globe.
- EduTech partners with many entities in conference delivery across the state, including North Dakota University System Security

Conference, ND DPI Fall Conference, North Dakota Association of Technology Leaders Spring/Fall conferences and many others.

- EduTech has maintained a partnership with the ND DPI to offer training, guidance, communication and support for the North Dakota State Assessment.

E-rate Consulting

EduTech's E-rate consulting service assists school administrators and libraries in completing their yearly applications for federal telecommunications discounts. The consulting service consists of face-to-face regional workshops for school districts and on-line support and consultations on a case-by-case basis for school administrators. It also includes E-rate filing assistance and troubleshooting to schools and informing school districts about new programs and rule changes. In Fiscal Year 2017, the E-rate program provided nearly \$10 million dollars to North Dakota schools and estimates indicate it will provide nearly \$10 million dollars in Fiscal Year 2018.

K12 Information Systems Security

EduTech's Security Analyst works as a liaison with the K12 Community and ITD's security staff to develop a stronger data and information security culture in our schools. EduTech provides Digital Citizenship online training, Cybersecurity Awareness websites and K12 related cybersecurity awareness printable resources,

weekly security awareness tips, vulnerability intervention, and on-site school visits.

During school visits, the K12 community was made aware of the security services available and had the opportunity to discuss current security management practices, security awareness training, and future IT goals.

HEALTH INFORMATION TECHNOLOGY

The North Dakota Health Information Technology Advisory Committee (HITAC), a public-private partnership of healthcare stakeholders, in collaboration with ITD, is charged with expanding the secure exchange of health information in the State of North Dakota. To meet this charge, the HITAC established the North Dakota Health Information Network (NDHIN).

The NDHIN connects providers, through a secure online network, to share electronic health records. The goal of the NDHIN is to connect to a national network to accommodate patients everywhere, regardless of their home state, with a goal of improving healthcare.

The NDHIN helps reduce patient intake time, minimizes test duplication and paperwork, provides access to the most recent health records updates, and cuts costs while increasing mobility. It also creates a roadmap of data for a more thorough understanding

of patients' conditions, allowing for up-to-the-minute decisions and faster diagnoses. At all times, the network ensures patient data is protected and confidential.

Current functionality of the NDHIN includes Direct Secure Messaging, known as Communicate, and query-based services. NDHIN Communicate, which utilizes a web based software and XDR messaging service, allows providers to send information amongst themselves through secure encrypted email. It allows providers to exchange unstructured documents, structured files, images, pictures, or anything else that can be attached to an email. Essentially, Communicate allows users to securely push protected health information from one provider to another provider.



Sheldon Wolf, Director of HIT

The NDHIN Clinical Portal, a robust exchange of health information, includes the capability to search for patient data to provide quality healthcare. Patient information available through the clinical portal includes: patient demographics, encounter history, allergies, diagnosis, lab results, procedures, imaging studies with links to the actual image, and other clinical documents.

At the end of June 2017, over 1,000 users were accessing query based services and, weekly, over 2,000 messages were sent through the NDHIN. Outlined in the chart below, provider logins to the query based system continue to grow month over month. Additionally, as the NDHIN and electronic health record systems mature, the amount of information being shared through XDR and web based systems continue to increase.

To minimize the number of places providers need to access information, clinical portal users may also query the North Dakota Immunization Information System (NDIIS) and the Prescription Drug Monitoring Program.

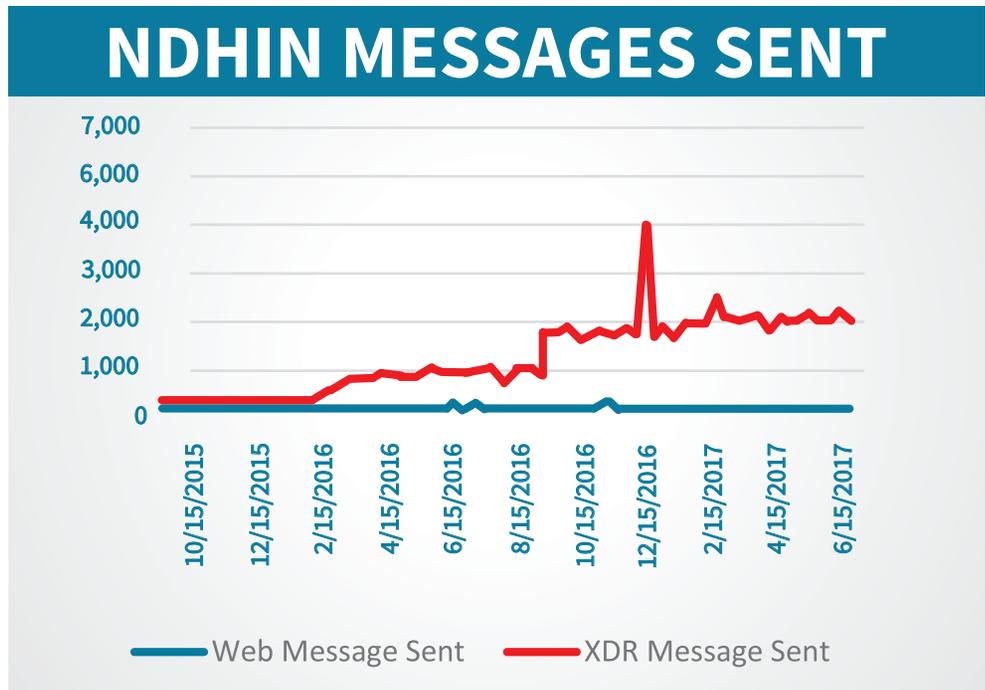
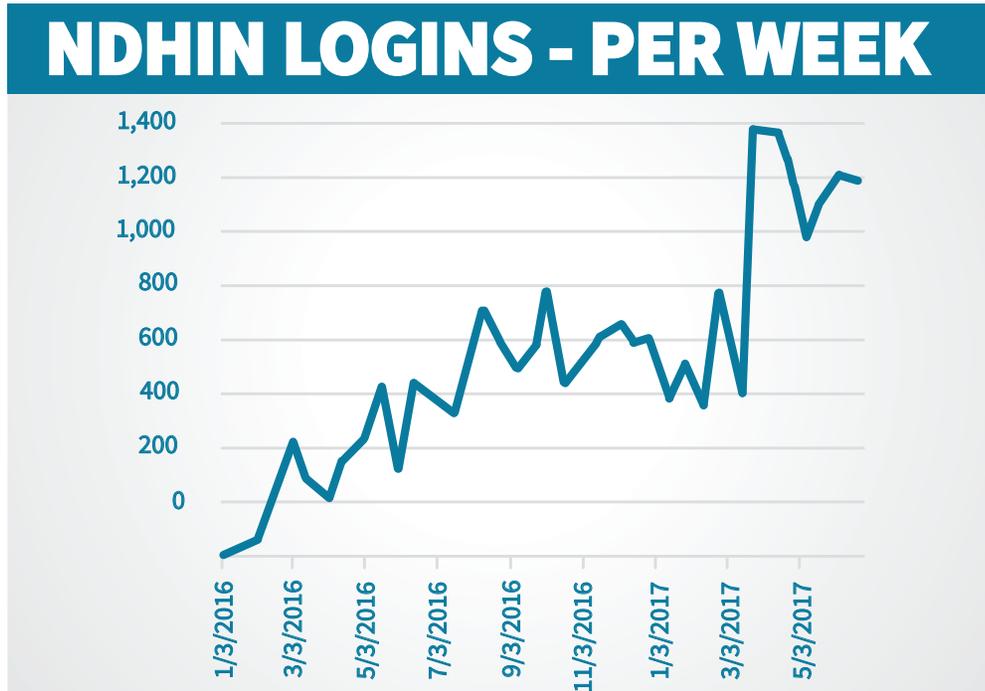
Another feature available includes subscription and notification services. This allows a provider that has a treating relationship with another provider to subscribe to a patient and receive notifications.

Future enhancements include adding medication information to the clinical portal, as well as

partnering with more diverse health care providers, including long-term care and behavioral health providers. Another major goal is expanding the image exchange to include more providers in the state, and creating a process to access patient information from other states and federal agencies. Additionally, a health care directive repository is being constructed and electronic lab test order and result bidirectional interfaces are being developed. The repository will allow other authorized users access to the advance directive stored in the repository (expected availability fall of 2017). The bidirectional interfaces will allow providers to order lab tests through their electronic health record and receive results directly back into their electronic health record, eliminating manual efforts.

The NDHIN is a statewide system that was initially funded with state and federal funds. Future funding will be through a public-private partnership of statewide stakeholders.

Additional information can be obtained at <http://www.ndhin.org>.



ENTERPRISE SERVICES

Gary Vetter, Director of Enterprise Services



Gary Vetter, Director of Enterprise Services

The Enterprise Services Division is responsible for coordinating ITD's people, processes, and technology in a way that promotes customer centric services. The division fosters customer relations, aligns ITD's services with customer expectations, coordinates enterprise initiatives, and assists state agencies with setting direction and maximizing the value of technology investments.

SERVICE DESK

ITD's Service Desk is the "Single Point of Contact" for providing customers with advice, guidance, and rapid restoration of services. ITD strives to be best in class and continues to ask for, listen to, and act on customer feedback to continually improve service. This past year included:

- 85,518 incidents
- 43,580 service requests
- 93,013 feedback opportunities; 4,761 respondents satisfied / 77 dissatisfied

HELP DESK MANAGEMENT

Although agencies provide unique services, they share commonalities when it comes to supporting customers and systems. Currently, ITD extends its support service to numerous IT and non-IT related government functions. During the past year:

- ITD partnered with Workforce Safety & Insurance to migrate their incidents, requests, and changes into the enterprise IT service management system.
- ITD began piloting a new method for requesting services in a simplified fashion.

ENTERPRISE COMMUNICATION

The Enterprise Communication Service provides agencies resources, trainings, and systems to help government advance citizen engagement across government. During the past year:

- The State Website Platform was launched to address security, cost, and usability issues with

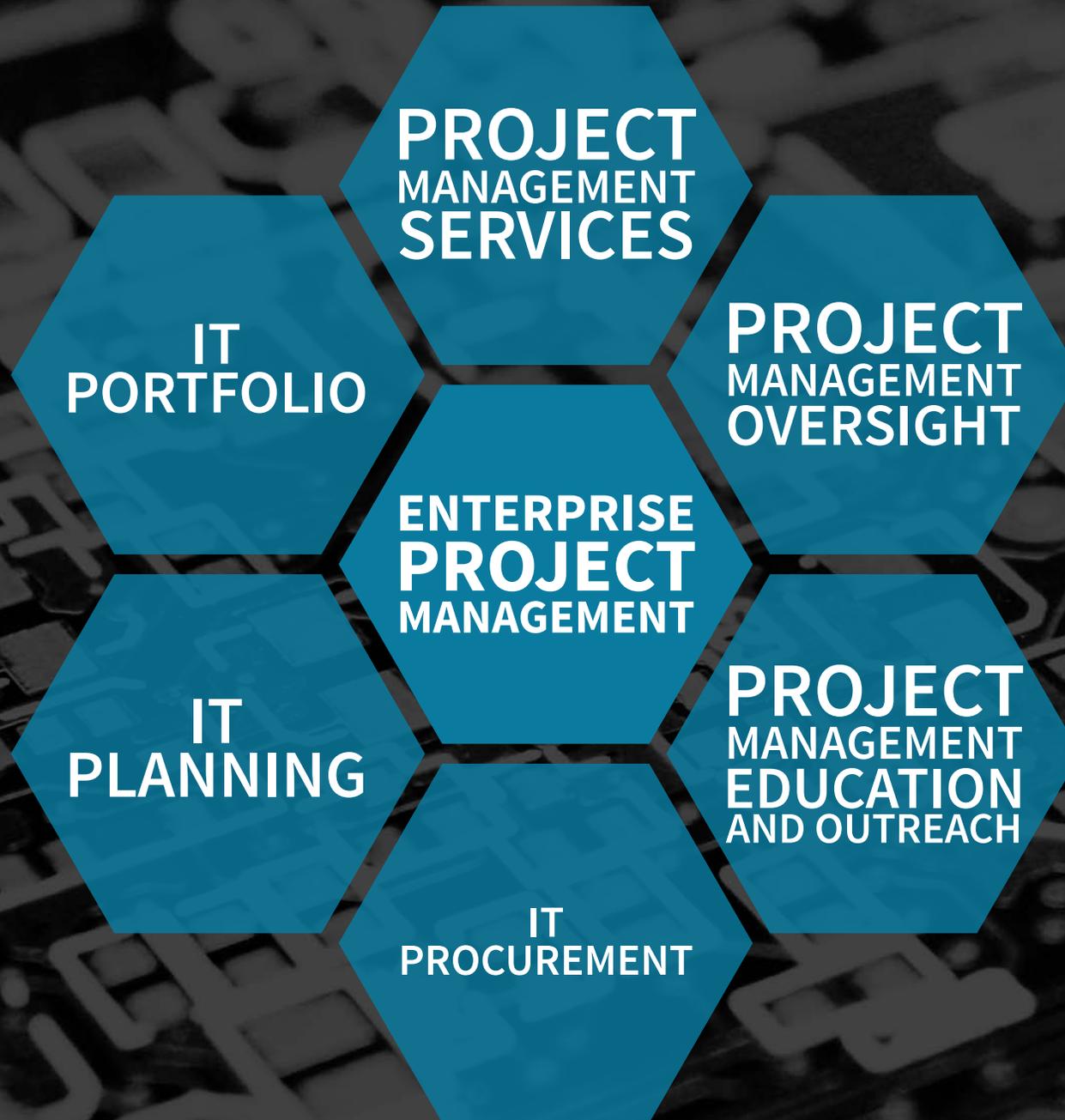
state's website footprint.

- Planning to replace the current State of North Dakota Portal began with ITD and several other agencies.
- An "ND Online" group was created on Yammer to encourage ongoing collaboration and knowledge sharing among the state's
- Three Social Media Users Group (SMUG) events were held, the largest of which included over 60 attendees to learn about the state's communication efforts during the Dakota Access Pipeline protests.

ENTERPRISE PROJECT MANAGEMENT OFFICE (EPMO)

The Enterprise Project Management Office (EPMO) is charged with optimizing the value and success of IT projects throughout state government. The EPMO seeks to achieve this in many ways, such as by providing guidance and setting standards, providing project oversight, and by providing project management, procurement, strategic planning, and other business services.

In 2016-2017, a year of economic downturn in North Dakota, the EPMO faced uncertainty about the possibility of new projects coming to fruition. Despite the downturn, 12 major IT projects with budgets over \$500,000 received funding for the 2017-2019 biennium.



The following are key accomplishments within the EPMO's domains for 2016-2017:

Project Management Services

- Managed 67 projects with a combined total budget of \$112 million.
- Completed thirty-five of those projects, with all but one finishing within the 20% threshold for both budget and schedule variance.
- Began drafting an Agile Project Management Practice Guide; with input from a staff member who earned their Project Management Institute (PMI) Agile-Certified Practitioner (ACP) designation.
- Began studying the viability of migrating project management SharePoint collaboration tool to a cloud-based platform.

Project Management Oversight

- Performed project oversight on 17 projects with a combined total budget of \$162 million.
- Completed five of those projects, with four finishing within the 20% threshold for both budget and schedule variance.
- Created new project status dashboards.

Project Management Education and Outreach

- Continued partnership with the Project Management Institute's (PMI) Minnesota chapter to provide educational experiences for the Bismarck-Mandan project management community.

IT Procurement

- Reviewed approximately 118 procurement documents within the five-day response time objective.
- Collaborated on procurement with agencies, per N.D.C.C. § 54-59-32, for 21 IT projects valued at \$500,000 or greater.

IT Planning

- Facilitated the ranking of 16 major IT projects (12 received funding by the 65th Legislative Assembly).
- Published the [2017-2019 Statewide Technology Plan](#).
- Began planning the work for ITD's 2017-2019 biennium strategic initiatives.

IT Portfolio

- Launched a new "Project Exploration Workbook" to gather expanded business case, financial, and IT architecture information for initiatives expected to exceed \$100,000.
- Provided 18 recommendations to agencies through IT project explorations.

ENTERPRISE ARCHITECTURE

Enterprise Architecture (EA) refers to the management of statewide IT standards and solutions. Through the EA development process, agencies collaborate to set the future direction of IT in the State of North Dakota.

The EA program's efforts resulted in two rescinded best practices, seven updated standards, nine requests for exemption, and the creation of one guidelines document. Several standards were updated as the result of improvements made to [ITD's service level agreements](#). Twenty surveys were used to gather feedback from EA participants and provide recommendations to the CIO.

APPLICATION BROKERING

Application Brokering involves the coordination and management of a subset of IT services required in support of systems hosted outside the state data center, and helps to ensure that the costs for core professional and infrastructure services are distributed equitably across all the state's line-of-business applications.

Twelve Requests for Exemption from Statutory IT Policy were processed. The requests represented twelve instances of agencies transitioning to Software as a Service (SaaS) or applications hosted in the cloud. ITD's cloud computing strategy has been a hybrid environment, which leveraged the existing on-premise environment when possible and selectively

utilized the external cloud when beneficial. The cloud strategy going forward will be cloud first, with the goal of establishing a cloud architecture that can enable any service.

GEOGRAPHIC INFORMATION SYSTEMS

ITD and the North Dakota Geographic Information Systems (GIS) Technical Committee operate the GIS Hub. The GIS Hub is an infrastructure comprised of geospatial data storage, data services, and application interfaces. It supports state agencies in the development of their GIS and the dissemination of common interest data to other levels of government and the public. During the past year:

- State agencies, cities, and counties worked together to develop and update GIS Hub data sets, including statewide and county aerial photography, state/federal lands, city boundaries, state/federal/city roads, mile markers, railroads, landmark data, fire districts, and surficial aquifers.
- The GIS Technical Committee organizes educational events, such as workshops, the ND GIS Users Conference, and on-site training. Since their inception in 2002, the classes have saved agencies over \$102,000 in training costs.
- The GISTC leveraged an open data platform to power the GIS Hub Data Portal, which is used for finding, browsing, and accessing GIS data.

CONNECTND

ConnectND is North Dakota's implementation of PeopleSoft applications across state government and the University System. The ConnectND portfolio includes web-based applications for Financial Supply Chain Management, Human Capital Management, Enterprise Learning Management, and Portal Management. ITD provides hosting, first tier support, technical development, patches/upgrades, and program management duties for ConnectND. The Office of Management and Budget's Fiscal and Human Resource Management Services divisions are the application owners and provide business/functional decisions and work effort. During the past year:

- Over 85,000 enrollments were made and 2,800 online classes were built within ConnectND. Over 3,353 jobs were posted and 46,979 applications were received.
- Over 5,900 performance documents were created.
- Completed State of North Dakota financial biennium closing, including data archival . North Dakota state and university financial data is posted on the [North Dakota Transparency site](#).
- ConnectND applications remained on Oracle's supported roadmap for products and toolsets, including yearly tax updates and applying federal changes.
- Hosting efforts included server updates and the deployment of enhanced application security products.

46,979
JOB APPLICATIONS WERE RECEIVED THROUGH CONNECTND

STATEWIDE LONGITUDINAL DATA SYSTEM

The Statewide Longitudinal Data System (SLDS) is a series of secured data warehouses comprised of historical education and workforce training data. The objectives of the SLDS are to provide data on the outcomes of ND education and workforce training programs; and to provide private, data-rich reporting environments for the contributors of data, such as K-12 schools, North Dakota University System (NDUS), and Job Service ND. During the past year, the SLDS team:

- Developed a new ND Education Portal and continued to expand on this 2nd generation interface and reporting environment. The portal provides a secured environment for students, parents, schools and colleges to provide services and interactive data-use and analytics, such as applying for scholarships, completing dual-credit applications in high school, and sending high school transcripts via eTranscripts.
- Performed several studies, including research into policy questions on student tuition waivers and nursing retention, college graduate retention in the state, and students at risk of drop-out or stop-out in college.

- Completed grant objectives of developing an education data warehouse for the ND University System and all ND public institutions comprised of applications, admissions, enrollment, waivers, test scores and student finance. The SLDS continues to modernize the NDUS reporting system by providing official reports, such as census and IPEDS reporting and continues to train NDUS staff on an interactive reporting system.
- Further integrated data among K12, postsecondary and workforce systems to provide and perform analysis on the outcomes of graduates and workforce training systems.
- Continued to provide tools and access to the SLDS for research and analytics, including the Microsoft BI Suite.
- Provided training for primary and secondary schools continued to build on data-driven decision making frameworks. The SLDS team is finishing the creation of data-use training modules in an electronic learning management system. Continuing Education credits may be earned by in-service teachers and the curriculum will be offered in all teaching colleges.

BUSINESS INTELLIGENCE & ANALYTICS

Business Intelligence & Analytics covers a broad range of applications, infrastructure, tools, technologies, and best practices. The results transform raw data, often from multiple sources, into historical, current, and predictive information. Providing access to an organization's information through tools, such as Cognos and the Microsoft BI Suite, creates strategic, tactical, and operational insights and enables data-driven decision making. During the past year, the BI team:

- Completed a data warehouse and data integration system including interactive reports and dashboards for the Department of Transportation Crash Reporting System and Project Performance.
- Implemented a new Cognos version, which includes dashboards and self-service BI components, and facilitated Cognos training for agencies.
- Expanded Department of Human Services enterprise data integration initiatives for analytics and federal reporting requirements. Programs include: Child Protective Services, National Youth in the Transition Database, Child Welfare, National Child Abuse, Neglect Data System, and Medicaid.
- Provided consulting and direction to agencies developing warehouse and analytic strategies within their organizations.

- Made progress in expanding the Office of Management Budget warehouse and Cognos reporting solutions.
- New data sources were added to the Master Data Management (MDM) system to uniquely identify users of DHS services. A more flexible search facility is also available. The MDM is preparing for an upgrade and expanded use.

22 STATE AGENCIES UTILIZED ENTERPRISE DOCUMENT MANAGEMENT SYSTEMS (EDMS)

ENTERPRISE DOCUMENT MANAGEMENT SYSTEMS

Enterprise Document Management Systems (EDMS) is a collection of technologies for imaging, document management, forms processing, report management, and workflow utilized by 22 state agencies/programs and 3,300 users. During the past year:

- IBM FileNet Content Navigator, ILINX Capture, and ILINX Email Import were upgraded.
- A document repository was created for the new DOT STARS Motor Vehicle application.
- ND Parks & Recreation and ND Highway Patrol began using EDMS.

BASIC CONTENT SERVICES (SHAREPOINT)

SharePoint is a group of products developed by Microsoft for collaboration, file sharing, and web publishing. During the past year:

- A central management tool was implemented for SharePoint Enterprise; reporting approximately 1,800 site collections with 858 users on the platform.
- Two SharePoint Online sites were piloted.
- Planning continued to migrate SharePoint Foundation sites before end-of-life to either the Enterprise or Online platforms.
- Planning began for an upgrade to SharePoint Enterprise 2016 in the next 12-18 months.

SOFTWARE DEVELOPMENT

Doran Eberle, Director of Software Development



Doran Eberle, Director of Software Development

The Software Development Division is committed to supporting the mission and vision of our customers. Over the past year, our efforts centered around new development projects and continued maintenance of existing applications. Security and mobility are a primary concern of our customers and influence most of their strategic decisions. In turn, this has been a driving force for us to focus on training and process improvements to our Software Development Lifecycle that align with proven agile development concepts, DevOps industry best practices, secure application design, and mobility. We have emphasized the added

value that business analysis and quality assurance bring to ensure large investments in IT projects fulfill business needs.

Going forward, we will focus efforts to support a rapidly changing environment that demands a quicker, more flexible approach to the delivery of technology solutions. We plan to make new investments in people and processes through training and automation. Our goal remains to be our customers' trusted business partner and application solution provider of choice.

WEBSITE PLATFORM

Over the past year, we focused on streamlining the implementation and support of our core Drupal web content management platform. These efforts have included migrating our base solution from Drupal 7 to Drupal 8 and changing our implementation approach to leverage a single, shared code base across all developed websites. These changes were fundamental in allowing us to create a consistent, repeatable build and deployment process for new and existing Drupal websites. The efficiencies gained through these changes will lessen the effort necessary to create new websites, reduce ongoing operational costs, streamline our ability to introduce new features and updates, and lower the overall complexity of the platform by minimizing unique implementations.

Additionally, the changes have improved the overall security posture of the platform by allowing for improved resource isolation between websites and

by establishing a quicker, more consistent patching process. To provide the most cost-effective website service possible, we also began to make headway in leveraging cloud based hosting services.

APPLICATION SECURITY

Application Security centers on protecting sensitive information from unauthorized access through software vulnerabilities. Securing data entrusted to ITD continues to be a primary focus for the division. During the past year, efforts were expended to discover, assess, and remediate security vulnerabilities that may exist within ITD hosted applications. The specific goal of completing high level vulnerability scans for ITD hosted applications is on target.

Department of Transportation

Construction Automated Records System (CARS)

Multiple enhancements were made to the Construction Automated Records System (CARS). These changes include the automation of construction certifications for project bid items and adding functionality to allow document signatures for approval processes.

Driver's License Online Services (DLOS) – Renew Online

A new service was added to the DLOS application,

which provides North Dakota drivers the ability to renew their driver's license online. This option is scheduled for implementation in the third quarter of 2017.

Co-sign Self-Registration

A new application was implemented that will allow a customer to electronically sign documents for DOT without going through the account registration process.

Federal-Aid Highway Annual Report (FHWA)

This new application will enable the DOT to collect employment data from the contractors working on federal funding programs of \$10,000 or more.

Game and Fish

The final phase of the Game and Fish Portal project was implemented in the fourth quarter of 2016. Using a mobile friendly "My Account" page, customers can easily access their personal information including: current licenses, lotteries they have entered, bonus point history for lotteries, and watercraft registration information.

Information Technology Department

Health Information Technology

An online application was developed to allow citizens to upload and maintain health directive documents,

which can be accessed by medical providers over the ND Health Information Network or directly from the application. Increasing the available of health directive documents is a key step in ensuring patients' desires are understood and followed.

Records Management

Phase two of the Records Management System (RMS), which automated the review process for record series information and records disposal certification, was implemented in the third quarter of 2016. In addition, the existing microfilm/microfiche mainframe application was rewritten and implemented as part of this application.

Department of Corrections

Crime Victim Services Management System (COSMOS)

The legacy system for managing Victims of Crimes Act (VOCA) and Crime Victims Account (CVA) grants was rewritten. The new system provides a more adaptable online solution for all phases of the grant management process. This application was put into production in early 2017.

North Dakota Legislative Council

The North Dakota Legislative Daily mobile application was enhanced and publicly released for the 2017 legislative session. The app provides a daily view of scheduled standing committee meetings, conference

committee meetings, and the chamber floor sessions, as well as access to bill status information and legislative documents. Users can also link the app to the Bill Tracking System and view their own personalized legislative schedules. During the interim, the app provides a monthly view of scheduled interim committee meetings.

Office of Management and Budget

Job Description Questionnaire (JDQ)

DOT's Employee Management System application was moved to OMB. The JDQ System app is used by HRMS and agencies for processing JDQs, reclassification requests, and delegated reclass requests. The JDQ System went live in November, 2016 and is accessed through the PeopleSoft Portal in the Employee Hub.

ConnectND

OMB and ITD continue to work together in supporting the enterprise resource planning (ERP) solution, ConnectND. Project highlights this past year include: application upgrades for Finance and HCM, implementation of the Time & Labor and Absence Management modules, Human Resources tax updates and ACA changes. Work has begun on the Supplier On-boarding project with an expected go-live in October.

Job Service of North Dakota

ETP (Eligible Training Provider)

The JSND Eligible Training Provider application was developed. The application establishes a mechanism for training providers to submit data for review and a process to gather other state's data through the Xerox WRIS hub. The application has the functionality to load relevant data into the state WDQI or SLDS applications for processing, along with a more automated performance calculation.

New Jobs

A new application was worked on that will allow employers to apply for New Jobs training program agreements with JSND. JSND, employers, grantors, and lenders will be able to manage and track the agreements through the application. New Jobs is scheduled for a late 2017 implementation.

Department of Public Instruction

The ND Foods application was enhanced to add new functionality and modernize the application workflow. This application handles claims and monetary reimbursements to sponsors and sites who participate in nutrition programs. The application also manages the distribution of food to schools and daycare centers. Using an agile software development approach, the majority of the project enhancements were completed over 1 year ahead of schedule.

Department of Human Services

MMIS HOPR/TMSIS

Support of the Department of Human Services (DHS) Medicaid Management Information System (MMIS) continued this year, with a successful completion and deployment of the following related enhancement projects:

- HIPAA Operating Rules (HOPR) implemented changes to the ND Health Enterprise MMIS, allowing DHS to comply with federal standards regarding the processing of HIPAA transactions.
- Transformed Medicaid Statistical Information System (T-MSIS) is an expansion of the existing Centers for Medicaid & Medicare (CMS) extract process. This expansion was mandated by the Affordable Care Act and now requires DHS to submit eight extracts to CMS monthly rather than the original five extracts quarterly.

Eligibility System Modernization (SPACES)

ITD Software Development continues to work with DHS and Deloitte Consulting on the replacement of the DHI's Eligibility Determination system. Release 1 of the SPACES application has been in production since February of 2016 and continues to be enhanced. Release 2 of the application, which adds eligibility determination for the SNAP, TANF, Child Care and LIHEAP programs, is scheduled to go live spring of 2018.

Electronic Health Records (EHR)

This project, which replaces two behavioral health electronic record systems is currently scheduled to go live summer of 2018.

WEBSITES

Over the past year, ITD has been involved with several agencies creating new agency websites as well as rewriting existing websites to update to the latest version of Drupal's web content management technology. These agencies include the North Dakota Attorney General, North Dakota Highway Patrol, and North Dakota Vision Services. This year's projects also included creating ITD's first cloud hosted website deployment with <http://www.ndresponse.gov/>.

BUSINESS ANALYSIS

Department of Agriculture

Business analysis of the Department of Agriculture was performed, and business process models were created that documented the current state of each process along with business rules, issues, cost factors and other data for each process. Observations and recommendations were provided at the end of the analysis that outlined short-term quick fixes and long-term process improvement perspectives.

QUALITY ASSURANCE

Department of Human Services

The quality assurance team continued to provide support for the preparation of user acceptance testing of R2 of the Eligibility System Modernization project. The support focused on test planning, test cases creation, and test execution preparation.

Performance Testing

Included in Software Development's quality assurance initiative is the performance testing of applications hosted in ITD's data center. Performance testing is the process of putting demand on an application or device and measuring its response. Several key performance indicators are evaluated and used to help remediate the application to perform under times of high usage.



COMPUTER SYSTEMS

L. Dean Glatt, Director of Computer Systems



L. Dean Glatt, Director of Computer Systems

The Computer Services Division is responsible for all on premise and cloud hosted software and hardware information systems for the executive branch, and for others outside of the executive branch that choose to host with ITD.

STANDARDIZATION

North Dakota has a centralized information technology approach for the executive branch, which includes computer hosting services and network services. This was legislatively mandated in 2003. As

part of the 2003 project, ITD worked with executive branch agencies to consolidate agency data center hardware and then consolidated the design of our systems internally. ITD's systems include storage, server systems, database systems and hosted applications such as email, security directories, and statewide K-12 PowerSchool.

The consolidation effort also allowed for significant and ongoing technology efficiencies and financial benefits. For example, a simple analysis of current database licensing shows that deconsolidation of the existing shared database infrastructure would require hundreds of thousands of dollars in database licensing alone. It now takes a team of only nine database analysts to support the nearly one thousand applications in government. Ongoing efforts to continually improve our database administration practices have helped to bring a high standard of reliability and dependability for these and other IT services.

The state's past efforts have placed us in an ideal position for the next wave of IT consolidation, moving private and state-owned data centers into cloud data centers.

ENTERPRISE ARCHITECTURES

Taking an enterprise perspective is tremendously valuable. Aggregating single agency needs within a larger IT architecture means that a new application does not necessarily require a stand-alone unique

physical server be brought online, a new web application does not duplicate security mechanisms, and standardized laptop and personal computers can be managed and purchased for greater efficiency. The state's current posture set us on a course to take advantage of cloud desktop-as-a-service design as well.

The world of IT security continues to be an ever-expanding challenge in today's environment. Consider the details of applying desktop, application, hosting and user security across multiple departments and three branches of state government. An enterprise design with shared service support allows a core group of experts to apply their knowledge across a broad base, which creates significant cost savings and consistent service delivery across the enterprise and provides deeper support for critical technologies and systems because there are more staff and support solutions available.

MULTI-TENANCY APPROACH

We not only provide IT services to the executive branch agencies, but also to the judicial and legislative branches, elected offices, higher education, K-12 school districts, and local governments. By requiring only one data center and using virtualized servers, our clients often gain a cost savings by sharing the same hardware and software. Many more services are shared by everyone and we act as the hosted service provider for 10,000 employees.

As an example, ITD played a role in offering the PowerSchool system to the K-12 school districts. North Dakota is the only state to offer its school districts a complete and centrally managed PowerSchool application. K-12 school districts previously suffered from a lack of technical staff, cost of stand-alone PowerSchool systems and licensing. We worked with school districts to create a consolidated offering and to act as the main partner with the application vendor.

TECHNOLOGY EVOLUTION

Today, consumers expect to connect to anything, anywhere, anytime. Building common technologies to support a mobile client base is complicated and can be expensive, but is necessary to meet the expectations of how North Dakota citizens expect to interact with government agencies and access the services these agencies provide.

We are excited to have our first applications residing in cloud systems and to leverage the cloud to meet growing demand and customer expectations. As we move to the cloud, it's important that new systems are architected to meet current and future needs. Backup and recovery, redundancy, high availability, data integrity, error handling, confidentiality, and security controls are all examples of what needs to be considered when making a hosting decision for a system. As we move to the cloud, we can leverage the cloud providers expertise and toolsets in these areas. This will enable us to focus more deeply on

service level delivery, security controls, application performance, and data and records management. As we migrate from a hybrid cloud strategy to a cloud first strategy, we are excited about what cloud computing has to offer, and to see how it can help makes the state's systems more secure and stable.

15,108,000

SPAM EMAILS
REMOVED BY FILTERS
(DAILY AVERAGE)

1,123

NETWORKED
PRINTERS

100,986

ACTIVE DIRECTORY
OBJECTS (15,799
COMPUTERS, 13,414
GROUPS, 71,773 USERS)

3.9

RAW PETABYTES
OF DISK SPACE

NETWORK SERVICES

Duane Schell, Director of Network Services



Duane Schell, Director of Network Services

The Network Services Division is responsible for the North Dakota Statewide Technology Access for Government and Education Network, known as STAGEnet. STAGEnet provides data, voice, and video services for state government, higher education, K12 education, political subdivisions, public safety entities, public health units, and libraries. North Dakota is one of the few states that have been able to implement a single state-wide network.

The success of STAGEnet is predicated on a strong

partnership among STAGEnet members and the vendor community that supports its efforts. The challenge for the division is to ensure that STAGEnet continues to meet or exceed the capacity, reliability, security, and evolving business requirements of a diverse customer base. The strength of the partnerships within the community provides a great deal of confidence this challenge can be overcome.

STAGENET

STAGEnet offers a variety of connectivity options, including traditional broadband, carrier ethernet, and dark fiber solutions. This variety of solutions allows the division to meet the business and technical needs of the diverse member community. This past year, the division had a strong focus on upgrading the layer 2 network components of the network. This project helps ensure the core infrastructure can scale to meet the growing needs of the community. In addition, remote network access technologies and infrastructure to support secure internet connectivity was upgraded to meet the growing demands of the community.

SAFETY AND SECURITY

The division continues to build upon safety and security by leveraging technology investments acquired in the past years, which strengthen, further segment, and solidify the infrastructure. Through these efforts, the network can respond to and mitigate millions of security events every month.

By embedding security technologies into the network and leveraging security best practices in both the designs and management practices, we provide a network environment that is safe and secure allowing members to conduct business with the confidence they are protected.

PUBLIC SAFETY COMMUNITY

We have partnered with the public safety community to support their mission for many years. This past year, the division was involved in three strategic initiatives, each of which provide the opportunity to significantly improve and alter how the community leverages technology.

The first initiative is ITD's participation in the education, outreach, and planning efforts for FirstNet. FirstNet is intended to be a nationwide wireless data network designed specifically to meet the unique and mission critical requirements of the public safety community. The past year, FirstNet issued an award to a vendor that will manage and operate the network. With the award being issued, North Dakota has received the draft state plan providing details of the network FirstNet intends to build for the state. As such, it will be incumbent on ITD and the public safety community to thoroughly evaluate the plan to ensure it meets the needs that were originally submitted to FirstNet.

The second initiative was the ITD's participation in the ongoing management of the shared 911 call taking solution. This past year, six additional public safety answering points (PSAPs) joined the shared solution bringing the total number of PSAPs on the solution to ten sites with two more locations committed to participate in the upcoming year. Another highlight was enablement of text to 911 across the State. Red River Regional Dispatch, who is not on the shared solution, was the first to go live with this capability and agreed to take all the text messaging statewide until the remaining PSAPs were able to support their own calls. This decision placed North Dakota as the sixth state in the country to offer this service in a statewide manner. Shortly after the initial go-live, the features were made available on the shared solution managed and calls were transferred accordingly. This project is a classic example of the partnership and collaboration that exists within the community to achieve business objectives by leveraging a strong network and network community.

The third initiative is the effort by ITD to partner with the Statewide Interoperability Executive Committee (SIEC) to determine the desirability and feasibility of pursuing a statewide, integrated, and interoperable radio communications network. The objectives of the project were to fully understand the current state of public safety radio communications statewide, research and review industry trends and technologies, thoroughly understand the mission critical business requirements across the various disciplines, and

determine a solution. The result of this effort culminated in a thoroughly documented study that was provided to policy makers within the community, as well as the North Dakota State Legislature and County and City Commissions across the state. The legislative assembly identified resources to begin the project and the division remains engaged as it continues to work in partnership with the community to execute upon the vision.

VOICE AND VIDEO TECHNOLOGIES

The division is responsible for providing and supporting voice and video communication technologies. Both technologies continue to be instrumental in facilitating communications both within government and education and with the constituents they serve. Our goal is to ensure a reliable environment that is feature rich, secure, and evolves with the business requirements and community expectations. The past year was focused on upgrading significant segments of the infrastructure, with special attention on upgrading the video recording capabilities. Additionally, we continue to focus on enhancing the mobile user experience and providing them with tools that improve and promote collaboration.

**INTERNET
AVAILABILITY:
99.997%**

**INTERNET
BANDWIDTH:
15 GB**

**VIDEO EVENTS:
42,105**

**CARRIER ETHERNET
CIRCUITS:
367**

**FIBER CIRCUITS:
260**

**BROADBAND
CIRCUITS:
279**

**IP ADDRESSES ISSUED DAILY:
260,000+**

**LONG DISTANCE
MINUTES:
8 MILLION**



HUMAN RESOURCES

Shelly Miller, Director of Human Resources



Shelly Miller, Director of Human Resources

We are living through a fundamental transformation in the way we work. Automation and machines that can think are commonplace in many sectors and are affecting the skills that organizations are looking for in their people. These changes raise huge organizational, talent, and HR challenges. Our state government is making significant changes as well, such as the Main Street initiative and IT unification. The move to a shared IT service model provides unique opportunities for HR to help maximize the contribution of state IT employees.

This is accomplished through investing in the People Perspective in ITD's Strategic Plan by providing guidance, support, and advice on the effective implementation of the strategy, policies, and procedures. Vital aspects of the People Perspective include workplace culture, employee recruitment, training, and leadership development.

With a mature and innovative human resources division, an organization's employees thrive, which means the organization and its customers can thrive. This is especially true for ITD, where the quality of services directly hinges on the knowledge and passion of our staff. Over the past year, we have made numerous advancements so we, as an organization, can retain high caliber employees and provide high quality services. Particular effort was exerted in the areas of recruitment, retention, training, leadership development, and employee relations.

RECRUITMENT

ITD has recruited for 32 positions to fill with 102 interviews. Many of the requisitions were due to internal promotions or retirements of long-term staff in addition to normal attrition. As the IT market continues to tighten and the local economy remains strong, we have to continually focus on our recruitment strategies. To such end, we have increased our utilization of radio advertising to attract passive job seekers.

RETENTION

There are many different ideas about the best ways to retain employees. ITD subscribes to a holistic approach to employee retention, understanding that retention relies on more than just compensation. Tangible and intangible benefits, recognition, challenging work, cultural improvement events, and a professional and friendly atmosphere are part of our broad employee retention strategy. To that end, ITD has developed a robust employee committee, which includes promoting numerous recognition programs and events paid for through employee donations.

TRAINING

More than most other fields, organizations in the IT field must continually train employees to ensure they have the skills needed to work with new and existing technologies. Thus, we put forth significant effort into training.

LEADERSHIP DEVELOPMENT

Developing a leadership program was one of the initiatives on ITD's 2015-2017 Strategic Plan, which has been successfully implemented. We want employees to see ITD as a place they can grow, build new skills, and advance their career. ITD has partnered with BSC on their Excellence through Leadership program for our employees. Our annual mentorship program, called AMPLIFY, is now starting its third year. It is designed to allow participants to grow personally and professionally, enhancing career

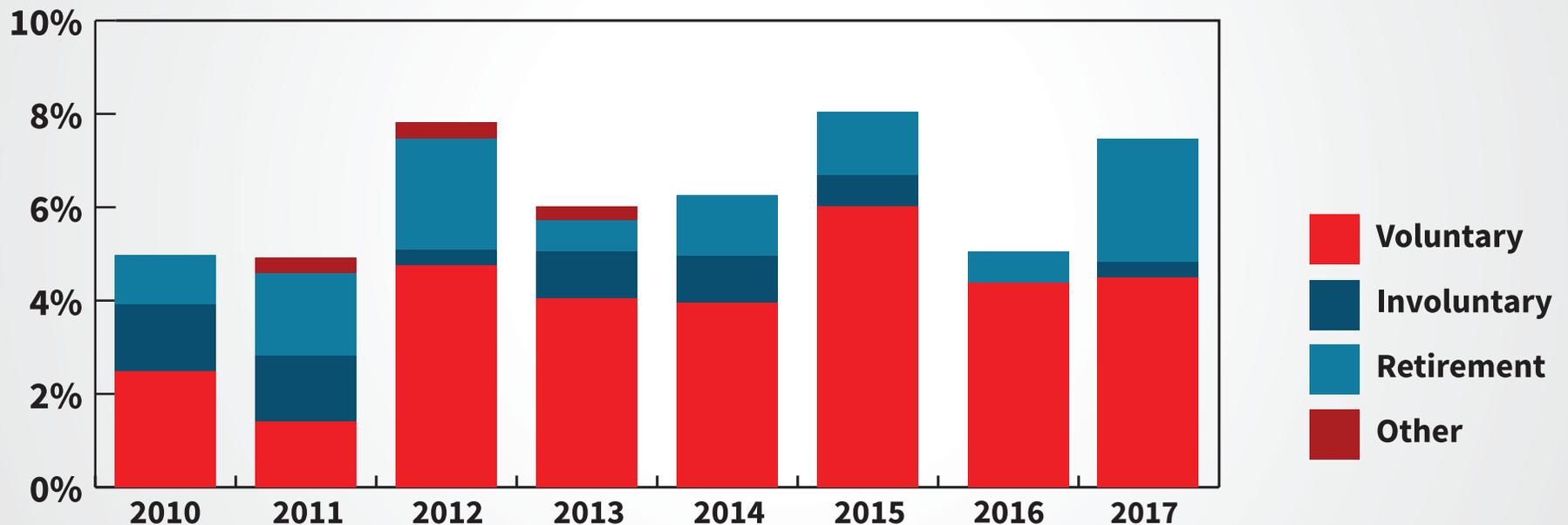
development by gaining knowledge and developing skills through their participation in the mentoring relationship. The program also encourages learning, collaboration, and knowledge sharing.

COMPENSATION & BENEFITS

With an ever-evolving IT field, remaining competitive with IT salaries is vital to securing a skilled workforce. As such, we conduct research into industry and local trends to make informed decisions when determining proper compensation and benefits packages. We analyze data from various sources, including the

salary information applicants share about their current jobs during the application process, the number of applicants that decline a job offer due to the salary, and salary survey data acquired by the state. To make accurate comparisons, we must have our job descriptions up to date. As of the writing of this report, we completed the project to update all ITD Job Description Questionnaires, which was a significant undertaking for all divisions.

ITD TURNOVER TRENDS



EMPLOYEE RELATIONS

Diligent efforts are put forth in employee relations. Some of these include employee wellness and safety, a bi-annual employee satisfaction survey, monthly lunch meetings with management, annual Meet and Greets with each work unit, as well as cultural improvement activities. We have showcased some of the diversity within ITD by holding a “Cultural Days” celebration where employees can taste-test food during their lunch hour from various cultures.

We have increased our efforts on wellness and safety by bringing in presenters covering topics such as drugs in our community, protecting self and others in case of an active shooter, and naturopathic medicine. We also held a health fair for employees to learn about various aspects of wellness from local companies.

As we look forward to the upcoming year, we must continue to develop and refine our HR practices to promote and attain the behaviors, culture, and competencies needed to achieve organizational goals. We must continue working on strategies and initiatives to retain our employees, as well as attract new talent in an increasingly tight IT market. We must also continue collaborating with the goals of ITD’s other divisions, as well as the goals of cabinet IT departments through IT unification, thus enabling each IT area to meet its goals. Ultimately, these efforts will help us understand the future of our most important asset—our employees.

32

DIFFERENT
REQUISITIONS/
POSITIONS

102

INTERVIEWS

39

OFFERS

28

ACCEPTANCES

15.5

AVERAGE SIZE
OF APPLICANT
POOL

31%

AVERAGE
AMOUNT OF
QUALIFIED
APPLICANTS



The second group of 2016 to complete ITD's leadership development and mentorship program, AMPLIFY, is featured here. The program brings together mentors and mentees from across ITD for a year-long commitment. AMPLIFY provides a space for participants to grow personally and professionally by gaining knowledge and developing skills through the mentor-mentee relationship.

SECURITY

Sean Wiese, Director of Security



Sean Wiese, Director of Security

Cybercrime has been on the rise and the State of North Dakota was not – and is not - immune. Cyber criminals continue to improve their techniques and threats continue to evolve across a broad range of attack vectors. At ITD, we are continuing to make significant investments in our security infrastructure, practices and partnerships. Security continues to be one of our major operational and strategic focuses.

ITD CYBERSECURITY FRAMEWORK

Addressing the cybersecurity challenge requires

prioritizing assets, understanding threats, directing resources to critical areas, and increasing security awareness at all levels of the organization. The foundation of this effort is ITD’s Cybersecurity Framework.

The Framework outlines ITD’s security objectives and processes surrounding North Dakota’s information and information technology assets. It is built upon proven security policies, standards and procedures to assist in managing the State’s security risk. The Framework consists of five core functions – Identify, Protect, Detect, Respond and Recover focusing on four key areas – network, host, application, and user security.

As noted earlier, effective cybersecurity is a partnership among all those involved in using and administering information systems. To that end, the Framework defines the roles and responsibilities involved in this partnership:

Information Security Management

The CIO, Deputy CIO, and CISO set the security direction for the state and direct ITD’s day-to-day management of information security.

Information/Application Owners

ITD does not own the information hosted on the infrastructure we operate. The information/application owners are the state agencies or political subdivisions that utilize ITD’s services. Agency

directors, IT coordinators, and IT security staff are responsible for coordinating with ITD on the security of their applications and data.

Technology Providers

Project managers, developers, architects, and network/system administrators are responsible for following security best practices when planning, designing, and implementing IT solutions.

Supporting Functions

IT Security relies on a broad range of supporting individuals and functions. For example, auditors, physical security staff, training staff, and facilities management all have a role to play. From making sure the power stays on, to ensuring doors are locked and new employees are aware of best practices, security requires collaboration among many parties.

Users

Users are any individuals who directly use information systems, which includes all state employees. Users should follow set security procedures, report security problems, and attend required security awareness and functional training.

ACCOMPLISHMENTS

An important goal of the Cybersecurity Framework is to ensure a continuous improvement process related to our cybersecurity posture. During the past year we made progress in many areas, some of which is detailed here.

Partnerships

During the 64th Legislative Assembly (2015), the Governor and Legislature added a dedicated ITD security analyst at the State and Local Intelligence Center (SLIC). This position assists in analyzing cybersecurity threats affecting state infrastructure and key resources, and works with the rest of the SLIC staff to increase cybersecurity awareness in critical sectors. We've continued to see the fruits of this partnership.

We continued to work with federal, state, local, and private industry partners to collect and analyze information on cyber threats and vulnerabilities that pose a threat to the state's information systems and critical information managed within those systems. An essential partnership we have continued to strengthen is with the Multi-State Information Sharing & Analysis Center (MS-ISAC). The MS-ISAC is affiliated with the federal Department of Homeland Security, and we collaborate with them on proactive network monitoring, information sharing, and cybersecurity forensics.

Expanded Efforts

Improving our overall security posture continues to be primary focus for ITD with multiple initiatives for STAGEnet and the state data center along with a continued commitment to scanning critical web applications to proactively identify and remediate potential security vulnerabilities. We continue to

see progress in agencies adopting multi-factor authentication to strengthen the security posture for critical systems and users with privileged access.

A common attack vector is endpoints (i.e. devices the end-user interacts with), which is why we've continued to enhance endpoint protection with the adoption of next-gen endpoint protection. Knowing that the user is a common attack vector, we also implemented automated phishing testing and significantly enhanced our cybersecurity awareness training with the promotion of National Cybersecurity Awareness Month.

We've also made strides in security incident response communication and processes, to ensure timely and appropriate responses to potential threats. This includes working with other areas within ITD to integrate the security incident response process with the overall incident management process.

Audits

Independent assessments of ITD's security policies, processes and controls include a biennial SOC2 audit conducted by the Office of the State Auditor, and a security assessment conducted by an external consultant. These audits provide assurance to our customers and their auditors that ITD has appropriate controls in place to protect against the latest threats. The most recent SOC2 audit by the Office of the State Auditor was completed in November of 2016. A copy of the report can be found at <https://www.nd.gov/auditor/2016-service-organization>. The most recent

audit by the external consultant was completed in July of 2016. A copy of the report can be found at <https://www.nd.gov/auditor/2016-state-it-security-review>.

Disaster Recovery

All state entities are required to develop a business continuity plan to ensure the continuity of government services in the event of a disaster. To assist agencies with this directive, ITD operates a second data center with a focus on minimizing data loss and providing recovery options to customers in the event of a disaster.

Minimizing data loss is commonly referred to as the recovery point objective (RPO) and measures the point in time (relative to the disaster) to which you can go back to recover data. The second data center houses the backup data for all systems and allows ITD to perform real-time data mirroring for critical systems. In addition to improving RPOs, ITD continues to work with agencies on the recovery time objective (RTO) for their applications. RTO is a measure of how long it takes for a system to resume normal operations.

We continue to make improvements to the RTO and RPO for enterprise services. ITD has seen an increase in agencies looking to partner with ITD to improve the RTO for critical business functions and perform related disaster recovery testing.

ADMINISTRATION

Greg Hoffman, Director of Administrative Services



Greg Hoffman, Director of Administrative Services

The Administrative Services Division is responsible for ITD's accounting functions, which include rate development, billing, and contract administration. We are also responsible for records management and retention policies for government and higher education.

ITD CHARGE-BACK

ITD operates as an internal service fund. We track and monitor the expense of each service in cost centers to ensure that one service is not subsidizing another.

When necessary, rates are adjusted accordingly as the federal government does not allow state central service agencies operating as internal service funds to accumulate an excess fund balance. OMB Circular A-87 regulations establish specific standards for determining allowable costs for services in federally-funded projects. These standards dictate a uniform method of charge-back, whether it be based on FTE or a metric of usage, such as hours.

Actual funding for IT operations and projects are appropriated to each agency, which in turn pays ITD for services. IT projects are reviewed by the State Information Technology Advisory Committee (SITAC). This group of senior-level executives prioritizes IT projects to assist the Legislature and other budget stakeholders as they address budget requests during the legislative session. The state has historically been conservative with regard to funding IT projects and requires a projection of ongoing operating costs for any new IT projects before approval is granted.

In addition to ITD's traditional role of providing services to customers on a charge-back basis, the Legislature has expanded ITD's responsibility to oversee several general funded technology programs.

This includes the following program areas:

- Center for Distance Education (CDE)
- Statewide Longitudinal Data System (SLDS)
- Education Technology Council (ETC)
- EduTech

- STAGenet access for the K-12 schools
- Geographic Information Systems (GIS) hub
- Health Information Technology Office (HIT)
- Statewide Interoperable Radio Network

RECORDS MANAGEMENT

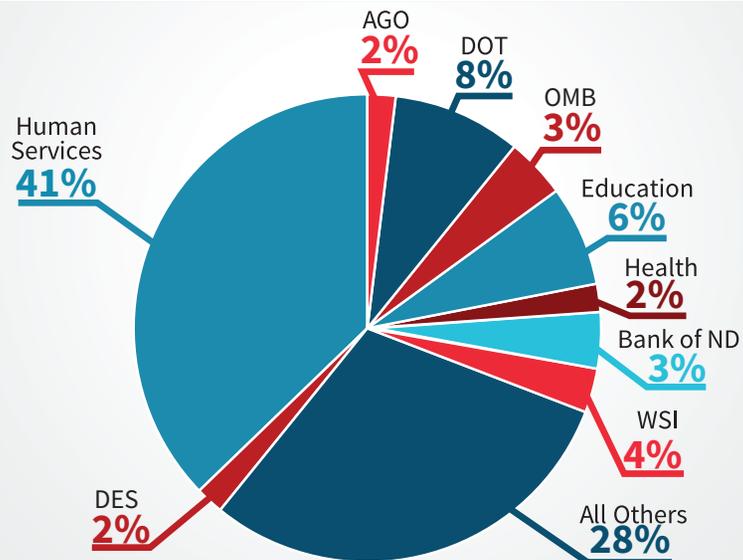
North Dakota Century Code (NDCC) 54-46-11 requires ITD to report on records management practices and programs in state government. This program includes records retention schedules, annual disposal of records, forms management, records management education, and consulting.

State and local government agencies, higher education institutions, and boards and commissions have been using the automated Records Management System since August 2016. Updates to records retention schedules often took several months to complete with the old process and can now be finalized within a week.

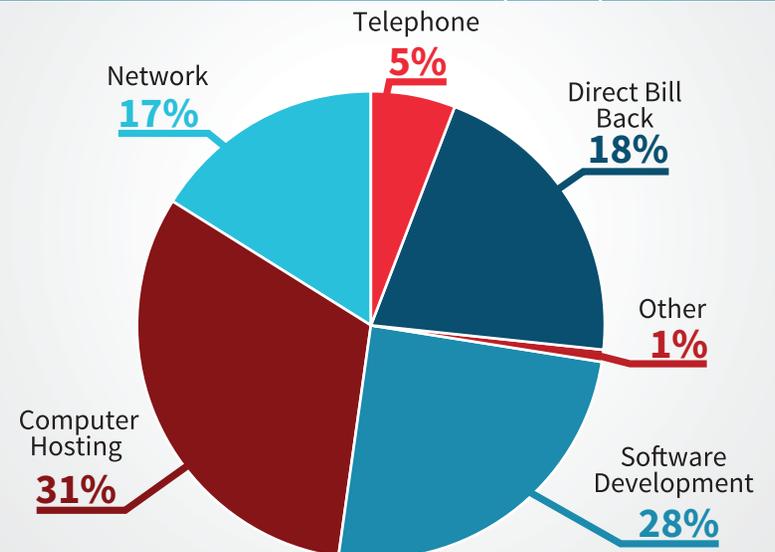
ITD has implemented records management programs in 97 state and local government agencies, higher education institutions, boards, and commissions. Last year, state agencies, local government offices, and higher education institutions disposed of 16,452 cubic feet of records that satisfied their retention requirements. This savings in storage space, equipment, and related salaries resulted in a cost avoidance of \$5,765,735. For the entities reporting a volume of electronic records, 144 TB were disposed for a monthly cost avoidance of \$28,935.

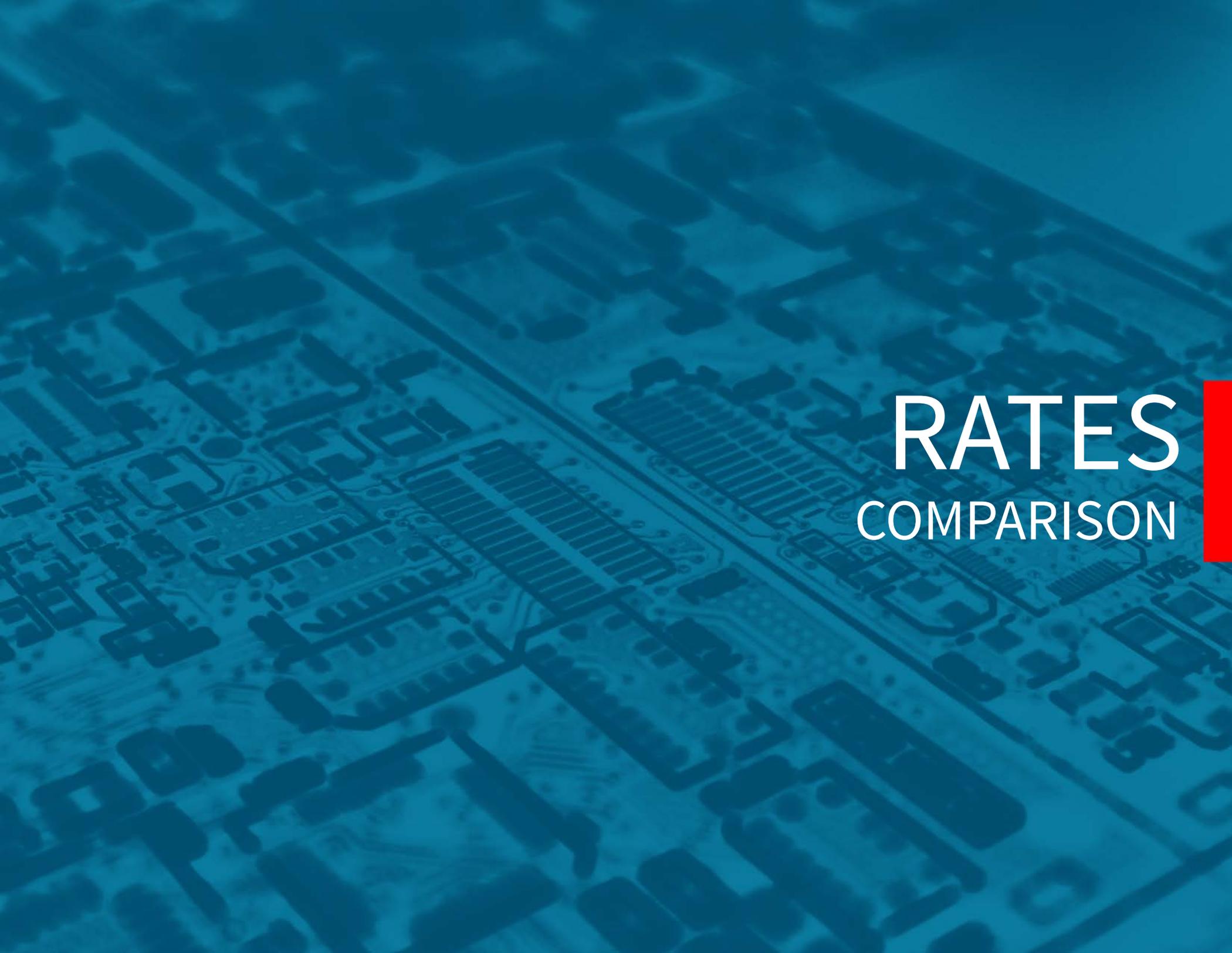
ITD also consults with agencies on a regular basis to review their records management program and practices, and offer recommendations to enhance their current processes and provide guidance on records management best practices.

ITD REVENUE BY DEPARTMENT TOTAL BILLING \$58,465,485



ITD REVENUE BY SERVICE TOTAL BILLING \$58,465,485





RATES COMPARISON

RATES AS OF JULY 2017

IT SUPPORT

Enterprise	Location	Developers
ITD	State of ND	76 - 120
Applied Engineering	Bismarck, ND	105 - 115
Infotekka	Albuquerque, NM	106 - 128
Connvertex Technologies	South Jordan, UT	80 - 90
Nexus Innovations	Bismarck, ND	105 - 125
Agency MABU	Bismarck, ND	75 - 80
Prominent Technology	Bismarck, ND	92 - 122
Bpro, Inc	Pierre, SD	80 - 90
Integration Architects	Minneapolis, MN	107 - 117
QA Technologies	Omaha, NE	82 - 95
TEK Systems	Atlanta, GA	92 - 110

	North Dakota ITD	South Dakota BIT	Montana ITSD	Oklahoma OMES
Staffing				
Senior Analyst	114.00 / hr.	69.00 / hr.	120.00 / hr.	Per SOW*
Server Administrator	99.00 / hr.	**	120.00 / hr.	Per SOW*
*Costs vary based on Statement of Work **DBA and Server Admin. Rates included in info Management fee below				

Central Computer CPU				
Batch CPU	.64	.61	5.05 / user id	N/A
CICS CPU	.64	.61	5.05 / user id	N/A
ADABAS CPU	.64	.61	5.05 / user id	N/A
TSO CPU	.64	.61	5.05 / user id	N/A
SD also charges \$.03 per 1000 I/Os.				

Network Fees				
Technology Fee	64.00	84.75	65.07	196.00
Info / Enterprise Mgmt Fee	included	54.50		
Desktop Support	100.00/PC/Mo.	In Tech Fee (Excludes hardware)	92.38 / Mo.	94.00 / Mo.
DSL Service	Cost + 175.00	Actual	Actual	Actual
ETS-10 (10mbps bandwidth)	850.00	Actual	Actual	Actual

Telephone Fees				
Telephone Line	20.00 - VoIP	19.00 - Analog	25.47 - VoIP	17.00 - VoIP
Speaker/Display	3.00	Actual	included	6.00
Voice Mail (unlimited)	5.00	6.00		included
(3 minute limit)			4.64	
(per additional minute)			1.43	

Long Distance	North Dakota	South Dakota	Montana	Oklahoma
In-State	.045	.06	.06	N/A
Out-of-State	.045	.08	.07	N/A
800 Service	.05	.08	.08	N/A

SERVICE RATE TRENDS

	Jul '12	Jul '13	Jul '14	Jul '15	Jul '16	Jul '17
Software Development						
Systems Analyst	86.00	94.00	94.00	105.00	105.00	114.00
Programmer	67.00	69.00	69.00	73.00	73.00	76.00
Central Computer CPU						
Batch CPU	.62	.64	.58	.64	.64	.64
CICS CPU	.62	.64	.58	.64	.64	.64
ADABAS CPU	.62	.64	.58	.64	.64	.64
TSO CPU	.62	.64	.58	.64	.64	.64
Network Fees						
Technology Fee	49.00	49.50	49.50	59.00	59.00	64.00
ETS-10	1350.00	1350.00	1350.00	850.00	850.00	850.00
Telephone Fees						
Telephone Line	24.00	24.00	24.00	24.00	24.00	20.00
Speaker/Display	5.00	5.00	5.00	5.00	5.00	3.00
Voice Mail (unlimited)	5.00	5.00	5.00	5.00	5.00	5.00
Long Distance						
In-State	.07	.06	.06	.05	.045	.045
Out-of-State	.07	.06	.06	.05	.045	.045
800 Service	.07	.07	.07	.05	.05	.05



STRATEGIC PLANNING & PERFORMANCE MEASURES

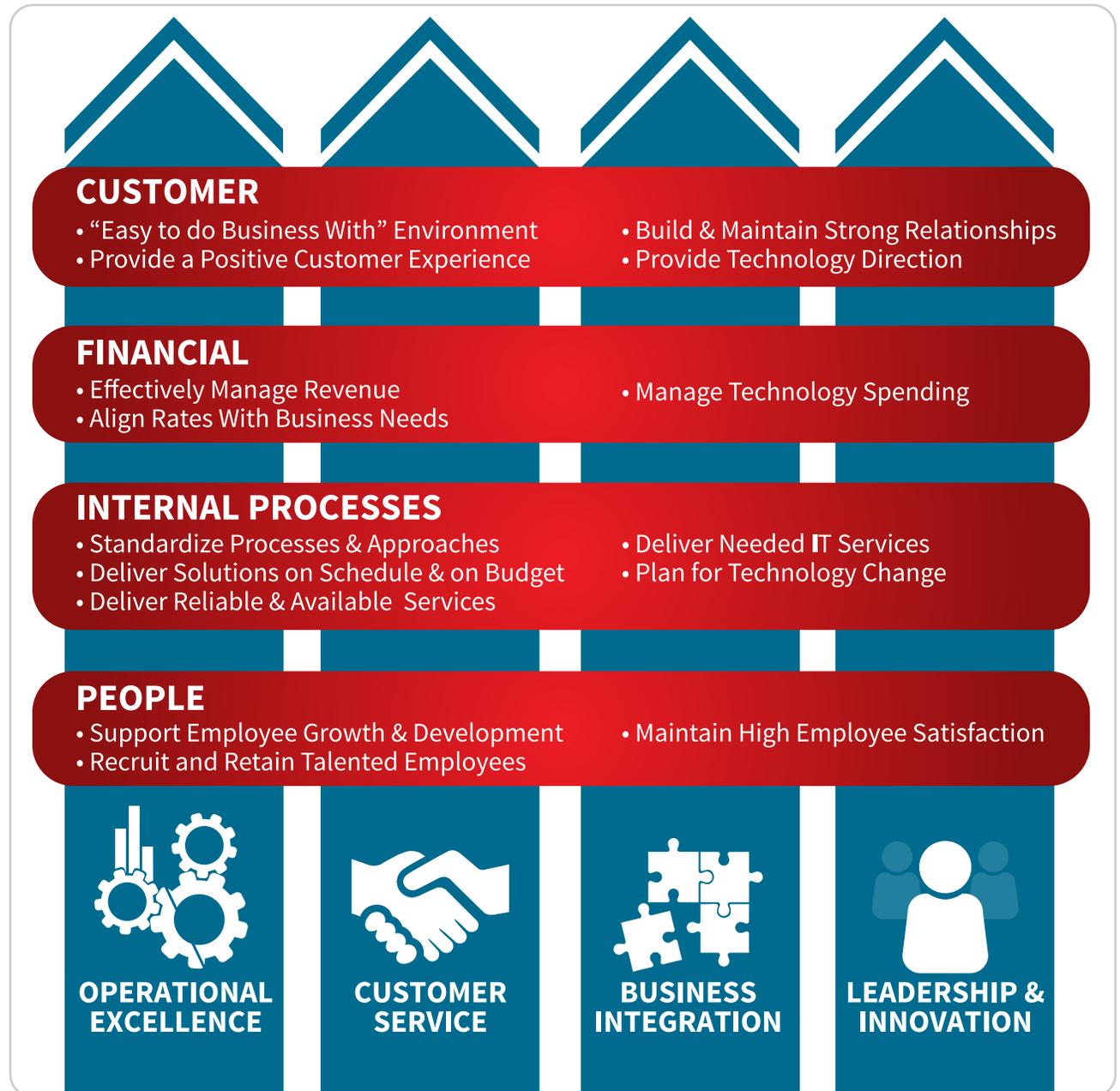
ITD STRATEGY MAP

OUR STRATEGY MAP IS WHAT WE DO

The strategy map is a one-page representation of ITD's strategic focus areas. It's the starting point and foundation for ITD's biennial strategic planning process, the product of which is [ITD's Strategic Plan](#).

The vertical pillars represent broad, Strategic Focus Areas, while the horizontal bands identify specific Objectives required to excel in those focus areas.

To help determine if the Objectives are being met, Measures have been developed against which ITD's performance can be judged. The following pages detail how well ITD is meeting many of these Measures. Read [ITD's Strategic Plan](#) for a more complete view of the Strategy Map, Objectives, Measures, and the Initiatives we've identified for completion over the coming biennium.



STRATEGIC PLANNING & PERFORMANCE MEASURES

Measurement	Target	June 2016	Baseline (Previous Years)
Acceptable Level of Total Net Assets	≤ 2.0	2.1	2013 - 2.1 2014 - 2.5 2015 - 1.3

SCORECARD PERSPECTIVE: FINANCIAL. Based on financial end of year “Statement of Net Assets,” Total Net Assets does not exceed two (2) times the average monthly expenditures.

Measurement	Target	June 2016	Baseline (Previous Years)
Percentage of ITD Rates Reported in Annual Report That Are Competitive	100%	100%	2012 - 100% 2013 - 100% 2014 - 100%

SCORECARD PERSPECTIVE: FINANCIAL. Based on 33 service rates representing 74% of ITD’s revenue as reported in the Annual Report. “Competitive” is defined as a rate not exceeding 10% higher than the average comparable service rates provided by other government and private entities.

Total Number Of Service Requests And Incidents Completed	Target	FY 2015	FY 2016	FY 2017
Service Requests Incidents	MONITOR	46,875 72,755	45,493 84,361	43,580 85,518

SCORECARD PERSPECTIVE: CUSTOMER. Although this measure is largely dependent on client budget appropriations and spending, it provides an indicator reflecting the amount of work volume or output produced by ITD. Customers were encouraged to provide feedback on 93,013 of the requests and incidents. Overall, 4,761 responded as satisfied; 77 as dissatisfied

Customer Satisfaction Indexes	Target	% Satisfied		
		FY 2015	FY 2016	FY 2017
Value	≥ 92%	93%	87.3%	88.7%
Timeliness	≥ 97%	95.3%	94.6%	91.1%
Quality	≥ 97%	95.3%	96.4%	94.4%
Knowledge	≥ 98%	95.3%	98.2%	98.4%
Professionalism & Courtesy	≥ 100%	100%	96.4%	98.4%

SCORECARD PERSPECTIVE: CUSTOMER. Each year, executive and business professionals were invited to join IT coordinators in completing ITD’s Annual Customer Survey. As a result, 125 people provided feedback on these attributes. Customers are encouraged to offer candid feedback regarding ITD’s ability to meet their business needs.

STRATEGIC PLANNING & PERFORMANCE MEASURES CONTINUED

Measurement	Baseline (Previous Years)	2016	Target
Employee Satisfaction Index	2014 - 2.17%	85%	≥ 2.0

SCORECARD PERSPECTIVE: LEARNING & GROWTH. Every other year, ITD assesses its employee satisfaction. Employees are asked to rate ITD as a place to work. The above survey indexes reflect the overall average score of all employee survey rankings. In 2014, the grading scale was from 0-3 (dissatisfied to very satisfied). In 2016, we used the SHRM Employee Job Satisfaction and Engagement Survey, which uses a 0% - 100% overall satisfaction score.

Measurement	Baseline (Previous Years)	June 2017	Target
Total Employee Turnover	2015 - 8.03% 2016 - 4.56%	7.29%	< 6%

SCORECARD PERSPECTIVE: LEARNING & GROWTH. ITD tracks employee turnover on a quarterly basis. Employee turnover is a critical measure of organizational success. Technology skills will remain in high demand and in short supply through the next decade.

Measurement	FY 2016	FY 2017	Target
Percentage of Service Levels Met	TBD	92.9%	100%

SCORECARD PERSPECTIVE: INTERNAL PROCESS: ITD publishes Service Level Agreements for enterprise services and custom agency offerings. As part of the Annual Customer Survey, 127 people responded regarding ITD's ability to meet their service expectations.

Measurement	B 2013 2015		B 2015 2017		Target
	FY 14	FY 15	FY 16	FY 17	
Percent of Strategic Business Plan Objectives Completed or On Schedule	61%	54%	85%	81%	≥ 75%

SCORECARD PERSPECTIVE: INTERNAL PROCESS: ITD creates a strategic business plan that defines business improvement goals and objectives which are achieved through initiatives created at the department and division levels. This measure assesses management's ability to plan effectively and put business strategy into action. ITD's 2015-2017 Strategic Plan identified 13 initiatives. Of these, six were completed as originally planned, five were nearly completed and will continue to remain open into FY18, and two were pushed forward and redefined in the 2017-2019 Strategic Plan to reflect the changing IT landscape.



FINANCIAL STATEMENTS

FINANCIAL STATEMENTS

Statement of Net Assets June 30, 2016 & 2015

ASSETS	FY 2016	FY 2015
Current Assets:		
Cash Deposits at BND	8,978,764	4,784,805
Intergovernmental Receivables	162,707	786,065
Accounts Receivable	129,806	123,837
Due From Other Funds	5,203,834	6,866,453
Prepaid Items	<u>5,562,947</u>	<u>1,579,505</u>
Total Current Assets	20,038,058	14,140,665
Noncurrent Assets:		
Building & Equipment - Net	<u>10,890,000</u>	<u>13,106,951</u>
Total Non-current Assets	<u>10,890,000</u>	<u>13,106,951</u>
Total Assets	30,928,058	27,247,616
DEFERRED OUTFLOWS OF RESOURCES		
Derived from Pensions	<u>1,747,456</u>	<u>1,711,548</u>
TOTAL ASSETS & DEFERRED OUTFLOWS	<u><u>32,675,514</u></u>	<u><u>28,959,164</u></u>
LIABILITIES		
Current Liabilities:		
Accrued Payroll	2,278,376	2,111,907
Accounts Payable	788,328	3,618,140
Due to Other Funds	<u>6,580</u>	<u>27,310</u>
Total Current Liabilities	3,037,284	5,757,357
Noncurrent Liabilities:		
Compensated Absences Payable	2,219,974	2,076,480
Net Pension Liability	<u>13,868,170</u>	<u>12,889,281</u>
Total Non-current Liabilities	<u>16,088,144</u>	<u>14,965,761</u>
Total Liabilities	19,161,428	20,723,118
DEFERRED INFLOWS OF RESOURCES		
Derived from Pensions	2,023,212	2,516,040
NET POSITION		
Invested in Capitol Assets, Net of Related Debt	10,890,000	13,106,951
Unrestricted	<u>600,874</u>	<u>-7,386,945</u>
Total Net Position	<u>11,490,874</u>	<u>5,720,006</u>
TOTAL LIABILITIES, DEFERRED INFLOWS & NET POSITION	<u><u>32,675,514</u></u>	<u><u>28,959,164</u></u>

FINANCIAL STATEMENTS

Statement of Revenues, Expenses, and Changes in Fund Net Position
for years ending June 30, **2016 & 2015**

	FY 2016	FY 2015
OPERATING REVENUE:		
Sales and Services	62,982,462	57,690,590
OPERATING EXPENSES:		
Salaries and Benefits	27,092,480	25,459,636
Operating	23,662,595	28,264,569
Depreciation	<u>6,407,558</u>	<u>4,981,956</u>
TOTAL OPERATING EXPENSES	<u>57,162,633</u>	<u>58,706,161</u>
OPERATING INCOME (LOSS)	5,819,829	(1,015,571)
NON-OPERATING REVENUES (EXPENSES):		
Loss on Sale of Capital Assets	<u>(48,961)</u>	<u>(346,697)</u>
TOTAL NON-OPERATING REVENUE (EXPENSES)	<u>(48,961)</u>	<u>(346,697)</u>
INCOME (LOSS) BEFORE CONTRIBUTIONS AND TRANSFERS	5,770,868	(1,362,268)
TOTAL NET POSITION-BEGINNING OF YEAR	<u>5,720,006</u>	<u>7,082,274</u>
TOTAL NET POSITION-END OF YEAR	<u><u>11,490,874</u></u>	<u><u>5,720,006</u></u>