



## **Montana Teachers Retirement System**

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### **Strategic Plan for Information Technology 2016**

Revised: 6/30/2016

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## 1. Executive Summary

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The Montana Teachers' Retirement System (TRS) mission is "To promote long-term financial security for our members while maintaining the stability of the fund." IT staff perform a major role in realizing this mission by providing quality services, security, analysis, and work products in support of the agency mission. A highly-functional pension management software system and a wide variety of associated systems from scanning and records management to email and contact management are necessary to fulfill the TRS mission.

In order to enhance services for members of the system and ensure future functionality, TRS is in the process of upgrading its pension management software (Pension+) The upgrade – called M-Trust for Montana Teachers Retirement Upgraded System Technology – began in October of 2013 and is expected to take about 30 months to complete. This upgrade involves all of the TRS staff, a team of external programmers and various contract staff including a project manager, a technical writer and test lead. TRS has a well-planned out project management plan and is making great progress on the \$2.55 million project.

A stable and functional information technology environment that serves the needs of its staff, members and retirees is critical to the function of Montana TRS. While most IT system staff operations take place during normal business hours, our members and employers are demanding more off hours access to online services. There is also a need for TRS staff access on evenings and weekend. This increases demand for IT support and will be a challenge that TRS needs to address in coming years.

TRS is actively working on backup and disaster recovery (DR) plans for all systems. Backups provide a daily process for making sure files that may accidentally get deleted can be recovered. Disaster recovery allows for continued operation of TRS critical needs in the event of a natural disaster or emergency. TRS has a robust backup system in place in Helena for information systems and contracts with SITSD for maintenance and backups for its Oracle databases.

## 2. Environment, Success, and Capabilities

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Montana TRS serves the active and retired teachers and educators in the State of Montana as well as employers who are required to report payroll information to TRS. The primary purpose of TRS is to administer the pension plan, which includes (but is not limited to) collection of member and employer contributions, enrollment of new members, accounting for contributions and member service and payment of retirement benefits.

TRS was established by state law in 1937. The system has grown from its initial enrollment of 3,367 members to more than 18,400 active members, and now has assets in excess of \$3.1 billion. Approximately 13,800 members and beneficiaries receive retirement, disability, survivor, or minor child benefits in excess of \$282 million each year.

The agency is administratively attached to the Department of Administration, but is governed by a six-member board appointed by the Governor. The board hires an executive director who oversees a staff of 19 employees who work with members, retirees and employers. While the staff has a strong expertise and experience in the TRS pension system, it lacks depth because of its small size. Staffing may only be two people deep for critical functions and TRS must rely on outside contractors for help with programming and system updates.

TRS is governed by state and federal law and by the rules of the Internal Revenue Service related to qualified pension plans. TRS prepares a comprehensive annual financial report annually in compliance with accounting standards set by the Governmental Accounting Standards Board (GASB) and is audited by the Legislative Audit Division. In addition, an actuarial valuation is done by an independent firm in order to advise the TRS Board on whether contributions to the pension systems are sufficient to pay promised benefits over the long-term.

The Montana Board of Investments (BOI) manages the State's Unified Investment Program, which includes the TRS plan investments (as required by Section 19-20-501, Montana Code Annotated). The Unified Investment Program is required by law to operate under the "prudent expert principle", defined as: 1) discharging its duties with the care, skill, prudence, and diligence that a prudent person acting in a like capacity with the same resources and familiar with like matters exercises in the conduct of an enterprise of like character and like aims; 2) diversifying the holdings of each fund to minimize the risk of loss and maximize the rate of return; and 3) discharging its duties solely in the interest of and for the benefit of the funds managed.

### 3. IT Contributions and Strategies

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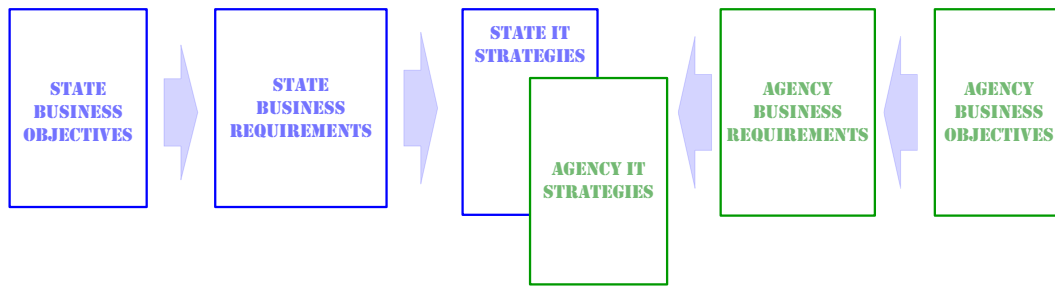
The primary goal of Information Technology within TRS is to enhance the ability of staff to serve the members and retirees of the system. Information resources are purchased or managed to improve access to member and retiree information, efficient storage and retrieval of electronic files and electronic records, accurate processing of employer contributions and accurate payment of retirement benefits.

TRS participates in statewide IT programs including the State Information Managers Council (ITMC), State Project Management Office, State Information Security Managers Group and efforts to improve overall state IT operations.

The TRS IT Strategic plan supports the initiatives for better jobs, better education and effective state government.

Specifically, the TRS IT Plan leverages technology to meet these state goals:

- Prioritizing projects that deliver the most effective government services.
- Employing technologies make state service more accessible and secure.
- Maximizing returns on IT expenditures.



## 4. IT Principles

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IT principles govern the decisions and operations of the State IT community. They provide touch points and guidelines to ensure that correct decisions are being made; decisions that will provide the greatest value to Montana’s citizens. The majority of Montana’s IT principles have their roots in Montana’s Information Technology Act (MITA).

Montana TRS subscribes to the general IT principles as stated in the State of Montana 2014 Strategic Plan for Information Technology.

Montana’s IT principles:

- Resources and funding will be allocated to the IT projects that contribute the greatest net value and benefit to Montana stakeholders.
- Unwarranted duplication will be minimized by sharing data, IT infrastructure, systems, applications and IT services.
- Montana will use shared inter-state systems to minimize IT expenditures, improve service delivery and accelerate service implementation.
- IT will be used to provide educational opportunities, create quality jobs, a favorable business climate, improve government, protect individual privacy and protect the privacy of IT information.
- IT resources will be used in an organized, deliberative and cost-effective manner.
- IT systems will provide delivery channels that allow citizens to determine when, where, and how they interact with state agencies.
- Mitigation of risks is a priority for protecting individual privacy and the privacy of IT systems information.

## 5. IT Governance

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Montana TRS is governed by a six-member board which approves the agency budget and provides overall IT governance. The agency management team - made up of the executive director, deputy

executive director, chief legal counsel, fiscal manager, IT manager and communications manager - provide IT governance at the operational level. Specific recommendations for IT expenditures are made by the IT staff to the executive director and reviewed as necessary by the management team and board.

The IT budget is included with the general agency budget for board review and approval on an annual basis. Major projects are proposed to the management team and a recommendation is made to the board. Final approval and budget are controlled by the board. All major IT projects are also reviewed and approved by the State CIO and SITSD.

## 6. IT Financial Management

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IT funding is included within the general agency budget which comes from the TRS pension trust fund. TRS does not receive any state general funds or special funding through the Montana Legislature. IT funding is reviewed and approved on an annual basis by the TRS management team and approved by the TRS Board.

All IT services funded by the agency are used to support internal applications, hardware and systems. TRS purchases services from SITSD for email, networking, database hosting, server hosting and other IT services in support of the agency.

In addition to its internal IT costs and services from the state, TRS has contract with various software vendors such as HP, IBM, Symantec and VMWare. We have development contracts with Alfred Munksgard and Associates and a variety of other vendors in support of our development projects.

## 7. IT Services and Processes

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The mission of the TRS Information Technology Staff is to provide the IT systems, services, security, analysis and work product required by TRS staff, employers, members and benefit recipients. The TRS Information Technology staff fulfills their responsibilities in the following areas:

### **Customer Service**

- Maintain a secure and stable computing environment so expected services are easy to use, accurate, and available even in a disaster.
- Develop and maintain a permanent and secure information repository for TRS and its members.
- Interact and communicate with customers to clarify their needs and suggest improvements based on our specialized knowledge.
- Produce analysis, applications, and services that are secure, reliable, and useful to TRS employees and members.
- Act with integrity, sincerity, and respect to provide the best possible solutions.

### **Effectiveness and efficiency in producing quality work**

- Learn continuously to attain and maintain quality in all of our work.
- Coordinate our efforts in order to conserve scarce resources while generating products that are effective, easy to use, and a good value.

- Apply our knowledge creatively and consistently to provide timely and accurate solutions to problems.

#### **Responsiveness to a changing environment**

- Adapt our methods to optimize the use of emerging information technology.
- Design processes and applications to provide a smooth transition between successive versions or changes of platforms.
- Assess present equipment, software, and processes to facilitate a smooth migration to future technologies and business processes.

## **8. IT Infrastructure, Staffing and Resources**

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Montana TRS has two full-time Information Technology staff members. IT staff must have a wide variety of knowledge, skills and abilities from networking and desktop support to application design and project management. In addition to full-time staff, TRS relies on IT staff from SITSD and outside vendors to complement its internal staff. As such we have contracts and connections in place with various vendors from Alfred Munksgard and Associates to VMWare and Hewlett Packard.

TRS maintains its own servers in a virtual environment within the State of Montana Data Center. TRS also relies heavily on virtualization of staff desktops to provide key functionality. We maintain a mixed environment of Microsoft Windows and OpenVMS to support our applications.

## **9. Risks and Issues**

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TRS faces the same general risks to its information technology resources as other organizations within the State of Montana. Since we rely on SITSD to provide the state network, data center, enterprise agreements and IT procurement infrastructure we face risk associated with services beyond our control. We also realize our staff size and skills limit our ability to provide all of the IT support the agency needs. We actively work to improve our knowledge and skills and find methods to minimize risks.

The major risk facing TRS is the aging of its current pension management system - Pension+. The system was developed more than 20 years ago and is based on older software and technology. The M-Trust project, while facing its own risks, is the primary mitigation strategy TRS is using to address the need to replace its legacy IT system.

Some of the other risks the agency faces include:

Primary Risk	Probability	Impact	Mitigation Strategy
Failure of major application	Low	High	Develop strong backup solutions for applications and data utilizing the resources of SITSD when possible. Develop a plan for backup of critical data and applications at the State of Montana data center in Miles City.
Loss of key application development staff	Low	High	Convert our critical application to a new technology environment with ability to utilize other outside development resources if needed.
Staff retirements	High	Medium	The agency has developed a backup plan for key positions. Positions/skills rated as critical will have individual plans for skills transfer, replacement, documented procedures, etc. for mitigating the impact. We actively look at skill development to mitigate any staff loss
Security breach	Medium	High	Our agency has an active security program including, but not limited to, staff training and awareness, data encryption, and security policies.

## 10.IT Goals and Objectives

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**Goal 1:** Continue development of M-Trust, the agency technology upgrade for its pension management system.

**Goal 2:** Continue work on improving the storage capabilities for the agency for data and electronic records with a focus on disaster recovery.

**Goal 3:** Plan migration of our electronic records system to new architecture and software or upgrade the current software within the next three to five years.

**Goal 4:** Improve the use of virtualization within the agency for both servers and desktops to allow easier updates and operations in the event of a disruption of services or disaster.



## 11. IT Projects

Item	Description
<b>Project name</b>	<b>M-Trust</b>
<b>Project/program purpose and objectives</b>	Montana TRS is migrating its pension management system to a modern technology architecture. The upgrade will move the system to a web-based architecture running Adobe ColdFusion 10 on a Windows server housed on TRS hardware in the State of Montana Data Center (SMDC). This front-end application will connect to an Oracle database hosted by SITSD in the SMDC. The web-based front end will be accessible by standard web browsers, including the state standard Internet Explorer as well as Mozilla Firefox.
<b>Estimated start date</b>	The project began in October 2013.
<b>Estimated cost</b>	\$2.55 million
<b>Funding source</b>	TRS pension trust fund. Funding approved by TRS Board
<b>Annual Costs upon completion</b>	Operational costs are expected to be the same or less than current costs and contracts. The agency expects IT staffing to remain the same, but may choose to bring development in-house or continue to contract for development support.

Item	Description
<b>Project name</b>	<b>Examine alternatives to FileNet or upgrade our FileNet system.</b>
<b>Project/program purpose and objectives</b>	Montana TRS has a mature FileNet records management system used to store and retrieve electronic records. That system is due for an upgrade in the next three to five years, but TRS is aware of statewide efforts to identify efficient and effective ERM/ECM solutions for the State of Montana. The agency plans to monitor the state RFI and RFP process then decide on a plan to enhance records management for TRS.
<b>Estimated start date</b>	Fall or Winter 2014
<b>Estimated cost</b>	Not determined
<b>Funding source</b>	TRS pension trust fund.
<b>Annual Costs upon completion</b>	Not determined

## 12. Security and Business Continuity Programs

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### Information Security Management (ISM) Program General Description

TRS has implemented an agency information security management Plan compliant with §2-15-114, MCA and State Information Technology Systems Division *Information Security Programs* policy. The National Institute of Standards and Technology (NIST) Special Publication 800 series guides establishment of appropriate security procedures. This is in alignment with the State of Information Technology Service's direction for an enterprise approach to protect sensitive and critical information being housed and shared on State and/or external/commercial information assets or systems.

As described in NIST SP 800-39, TRS has developed and adopted the Information Risk Management Strategy to guide the agency through information security lifecycle architecture with application of risk management. The NIST structure provides a programmatic approach to reducing the level of risk to an acceptable level, while ensuring legal and regulatory mandates are met in accordance with §2-15-114, MCA.

The agency's program has four components, which interact with each other in a continuous improvement cycle. They are as follows:

- Risk Frame – Establishes the context for making risk-based decisions.
- Risk Assessment – Addresses how the agency will assess risk within the context of the risk frame; identifying threats, harm, impact, vulnerabilities, and likelihood of occurrence.
- Risk Response – Addresses how the agency responds to risk once the level of risk is determined based on the results of the risk assessment; e.g., avoid, mitigate, accept risk, share, or transfer.
- Risk Monitoring – Addresses how the agency monitors risk over time; "Are we achieving desired outcomes?"

The agency's information security management program is challenged with limited resources, notably manpower and funding. While alternatives are reviewed and mitigation efforts are implemented, the level of acceptable risk is constantly challenged by the ever changing technology and associated risks from growing attacks and social structure changes. When specific vulnerabilities have been identified which require system changes, new equipment, or other resources, they are addressed by the management team as part of our ongoing Security Program Plan.

### Ongoing Security Program Plans

Trust is an essential component in the TRS business model. TRS members and benefit recipients expect TRS not only to keep accurate records, but to secure these records in all circumstances – in day-to-day operations, archiving of records, and in business recovery. Breaching the trust of TRS members and benefit recipients is costly and threatens the security of the retirement system practically and politically. Therefore, the TRS security program plan seeks to monitor and improve security on an ongoing basis. The security plan covers policy, procedures and common controls, daily practice and monitoring, external reviews, and security planning as a part of future operations.

John Noble, IT Manager, is the designated Information Security Program Manager. A constraint of the TRS security program is the limited number of staff to perform and carry out tasks related to security policy and implementation. TRS has used DOA services and training to begin building a business recovery model. The agency can expect to allocate resources in the coming years for redundant

hardware, disaster recovery testing, and IT services to implement its security program. Meeting information security goals is a priority of the TRS board and staff.

TRS information technology personnel have had full background checks to provide access to the State of Montana Data Center and to provide assurances on secure access to sensitive information.

Daily practice consists of application of state common controls. These include: securing computers, renewing passwords every 60 days, monitoring building access, securely disposing of paper, monitoring security alerts, patching and updating software, monitoring logs, scanning computers for viruses and vulnerabilities, and other daily security tasks that arise.

All critical systems and databases are housed in the State of Montana Data Center. System backups are maintained at the TRS location in a locked room, additionally TRS uses the SITSD system to backup its critical database in Helena and Miles City. Unused services and data are tagged as inaccessible. TRS recently upgraded its equipment which now allows all workstation and servers to be virtualized, eliminating most stand-alone desktops.

TRS participates in a security scan of its computer systems by DOA security staff to access vulnerabilities in the configuration or operation of the TRS servers and workstations. These external reviews provide a trusted third party to examine the TRS computer for potential security threats. TRS keeps its computers on a separate branch of the state computer network, making it easier to isolate activity to the TRS network traffic.

**Continuity of Operations (COOP) Capability Program General Description**

In July 2009, TRS joined with the Department of Administration *Continuity Services* for the development of our agency’s Continuity of Operations Plan, which provides the structure to facilitate response and recovery capabilities to ensure the continued performance of the State Essential Functions of Government.

**Future COOP Program Plans**

TRS IT staff will participate in state efforts to upgrade and enhance COOP planning.

**13. Planned IT Expenditures**

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	<b>FY2016</b>	<b>FY2017</b>	<b>FY2018</b>	<b>FY2019</b>
IT personal services	\$190,000	\$192,000	\$194,000	\$196,000
IT operating expenses	\$182,000	\$184,000	\$186,000	\$188,000
M-Trust	\$650,000			
Other IT initiatives		\$200,000	\$200,000	\$200,000
Total	\$1,022,000	\$576,000	\$580,000	\$584,000

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## 14. Administrative Information

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