2022 Fiduciary Performance Audit of the State Teachers Retirement System of Ohio

FINAL REPORT

Conducted on Behalf of the Ohio Retirement Study Council

Funston Advisory Services LLC

Submitted:

May 19, 2022

Executive Summary

Introduction

Funston Advisory Services LLC (FAS) was selected to conduct simultaneous 2022 Fiduciary Performance Audits of the State Teachers Retirement System (STRS) and Police and Fire Pension Fund (OP&F) on behalf of the Ohio Retirement Study Council (ORSC). These reviews have the same terms of reference and scope.

We are using the same teams and methodology for both STRS and OP&F. For ease of comparison, with the concurrence of the ORSC, we have used the same set of expectations and standards for both systems. For each of the six areas in scope, the Main Body of this report (comprised of almost 250 pages) details our expectations, the standards of comparison, and our specific findings, conclusions and recommendations for the State Teachers Retirement System.

This executive summary addresses the fiduciary performance review from three main perspectives:

1. Fiduciary duties to current and future members and beneficiaries
2. Powers reserved exclusively for the STRS Board
3. Fiduciary Performance Audit Scope

Over the course of our work, although not a forensic review, no indicators of fraud or misdoing came to our attention. "A forensic audit examines and evaluates a firm's or individual's financial records to derive evidence used in a court of law or legal proceeding."[1]

***

The first two decades of the 21st century have heightened awareness of some of the uncertainties that fiduciaries must take into account when making decisions affecting the long-term sustainability of public retirement systems.

Overall, the purpose of a public retirement system is to sustainably create, deliver and protect value for current and future members and beneficiaries despite uncertainties. The financial sustainability of public retirement systems is essential and the State Teachers Retirement System of Ohio (STRS) is no exception.

For public employees, who dedicate themselves to a career of public service, public employment offers financial security, compensation, and retirement benefits, which sometimes include health care. Typically, public employees place high value on the security of those benefits. For public employers, public retirement systems offer a way to attract and retain a qualified workforce and benefits are an efficient way to compensate them. Questions about the long-term value and security of benefits increase difficulties in public employee recruitment and retention.[2]

For the public, communities benefit when public employers are able to attract and retain skilled public employees.[3] As many of those public workers tend to retire in-state and since pension benefits are economically counter-cyclical, those benefit payments are an added economic benefit for the local economy.

The Ohio Retirement Study Council (ORSC)

The general purpose of the Ohio Retirement Study Council is to provide legislative oversight as well as advise and inform the state legislature on all matters relating to the benefits, funding, investment, and administration of the five state retirement systems in Ohio. As of January 1, 2022, the five state retirement systems have combined assets of approximately $266 billion with approximately 655,000 active contributing members, 1.1 million inactive members, and 486,000 beneficiaries and recipients.[4]

The ORSC has multiple mechanisms for oversight, including review of financial, actuarial and investment reports among others. The ORSC also commissions actuarial, investment and fiduciary reviews (see Exhibit A for more detail).

The Ohio Legislature codified the fiduciary audit pursuant to R.C. 171.04(F), "the ORSC shall have a fiduciary performance audit conducted by an independent auditor at least once every ten years of each of the state retirement systems." We consider the ORSC code to be a leading practice as a mechanism for state oversight of public retirement systems due to its ongoing requirement, as opposed to episodic involvement in many states, as a continuing source of independent reassurance regarding actuarial, investment, and fiduciary performance for the five state systems.

A fiduciary audit was conducted in 2006 and an actuarial audit in 2009. The 2022 fiduciary audit was commissioned by the ORSC through a competitive process that selected Funston Advisory Services LLC (FAS) to perform the audit. The actuarial review is currently underway. Future fiduciary audits and actuarial reviews should be more timely.

Summary Roles and Responsibilities	
Legislative Oversight	
Ohio Retirement Study Council (ORSC)	ORSC selects independent reviewers: fiduciary, actuarial and investment and also reviews STRS' reports and budgets. Oversees STRS performance on behalf of the Ohio Legislature. Has engaged RVK to provide semi-annual investment performance analysis of STRS (and the other four systems).
Direction, Oversight and Control	
STRS Board (Board)	Board members are fiduciaries to the system's current and future participants and beneficiaries. The Board acting as a whole is responsible for the overall direction, oversight and control of the system. Its role is to prudently exercise the powers reserved exclusively for the Board by Ohio code.
Independent Advice	
Actuary	Cheiron is the actuary for the STRS Board. The main tasks of actuaries are ensuring that their clients are in compliance with the law, calculating the employer's liability for the defined benefit pension plan and healthcare plan, and determining required and voluntary contributions to be made to each plan. They provide calculations of monthly amounts to be paid to its retirees. Pension actuaries perform annual valuations to determine the employer's liability for each plan. The valuation includes two main areas: funding and expenses.[5]

Summary Roles and Responsibilities	
Investment Consultants	The Board's retained investment consultant, currently Callan Associates Inc., reviews investment performance results and provides investment advice at least quarterly. Additionally, an investment consultant specializing in alternative investments, currently Cliffwater LLP, reviews investment performance results semi-annually. Both Callan and Cliffwater provide a host of investment consulting services to the Board, and both act as fiduciaries under state and federal law.
Reasonable Assurance	
Executive Director & Staff	Responsible for the execution of direction within policy. Engages with stakeholders. Reports vital signs for vital functions. Provides reasonable assurances re: "normal" or expected performance. Escalates exceptions together with direction/policy insights. Advises the Board on direction and policy.
Internal Performance Team	Investment performance is calculated outside of the Investment Department, by Finance Department staff who report to the Chief Financial Officer.
Independent Verification	
Internal Audit	STRS' internal audit team is independent of management and performs operational, financial, information technology and compliance audits of all STRS departments. Internal audit staff has unrestricted access to all STRS activities and records and reports directly to the Board's Audit Committee.
Ohio Auditor of State	STRS undergoes an annual external financial audit selected and engaged by the Ohio Auditor of State or its designee, currently Crowe LLP. The audit covers the financial statements and related notes to the financial statements. STRS has consistently received a clean opinion that indicates the financial statements were presented fairly and in accordance with generally accepted accounting principles.
ACA Compliance Group	ACA Compliance Group[6] tests and validates the calculation of STRS' total fund performance and the accuracy of the reporting of that performance. ACA also verifies STRS' compliance with the Global Investment Performance Standards (GIPS), the investment industry's most stringent standards, developed by the CFA Institute[7].
Independent Benchmarking	
CEM Investment Benchmarking	CEM annually presents a report to the Board comparing STRS' investment costs and performance to those of peers. The report consistently shows STRS' investment performance ranks in the top 25% of its peer group and STRS' investment costs are low compared to peers. CEM Benchmarking also conducts an annual pension administration survey to measure service levels and costs. The survey shows STRS' service levels regularly rank at the top of its peer group and costs are below the average of the systems in the study.

The Purpose of a Fiduciary Audit

Independently assess whether STRS' current governing statutes, policies, processes and practices enable fiduciaries to fulfill their duties to prudently direct, oversee and ensure effective control of the system. Such an assessment provides reasonable, but not absolute, assurance.

> **Ohio Revised Code Section 3307.15**
>
> "The members of the state teachers retirement board shall be the trustees of the [retirement system funds]. The board shall have full power to invest the funds. The board and other fiduciaries shall discharge their duties with respect to the funds solely in the interest of the participants and beneficiaries; for the exclusive purpose of providing benefits to participants and their beneficiaries and defraying reasonable expenses of administering the system; a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims; and by diversifying the investments of the system so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so."

Fiduciary Audit Scope

FAS was asked to review six main topics:

1. Board Governance and Administration
2. Organizational Structure and Staffing
3. Investment Policy and Oversight
4. Legal Compliance
5. Risk Management and Control
6. IT Operations

FAS asserts it is independent. Our firm has never received compensation from any investment consultant, manager or benchmark service. We have experienced no attempts at undue influence. Our recommendations solely aim to improve fiduciary performance to benefit current and future STRS members and beneficiaries.

The scope did not include a forensic review, a compliance review, a financial statement audit, or a review of the asset allocation or investment decisions. These are all separate reviews commissioned independently of a fiduciary performance audit.

Fiduciary Audit Process

Given inevitable uncertainties, the duty of prudence is assessed by the diligence of the process for decision-making when compared to peers and not by the outcomes alone. Decision-makers, especially for decisions with long-term consequences and high uncertainty, do not have the benefit of hindsight. Given the information available, was the decision prudent at the time?

Prudence is assessed by comparison with prevailing and leading peer practices, i.e., "with care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims."

We assessed each area within the scope and formed an independent opinion as to whether it was a **lagging, prevailing or leading practice**. A lagging practice has fallen behind peers. A prevailing practice is common among peers. A leading practice is a practical improvement over prevailing practice. We also considered whether a practice was adequate for the purpose. While a practice may be prevalent, it may be inadequate or unsuitable for STRS' purposes under present and future circumstances.

We reviewed documents, conducted a survey of trustees and executives, collected benchmark information, interviewed the STRS Board, the executives, and key stakeholder groups. We reasonably relied on information provided by qualified, independent third parties. As a result, we have identified what we believe is working well and what can be improved. As a result, we make over 170 recommendations for improvement. We have identified and prioritized these recommendations for improvement.

Overview of the State Teachers Retirement System of Ohio (STRS)

STRS has approximately $98 billion invested on behalf of 500,000 Ohioans. Public employees in Ohio do not participate in Social Security so the retirement systems are their main pension resource.

STRS' funds are held in trust for the sole benefit of the retirement system's members and their beneficiaries. Benefits paid by STRS are funded by contributions from Ohio's public educators and their employers and the investment returns generated by the assets in which those contributions are invested. STRS receives no general revenue funds. None of the State of Ohio's budget is expended to support STRS' benefits or operations.

STRS' operating expenses are paid solely out of investment returns. No member contributions or tax dollars are expended. STRS' operating budget is approved by the retirement system's board of trustees, who under Ohio law act as fiduciaries to the retirement system's members and beneficiaries.

Additionally, prior to approval by the STRS Board, the operating budget is, by law, reviewed by the Ohio Retirement Study Council, which is comprised of members of the Ohio House and Senate, three members appointed by the Governor, as well as the executive directors of Ohio's five public retirement systems.

STRS provides several vital retirement functions:

- Investment
- Benefits
- Optional retiree health care program
- Administration

Fiduciaries have a duty to ensure the fund is sustainable for the benefit of current and future members and beneficiaries. Following the Great Recession (2007-2009) and until 2017, the sustainability of the fund was at serious risk and inconsistent with Ohio law.

History of Funded Status

An actuarial experience review and an asset-liability study are conducted every five years. The purpose is to establish plan assumptions, measure the system's actuarial accrued liabilities (benefits earned by active and retired members) and help determine how to invest system assets and how fast these assets are expected to grow.

In 2001, STRS was 91% funded and the unfunded liability was $5.2 billion. The 2007-2009 Great Recession severely impacted the portfolio and funded ratio. By 2012, STRS was only 56% funded while the unfunded liability had grown to $46.8 billion.

The 2017 actuarial study projected new assumptions would add about $6.2 billion to STRS' accrued liabilities and push its funding period — the time it would take to reach 100% funded status — to almost 60 years. Ohio statute requires STRS to have a funding period of no more than 30 years or to submit a plan to reduce its funding period to reach this target.

To ensure the sustainability of the system, STRS fiduciaries needed to reduce benefits by about $10 billion to meet the legislatively mandated 30-year funding target. The cost-of-living adjustment (COLA) has a large financial impact on the pension fund because it affects both active and retired members of the system and is a discretionary expense.

In 2013, the legislature reduced the COLA to 2% annually (from a prior 3%) and granted the Board authority to adjust the amount in accordance with rules adopted by the Board. The new legislation also stated that, "The board may adjust the increase payable under this section if the board's actuary, in its annual actuarial valuation required by section 3307.51 of the Revised Code or in other evaluations conducted under that section, determines that an adjustment does not materially impair the fiscal integrity of the retirement system or is necessary to preserve the fiscal integrity of the system." (Section 3307.67 (E))

To fulfill the fiduciary duty of impartiality (i.e., to provide sustainable benefits for younger fund participants while balancing those with the delivery of benefits to current annuitants) corrective action was required. The system has to be able to pay the benefits once earned, so the STRS Board could not "kick the can down the road".

In 2017, the actuary estimated there was a 48% chance the system would be less than 50% funded at some point in the next 10 years. In April 2017, the STRS Board made the difficult but necessary decision to reduce cost-of-living increases granted on or after July 1, 2017, to 0%. This action had the effect of preserving the fiscal integrity of the retirement system, keeping STRS within the state of Ohio's 30-year funding target and the retirement board's own funding policy target.

STRS was not alone. NASRA reports nearly every state has modified public pension benefits or financing arrangements, or both, since 2009; lowered benefits; increased employee contributions; generally shifted risk from employers to employees; increased use of hybrid retirement plans; and allowed a limited increase in use of defined contribution plans.[8]

Dissatisfied Ohio retirees subsequently commissioned a report. There has been some negative media coverage. There is also dissension on the Board. The State Auditor Special Audit Task Force also initiated a special audit coincident with this fiduciary audit but we have not communicated with the State Auditor to ensure independence of our work and conclusions. It is our understanding that the scope of the special audit will be different from that of this fiduciary audit.

The reduction in annuitants' COLA had led to stakeholder criticisms of STRS. These criticisms include:

- Some annuitants feel it is unfair that STRS staff are not sharing the pain.
- Investments have seriously underperformed.
- Investment expenses (especially private equity (PE)) are exorbitant.
- There is a lack of STRS transparency.
- There is potential for instances of fraud / defalcation.
- Legislative oversight is lacking.
- Stakeholder communications are ineffective.
- The State Auditor commissioned a Special Audit so something must be amiss.
- Independent third parties may not be independent.

We address each of these criticisms at the end of this executive summary.

At the time the COLA was reduced to 0%, the STRS Board also agreed to evaluate — not later than the next five-year actuarial experience review (2022) — whether an upward adjustment of the cost-of-living increase would be payable without materially impairing the fiscal integrity of the retirement system. Ohio statutes require the opinion of an actuary on the effect of such an adjustment, as noted earlier.

STRS' Chief Actuary estimates if the benefit plan design changes enacted by pension reform in 2012 and 2017 had not been made, the system's funded ratio on June 30, 2021 would have been only 57%. However, by the end of fiscal year 2021, the chance of being less than 50% funded in the next ten years had declined to less than 15%.

By the end of fiscal year 2021, STRS' unfunded liability was reduced to approximately $20.8 billion and its funded ratio had improved to 80.1%. With the COLA at 0%, Cheiron projected the System's funded ratio on an Actuarial Value of Assets basis will improve from the current level of 80% to 141% by the 2041 valuation and is projected to reach 100% funded in 2029.[9] The discount rate was also reduced from 7.45% to 7.0%, reflecting lower expected future investment returns.

In 2021, the Board began discussions with Cheiron with regard to possible benefit plan design changes and the need to evaluate (per statute) whether or not those changes would materially impair the fiscal integrity of the system. In March 2022, the STRS Board met to assess, among other possible changes, whether a cost-of-living increase was feasible. The COLA was raised to 3% for a one-time increase and the previously approved, but not yet implemented, age 60 retirement requirement was removed. There was no reduction in employee contributions. The Board intends to review benefits again, no later than spring 2023, to evaluate whether additional enhancements are possible in accordance with the laws in effect at that time.

We recognize certain stakeholders will not be satisfied until annual COLA increases are restored. We also recognize the hardships retirees are experiencing, but the fiduciary duty of the Board is to ensure the sustainability of the fund for current and future members and beneficiaries. The Board is legally obligated to consider and balance the needs of both participant constituencies.

1. Fiduciary duties to current and future members and beneficiaries.

Section 3307.15 of the Ohio Revised Code sets forth the fundamental fiduciary duties that apply to STRS. These duties are interpreted and implemented within the context of related court decisions, opinions of the Attorney General, Federal tax qualification standards and rules or policies adopted by STRS.

In addition, guidance for application of fiduciary duties may be found in the common law of trusts and in fiduciary duty regulations that govern other institutional investors, such as private pension fund standards under the Employee Retirement Income Security Act (ERISA). This complex legal framework is generally summarized as containing the following fiduciary principles:

- Loyalty
- Prudence / Care
- Stay informed
- Diversify assets
- Impartiality
- Control costs
- Comply with law
- No blind eye to co-fiduciary behavior [10]

There is high potential for conflicts of interest inherent in the governance of public retirement systems. Trustees are elected, appointed and ex officio. Pursuant to Ohio statute, five are elected by contributing members, two by retired members, three appointed investment experts and one ex officio. They are expected to ensure their constituent interests and issues are expressed and considered. However, fiduciaries must make decisions in the best long-term interests of both current and future members and beneficiaries.

Because of the high potential for conflicts of interest, fiduciaries are held to the highest legal standard of loyalty and impartiality (higher than that of corporate director). Beneficiaries need additional protection because they have concentrated lifetime financial exposure, the complexity of financial concepts, difficulty in determining compliance in a timely manner, and a lack of authority to take effective action to prevent harm or remove bad actors.

The chart below summaries our conclusions regarding each of these fiduciary duties.

Duties	Conclusions re: Fiduciary Duties
Loyalty / Impartiality	The STRS Board appears to have acted with loyalty and impartiality solely in the interests of current and future members and beneficiaries. The Board's commitment to the long-term sustainability of the fund required some difficult and unpopular decisions.
Prudence / Care	The STRS Board appears to act with appropriate prudence and care. STRS exhibits many leading operational practices and a high level of operational excellence. Otherwise, STRS operational policies, procedures and practices are consistent with prevailing practices compared to peers. Board oversight of DC Policies can be improved. The Board should be able to reasonably rely on information provided by qualified, independent third parties. Independent reassurance / verification is provided by Internal Audit, external audit, the actuary and other independent, qualified parties.
Stay informed	The STRS Board appears to stay informed. Exception based reporting can improve oversight effectiveness and efficiency. Continuing education can be improved.
Diversify assets	The asset allocation appears to be appropriately diversified.
Control costs	STRS appears to effectively control costs while maintaining high performance standards.
Comply with law / reporting	STRS appears to have appropriate people, policies and processes to comply with the law and reporting requirements.
Co-fiduciary duty	Fiduciaries have a duty not to turn a blind eye to wrong-doings by other fiduciaries. There was nothing that came to our attention during the course of our review that established fraud, defalcation or misconduct on the part of any fiduciary.

Fiduciaries fulfill their duties through the prudent exercise of the powers reserved for them. The powers reserved are primarily defined in the governing statutes, bylaws and policies. The following section of this report describes the powers reserved exclusively for STRS Board.

Extraordinary circumstances required an extraordinary response to ensure the sustainability of the fund. We believe the STRS Board has and continues to fulfill that duty.

2. Exercise of powers reserved exclusively for STRS Board.

The STRS Board is comprised of eleven members: five elected by contributing members, two elected by retired members, three appointed investment experts and one ex officio. The Ohio code prescribes the powers granted to the STRS Board. We have developed a proprietary Powers Reserved Framework which we used to assess how the STRS Board exercised powers to fulfill its duties, which are to:[11,]

- Conduct the business of the board and its committees.
- Approve key decisions above a threshold.
- Set direction and policy and then prudently delegate.
- Oversee the execution of direction within policy.
- Verify then trust and obtain independent advice as needed.

A power reserved is a decision or an authority that can only be exercised by a specific decision-maker. This could include the State of Ohio, the STRS Board, and/or management and staff. The Board can only decide and act as a whole. Committees can only recommend and oversee, not decide. No individual trustee can direct the executive or staff. The Powers Reserved Framework clarifies the roles and lines of accountability in the governance structure used at STRS.

We assume fiduciaries are well-intentioned and genuinely interested in improving the prudent exercise of their powers to better fulfill their fiduciary duties to all members and beneficiaries, unless facts and circumstances uncovered during the review suggest otherwise.

Overall

Based on our analysis of the powers reserved exclusively for the STRS Board of Trustees, we found the Board has the powers or authorities needed to fulfill its fiduciary duties with a couple of exceptions. The State's delegation to the Board of powers for budgets, staffing and setting compensation, and for procurement are leading practices. However, there are several lagging practices including the lack of authority to select the outside legal counsel and the custodian. Typically, these powers are delegated by the jurisdiction to the board of trustees or its designees at the majority of peer systems.

Overall, STRS governance policies and procedures that set directions for delegation of responsibilities are most in need of improvement.

Conduct the business of the board and its committees

One of the fundamental powers reserved for the board is to effectively and efficiently conduct its business and that of its committees. The power to Conduct includes a wide range of topics from, for example, setting and calendaring agendas, the use of consent agendas, the role of chairs and vice-chairs, the use of committees, board member dynamics and engagement, self-evaluation, continuing education, the selection, evaluation and compensation of the CEO and the Chief Audit Executive.

The power to Conduct is also about how the board uses its time and that of its executives. It includes how board members conduct themselves, the way they communicate with one another, management and advisors and comply with ethical standards of conduct such as the treatment of confidential information.

Approve key decisions above a threshold

Generally speaking, there are a range of ways the board may choose to engage in approving a decision or setting direction and policy. The difference between the powers of Approve and Set is in the level of board involvement from the outset of the decision-making process.

In Approve, the board is more likely to delegate the due diligence process and be involved at the end of the decision-process to officially approve the recommendation. Whereas, Set (setting direction and policy) reflects those areas where the board wants to be more actively engaged in the development process from the outset such as in strategy and overall policy setting.

Set direction and then prudently delegate

The power to Set direction and then prudently delegate authority and resources is an extension of the board's power to approve, but the level of board and committee engagement is higher. With the power to Approve, the board's involvement is at the end of a process of robust due diligence by management and the board's advisors.

By contrast, in exercising the power to Set, the board and/or its committees are actively engaged throughout the process. This includes the process of identification, the evaluation of strategic issues and options and the choice of direction and resource allocation. Strategy development work is still done by the executive, staff and advisors.

Oversee the execution of direction within policy

To Oversee means to watch over and direct, but that does not generally mean to closely manage performance or risk on a daily basis. Unfortunately, oversight can also mean to miss something. Understandably, some trustees assume they must closely manage or exercise "day to day supervision" in order to exercise effective oversight and to avoid potential failure. But too much focus on the details can risk losing sight of the big picture.

While it is certainly the board's responsibility to watch over and direct, it is not the role or responsibility of a board to closely manage performance and related risk. Trustees are part-time and even if they are experts, fiduciary standards require that they prudently delegate execution – even if they cannot delegate oversight or verification. For purposes of verification, a board may reasonably rely on internal and external audit and other third parties retained for this purpose. This is why the board is responsible for hiring a capable executive director and holding that person accountable for the organization's performance.

Verify then trust and obtain independent advice as needed.

To Verify means to make sure processes are in place which demonstrate whether (something) is true, accurate, or justified. Verification is how the board ensures that reports and assurances from others are reliable. Verification is embedded in the board's powers to conduct, approve, set and oversee and is key to a board's confidence in management.

Key Conclusions / Recommendations re: Powers Reserved for STRS Board
Ohio Code and Legislative oversight
• Ohio statutes governing the public retirement systems are leading practice in many respects with the exception of STRS' inability to select external legal counsel and the custodian.
• ORSC's oversight is leading practice but future fiduciary performance audits need to be more timely.
Conduct the business of the board and its committees
• STRS' Governance policies and practices are in need of improvement.
• The Board should make good faith efforts to resolve dissensions among trustees while encouraging diversity of opinion and constructive vs. destructive challenge (see below).
• STRS' use of committees is ineffective and board meetings are the longest compared with peers. See Oversight below.
• The Investment and Audit committees need to be revitalized. Disability and Final Average Salary Committee responsibilities should be delegated to the staff. A Board Governance Committee is needed (among other things) to oversee progress on implementation of recommendations from this report that are accepted by the STRS Board, conduct the Board self-evaluation, and oversee trustee onboarding and continuing education.
• A comprehensive and integrated multi-year decision / event calendar for the board and each of its committees would help anticipate required decisions and approvals.
• The Board should link continuing education and use of advisors to the comprehensive calendar and efforts to continue to continually acquire / develop fiduciary expertise.
• Transparency can be improved, e.g., continue to stream and record board meetings and maintain an on-line archive of recorded public meetings and board books.
• The evaluation of the Executive Director needs to be updated and made more meaningful. This responsibility should be assigned to the Finance and Compensation Committee (revised from the Staff Compensation and Benefits Committee).
• Trustees have a right to access information but the workload of requests should be understood and prioritized by the Board Chair and the response coordinated by the Executive Director.
Approve key decisions above a threshold
• Due diligence standards / procedures need to be clarified for each key decision requiring Board approval.

Key Conclusions / Recommendations re: Powers Reserved for STRS Board
Set direction then prudently delegate
• Staff compensation is consistent with prevailing peer practices.
• Investment performance is in the top quartile and costs are consistent with peers.
• Member services are top decile and costs are below peers.
• The Board needs to abide by its unified direction in investment strategy vs. competing investment proposals from trustees. The recent move to develop investment beliefs is a step in the right direction.
• Delegations can be improved using powers reserved framework to improve clarity and resolve gaps.
• Continued Board dissension may demoralize staff and lead to failure to retain/ attract needed talent.
Oversee the execution of direction within policy
• Almost 70% of Board and committee time is spent on Oversight. A more efficient and effective approach to Committee Oversight could reduce the length and number of full Board meetings and free up time to focus on direction setting and verification oversight. Fewer meetings would also reduce the burden of preparation, participation and follow-up on executives and free up more time to focus on operations.
• Oversight of strategy, operations, reporting and compliance can be improved through adoption of exception-based reporting.
• STRS needs to establish, refine and approve performance metrics, risk tolerances and escalation processes.
• Risk is not clearly defined. STRS should clarify and harmonize the definition of risk consistent with actuarial and investment definitions as an unacceptable difference between actual and expected performance. • The use of subjective evaluations of impact, probability and velocity is unreliable.
• Enterprise compliance needs improved oversight and a Compliance Officer position.
Verify then trust / obtain independent audit and advice
• Internal Audit is under-resourced and is lagging in certain respects.

Constructive vs. destructive challenge

Constructive challenge may be one of the hardest things to do for some boards. High functioning boards are characterized by it. It begins with knowing what questions to ask and how best to ask them. Destructive challenge is evidenced by passive / aggressive behavior, such as refusal to discuss issues, "gotcha" questions, repeated abstentions or no votes in place of reaching a board decision on underlying concerns, antagonism toward fellow trustees, executives and advisors, and an unwillingness to hear alternative views.

Constructive challenge should be embedded in all the powers of the board. Constructive challenge is important to ensure robust due diligence processes support requests for board approval. Constructive challenge is also important in direction and policy setting, oversight and verification. Constructive challenge should not depend on the personalities of trustees or their individual willingness and ability to challenge convention. Individuals who repeatedly challenge can be seen as disruptors and dissidents and may be ostracized and ignored. For contentious issues and decisions, policy options with related pros and cons should be described. Dissenting opinions should be explicit to ensure they are heard.

3. Overall Conclusions and Recommendations

Throughout this report, we make recommendations to improve the way the STRS Board and its committees conduct themselves, approve key decisions, set direction and policy, delegate its execution to the executive director and then oversee the execution of that direction within policy. We also make recommendations to improve the verification of the reliability of reports and obtain independent audit and advice. Overall, the STRS Board needs to agree on a framework for Enterprise Governance of STRS that begins with the Ohio Code. The Powers Reserved provides such a framework which we recommend for consideration.

The following pages summarize our conclusions and recommendations aligned with the scope of the fiduciary performance audit.

1. Board Governance and Administration

- The ORSC's oversight of STRS is a leading practice but it needs to commission future fiduciary performance audits in a more timely manner.
- The statutes governing STRS are leading practice in most respects with two notable exceptions: the selection of external counsel and the custodian.
- With the exceptions noted, the STRS Board has the powers it needs to fulfill its fiduciary duties.
- STRS should regularly report progress on the implementation of the recommendations of this report to the ORSC.
- The STRS Board has acted in accordance with its fiduciary duties to ensure the sustainability of the fund for the exclusive benefit of current and future members and beneficiaries.
- STRS governance policies are in need of improvement using a more effective organizing framework. Governance policy gaps need to be addressed. The Board's use of committees is lagging practice. The effectiveness and efficiency of oversight can be improved. Governance of

Defined Contribution plans needs to be improved.

- The STRS Board can place reasonable reliance on the independent opinions of third parties if satisfied with their competence and diligence, with reasonable (but not absolute) assurances from the executive.
- Stakeholder engagement and communications need to be improved.
- The Board should continue to stream and record its meetings and begin to archive and make them publicly available.
- Delegations of authority need clarification.

2. Organizational Structure and Staffing

Overall, STRS is operationally excellent with effective operational policies and processes. The STRS system is a generally well-run, high performing operation. NASRA reports STRS outperformed its U.S. peers aggregate in terms of changes in actuarial funding level FY2001 to FY2020.[12] Certainly, operational improvements can always be made and STRS is no exception. These are detailed throughout our report.

- Member Services are consistently a top performer while costs are currently lower than the peer average.
- Cost controls appear effective. Over a twenty-year period, head count has been reduced from a high of 735 to 498. In 2021, administrative expenses were approximately $1.5 million less than budgeted. IT Operations appear to be a very effective enabler of Member Services and internal Investment Management. Security is regularly tested.
- Human resources practices are excellent. Succession planning and performance management are leading practice. Staffing levels and compensation are consistent with peers.
- Finance is well-run. Processes and controls are effective but need automation as planned.
- Stakeholder engagement can be improved.

3. Investment Policy and Oversight

Overall Investment Program

STRS' investment performance is in the top quartile of systems in the country according to CEM Benchmarking. Investment operations demonstrate excellence. The majority of STRS assets are managed internally. The effective use of lower cost in-house management by STRS is at an advanced level, as demonstrated by the CEM report. There is a collegial and respectful work culture.

- STRS' Statement of Investment Objectives and Policy (SIOP) is consistent with prevailing practice.
- A Statement of Investment Beliefs (SIB) should be written and adopted by the Board to provide an explicit basis to guide the various implementation policies utilized by the staff and outlined in the SIOP.
- A separate SIOP and system of monitoring results consistent with policy should be developed for both the STRS Defined Contribution (DC) plan and the STRS Post Employment Healthcare plan (PEHC).

- Investment due diligence of external managers is generally sound. The internal documentation of investment decisions needs improvement.
- STRS appears to be consistent with leading industry practices in all areas of performance measurement and monitoring.
- The use of ACA to validate GIPS standards for asset owner performance reviews at the plan and individual asset level is a leading practice.
- STRS should implement a talent management program for investment personnel at the junior and mid-levels to assure generational staffing continuity for the in-house led investment program.
- Consider retaining a third-party to provide a periodic due diligence review of each in-house investment strategy.
- Transaction cost management and broker practices are highly controlled at STRS and considered leading practices compared to peers.
- The benchmark development process for the asset portfolio, the calculation of performance results, and the presentation of performance results to the STRS Board are leading practice.
- All aspects of external manager compensation are either leading or consistent with prevailing practice.
- STRS investment sourcing, due diligence and decision-making processes are consistent with prevailing practices in the industry.
- The annual investment plan that outlines the assumptions incorporated into the investment outlook for the total plan and each of the asset class areas is a leading practice.
- The sourcing of external managers is consistent with prevailing industry practices.

External manager fees

The execution and validation practices for external manager fees processes at STRS are among the most thorough and well controlled in the public pension plan sector. The measurement of after-fee performance benchmarking through CEM is a prevailing practice for large public funds.

- Private / alternative asset procedures and practices for external manager fee validations are robust.
- The CEM investment benchmarking report indicates that, for the asset allocation approved by the Board, the internal and external costs of managing the fund are 14 basis points below the peer median.
- STRS fee levels ranked near or better than the peer group benchmark levels for the majority of public funds (by sub-asset class) and alternative funds (by asset class), with the latter being measured against both costs as a percentage of commitment and as a percentage of AUM.
- STRS should request that CEM, in its next investment benchmarking report, reflect peers' and STRS' actual cost data for private equity instead of utilizing the peer median for both.
- STRS private equity (PE) fee disclosures are consistent with prevalent industry practice which are widely recognized as inadequate.
- Proactively, STRS is supporting SEC proposals and is an active member of Institutional Limited Partners Association (ILPA) that is advocating for improved fee transparency.

Investment and fiduciary risk

The Board appears risk-aware with respect to investments and receives appropriate aggregation reports that identify investment positions. The governance of the risk process associated with the implementation of the investment portfolios and the asset classes (and the total Plan) is consistent with prevailing practice. The quantitative and qualitative performance reports received by the Board from Callan and staff on the investment portfolio (as well as the checks and balances to assure the accuracy of these reports) are consistent with prevailing practices. Counter-party compliance should be strengthened. Staffing and budgets appear reasonable and consistent with prevailing practice.

Custodian policy

The Ohio custodian policy, with the Treasurer of State selecting custodial banks, and the requirement for an international sub-custodian, has (over time) resulted in STRS following an in-house strategy and minimizing services from the custody banks.

- Today, the full suite of front-, middle-, and back-office investment services functions and technology are supported in-house at STRS; this model has been replaced over time by the external custodial bank at most funds.
- Existing (limited) services offered by Fifth Third Bank and Northern Trust to STRS are operationally sound, form the basis of a highly collaborative relationship, and are supported by an effective reporting and oversight program.
- The cash management services provided to STRS by Fifth Third and Northern Trust are robust and well controlled.
- Ohio has a unique custodial services model that does not lend itself to comparison to peers with respect to cost.

The current Treasurer of State (TOS) staff are to be commended for taking a constructive and collaborative approach to working with STRS to select and contract with the appropriate custodial banks and proactively monitoring and managing performance. However, the lack of authority for the STRS Board of Trustees to select the custodial banks is a lagging practice, as is the lack of authority for STRS staff to directly manage the custodial bank relationship on a day-to-day basis.

The law in *Ohio Revised Code 135.03 Institutions eligible as public depositories*, and its interpretation, severely restricts the selection of potential custodial banks which can serve STRS. The legislature should eliminate the requirement for the STRS custodial bank to have a presence in Ohio to allow for a single global custodial bank to serve STRS to reduce costs and complexity.

4. Legal Compliance

The STRS legal team appears to be competent and knowledgeable from a legal operations perspective. STRS has hired two new attorneys since December 2020. The other four attorneys each have approximately 20-30 years' experience between STRS and other employers. The department is made up of attorneys with a diverse mix of backgrounds, including large firm, government and corporate experience.

The attorneys have a wealth of institutional knowledge and appear to have effective and integrated working relationships with the other functional units of the organization. The key areas of opportunities for improvement for the STRS legal team are:

- STRS needs to obtain periodic assurance with respect to IRS compliance.
- STRS should create a Compliance Officer position to develop and manage an enterprise compliance plan and program.
- STRS should hire an additional internal investment attorney to reduce key person risk and ensure adequate ongoing coverage and succession planning for real estate and alternative investments.
- Either the legislature should allow the STRS Board to hire external legal counsel, or the Attorney General should allow STRS to have input into external counsel selection and acceptable billing rates.
- Compliance reporting could be streamlined.

5. Risk Management and Controls

The basics of STRS' enterprise risk management (ERM) approach are prevalent in the industry and public companies; however, they are insufficient for on-going effective holistic risk management. STRS appears committed to the highest ethical values and to effective risk management and control. There appears to be a strong control environment. STRS could benefit from a more systematic, comprehensive, coherent and simpler exception-based approach to performance and risk management.

- The Board should set the risk appetite and approve risk tolerances.
- Broad adoption of exception-based reporting should improve oversight.
- Financial accounting and reporting policies and procedures are consistent with prevailing practices.
- Separation of duties is appropriately maintained for completeness, accuracy and reliability. As noted, STRS is evaluating a new accounting application that would significantly reduce manual processes and use of spreadsheets and also reduce the need for reconciliations.
- Internal controls appear to be strong. Internal and external audit report no material weaknesses.
- According to a review by ACA Compliance Group, STRS has been verified compliant with the Global Investment Performance Standards (GIPS).
- Segregation of duties seem appropriate. We make recommendations to strengthen Compliance and Internal Audit.
- The Internal Audit Department (IAD) has fallen behind in its compliance with the Institute of Internal Auditors International Professional Practices Framework (the Standards).
- IAD is inadequately resourced and the Audit Committee's oversight of the IAD should be improved.
- The Audit Committee should meet more frequently each year, e.g., quarterly, and be more engaged with Internal Audit and the external auditor throughout the year.
- STRS generally follows prevailing practices with regards to the external audit; however, the Audit Committee should meet more frequently with the external auditor without staff present.
- STRS has one of the most comprehensive, systematic, and detailed record filing systems we have seen.

6. IT Operations

For the most part, the controls over the Information Technology function meet and, in some cases, exceed our expectations. The size of the IT organization is in line with other systems with assets under management of a magnitude comparable with STRS and extensive internal management.

There are approximately 125 employees in Information Technology Services (ITS), constituting nearly 25% of STRS' overall headcount. The depth of ITS's resources and the cohesion of its management structure are enabling STRS to undertake two transformative projects simultaneously.

ITS has documented the software development life cycle and project risk management processes to address the issues raised by these two endeavors. There are documented control-related procedures for project management, information security, application testing, privileged account management, configuration management, system change management, IT disaster recovery and business continuity management. Business Enabling Services, which includes Information Security, oversees compliance with these procedures.

The Information Security Officer and his staff have at their disposal a significant number of software tools for access control and to prevent misuse of systems and data. These include tools for identifying system vulnerabilities that might be exploited in a cyberattack. In addition, STRS retains the services of a third-party firm to monitor the systems for misuse.

Stakeholder Criticisms

As noted earlier, there have been a number of stakeholder criticisms following the reduction in COLA. While this was not directly part of our review, we have described our conclusions related to the primary criticisms we observed below:

Criticisms	Conclusions
Some annuitants feel it is unfair that STRS staff aren't sharing the pain.	It is the fiduciary duty of the STRS Board to make decisions in the best interests of current annuitants and younger participants who rely on the fund for future retirement benefits. Difficult decisions were made. The attraction and retention of talented staff is essential to the success of STRS' internal investment management strategy. Compensation is consistent with peers.
Investments have seriously underperformed.	STRS investment performance is in the top 25% compared to peers. STRS is the top performing Ohio fund over the past 10 years.[13]
Investment expenses - especially private equity (PE) - are exorbitant	All costs are closely monitored and controlled. Investment costs – including private equity costs - are lower than peers per the 2020 CEM report delivered on 12/16/21. STRS saves over $100 million a year by managing investments in-house ($1 billion over ten years).[14] The Private Equity Co-Investment program promises to save meaningfully on private equity expenses going forward. We note that PE has earned 19.8% over the 10-year period ending 12/31/21, additive to Total Plan

Criticisms	Conclusions
	results that were 11.2% during the same period, increasing total plan results.
Lack of transparency especially re: private equity fees.	PE fee transparency is an industrywide challenge. We make recommendations for improving fee disclosures and transparency, especially private equity (PE) fees, and by continuing to stream meetings, make meeting materials available and then archiving them on-line to improve accessibility. STRS is participating in the development of leading standards as one of a 10-person working group by the CFA Institute commenting on proposed SEC regulatory standards for Private Equity advisors.
Potential fraud / defalcation	This is not a forensic audit but no evidence of fraud or defalcation came to our attention during this review.
Lack of legislative oversight	ORSC commissions semi-annual independent investment reports. Ohio's legislative oversight is leading practice but future fiduciary performance audits and actuarial reviews need to be more timely.
Stakeholder communications are ineffective.	Stakeholder engagement and communications need improvement.
State Auditor commissioned Special Audit coincident with this fiduciary audit.	Not within scope. No communications have occurred with the OH AOS during this review to ensure independence of both audits.
Independent third parties are not independent.	STRS Board should be able to reasonably rely on information provided by qualified, independent third parties. Independent reassurance is provided by Internal Audit, external audit, the actuary, investment consultants, ACA and others.

Detailed Recommendations

1. Board Governance and Administration

1.1 Trustee Education

R1.1.1 **Revise Board Member Education Policy to more specifically identify core knowledge and competencies of trustees, as opposed broad categories such as "legal framework."**

R1.1.2 **Establish a formal process for self-assessment, including a skill inventory, and tie the annual education plan to identified development needs and the strategic plan.**

R1.1.3 **Develop an overall onboarding and continuing education plan for the full board and for each individual trustee.**

- **Identify individual needs and priorities that consider new trustees, leadership roles, and committee membership.**
- **Include the curriculum and source of training (e.g., in-house, external conference, webinar, online training).**
- **Overall timetable and progress reporting compared to plan.**

R1.1.4 **Rotate the agenda for training topics for the annual retreat year over year to present new information and perspectives in addition to core subjects. For example, the Board retreat should cover:**

- **Training on fiduciary duties that is periodically refreshed and covers the practical application of fiduciary obligations, including relevant examples of situations that trustees could encounter.**
- **Development of Board priorities and strategic plans.**
- **Strategic issues education based on near-term priorities/issues.**
- **Subcommittee and Board member self-evaluations.**
- **Planning for continuing education for individual members and Board as a whole.**

1.2 Lines of Reporting and Responsibility

R.1.2.1 **Adopt a comprehensive powers reserve framework that defines the authority retained by the Board and the authority delegated to the Executive Director.**

R.1.2.2 **Document the authority reserved and delegated in a single standalone policy to be included in the Governance Manual.**

R.1.2.3 **In addition to pro forma annual compliance resolutions, establish a regular cycle for reviewing delegation and thresholds consistent with the appropriate review cycle for the type of delegation. For example, delegated investment authority may be appropriate for annual review, while the general administrative powers delegated to the Executive Director may be reviewed less frequently (typically, every 3-5 years).**

R1.2.4 **Develop a list of recurring decisions requiring Board approval to clarify what must come to the Board and what is delegated; develop a description of the decision due diligence expected for each decision by the Board before it is brought for approval.**

R.1.2.5 **Establish Executive Director performance obligations that tie directly to strategic objectives by adopting a comprehensive performance review and assessment process (consider engaging a consultant to assist structuring a formal and accountable process).**

R.1.2.6 **Develop a robust compliance program that is tailored to address different compliance functions, including legal/policy, regulatory, statutory, contractual, and investment compliance.**

R.1.2.7 **Revise the Officer Policy to permit broader participation in Board leadership.**

R.1.2.8 **Revise Officer Policy and practices to provide for participation and leadership of committees based on Board member skills and competencies to be identified and supported through a robust process for skills assessment and continuing education.**

1.3 Statutes and Administrative Rules

R1.3.1 **Ensure that the compliance program addresses gaps in review and documentation of statutory compliance as noted in the above matrix. (Further compliance recommendations are discussed in Section 1.2 and Section 4.)**

1.4 Governance Provisions and Practices

R1.4.1 **The Ohio legislature should consider allowing the System to select its own external legal counsel.**

R1.4.2 **The STRS Board should continue to livestream the public sessions of its meetings and consider adding speaker and participant video; recordings should be archived and links should be easily accessible on the STRS website.**

R1.4.3 **STRS should consider providing Board public meeting materials on the website when they are available to trustees, with the understanding that they are preliminary, and maintain an archive of Board meeting agendas, materials, and minutes on their web site to improve transparency.**

R1.4.4 **The STRS Board should formally delegate policy and decision due diligence and more oversight responsibilities to its committees to reduce full Board meeting time and improve decision-making and oversight.**

R1.4.5 **Once a well-functioning committee structure is realized, the Board should consider reducing the frequency of its full Board meetings to bi-monthly.**

R1.4.6 **Staff should provide trustees access to Board book materials at least five working days before the meetings; if Board meeting frequency is reduced to bi-monthly the Board book lead time could be increased more.**

R1.4.7 **The STRS Board should consider organizing its meeting agendas around the powers reserved.**

R1.4.8 **Revise the policy and process for prioritizing and tracking trustee requests for information from staff or consultants/advisors to involve the Board Chair, in consultation with the Executive Director, in prioritization, approval, and follow-up on the requests.**

R1.4.9 **The STRS Board should eliminate the Board's Disability Review Panel (DRP) and delegate the disability appeals process to staff and the medical review board and focus the Board more on oversight of the policies and procedures, including approval of selection of the medical review board. This will enable the Board to focus on process and oversight where it determines that delegation is prudent.**

R1.4.10 **The STRS Board should eliminate the Final Average Salary Committee and delegate the approval responsibility to staff.**

R1.4.11 **The STRS Board should commit to a functioning standing board committee approach, with a streamlined structure with five standing committees, as indicated below, and new charters should be developed that clearly articulate the responsibilities of each committee:**

- **Audit Committee**
- **Investment Committee**
- **Finance and Compensation Committee**
- **Member Services Committee**
- **Board Governance Committee**

R1.4.12 **Each committee, under the guidance of its chair, should develop its long-term calendar in support of the Board's multi-year calendar to ensure committee activities support key Board decisions effectively.**

R1.4.13 **The Board Chair should meet with each trustee, especially when they are first elected or appointed, and discuss their interests and experience in consideration of their appointment to committees.**

R1.4.14 **The Governance Manual should be revised consistent with the existing practice where the Board chair proposes committee membership each year and makes the recommendation to the full Board for approval.**

R1.4.15 **Each committee should elect its chair annually; the Board Chair should not be the chair of any Board committees, with the exception of the Board Governance Committee if that new committee is implemented.**

R1.4.16 **Appointed trustees should be considered as potential committee chairs, especially when they have the most relevant experience in the area of responsibility of the committee.**

R1.4.17 **With assistance from staff, each committee should develop a list of standard questions to ask on each key topic.**

1.5 Budget Process

R1.5.1 **Continue to move forward with the initiative to convert general ledger platform from Peoplesoft to Workday to eliminate dependency on spreadsheet-based budget development and expense reporting processes and to shorten the overall window of time to develop the annual capital and expense budgets.**

R1.5.2 **As part of the Workday project, redesign current procedures in budget development, reporting, and expense management processes to optimize workflows from an overall efficiency and controls perspective.**

R1.5.3 **Given forecasted retirements across the organization, assess the risk of loss of fluency across the organization's understanding of budgetary policies and procedures and actively commence knowledge transfer activities to avoid potential gaps in the performance of budget development and tracking processes.**

R1.5.4 **Formalize development of a three-year Operating Plan from the strategic plan to produce a multi-year, forecasted capital and expense plan for the organization.**

R1.5.5 **Augment monthly budget reports with quarterly updates of capital improvement initiatives using stop light style formatting for reporting costs, schedule and benefit realization.**

1.6 Conflicts of Interest

R.1.6.1 **Amend the Ethics Policy to identify a process, subject to required external approvals, for consulting with counsel, disclosing and/or curing any potential conflicts.**

R.1.6.2 **Establish a process to monitor and cure any continuing conflicts of interest.**

R.1.6.3 **Adopt a comprehensive confidentiality policy.**

R.1.6.4 **Adopt manager/vendor referral policy, which addresses ex parte communications and avoiding potential for board member improper influence.**

R.1.6.5 **Consider expanding Associate Guidelines to incorporate or reference provisions from the Ohio Whistleblower Act.**

R.1.6.6 **Adopt an SEC pay-to-play policy.**

R.1.6.7 **Require each trustee, senior staff member, and all investment staff to provide an annual certification of compliance with the Code of Conduct, Ethics and Conflicts of Interest policies.**

R.1.6.8 **Require annual affirmations from all counterparties of the investment office, such as investment managers and broker/dealers, that they are in compliance with all contractual, legal and regulatory ethics and compliance requirements applicable to their provision of services to the System.**

R.1.6.9 **Require annual ethics/compliance affirmations from consultants and key professional service providers, such as investment consultants, management companies, and legal counsel, including acknowledgement of receipt of STRS policies at the entity level and individual certifications from key persons.**

R.1.6.10 Establish a robust compliance process, including comparison of STRS transactions against Financial Disclosure Statements and other public filings and ensuring that all compliance exceptions are escalated for remedial action, as appropriate, and reported to the Board or Audit Committee.

1.7 Succession planning

R1.7.1 The Executive Director succession plan should be updated and reviewed and approved by the Board and be more specific in its requirements.

R1.7.2 All Department plans should elaborate on training/education needs and coordinate with the HR department to budget and make training available and linked to associates' annual goals and strategic plan.

R1.7.3 The ED and senior staff, and then ED and Board, should candidly discuss the importance of hiring externally for certain positions which are difficult to recruit and retain, address temporary needs or require unique skills or resources.

R1.7.4 STRS should develop a more robust and transparent process around strategic planning.

R1.7.5 Strategic plan updates to the Board and strategic planning conversations should usually take place no more often than twice yearly to avoid confusion of tactical and strategic decisions processes.

R1.7.6 Consistent with R1.4.9, the Finance and Compensation Committee (if implemented) should review ED goal setting and review performance, and reference an updated and inclusive strategic plan.

1.8 Administrative Costs

No recommendations at this time.

1.9 Communication policies and procedures

R1.9.1 STRS should immediately contract with a communication consultation for skill augmentation, or hire experienced staff with skills in crisis communication, social media, and proactive messaging, and develop internal goals that include these areas of need.

R1.9.2 STRS should work internally with senior staff around messaging to meet the outcomes of its Strategic Goal #2.

R1.9.3 Although already at a relatively high level, STRS should continue to expand its electronic reach beyond 75% of its population and continue to reduce the need for print material.

R1.9.4 STRS should consider using the Healthcare and Pension Advocates (HPA) group to test its messages and listen to feedback on communication needs.

R1.9.5 STRS senior staff, including the ED, should offer to meet at least twice annually with as many stakeholder groups as possible.

R1.9.6 STRS should develop a Communications Plan that addresses stakeholder communication, crisis communication and social media, with assigned goals separate from STRS strategic plan.

R1.9.7 STRS staff leadership should continue to meet most often and in person with those constituents or members of the public that are most critical of STRS, provided interaction is consistent with advice of legal counsel where ongoing litigation is involved.

R1.9.8 The STRS Board should ensure all its members are exclusively utilizing their STRS email account for system-related messages.

1.10 Oversight of the Defined Contribution Plan

R1.10.1 Develop a Board continuing education program for DC plan fiduciary duties, plan design and oversight.

R10.1.2 Hire an independent DC plan advisor and independent investment consultant.

R10.1.3 More formally assign an individual in the STRS organization to lead the DC plan.

R10.1.4 Engage in a review of the DC Plan design and all policies, practices, and processes for the DC plan.

R10.1.5 Establish Board agenda items explicit to required DC and Combined Plan matters and assign oversight of these Plan features to a Board committee.

2. Organizational Structure and Staffing

2.1 Staffing and Compensation

R2.1.1 Perform a workload and skills analysis of the STRS HR organization including all regular, tactical and strategic responsibilities. Address key person risk in critical HR functions and address bandwidth challenges accordingly.

R2.1.2 Assess key capabilities across the discipline of change management to support the planned PeopleSoft to Workday platform conversion. As part of project planning for that effort, consider using third party resources to support key project functions including user acceptance testing, procedures development, and training.

R2.1.3 In light of the "Great Retirement" and "Great Resignation", reexamine recruitment challenges and key person risks across the organization. Update key recruitment statistics monthly. Seek to expand the bandwidth of recruiting resources, augment with third party recruiters as needed, and consider introducing incentives for onboarding where appropriate.

R2.1.4 Introduce an annual talent review process within STRS. Identify high performers, high potentials, individualized training and development needs, and at-risk associates, incorporate output from talent review into a standardized succession planning report yearly, and keep current in accordance with managerial assignments changes.

R2.1.5 Introduce a comprehensive STRS employee culture survey no less frequently than biennially; consider contracting an experienced consultant that measures the characteristics that are the foundation for a high-performance workplace.

2.2 Customer/Member Satisfaction

R2.2.1 Consider streamlining the disability application process to reduce the time to resolution. See also R1.4.7

R2.2.2 Consider enhancements to the STaRS system and/or STRS website to provide additional member services improvements:

- **Adding a live chat function on the STRS website**
- **Providing access to videos online through the website**

2.3 Compensation

R2.3.1 Establish a Board communication to STRS participants, employers and retirees about the approved results of the performance-based incentive program annually.

R2.3.2 Package key details of compensation targets, compensation processes, and compensation-based programs into an overarching compensation policy document that cascades from the compensation philosophy.

R2.3.3 Engage McLagan or another third party to refresh the independent compensation study as soon as possible. Consider adopting a policy to conduct independent compensation studies on a defined periodic basis.

R2.3.4 Conduct an analysis of a long-term deferred variable compensation program for investment professionals and senior management of STRS.

R2.3.5 Consider modifying the application of absolute market return haircuts uniformly to all annual individual performance awards to a total pool-based structure to enable outperformers to be appropriately recognized for extraordinary relative performance in an otherwise down market year.

R2.3.6 Execute the platform conversion from PeopleSoft to Workday to streamline compensation and performance management procedures.

2.4 Staff Qualifications and Continuing Education

R2.4.1 Cross reference training and development offers against the strategic goal and underlying objective and triage the relationship between them and their perceived influence in the attainment of the goal (e.g., direct, indirect, none). Expand and augment offers to fill in main training and development gaps that are not currently addressed.

R2.4.2 Ensure that the goals in the strategic plan identify skill and capability requirements to ensure that the organization has the essential skills necessary to achieve those objectives.

R2.4.3 Introduce a minimum of one professional development goal into each employee's annual performance plan.

R2.4.4 **Regularly monitor tuition reimbursement maximums for full and part time employees, both on an annual and lifetime basis. Adjust levels as prescribed by industry trends in order to provide retention incentives for staff.**

R2.4.5 **Set bottom-up training and development attendance goals concurrent to the budget development cycle, maintain statistics on attendance, and introduce analytic capabilities to understand effectiveness of training offers vis-a-vis performance evaluation, career progression, and retention, and maintain the inventory of internal and external training options on the basis of correlated results.**

3. Investment Policy and Oversight

3.1 Investment Policy and Procedures

3.1.1 Investment Policy Development Process

R3.1.1.1 **The STRS Board should add to the guidance provided by the Board to staff by the development of a Statement of Investment Beliefs (SIB).**

3.1.2 The Investment Policy Statement

R3.1.2.1 **The SIOP should be customized to reflect the unique liability and risk assumptions relative to the circumstances of Ohio STRS DB Plan.**

3.1.3 IPS Completeness

R3.1.3.1 **Consider the inclusion of a policy in the SIOP for determining when investment portfolios will be managed in-house and when hiring external managers for a given portfolio is warranted.**

R3.1.3.2 **Establish a Statement of Investment Objectives and Policy (SIOP) and monitoring process for the Defined Contribution Plan.**

R3.1.3.3 **Establish a Statement of Investment Objectives and Policy (SIOP) and monitoring process for the Post Employment Health Plan.**

3.1.4 Linkage of Asset Allocation to the SIOP

No recommendations at this time.

3.1.5 IPS Compatibility with Asset/Liability Study and Experience Review

No recommendations at this time.

3.1.6 Asset Allocation Review and Rebalancing

R3.1.6.1 **Include a description of the Deputy Executive Director Investments – Chief Investment Officer role as the ultimate decision maker and the process followed by the staff in the rebalancing process and cash management effort in the SIOP and the Investment Staff Guidelines and Procedures to clarify his/her authorities within the overall rebalancing policies established in the SIOP.**

R3.1.6.2 The reasoning for rebalancing actions should be documented and retained for future reference.

3.1.7 Due Diligence Documentation

R3.1.7.1 Update the Investment Staff Guidelines and Procedures document to include the process that the Investment Staff uses to determine and monitor portfolio risk positions and discuss the process they use to determine target positioning versus Strategic Benchmarks by monitoring portfolio weights and strategy sizing decisions.

3.1.8 Implementation Compliance

No recommendations at this time.

3.1.9 Policy Review

R3.1.9.1 Adopt a more comprehensive set of bylaws or Board governance policies. See Exhibit B for examples.

R3.1.9.2 Formalize the process for policy setting, including identifying policy needs and reviewing peer practices.

R3.1.9.3 Revise the Governance Manual to be more comprehensive and user-friendly, including refining the content of STRS' existing policies and developing new policies where there are gaps (S*ee* Exhibit C addressing opportunities for improvement of existing policies).

R3.1.9.4 Revise the insider trading and Material Non-Public Information (MNPI) policies (and related practices) to ensure that an information barrier exists between the private and public investment teams, and add an explicit prohibition on the public side of STRS from investing in IPOs or secondary offerings or corporate debt offerings (including packaged bank loans for companies) that are held or that were held immediately preceding the IPO within any related fund without prior consultation with legal counsel.

R3.1.9.5 Eliminate the "ends" vs. "means" policy framework, and organize policies around powers reserved.

R3.1.9.6 Develop Strategic Policy Calendars for the Board and each Committee that identify policy development priorities; these should be approved by the Board annually.

3.2 Investment oversight and review

3.2.1 Monitoring and Compliance

R3.2.1.1 Retain a third-party to provide a periodic due diligence review of in-house investment strategies. These reviews could include detailed attribution analyses and performance versus custom peer groups of external managers and will help articulate the value add that STRS has gained by moving the bulk of their investment activities in-house.

R3.2.1.2 Formalize the role of third-party investment and operational due diligence advisors in the Monitoring and Evaluation Process in the Investment Staff Guidelines and Procedures document.

R3.2.1.3 **Over time, establish a valuation process for Private Equity co-investments that is performed by an independent third-party to ensure transparency.**

R3.2.1.4 **Establish an annual ethics confirmation for all investment professionals / organizations responsible for managing STRS assets that details ethics expectations and requests annual certification of compliance. (See also recommendations in Section 1.6)**

3.2.2 Transaction Costs

R3.2.2.1 **Amend tables within the Semiannual Broker Evaluation and Associated Policies report to the Board to include identification of women and minority owned brokers, where applicable.**

R3.2.2.2 **On an annual basis, place results of third party (Virtu) TCA trade cost analysis, with accompanying STRS commentary, into an appendix of Semiannual Broker Evaluation and Associated Policies report.**

3.2.3 Performance Measurement

R3.2.3.1 **Include a brief overview of the measures of the actuarial health of the Plan in the Callan quarterly report. These could include estimates of funding status, time to close the funding gap and other relevant top-level measures of actuarial health.**

3.2.4 External Manager Compensation

R3.2.4.1 **Expand the Statement of Investment Objectives and Policy and Statement of Fund Governance document under the section on Board Oversight to include a Board responsibility to review external manager fees on an annual basis.**

R3.2.4.2 **Continue to encourage external managers of alternative assets to utilize ILPA standards, while monitoring trends (recognizing that it may still be impractical to implement a mandate covering all managers given current adoption levels, though deal terms may shift over time).**

R3.2.4.3 **Improve effectiveness of two-way communication on external manager fees with outside stakeholders. Expand external manager fee reporting to include performance and incentive fees, carried interest and pass-through limited partnership expenses. Consider posting results of semi-annual manager fee review process to STRS website, along with proactive STRS efforts to reduce fees. (Some information is already included the ACFR, but it provides little qualitative value.)**

R3.2.4.4 **Continue to provide public support for the SEC proposal to standardize and improve fee transparency for private equity and alternative investments. Monitor progress and prepare infrastructure to adopt changes if and when they are codified into law.**

R3.2.4.5 **STRS should request that CEM, in its next investment benchmarking report, reflect STRS' actual carried interest for private equity instead of utilizing the peer median as default carried interest.**

3.2.5 Conflicts of Interest Investment-related conflicts are addressed in Section 1.6

3.2.6 Investment Manager Selection

R3.2.6.1 **Formalize the role of an external advisor in the provision of Investment Due Diligence and Operational Due Diligence in their role in the search for new mandates and in the periodic review of external investment managers in the Investment Staff Guidelines and Procedures Manual.**

R3.2.6.2 **The Investment Strategy Committee should consider including non-investment members, such as the chief legal officer, compliance officer, or the head of operational due diligence, when approving new manager selection.**

R3.2.6.3 **Develop formal charters for staff committees that specify the members, and voting and approval processes and procedures.**

3.3 Investment and fiduciary risk

3.3.1 Risk Appetite

No recommendations at this time.

3.3.2 Investment risk factors

R3.3.2.1 **Consistent with our analysis and recommendations in Section 2.1 for an organization-wide talent review, STRS should formalize and implement a talent management effort and recruitment effort focused on the investment area.**

3.4 Custodian policy

3.4.1 Breadth and Quality of Services

R3.4.1.1 **Continue to seek opportunities to strengthen and expand oversight of custodial banks, including seeking custodial support in expanding oversight on both the quality and timeliness of third-party manager operational performance and developing and publishing an annual scorecard of custody performance, including securities lending and foreign exchange services, to the Board.**

R3.4.1.2 **Seek to standardize metrics and compare banks' performance to each Ohio pension plan and other agencies that utilize custodial services.**

R3.4.1.3 **Amend Custody Operating Procedures documents to identify custodial performance scorecard processes, agreed upon key performance indicators and service levels, and thresholds. Describe end-to-end steps to complete custodial evaluation and oversight processes.**

3.4.2 Structure and Fees

R3.4.2.1 **Conduct a periodic TCO (total cost of ownership) comparative analysis between the STRS in-sourced investment support operating model and one that bundles asset safekeeping and comparable functions at major custodial banks, including full breadth of operational, technological, and data services costs and considerations of both operational and investment risk.**

3.4.3 Cash Management and Analysis

R3.4.3.1 STRS should conduct a periodic review of the Northern Trust Government STIF product and Federated money market fund to review returns against benchmark and peers, to ensure that holdings within the products are in line with the investment policy statement, and to track the percent ownership of the vehicle (as a prevention of adverse selection risk).

R3.4.3.2 On a periodic basis, STRS should examine STIF and money market daily cash balances for externally managed accounts against IMA guidelines on cash balance limits to ensure effective compliance oversight of cash drag.

3.4.4 Custodial Oversight

R3.4.4.1 The Treasurer of State and STRS should develop a Memorandum of Understanding that documents current policies and procedures with respect to selection and oversight of the custodial banks to ensure that the effective current policies and processes remain and are improved in the future, even as new Treasurers are in office.

3.4.5 The Custody Model

R3.4.5.1 The STRS Board of Trustees should be given authority to select the STRS custodial bank. This could be accomplished in one of two ways:

- **a. The Treasurer of State could delegate authority to the STRS Board; or,**
- **b. The legislature could consider authorizing the STRS Board of Trustees to select its custodial bank and oversee the relationship.**

R3.4.5.2 The legislature should eliminate the requirement for the STRS custodial bank to have a presence in Ohio to allow for a single global custodial bank to serve STRS to reduce costs and complexity.

4. Legal Compliance

4.1 System Legal Compliance

R4.1.1 Adopt a policy that provides for a formal IRS compliance program that includes a requirement to obtain periodic assurance from outside tax counsel with respect to IRS compliance practices.

R4.1.2 Engage outside tax counsel to conduct a document compliance review with respect to each plan.

R4.1.3 Adopt procedures for ensuring tax compliance and appropriate documentation with respect to limited liability vehicles.

4.2 Legal Counsel

R4.2.1 Create the position of Compliance Officer. This position should report to the Chief Counsel and indirectly to the Audit Committee.

R4.2.2 **Hire an additional attorney to enhance support of investments to avoid key person risk and facilitate succession planning and knowledge transfer.**

R4.2.3 **Provide the Board with regular access to fiduciary and governance counsel to provide guidance on the practical application of the fiduciary duties and perspective regarding peer practices.**

R4.2.4 **Seek legislation permitting the System to engage legal counsel, in its sole discretion; or if that is not achievable, enter into a memorandum of understanding with the Attorney General's Office that permits STRS to have input into the selection of counsel providing services to the System and establish billing rates consistent with relevant market, locale, and expertise necessary for the type of legal services engaged.**

4.3 Ethics

R4.3.1 **Adopt an ethics compliance reporting policy to incorporate exception findings into an annual compliance report to the Board or Audit Committee.**

4.4 Board and staff compliance

R4.4.1 **Streamline compliance reporting to highlight exceptions from expected conduct or requirements.**

R4.4.2 **Report policy and compliance information, such as the maintenance of required insurance, in a searchable matrix or checklist format with term and renewal information and confirmation dates.**

5. Risk Management and Controls

5.1 Holistic View of Risk

R5.1.1 **Adopt a Basel-based definition of risk, i.e., risk is the potential for an unacceptable difference between actual and expected performance regardless of cause.**

R5.1.2 **Develop an integrated performance risk framework for strategy, operations, reporting and compliance.**

R5.1.3 **Ensure performance risk management (EPRM) is built into the way STRS runs its business.**

R5.1.4 **Approve vital signs for vital functions and increase situational awareness throughout the organization about what's vitally important.**

R5.1.5 **Require updates based on the volatility of the vital sign metrics.**

R5.1.6 **Clearly establish and approve risk appetite for all strategic goals as currently done with asset allocation decisions.**

R5.1.7 **Clearly establish tolerances for performance objectives, i.e., how much variability (positive and negative) the Board is willing to accept re: actual vs. expected performance.**

R5.1.8 **Cease to require subjective "guestimates" of impact, probability and velocity (inevitably biased).**

R5.1.9 **Perform an annual assessment of the internal control environment.**

R5.1.10 **Conduct at least annual risk awareness training for all staff and the Board.**

5.2 Reporting to the Board

R5.2.1 **Adopt exception-based performance risk reporting and require timely escalation of exceptions.**

R5.2.2 **Use exception-based dashboards to provide a comprehensive overview of performance and trends for key metrics and reduce the volume of information presented to the Board while improving its utility and insights.**

R5.2.3 **Require visible, timely feedback on performance and risk at all levels of the organization which, in turn, will contribute to faster organizational learning.**

R5.2.4 **Increase transparency and accessibility by requiring "drill down" capabilities from high-level executive summaries and exception-based dashboards to supporting detail and prior reports, as appropriate.**

R5.2.5 **Require quarterly reports on vital signs for vital function and thereby create a more dynamic and consistent reporting process. Management should identify opportunities for automation of reporting.**

R5.2.6 **Require that reports be consistently linked to the strategic plan and strategic objectives.**

R5.2.7 **Require that exception reports (positive and negative) provide a variance analysis that describes why performance is outside the expected "normal range" and management's response.**

R5.2.8 **Require a Root Cause Analysis of all significant exceptions and identify significant direction and policy implications.**

R5.2.9 **Periodically review all regular reports with staff and identify opportunities to improve or streamline reporting and eliminate unnecessary reports.**

R5.2.10 **Require that all performance reports to the Board be periodically independently reviewed by the internal audit function (or other independent reassurance source) to determine their reliability especially regarding reports that indicate "normal" or expected performance.**

R5.2.11 **Require that Board members continuing education topics include pension system financial requirements, risk management, and the importance of consistent and reliable controls within the system and not include regular reports to the Board.**

R5.2.12 **Develop a list of "standing" questions that should be asked regularly about all vital functions and of advisors, e.g., ten questions that should always be asked of the external auditor.**

5.3 Financial Controls, Financial Statements, and Purchasing Policy

R5.3.1 Each Key Risk Indicator (KRI) should have one or more associated Key Performance Indicators (KPIs) and emphasize the status of performance rather than the risk.

R5.3.2 The fraud/whistleblower reporting communication line/link should be displayed more prominently throughout the organization and in key online locations on the System's intranet and website.

R5.3.3 STRS should acquire a contract management system within the confines of a prudent cost/benefit analysis.

5.4 Accounting Processes

No recommendations at this time.

5.5 Internal and External Audit

R5.5.1 Internal Audit (or other independent reassurance source) should include regular testing and reassurance on the accuracy and reliability of the reported status of performance, i.e., red, green, yellow, the trend/direction, and the suitability or appropriateness of the KPI for the KRI. (See also R5.2.10)

R5.5.2 The Audit Committee should meet more often with the Internal Auditor, e.g., quarterly; meetings should not be time-limited simply because they are held before a scheduled full Board meeting.

R5.5.3 The Audit Committee should develop a comprehensive monitoring and compliance calendar.

R5.5.4 The Audit Committee should hire its own professional advisor to the Audit Committee and the Chief Audit Executive in order to:

- **Provide continuity to the ongoing work of the committee.**
- **Minimize disruption caused by member turnover.**
- **Provide ongoing and relevant education for the AC.**
- **Provide coaching and guidance to the CAE.**
- **Monitor the AC's adherence to its Charter.**
- **Monitor the IAD''s adherence to its Charter.**
- **Provide ongoing professional input and advice to the IAD, the Audit Committee and Board.**

R5.5.5 The Audit Committee should promptly fill the vacant staff position in the IAD and also hire such additional internal audit staff that are necessary to meet and maintain compliance with IIA Standards and to execute an aggressive internal audit plan with adequate effort assigned to the administrative support of the department; if hiring cannot be achieved in a timely manner, outsourcing to a third party or identifying additional agreed-upon procedures from the external audit firm could provide a solution.

R5.5.6 The Audit Committee should meet privately at least annually with the external auditor and internal auditor and without members of the management team present other than legal counsel.

R5.5.7 Audit Committee member education should include a frank and candid discussion of the purpose, use and value of the annual external audit.

5.6 Record-keeping system

R5.6.1 The Record Keeping System should include an organizational-level tool to track/ authorize/ memorialize file destruction information.

6. IT Operations

6.1 IT Operations and Governance

R6.1.1 The Board of Trustees should be more involved in oversight of IT-related matters, including known risks such as cyberattacks (especially ransomware) and the breaches of the privacy of member records.

R6.1.2 The Board should encourage staff to consider additional opportunities for greater service to the members using information technology through more frequent reporting by and interaction with the Chief Information Officer and including information technology as an agenda item for the Audit Committee.

6.2 IT Project and Portfolio Management

R6.2.1 Given the importance of the two major projects currently under way, the Board of Trustees should be regularly informed of their progress.

6.3 Data Management

R6.3.1 STRS should consider a more granular schema for information classification, perhaps distinguishing categories such as "Internal Use Only" or "Private" to distinguish members' personal information from sensitive investment or other information.

6.4 Application Development and Maintenance

No recommendations at this time.

6.5 Local Area Network (LAN) Infrastructure

No recommendations at this time.

6.6 Data Integrity

No recommendations at this time.

6.7 Security

R6.7.1 STRS should consider role-based access control (RBAC) software to make the processes of assigning access privileges more continuous, consistent and efficient; there are a number of commercially available tools for this purpose.

6.8 IT Disaster Recovery and Business Continuity Planning

R6.8.1 STRS should re-write its Business Continuity Plan in the anticipation that management and staff would work at home, enabling continuity of operations much more quickly than relocation to a recovery site; such a plan could be easily tested by having personnel periodically work remotely.

6.9 Incident Management

No recommendations at this time.

6.10 Areas of High Risk and Mitigating Controls

R6.10.1 STRS should develop a formal information security architecture that will limit the ability of an intruder to get into the information systems, limit what he can do and where he can go if he nonetheless manages to penetrate the systems and alert monitoring staff if it should occur.

R6.10.2 STRS should investigate Zero Trust and other models as well as the products that support them, not so much for its current needs but rather as the basis for assuring information security over the next decade or longer.

Table of Contents

1. Board Governance and Administration

The Contractor will perform a review of the governance structure of STRS in terms of the make-up of its board and level of monitoring and oversight provided in its policies, procedures, and practices. The Contractor shall evaluate the adequacy of the policies concerning delineation of roles and responsibilities of the board, staff, investment managers, and others with administrative or oversight responsibilities.

Specifically, this will include an analysis of:

1.1 Board trustee education, training, and their associated costs;
1.2 Whether STRS sufficiently delineates, communicates, and documents the lines of reporting and responsibility over staff responsibilities in general and in the investment program specifically and whether the role of the board and staff are clearly defined for both;
1.3 The statutes and administrative rules under which STRS operates to determine if the board and staff comply with applicable statutes and rules as well as whether the statutes and administrative rules are sufficient to allow the board and staff to meet their responsibilities;
1.4 Comparison of the governance provisions and practices to industry standards and best practices in comparable systems;
1.5 Review of STRS budget process and its adherence to board approved budget;
1.6 Written policies and procedures currently in place to monitor and guard against professional conflicts of interest;
1.7 Succession planning for key positions;
1.8 Administrative costs, including determining their appropriateness compared to comparable public systems;
1.9 Communication policies and procedures of STRS between the board, its members, and its retirees; and
1.10 Oversight of the Defined Contribution Plan.

Board Governance and Administration Review Activities

For the review, we utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices at peer state retirement systems in the U.S.:

- Ohio statutes and administrative rules governing STRS, including: Attorney General opinions; Chapter 102 of the Ohio Revised Code; and other statutes that address conflicts of interest, including Chapter 2921 and 3307 of the Ohio Revised Code and related Administrative Code sections within scope of the review were examined in conjunction with Board policies and practices.

- STRS's governance policies, including charters, delegations, position descriptions, ethics and standards of behavior policies and communications policy including the Investment and Business Opportunity Referrals policy.
- Compliance with these statutory requirements was evaluated. We also compared STRS Board education activities with similar peer programs.
- STRS's Board education and training program and materials.
- STRS's communications policies and plans.
- STRS' plan documents for the Defined Contribution Plan and Combined Plan.
- Interviews with Board members and STRS executive staff.
- FAS governance leading policies and practices knowledge base.
- Most recent three STRS annual operating budgets and financial and operating reports.
- STRS's staff development and succession planning documentation.
- Most recent CEM pension administration benchmarking report for STRS.
- We also reviewed the STRS website, stakeholder communications policy and both the communications plan and crisis communications plan, as well as a sample of stakeholder communications.

Overview of Governance and Administration

Powers delegated to the Board by the State are leading practice with the exception of the powers to select the external legal counsel and custodial bank (addressed in Section 3). The inability to select external counsel is a lagging practice.

The STRS Board of Trustees generally has leading practice authorities, e.g., for budgets, staffing and setting compensation, and procurement; however, there are several lagging practices. The exceptions include authority to select the custodian and set procedures for engagement of outside legal counsel, which is delegated to the Board of Trustees or its designees at the majority of peer systems.

Powers delegated by the Board to the Executive Director are consistent with prevailing practices but need improvement and consolidation.

The delegation to the Executive Director Policy provides that the Executive Director is responsible for the day-to-day administration of the System, which is a prevailing practice among peer systems. However, the delegations dispersed throughout the Governance Manual are transactionally oriented and do not clearly define the lines of authority as between the Board and the Executive Director. Delegations should be clarified and contained in a comprehensive framework that identifies the powers reserved for the Board and those that are explicitly delegated to the Executive Director. The policy and process for prioritizing and tracking trustee requests for information from staff or consultants/advisors should be revised to involve the Board Chair, in consultation with the Executive Director, in prioritization, approval, and follow-up on the requests.

Exclusion of appointed members as Chairs and Vice-Chairs and the Board Chair serving as chair of multiple committees are lagging practices.

The Officers Policy provides that each year the Board will elect a vice chair who will rotate into the position of chair the following year. The policy provides the criteria for eligibility restricting who may serve in board leadership roles to elected members, i.e., eliminating appointed trustees from consideration as Board Chair or Vice Chair. This restriction is a lagging practice that should be eliminated by the Board.

The Board Chair serves as the chair of several committees and, while not a policy restriction, the Board's practice is typically to restrict committee chairs to its elected members. Both of these are lagging practices. Most peer systems, either by policy or by practice, restrict the Board Chair from chairing any committees except for perhaps a Board Governance Committee. In particular, it is generally considered a conflict for the Board Chair to also chair the Audit Committee. Typically, any trustee not chairing the full Board is eligible to chair any committee, and prevailing practice is for committee members to elect their chair.

Appointments to Committees should include discussions with trustees regarding their interests.

It is prevailing practice for the Board Chair to meet with each trustee, particularly new trustees, and discuss their interests in serving on various committees. The Chair then annually makes committee membership appointments, subject to approval of the full Board. Each newly-constituted committee, in turn, elects its chair for the upcoming year. While many appointments carry over from year to year for continuity, there is also a balance in changing committee appointments as a means of trustee development and leadership succession planning. At STRS, several trustees mentioned that they had not been asked their areas of interest by the Board Chair, and that both committee appointments and leadership positions were typically carried over from the prior "seat" when a new trustee joined the Board. This comment was also made as to how committee chairs were selected.

Use of Committees is ineffective and a lagging practice.

The STRS Board does not utilize its committees consistently, which results in longer, and potentially more frequent, full Board meetings than peer systems; two of its committees have not met at all over the past several years. Typically, The Board formally delegates appropriate topics to each committee annually and sets target dates for bringing key policy items to the Board for approval. More effective use of committees could improve oversight of the entire STRS organization. Eighty percent of the time spent by the STRS Board in committee meetings is with the Disability Review Panel – over three times the average for other boards that have a Disability Committee (committee time is distinct from full board meetings). All other committees meet significantly less than is typical at peer funds. Effective use of committees should allow the Board to consider reducing the frequency of full Board meetings to bi-monthly.

STRS Committee structure needs to be improved. Some committees should be eliminated. Investment and Audit should be revitalized.

Potential improvements for the STRS Board committee structure could include:

1. Elimination of the Disability Review Panel (DRP) and Final Average Salary (FAS) committees.
2. A more active Audit Committee that meets quarterly and has an expanded charter.
3. A more active Investment Committee that oversees investment performance and brings items to the full Board as appropriate.
4. A more active Staff Compensation and Benefits Committee, renamed the Finance and Compensation Committee.
5. Expanding and renaming the Health Care Committee to become the Member Services Committee

with oversight responsibility for both pension administration and health care.

6. Formalize the ad hoc Board Education and Planning Committee as a standing committee, renamed the Board Governance Committee.

Communications and transparency need to be improved. Make public materials available in advance of meetings. Stream, record and archive public meetings.

STRS currently livestreams the public sessions of its Board meetings through their website. The video feed presents the meeting presentation materials and does not include any participant video. Increasingly, peer funds have been livestreaming their Board meetings, including speakers and other participants in the video, and providing links to an archive of videos from past meetings on their website. Most peer systems also maintain an archive of past meeting agendas and minutes on their web site; STRS provides them for a short period and then removes them. Adopting peer practices with meeting videos, as well as board book materials, archived on the STRS website would help improve transparency.

Board books are made available to trustees on the Friday the week before meetings, which typically start on Wednesday. Prevailing practice is to make board materials available to trustees at least five working days before meetings start. For transparency, leading practice is also to make the public meeting portion of the board books available on the website in advance of the meeting.

Board education meets statutory requirements but needs individualization and planning.

STRS has a Board education program that meets statutory requirements. However, it is substantially self-guided and there is not a formal process for identifying individual continuing education needs. Compliance with the statutory and policy requirements is tracked via an attendance spreadsheet. The Board should develop an overall onboarding and continuing education plan for the full Board and for each individual trustee that identify individual needs and priorities, including the curriculum and source of training (e.g., inhouse, external conference, webinar, online training) and an overall timetable and progress reporting compared to plan.

Succession planning is leading practice. The Board and key stakeholder groups could be more engaged in strategic planning.

In recent years, STRS has had a strong focus on succession planning throughout the organization, which is a leading practice. The recent transition to a new Executive Director has gone smoothly and is a credit to the process. However, a new Executive Director succession plan should now be updated and reviewed and approved by the Board. STRS should also develop a more robust and transparent process around strategic planning, including engaging with the Board and key stakeholders during the process.

Budget Development is effective although manual. Automation plans are in process. Budget reporting should be exception-based.

On an overarching basis, the annual budget development process at STRS is considered effective from both a controls and execution perspective. However, despite well-defined policies and procedures, the budget development process is inherently inefficient, almost exclusively due to its manual nature and dependency on Microsoft Excel spreadsheets. There is an initiative in process to replace the current general ledger platform that would significantly improve and automate the financial budgeting and monitoring processes. Monthly budget performance reports are developed and distributed by the

Finance Team and contain granular level information that the Board takes up as part of routine matters. In the recent past, STRS has an exemplary track record in not exceeding forecasted budgets.

An escalation process for potential conflicts with the Ethics Policy is needed, and several new policies should be developed.

The Ohio Revised Code requires the STRS Board, in consultation with the Ohio Ethics Commission, to develop an ethics policy governing the Board and STRS employees. The Board has complied with the statutory requirement and adopted an ethics policy, and employee ethics is covered in the Associate Guidelines. The Code also requires the Board to periodically provide ethics training to members and employees of the Board. While the Ethics Policy describes certain types of conflicts of interest, it provides no guidance as to the actions that one should take upon the occurrence of a potential or actual conflict, such as consulting with legal counsel, disclosure and recusal. In addition, where a conflict has been identified, circumstances may require that the conflicted party be excluded from certain discussions or screened to prevent the receipt of confidential information with respect to the conflict. STRS should amend the Ethics Policy to identify a process for consulting with counsel, disclosing and/or curing any potential conflicts, and establish a process to monitor and cure any continuing conflicts of interest. Additionally, STRS lacks policies in several areas that are prevailing practice at peer systems, including: a comprehensive confidentiality policy; a manager/vendor referral policy; a whistleblower policy; and an SEC pay-to-play policy.

Counter-party compliance should be strengthened.

STRS' standard investment management agreement ("IMA") requires investment managers to conduct investment activities in a manner consistent with the Code of Ethics and the Standards of Professional Conduct adopted by the CFA Institute, as well as provide evidence of compliance upon request. STRS could establish a compliance process, including tracking disclosures against public filings and ensuring that all compliance exceptions are escalated for remedial action, as appropriate, and reported to the Board. It is also recommended that STRS require annual ethics/compliance affirmations from all counterparties of the investment office such as investment managers and broker/dealers, as well as consultants and key professional service providers, such as investment consultants, management companies, and legal counsel.

Staffing and budgets appear reasonable.

Based upon benchmarking information from CEM Benchmarking, as well as Funston Advisory Services InGov© peer benchmarking, STRS appears to have reasonable levels of staffing and budgets compared to their peer group. Over the past twenty years, STRS has reduced staff head count from a high of 735 to 498.

DC plan oversight is lagging.

Since the DC Plan's inception, STRS has adopted a DC plan design that utilizes the DB plan investment strategies on a co-mingled basis. There is no separate investment fund, strategy, or policy statement for the DC plan. Similarly, the Board does not have an independent investment advisor for the DC plan nor an advisor on plan design. The current Board reviews and level of oversight are not up to prevailing practice levels. STRS should develop a Board continuing education program for DC plan fiduciary duties, plan design and oversight. It should also hire an independent DC plan advisor and independent investment consultant, assign a single individual in the STRS organization to lead the DC plan, and engage in a review of the DC Plan design and all policies, practices, and processes for the DC plan. Board oversight should be assigned to a specific committee.

Powers Reserved

Throughout this section, as well as elsewhere in this report, we will refer to "Powers Reserved" for the Board. As context, the Powers Reserved are described here.

In the Ohio code, there are five powers reserved for the STRS Board to fulfill its duties:

- Conduct the Business of the Board and its committees
- Approve key decision above a threshold
- Set direction and policy and then prudently delegate
- Oversee the execution of direction within policy
- Verify then trust and obtain independent audit and advice as needed.

A power reserved is a decision or an authority that can only be exercised by a specific decision-maker. This could include the State of Ohio, the STRS Board, and/or management.

Examples of each power reserved include:

- *Conduct the business of the board and its committees:* agenda setting; forming committees; developing/updating charters; selection, goal setting, and evaluation of the chief executive officer and chief auditor; selection and evaluation of independent advisors; trustee onboarding / continuing education; board self-evaluation / development.
- *Approve key decisions above a threshold:* strategic plan; capital budgets; operating budgets; financial statements; actuarial assumptions; major projects.
- *Set direction and policy and then prudently delegate:* investment beliefs; strategic asset allocation; key policies; risk tolerance; delegations to the executive director; delegations to third parties; escalation criteria for reporting to the board.
- *Oversee the execution of direction within policy:* receive and review reports from staff and advisors; conduct periodic functional and program reviews; ensure performance is within acceptable ranges.
- *Verify then trust and obtain independent audit and advice as needed:* obtain periodic assurances from the executive director and staff; obtain reassurance from internal audit; obtain independent reassurance from third-party advisors; charter independent investigations, as necessary.

1.1 Trustee Education

Board trustee education, training, and their associated costs.

Expectations

An effective public retirement system board education program should be designed to address the variety of needs found in a group of trustees with diverse backgrounds and experiences. A leading practice program typically includes both new trustee onboarding and trustee continuing education.

Trustee On-boarding

At most retirement systems, onboarding is typically a one-time event (2-6 hours) of “meet and greet” and a review of a thick policy manual without much context. However, new trustees have immediate, individual learning needs that either can’t wait or won’t otherwise be met by traditional onboarding, even if it is supplemented with external conferences.

The onboarding experience should be considered as the first year of a trustee’s continuing education program, a more intensive, targeted and customized process intended to bring the new trustee “up to speed” as quickly as possible and address each trustee’s unique needs. The materials should orient the new trustee to the retirement system as a public entity (e.g., governing legislation and sunshine laws (open meetings and public records); fiduciary duties; powers reserved for the board and powers delegated; the employers’ roles; the pension plan design and rules; the retirement system organization and staff; board and committee structure and operations; ethics and standards of conduct; board policies; key external service providers).

The onboarding process should also utilize materials from the core continuing education program, as appropriate, to address an individual new trustee’s requirements or needs.

The retirement system board could consider a more significant number of required hours for training in the initial year, or alternatively the first two years.

Continuing Education

The core component of trustee continuing education, which is a standard offering for the full board, should address the fundamental responsibilities of each trustee, including key board decisions and oversight. For example, a typical core curriculum would include basic understanding of fiduciary duties; pension fundamentals; investment governance and oversight; benefits governance; administrative oversight; independent reassurance; and board governance.

The core continuing education program should be part of the initial trustee onboarding within the first year, but also included as periodic “refresher” training every several years in full board training sessions since they are fundamental to each trustee’s duties.

The core training materials should also be readily accessible to all trustees as reference materials, ideally through an online digital board portal.

Core continuing education also typically includes on-site training by key service providers such as the actuary and investment consultants, as well as expert internal staff. For example, sessions which review the role and characteristics of each asset class in the fund's portfolio, or a potential new asset class, could be scheduled prior to deliberations on updating the asset allocation. The timing of specific education could be scheduled on the board's annual calendar to coincide with important board deliberations throughout the year.

The elective component of continuing education should be provided as a "menu" of possible training sessions from which a trustee can choose to meet individual interests or skill gaps. These are often externally-provided programs that can include conferences, webinars, online learning, or other venues and media.

Elective training will often include an extensive selection of investment-related offerings to help trustees cope with the increasing complexities of modern institutional portfolios. However, it should offer opportunities to enhance understanding of all aspects of the retirement system's governance, policies and operations, including, for example, actuarial issues, pension operations, executive leadership and performance management, executive succession planning, risk management, stakeholder communications, and other key topics. Some external programs are multi-faceted and will cover a variety of topics.

An effective trustee education program develops individual trustee education plans and tracks trustee participation and completion rates. Trustees also provide feedback to the system based on their perceptions of the effectiveness of the program. This helps to inform other trustees and makes recommendations on which programs to select. Trustee evaluations and reporting on education to the full board is an important part of an effective education program.

Educational Options / Methods

A leading practice trustee education program has a number of planning elements and other features, including:

1. Individualized learning plans and calendars for each trustee.
2. A mentoring program with each new trustee assigned to an experienced trustee as a mentor. An executive staff member can also be assigned.
3. Curriculum identified and organized by subject area and type of venue:
    a. Internally-delivered education sessions
    b. External, in-person conferences
4. External virtual conferences.
5. Online training.

Trustee Education Standards of Comparison and Findings

Trustee Education Standards of Comparison	Findings
There is a formal education policy and program which specifies minimum requirements.	Yes
There is an onboarding process for new trustees that is effective in building core trustee competencies over the first one-to-two years.	Partial
There is a board continuing education budget.	Yes
Training is individualized and there is an individual training plan for each trustee.	No
Trustees meet their orientation and continuing education requirements.	Partial
The Trustee education program includes all or most key trustee topics: Fiduciary responsibilities; Investments; Ethics; Pensions; Governance; Actuarial principles.	Yes
Training is linked with board self-assessment results.	No

Conclusions

Ohio Statutory Requirements

Sections 3307.051 and 171.50 of the Ohio Revised Code set the standards for orientation and continuing education of STRS Trustees. New trustee orientation and annual continuing education must cover board member duties and responsibilities, retirement system member benefits and health care management, ethics, governance processes and procedures, actuarial soundness, investments, and any other subject matter the Ohio retirement boards believe is reasonably related to the duties of a board member.

Orientation must be provided within 90 days after commencing board service, and at least two components of continuing education must be attended annually. The primary training program is jointly developed and paid for by all of the Ohio retirement funds, though STRS also provides supplemental Trustee education as a regular component of Board meetings.

Onboarding

The STRS Board Chair assigns a trustee "mentor" for each new trustee who joins the Board. The mentor is expected to assist the new trustee in identifying their education needs and answer any questions they may have in getting up to speed with Board activities. Most Board members said the mentor program is effective, although less so during the past two years under COVID restrictions.

Although the intent is to have individualized onboarding to meet the specific needs of each new trustee, the process appears to be informal and there are not documented training plans for each Board member.

STRS Education Program

The joint educational program established by the five Ohio public pension funds presents high-level information and appears to be a valuable training event, particularly for less-experienced trustees, that implements the statutory orientation and continuing education requirements. However, as it only occurs every three years, it represents a small component of overall training for STRS. Topics such as fiduciary duties are typically reviewed annually with trustees, and other topics covered during the joint educational program area also provided more frequently by STRS. However, the STRS Board training sessions are substantially redundant year over year, and lack content demonstrating the practical application of the concepts discussed. In addition, Board training does not appear to be tied to an annual calendar or coincide with anticipated Board deliberations in a given year

The Board education program is substantially self-guided and there is not a formal process for identifying individual continuing education needs. Board member compliance with the statutory and policy requirements is tracked via an attendance spreadsheet that provides no insight as to the substance of the training or whether it is compliant with the Retirement Board Member Education Program (paragraph C(2) of the Board Member Education Policy requires a notation that the presentation is an educational component in furtherance of the statutory requirements). It is unclear whether STRS tracks compliance with the new member training requirement, as it is not addressed in the attendance report. In addition, it is unclear whether compliance or non-compliance with the initial and continuing education requirements is reported to the Board on a regular basis.

Recommendations for Improvement

R1.1.1 Revise Board Member Education Policy to more specifically identify core knowledge and competencies of trustees, as opposed broad categories such as "legal framework."

R1.1.2 Establish a formal process for self-assessment, including a skill inventory, and tie the annual education plan to identified development needs and the strategic plan.

R1.1.3 Develop an overall onboarding and continuing education plan for the full board and for each individual trustee.

- **Identify individual needs and priorities that consider new trustees, leadership roles, and committee membership.**
- **Include the curriculum and source of training (e.g., in-house, external conference, webinar, online training).**
- **Overall timetable and progress reporting compared to plan.**

R1.1.4 Rotate the agenda for training topics for the annual retreat year over year to present new information and perspectives in addition to core subjects. For example, the Board retreat should cover:

- **Training on fiduciary duties that is periodically refreshed and covers the practical application of fiduciary obligations, including relevant examples of situations that trustees could encounter.**
- **Development of Board priorities and strategic plans.**
- **Strategic issues education based on near-term priorities/issues.**
- **Subcommittee and Board member self-evaluations.**
- **Planning for continuing education for individual members and Board as a whole.**

1.2 Lines of Reporting and Responsibility

Whether STRS sufficiently delineates, communicates, and documents the lines of reporting and responsibility over staff responsibilities in general and in the investment program specifically and whether the role of the board and staff are clearly defined for both.

Expectations

Overall Governance Framework

There are several forms of governance models for public retirement systems in use in the U.S. today. The structure under which STRS operates is the most common structure, i.e., an integrated investment and pension administration organization with a single fiduciary board. The Executive Director or CEO is responsible for the entire organization and reports to a board that has authority for investments and pension administration and delegates its authorities through the CEO. Thirty-eight of the largest sixty-five, or 58%, of state public pension funds in the U.S. utilize this structure. In our comparisons to peer funds, we consider other state public retirement systems with a similar structure.

Leading practice is for public pension boards to delegate external investment manager selection, as well as authority to manage selected internal investment portfolios, to an appropriately skilled and resourced investment staff.

Based upon Funston Advisory Services' research that examined the 70 U.S. board-managed state retirement funds (excludes the three funds managed by a sole fiduciary (New York State CRF, North Carolina, and Connecticut)) with assets under management of at least $10 billion, the following profile of board delegation of investment manager selection was developed:

Systems by AUM	Delegated Selection	Have Internally-Managed Portfolios
16 largest ($497 – $95 billion)	81% [1/]	88%
Next 20 largest ($79 – $36 billion)	70%	35%
Next 34 largest ($30 – $10 billion)	35%	15%

[1/] Note: was 69% 10 years ago

This policy both allows the board, which has limited time available for oversight of the retirement system, to spend sufficient time on the oversight of the overall investment strategy and other important matters. It also moves investment management decision-making responsibility into the hands of full-time investment professionals who have both the skills and time to adequately assess investment opportunities.

In order for a public pension board of trustees to continue to provide effective oversight of its investment program under this type of delegated investment authority, leading practice is to have strong capabilities in a number of areas which provide the appropriate assurance and independent reassurance that are necessary for the board to exercise its fiduciary responsibilities.

The powers reserved for the board are clearly defined. Each decision that must be approved by the board is explicitly identified and there are decision due diligence standards for each one (e.g., similar to due diligence checklists for investments). Recurring decisions are maintained in the board calendar and linked to any needed trustee education.

Governance Roles and Responsibilities

Public retirement leadership responsibilities typically lie primarily with the board chair and vice chair, board committee chairs, and the executive director. It is the responsibility of this leadership group to insist on maintaining good trustee and senior executive conduct, based on a written and board approved Code of Conduct contained in a Governance Policy Manual.

The chair typically has seven major duties:

1. Preside over meetings, approve the agenda for those meetings, and maintain order in conducting the business of the board.
2. Oversee the setting of the system's strategic agenda and priorities.
3. Oversee board communications and collaboration with the executive director.
4. Ensure the board receives adequate and appropriate materials in a timely fashion.
5. Monitor and assess board performance and counsel board members.
6. Appoint and rotate terms of committee members.
7. Act in coordination with the executive director as spokesperson for the board and as an ambassador to stakeholders.

The vice-chair, whether for the full board or a committee, acts as chair in absence of the chair.

1. The vice-chair may lead selected board initiatives, at the discretion of the chair.
2. The vice-chair can provide balanced representation.

Prevailing practice in the vast majority of states is for the board to elect its chair from among sitting members, although in a few states the chair is appointed by the governor or an ex officio member is the standing chair. When the board elects its chair, all trustees are eligible to become the chair.

Lines of Reporting and Responsibility Standards of Comparison and Findings

Overall Governance Framework

Overall Governance Framework Standards of Comparison	Findings
The powers reserved for the board and authority delegated to staff are clearly defined.	Partial
Each decision that requires board approval is identified and recurring approvals are included in the board decision calendar.	Yes
Each board decision has defined decision due diligence standards that identify preparation and information requirements necessary to meet board approval.	No

Governance Roles and Responsibilities

Governance Roles and Responsibilities Standards of Comparison	Findings
Regular rotation of board and committee leadership to facilitate trustee development and leadership succession planning.	Partial
The election of the vice chair takes succession planning into account; where practical, the vice-chair should succeed the chair.	Yes
All trustees are eligible to be elected and considered as candidates as Board chair.	No
The board and committee chairs ensure formal and respectful behavior from trustees to each other, to staff, and to advisors.	Partial
The Board Chair ensures that all interactions between staff and board members and between staff and external consultants/advisors are respectful and collegial.	Partial
The executive director and executive team (deputies) ensure that all interactions between staff and board members and between staff and external consultants/advisors are respectful and collegial.	Yes
The executive director is responsible for maintaining board minutes and documentation in a searchable and accessible manner.	Yes
There is a board policy that requires substantive requests for information from board members to go through the board chair and executive director to be prioritized and tracked for follow-up.	Partial
When the board approves a significant change program, oversight responsibilities are assigned to trustees and staff or consultants/advisors for implementation; the plan includes associated target completion dates and approved resources, as required.	Yes

Conclusions

Powers Reserved and Delegated

The Delegation to the Executive Director Policy provides that the Executive Director is responsible for the day-to-day administration of the System. This Policy permits the Executive Director to:

- Sub-delegate in his or her discretion.
- Establish all necessary procedures and administrative regulations.
- Exercise discretion to the extent consistent with Board policies.

In addition, each September, the Board approves certain resolutions authorizing the Executive Director, Deputy Executive Director, and other administrative officers to act on behalf of the Board with respect to the daily operation of the System. The resolutions appear to be relatively pro forma. Delegation and powers reserved with respect to investments are discussed in greater detail in the investment policy statement. In addition, certain limitations on the Executive Director's authority are referenced throughout the Governance Manual in the form of "do not do" lists and there are other enumerated "bad acts" that the Executive Director is not permitted to engage in. It appears that "compliance" is substantially structured as confirmations of the absence of the enumerated "bad acts."

The delegations dispersed throughout the Governance Manual appear to be transactionally oriented and do not clearly define the lines of authority as between the Board and the Executive Director. In addition, each September, the Board approves certain resolutions authorizing the Executive Director, Deputy Executive Director, and other administrative officers to act on behalf of the Board with respect to the daily operation of the System. Delegation is also addressed in the Investment Policy Statement, which sets for the powers reserved and delegated with respect to investments in greater detail.

STRS maintains an "Annual Issues and Items of Interest" list that includes anticipated monthly Board activities by month for the upcoming two years. While this list appears to contain most, if not all, of the items requiring Board approval, it is a mix of many items. The decision due diligence standards are not specifically articulated for each of those decisions that come to the Board for approval.

Board and Committee Leadership

The "Officers, Term of Office, Duties" policy (the "Officers Policy") provides that each year the Board will elect a vice chair who will rotate into the position of chair the following year. The *policy* provides the criteria for eligibility: (1) at least one year of Board service, (2) at least two years remaining in the member's term, and (3) the member must be serving in an elected position on the Board. The eligibility to serve as chair is a *policy* rather than a statutory requirement. While it is a leading practice to have a built-in mechanism for rotation of leadership and succession, it is not typical (absent a statutory mandate) to have a policy restricting who may serve in board leadership roles.

The Officers Policy permits the Board chair, in his or her discretion, to appoint Board members to committees and the Disability Review Panel, and appoint the chair of each committee/panel. Provided, however, that the Officer Policy sets forth the composition of the standing committees, except with respect to the Audit Committee composition which is established by statute (R.C. § 3307.044).

The Board chair serves as the chair of several committees and, while not a policy restriction, the Board's practice is to restrict committee chairs to its elected members.

Recommendations for Improvement

R.1.2.1 **Adopt a comprehensive powers reserve framework that defines the authority retained by the Board and the authority delegated to the Executive Director.**

R.1.2.2 **Document the authority reserved and delegated in a single standalone policy to be included in the Governance Manual.**

R.1.2.3 **In addition to pro forma annual compliance resolutions, establish a regular cycle for reviewing delegation and thresholds consistent with the appropriate review cycle for the type of delegation. For example, delegated investment authority may be appropriate for annual review, while the general administrative powers delegated to the Executive Director may be reviewed less frequently (typically, every 3-5 years).**

R1.2.4 **Develop a list of recurring decisions requiring Board approval to clarify what must come to the Board and what is delegated; develop a description of the decision due diligence expected for each decision by the Board before it is brought for approval.**

R.1.2.5 **Establish Executive Director performance obligations that tie directly to strategic objectives by adopting a comprehensive performance review and assessment process (consider engaging a consultant to assist structuring a formal and accountable process).**

R.1.2.6 **Develop a robust compliance program that is tailored to address different compliance functions, including legal/policy, regulatory, statutory, contractual, and investment compliance.**

R.1.2.7 **Revise the Officer Policy to permit broader participation in Board leadership.**

R.1.2.8 **Revise Officer Policy and practices to provide for participation and leadership of committees based on Board member skills and competencies to be identified and supported through a robust process for skills assessment and continuing education.**

1.3 Statutes and Administrative Rules

The statutes and administrative rules under which STRS operates to determine if the board and staff comply with applicable statutes and rules as well as whether the statutes and administrative rules are sufficient to allow the board and staff to meet their responsibilities.

Expectations and Standards of Comparison

The Ohio Statutes establish legal requirements that govern STRS and the Board. In turn, the Board interprets and implements those laws through creation of Administrative Code provisions and policies. STRS practices were evaluated in the context of those legal obligations.

Conclusions

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
General Governance	The Board shall adopt policies for the operation of the system, and the investment of funds. RC § 3307.15	The Board has adopted a governance manual addressing key governance topics and an investment policy statement.	While there are certain policy gaps which are identified in Section 3.1.9, the Board policies are generally sufficient.
Plan Qualification	The board may take all appropriate action to avoid payment by STRS or its members of taxes on contributions and earnings and to comply with any plan qualification requirements, including those on distributions, under Title 26 of the US Code. R.C. § 3307.04	The Board and staff appear to have taken appropriate steps to ensure the qualification of the various plans, including procuring favorable determination letters from the IRS in 2014. However, the System should adopt a formal process for ensuring ongoing compliance in light of the changes to the IRS determination letter program.	Partial. (*See* Section 4.1)
Certain Rules	The Board shall adopt rules regarding: (1) revised or new policy for travel and travel expenses; and (2) if the Board intends to award	The Board adopted Rule 3307-2-03 with respect to Board member travel and education. In addition,	Sufficient.

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
	bonuses, policy regarding employee bonuses. The Board must provide copies of these rules to the Ohio Retirement Study Council. R.C. § 3307.041	STRS has adopted a Travel and Expense Policy for Associates and a Board Member Travel and Expense Policy. The Board adopted Rule 3307-1-05 with respect to the Performance Based Incentive Program for eligible investment associates, and the Staff Compensation and Benefits Committee is responsible for reviewing the program, with approval by the Board on an annual basis.	
Budget Process	The Board must submit to Ohio Retirement Study Council a proposed operating budget for the next immediate fiscal year R.C. § 3307.041	STRS has adopted the policies and procedures necessary to comply with this requirement.	Sufficient.
Dissemination of Public Information	The Board must submit to Ohio Retirement Study Council a plan describing how the board will improve the dissemination of public information pertaining to the board. R.C. § 3307.041	STRS last filed the report to the ORSC in Spring 2019. It is not intended to be an annual report but there is no defined frequency.	Sufficient.
Ethics Policy	The board must develop an ethics policy governing board members and employees and submit this policy to the Ohio ethics commission for review and approval. The board must submit the policy to the Ohio Retirement Study Council for review before adopting it.	The Board has adopted an ethics policy (Appendix B to the Governance Manual).	Sufficient.
Officers; Executive Director; Other Employees	The Board must elect a chairperson and a vice-chairperson. And, the Board must employ an executive director to serve as secretary and other persons necessary to operate the	The Board elects a chair and vice chair annually per the Officer Policy. The Board has and continues to employ an executive director.	Sufficient.

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
	system and to fulfill the Board's duties and responsibilities under Chapter 3307.		
Campaign Finance Statements, Statutory Prohibitions, and Compliant Procedure	Candidates with contributions or expenditures must file itemized campaign finance statements with the secretary of state. R.C. § 3307.72	In 2021, STRS obtained and reviewed campaign statements filed with the OH Secretary of State. STRS does not prepare a compliance report as a matter of course.	Partial. (STRS should consider formalizing a compliance review and reporting process)
Board Training	Not later than ninety days after commencing service as a board member, new members must complete the orientation program component of the retirement Board member education program. R.C. § 3307.051 Each Board member who has served a year or longer must, at least twice a year, attend program(s) that are part of the continuing education component of the retirement Board member education program. R.C. § 171.50	The Board receives training conducted by STRS staff and service providers, through the combined education program, and self-guided training, including via industry conference attendance.	Partial. (*See* compliance recommendation in Section 1.1 above)
Ethics Training	The Board must periodically provide ethics training to members and employees. R.C. § 3307.042	The Board receives annual ethics training. Annual staff ethics training compliance is reported, but no formal policy exists for such reporting.	Partial. (*See* compliance recommendation in Section 4.3)
Audit Committee; Selection of Internal Auditor	The board shall appoint a committee, comprised of one retirant, one contributing member, one ex officio member, and any additional board members appointed to the committee, to oversee the selection of an internal auditor; the board shall employ the person(s) the committee selects. R.C. § 3307.044	This is substantially addressed in the Committee Principles Policy and the Audit Committee Charter.	Sufficient.
Investment	Any state retirement investment	Staff Procedures XVII(1)	Sufficient, but

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
Officer	officer the board employs must hold a valid license issued by the Division of Securities in the Department of Commerce. R.C. § 3307.11	Mandatory licensing required for DED-Investments, Assistant Director-Investments, director of each asset class; (2) licensing required on a case-by-case basis for portfolio managers, director of each real estate region, head traders, associates who manage a portfolio, associates who serve on the Strategy Committee.	basis for case-by-case determinations should be documented and overall compliance periodically audited.
MNPI	The duty of reasonable supervision of the Chief Investment Officer (CIO) includes the adoption, implementation, and enforcement of written policies and procedures reasonably designed to prevent Fund employees from misusing material, nonpublic information in violation applicable laws, rules and regulations. R.C. § 3307.043		Sufficient. *See* policy recommendations in Section 4.
Actuarial Reports	The Board shall have prepared by or under the supervision of an actuary the following: 1. Annually, an actuarial valuation of the pension assets, liabilities, and funding requirements of the STRS DB Plan. 2. At such times as the board determines, and at least once in each five-year period, an actuarial investigation of the mortality, service, and other experience of the members of STRS and of other system retirants, to update the actuarial assumptions used in the actuarial valuation. 3. An actuarial analysis of any introduced legislation expected to have a	Annual valuation requirements and actuarial review, including experience study (at least every 5 years) referenced in Valuation Policy. Actuarial compliance memo contained in file.	Sufficient.

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
	measurable impact on STRS and prepare a report of the same consistent with the statute. R.C. § 3307.51		
Actuarial Report—Group Health Insurance	The Board shall have prepared annually a report giving a full accounting of the revenues and costs relating to the provision of benefits under R.C. § 3307.39.	The Health Care Plan Policy provides for an annual actuarial valuation. Annual report was last provided by Cheiron in October 2021.	Sufficient.
Prohibited Business Transactions/ Restrictions on Fiduciaries	Unless an exception applies, a fiduciary shall not cause the Fund to engage in a transaction, if the fiduciary knows or should know that such transaction constitutes a direct or indirect: (1) sale, exchange, or leasing of any property between the Fund and a party in interest; (2) lending of money or other extension of credit between the Fund and a party in interest; (3) furnishing of goods, services, or facilities between the Fund and a party in interest; (4) transfer to, or use by or for the benefit of a party in interest, of any Fund assets; or (5) acquisition, on behalf of the Fund, of any employer security or real property. R.C. § 3307.181	Section 3307.181 is addressed in the standard IMA and fiduciary duties are addressed in the standard side letter consistent with peer practices.	Sufficient
Venue	Any action against the fund or its board of trustees, officers, employees, or board members in their official capacities is to be brought in the appropriate court in Franklin County, Ohio. R.C. § 3307.013	This is addressed in STRS' standard side letter and IMA.	Sufficient
Disclosures to Ethics Commission	STRS shall issue an annual report to the Ethics Commission disclosing: (1) anything of value received by the system from an agent and anything of value given on behalf of the system by an agent; (2) the name of any	Disclosure requirements referenced in the Ethics Policy, the Board Member Position Description (Appendix A to the Governance Manual), the Associate Guidelines, and	Partial. *See* recommendation in Section 1.6)

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
	employee of the system with authority over the investment of retirement system funds or any Board member of the system who deals with an agent regarding amounts described in (1) above. R.C. § 3307.153	Section XVII of the Investment Staff Guidelines. Covered associates are also required to file personal investments reports biannually with the STRS Ethics Officer.	
Defined Contribution Plan	R.C. § 3307.80-81 required the Board to establish one or more alternative defined contribution plans and adopt rules to implement the plan(s). Chapter 3307:2-2-01 provides that the Board will adopt a plan document with respect to the DC Plan and the Combined Plan.	The Board has adopted administrative rules and a plan document.	Sufficient.

Recommendations for Improvement

R1.3.1 Ensure that the compliance program addresses gaps in review and documentation of statutory compliance as noted in the above matrix. (Further compliance recommendations are discussed in Section 1.2 and Section 4.)

1.4 Governance Provisions and Practices

Comparison of the governance provisions and practices to industry standards and best practices in comparable systems.

Expectations

Board Authorities

The fiduciary board has authorities that match its responsibilities and allow the board to prudently provide direction and oversight to the Executive Director and the System. Consequently, the System is adequately resourced, with appropriate in-house staff and infrastructure, and seeks external expert assistance and services as appropriate. The board has the authority to approve hiring and compensation levels as well as budgets and major capital expenditures.

Board Meetings and Operations

Increasingly, public sessions of board meetings are live streamed on the internet to provide access to stakeholders; video recordings of meetings are available on the system website for maximum transparency. Public meeting documents are made available on the website when they are provided to trustees and are retained as archive files available to the public.

Board meeting agenda content, development, and documentation are the responsibility of the board chair and the executive director (ED) primarily. In the case of committees, the committee chair and appropriate staff liaison collaborate to set the agenda, often with input from the ED if the ED is not the committee's staff liaison.

The board chair and ED collaborate on agenda setting and should be in regular contact between meetings. The ED has the primary responsibility to draft an agenda that is organized in a standard format around the "Powers Reserved for the Board" and is coordinated with the board's strategic plan.

Individual board members, through the chair, have the opportunity to suggest agenda items. Leading practice is to organize and prioritize meeting agendas by powers reserved, i.e., set policy items first, recurring approvals second, conduct (e.g., ED evaluation, board self-assessment) third, and oversight (e.g., familiarity with due diligence processes, performance monitoring) items last. The majority of the agenda items should be focused on decisions ("set" or "approve") vs. oversight or informational items. There is typically a higher focus on oversight by committees rather than the full board, with each committee escalating important exceptions to the board, as appropriate.

The board spends a significant amount of its time with robust discussion about strategic issues and policies and effective delegations and does not get bogged down in excessive monitoring of day-to-day investment performance and operations. See section *5.3 Appropriateness of Reports* for more details. In addition, the board has effective source of independent reassurance that indicates they can rely on management reports and the system of controls. See section *5.4 Sufficiency of Internal and External Audit Procedures* for more details.

As they arise, legislative updates are typically discussed with the board chair and presented by the ED.

The ED should be in regular contact with the chair on legislative matters so there should be no surprises. Generally, the ED should take no action or speak on legislative issues (other than providing factual information about the system) without being guided by defined responsibilities and the input of the board or board chair.

A consent agenda is a board meeting practice that groups routine business and reports into one agenda item. The consent agenda can be approved in one action, rather than filing motions on each item separately. Using a consent agenda can save boards anywhere from a few minutes to a half hour. A consent agenda moves routine items along quickly so that the board has time for discussing more important issues. Consent agendas are a helpful efficiency tool for items which require board approval but do not typically require active board or committee discussion, such as approval of meeting minutes. Typically, items may be removed from the consent agenda and moved to the regular calendar at the request of any trustee.

Peer system boards typically meet either approximately 10-12 times annually or 4-6 times. There is no singularly consistent peer practice. With increasing delegation to staff, however, there has been a trend over the past decade for some boards that had been meeting monthly to meet less frequently. For example, CalPERS has recently moved from regular monthly meetings to every other month, with special meetings as required. Boards that have not delegated manager selection typically meet much more frequently, often as frequently as monthly (and sometimes more often on an hoc basis when needed to consider an investment into a time-limited opportunity).

It is prevailing practice for the board to conduct periodic retreats for more in-depth discussion, typically at least once annually. Topics addressed at retreats often include: asset/liability management and/or asset allocation; strategic planning and long-term agenda setting; investment program reviews; project reviews (e.g., IT, facilities, etc.) or other program reviews (e.g., health care, insurance, long-term care, etc.); legislative agenda; board governance topics, e.g., review charters, policies, etc.; board self-assessment and performance discussion; board continuing education program planning; executive director / CEO or other board direct report evaluations; and outside speakers on various topics as part of continuing education.

Most board members spend more time in committee meetings than in full board meetings, as the committees play an important role in due diligence on policy decisions and providing ongoing oversight of the system. As a result, full board meetings typically last 2 to 5 hours at most systems.

At most public retirement systems, committees do the bulk of the work of the board. Trustees typically spend more time in committee meetings than in board meetings, so it is important to ensure committees are effective. For example, based upon a FAS benchmarking study of large public retirement systems, a typical trustee, on average, spent 74 hours per year in committee meetings of which he or she was a member, versus 43 hours annually in full board meetings.

Committee Meetings

Well-functioning board committees can significantly enhance a board's efficiency and effectiveness. Each committee should have a strategic focus, as defined by its charter, and must be able to exercise important oversight functions. Insight is essential to both effective direction- setting and oversight.

Committees are empowered to research issues and options, obtain the advice and recommendations of staff and consultants, and make recommendations to the full board. Committees allow board members to exercise a greater level of decision due diligence than the board likely would as a whole.

Committees help the board to exercise its fiduciary responsibilities by:

- Improving trustee insight into complex issues, the range of options available, and the related pros and cons, to enable more effective direction and policy setting; committees can advise and make insightful recommendations to the full board on direction and policy.
- More thoroughly reviewing, understanding and challenging staff and consultants' due diligence that underpins recommendations for decisions that require board approval.
- Overseeing those aspects of system performance within their respective mandates, better understanding and interpreting the key metrics associated with their scope and identifying and escalating exceptions to the full board.
- Completing much of the work of the board for those activities that the board must conduct itself, for example, the goal-setting and performance evaluation of the executive director, providing feedback to board consultants, conducting the board self-assessment, etc. All these, of course, are reported out to the full board.
- Finally, ensuring information reported to the board is reliable by commissioning and receiving reports from those who are independent of management, for example, internal audit, external audit, and third parties such as fiduciary auditors and general investment consultants.

Prevailing practice is for committee chairs to work with staff to identify policy development / review priorities for the next cycle. Leading practice is for the committee policy agenda and activities to be linked to an overall board policy agenda. The committee reviews and approves the agenda for recommendation to and approval by the board.

Consistent with the committee strategic agenda, certain committee responsibilities repeat annually at the same time of the year; however, other responsibilities may occur over a longer cycle or may tie to a 3-5-year strategic plan.

Leading practice is for the committee chair to provide a report to the board at the next regularly scheduled board meeting to update the board as to its activities, findings, recommendations, and any other relevant issues, and for committee meeting minutes to be distributed to the board. Any recommendations brought to the board for approval would be documented and included in the board book package.

The committee chair should also share the agenda for the next upcoming committee meeting with the entire board at the board meeting taking place immediately prior to the committee meeting. This can also be accomplished by including the upcoming committee agenda in the board book package.

It is not unusual for some trustees who are not committee members to regularly sit in meetings and participate in discussions, although typically they are not allowed to vote. While this can be helpful for individual trustees to educate themselves on issues, which is beneficial, it can sometimes be a sign that some trustees do not trust the due diligence and recommendations of the committees, which can be a cause for concern.

Lay boards often encounter the situation of not knowing what questions to ask of their consultants/advisors and staff. The use of checklists and "questions to ask" for each committee can be helpful as thought starters. For example, the American Institute of Certified Public Accountants (AICPA), in their brief "10 Key Internal Audit Topics for Audit Committee Consideration," provides a list of Ten Key Questions for Audit Committees. The AICPA also offers additional toolkits to aid audit committee effectiveness.

Committee Structure

Every committee should have a well-defined purpose and clearly-articulated responsibilities for advising the board on strategy and decision-making; providing ongoing oversight and obtaining independent reassurance on the effectiveness of controls and the reliability of management's reports.

It is typical for the board chair, in consultation with each member, to select and appoint trustees to each committee, with the approval of the entire board. It is also prevailing practice for each newly-appointed committee to elect its own chair and vice chair at their first meeting.

The committee structure should be aligned with the system functions and organization structure to facilitate:

- Effective comprehensive oversight of the system's vital functions (e.g., asset management, pension administration, health care, financial management, etc.), and
- Consistent and constructive committee-board, committee-staff and committee-consultant interaction.

Boards of state retirement systems typically have no more than 6-7 standing committees. The most common standing committees are Audit (often including Risk) and Investment. Nearly all large integrated public funds have these two committees. The next most prevalent are: Personnel and Compensation; Board Governance; Finance and Administration; Actuarial and Benefits; and Appeals and Disability Reviews. There are sometimes also committees that focus on legislation and external affairs, or a standalone risk committee, or an executive committee, but these are not typical. Although there had been instances of a committee whose focus is on corporate governance or ESG, most funds have moved this responsibility into the Investment Committee.

Committees should be structured to have a reasonably balanced workload, both from the standpoint that all committees should have significant responsibilities, and the assignments should result in a steady workload over time without ongoing excessive workload or long periods when the committee is not required to meet.

Each committee should be as small as practical; a good rule of thumb is about three to five members per committee (with an odd number to avoid tie votes), with the Investment committee having potentially up to seven members. "Committees of the whole" provide the illusion of delegation and defeat the purpose of appointing a committee; a committee of the whole is often an indication of the topic being too important/sensitive for delegation or that there is a dysfunctional governance dynamic which should be recognized (e.g., lack of trust, micromanagement, or need for added trustee expertise or training).

Committee Meeting Frequency and Duration

Committee meeting frequency varies by committee. The most common committee, which exists on nearly every board, is the Audit Committee. It typically meets 3-5 times per year, based upon annual auditing activities and responsibilities.

The Investment Committee is the second most prevalent committee. Meeting frequency varies based upon the level of delegation to staff. For example, when a board has delegated investment manager selection to staff and has appropriate oversight and checks and balances in place, it may only meet 4-5 times per year (e.g., Teacher Retirement System of Texas).

For boards that have an Appeals Committee, the meeting frequency is often monthly. However, at many systems this is handled as an administrative function and is not a function of the board (though subject to board oversight). Prevailing practice with public retirement systems is to have a hierarchy of decision processes and checks and balances in reviewing disability claims and appeals, as this is the nature of the appeals process. Often, disability appeals are handled by an administrative law judge. If a member files an appeal, the system legal staff typically handles the response, sometimes with the assistance of a consultant.

Each state is somewhat different in the procedural requirements for handling disability reviews and appeals, but funds generally have some type of medical review or medical advisory board that reviews and then recommends to staff either acceptance or denial based on the medical documentation and legal requirements. Legal staff guide the process and compliance with legal standards unique to the system and state's administrative procedures requirements.

In some states, if a settlement is not reached, the appeal will again go to a judge for resolution. In other states, the system's fiduciary board has final jurisdiction. Handling of disability reviews and appeals is also a more-frequent board approval activity at systems where the board is involved. Although this process can vary dramatically from one system to another, it typically follows a set of standard procedures and protocols to ensure compliance with all rules and regulations and fair outcomes.

Each committee should have responsibilities that require it to meet at least 3-4 times annually; if not, the committee should be a candidate for consolidation into another committee.

Governance Standards of Comparison and Findings

Board Authorities

Board Authorities Standards of Comparison	Findings
The board has the authority to manage fund assets, without restrictions (e.g., legal lists), and for setting the assumed rate of return (discount rate).	Yes
The statutes do not place undue restrictions on the board regarding its annual budget or ability to hire staff, as necessary for the effective operation of the retirement system.	Yes
The current statutes do not unduly restrict the ability of the board to appropriately compensate its staff.	Yes
The board is not impeded by state statute with respect to procurement of goods and services necessary to effectively operate the retirement system.	Yes
The board has full authority to select and oversee the relationship with the key service providers including the custodial bank.	Partial

Board Meetings and Operations

Board Meetings and Operations Standards of Comparison	Findings
Public sessions of board meetings are live streamed on the internet and recordings are available on the system website.	Partial
Public board meeting materials are made available on the system website when they are initially distributed to trustees.	No
The board has developed a multi-year strategic policy agenda that identifies the expected timing of key policy decisions (e.g., asset-liability management decisions, key procurement decisions, major policy reviews).	Partial
The board formally delegates appropriate topics to each committee, staff and consultants annually and sets target dates for bringing key policy items to the board for approval.	No
Detailed board due diligence work and ongoing oversight are delegated to the appropriate committees, with final approval and enterprise-wide items reserved for the full board.	No
There is a systematic process for engaging the board and its committees in identifying and evaluating policy options before a decision is made.	Partial
The board spends significant time discussing strategic issues and policies and effective delegations and does not get bogged down in excessive monitoring of day-to-day investment performance and operations.	Partial
Meeting agendas are organized and prioritized according to Powers Reserved for the Board: first conduct board business (e.g., call to order, roll call, minutes approval); then policy items; then recurring approvals; and then oversight (e.g., monitoring) items last.	Partial

Board Meetings and Operations Standards of Comparison	Findings
Consent agendas are used effectively to handle routine board approvals.	Yes
The board conducts periodic retreats for more in-depth discussion on key topics, conducting board self-evaluations and executive director evaluations, and trustee education.	Yes
There is a formal policy and process that requires substantive requests for information from board members to go through the board chair and executive director to be prioritized and tracked for follow-up.	Partial

Committees

Committees Standards of Comparison	Findings
Committees conduct due diligence on strategy and policy decisions within the scope of their charter.	No
Committees function as an important oversight mechanism for the board and bring appropriate policy and performance issues for the full board to address.	No
Each committee reviews and approves its annual agenda for recommendation to and approval by the board.	No
Each committee chair provides a report to the board at the next regularly scheduled board meeting to update the board as to the committee's activities, findings, and recommendations.	Partial
Each committee has a checklist of key questions for members to ask on various topics.	No
Committees are well-structured, each with a strategic focus and well-defined charter.	No
The board chair, in consultation with each trustee, selects and appoints committee members, with the approval of the entire board.	Partial
Each standing committee has a reasonably balanced workload and the committee meets with a regular cadence and does not have long periods when the committee is not required to meet.	No
About half of peer systems have a requirement for at least one member of the Investment Committee to have specific expertise or experience.	Yes
The Audit Committee typically meet 3-4 times per year, based upon annual auditing activities and responsibilities, with meetings lasting 0.5 to 2 hours.	Partial
The Investment Committee typically meets 3-6 times annually, with meetings lasting 1 to 3 hours, for large systems similar to STRS with delegated investment manager selection.	Yes
If a board has a committee to hear disability and retirement appeals, the policies and processes for this function result in a limited number of cases that rely on trustee judgement for adjudication.	Yes

Conclusions

Board Authorities

Compared to other U.S. state integrated retirement systems, the STRS Board:

- Is slightly larger, with 11 voting trustees compared with a median of 10 members.
- Has more elected and fewer appointed members.
- Has slightly above the average number of plan members as trustees.

The STRS Board of Trustees generally has leading practice authorities, e.g., for budgets, staffing and setting compensation, and procurement; however, there are several lagging practices.

Based upon Funston Advisory Services InGov© peer benchmarking data, as shown in the table below, the authority to select the external auditor and outside legal counsel is delegated to the Board of Trustees or its designees at the majority of systems in this peer group. The STRS responsibilities are denoted by green shading.

Who has final responsibility for the following decisions on selecting the following outside service providers? (N = 9)	External Actuary	External Auditor	Outside Legal Counsel
Board of Trustees	8	4	2
Executive Director / CEO	1	1	3
Treasurer or Comptroller		1	
Attorney General			4
State Auditor		3	

Source: Funston Advisory Service InGov© Research

STRS is in a small minority of U.S. states (Iowa, Ohio, Pennsylvania, and Tennessee) where the State Treasurer selects the custodial bank for the state retirement system DB plans, which is considered a lagging practice. This is addressed in more detail in section *3.d. Custodian Policy*.

STRS purchasing exceptions and limitations vis-à-vis standard state policies are consistent with most peer funds.

Recommendations for Improvement

Board Authorities

R1.4.1 The Ohio legislature should consider allowing the System to select its own external legal counsel.

Board Meetings and Operations

STRS currently livestreams the public sessions of its board meetings through their website. The video feed presents the meeting presentation materials and does not include any participant video. This has been an important first step in providing stakeholder access to meetings necessitated by the COVID-19 pandemic. STRS has the statutory authority to continue to conduct virtual meetings, and trustees and staff have indicated the intent is to continue to livestream the meetings.

Increasingly, peer funds have been livestreaming their board meetings, including speakers and other participants in the video, and providing links to an archive of videos from past meetings on their website. This is a further step in transparency that does not require the stakeholder to be available at the time of the meeting in order to see and hear the discussion and observe how decisions were reached.

Most peer systems also maintain an archive of past meeting agendas and minutes on their web site; STRS provides them for a short period and then removes them. Similarly, leading practice is to provide public meeting materials from the board book on the website well in advance of meetings, and to maintain an archive for access to materials from past meetings; STRS Board books are uploaded just before the Board meeting begins and are removed just before the next meeting. Staff are concerned that, because materials are occasionally updated from the initial distribution prior to the meeting, making board books available to the public when the Board first receives them could result in dissemination of incorrect information.

The number of STRS Board meetings annually, 10, is the median for the peer group; however, at 6 hours, the meetings are the longest in the peer group. Increasingly, peer systems that have delegated investment manager selection to staff have reduced Board meeting frequency to quarterly (e.g., TRS of Texas) or bi-monthly (e.g., CalSTRS). If STRS develops well-functioning committees (see below), it could consider changing the Board meeting schedule to bi-monthly.

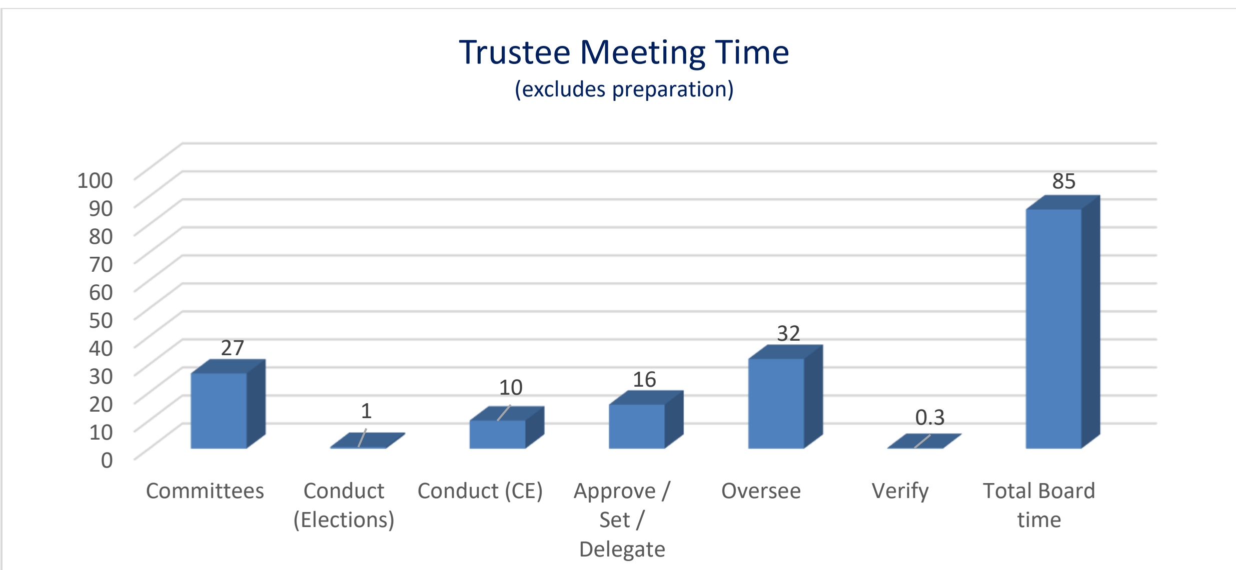
On average over the past two years, how many times has your Board met annually as a full Board?		What is the average duration of a regular full Board meeting, in hours?		Total Full Board Meeting Hours Per Year
Meetings/ Year	Responses	Hours by Response	Average	Hours
6	4	3, 3, 2, 4	3.0	18
10	3	4, 1, 6	3.8	38
12	1	2	2.0	24
14	1	5	5.0	70
Averages				
8.9			3.4	30.3
STRS of Ohio				
10			6	60

Source: Funston Advisory Service InGov© Research

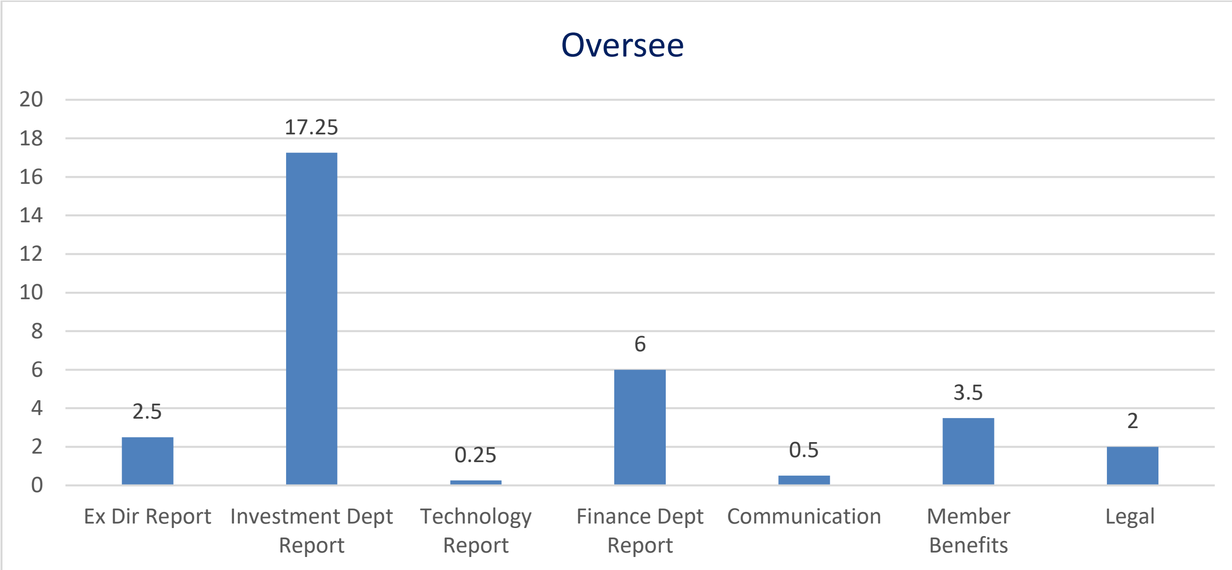
STRS staff typically provides trustee access to board books (all the materials for committee and full board meetings) on the Friday before meetings through the board portal. The meetings typically begin with committees on a Wednesday and the full Board meeting on Thursday. Prevailing practice at peer funds is to provide board books at least five working days (or a calendar week) prior to a meeting. Some provide materials two weeks in advance. Since STRS has ten meetings per year, with many four or five weeks apart, it may not be practical to ask staff to provide board books two weeks in advance. However, if the Board were to change to bi-monthly meetings this could be a reasonable expectation.

The STRS Board does not utilize its committees consistently, which results in longer full board meetings than peer systems. Typically, the Board formally delegates appropriate topics to each committee annually and sets target dates for bringing key policy items to the Board for approval. Detailed board due diligence work is delegated to the appropriate committees, with final approval and enterprise-wide items reserved for the full board. The committees also play an important role in overseeing the areas they are responsible for, with the responsibility to escalate issues to the full board, as appropriate.

Because the full STRS Board deliberates most items (with the exception of disability appeals), the Board tends to spend the bulk of its time on actuarial and investment issues. These are critically important areas, but the net result is that there is limited time available for oversight of other areas. More effective use of committees could improve oversight of the entire organization. The following is an analysis of the scheduled time on the STRS Board and committee meeting planning agendas from the past year:

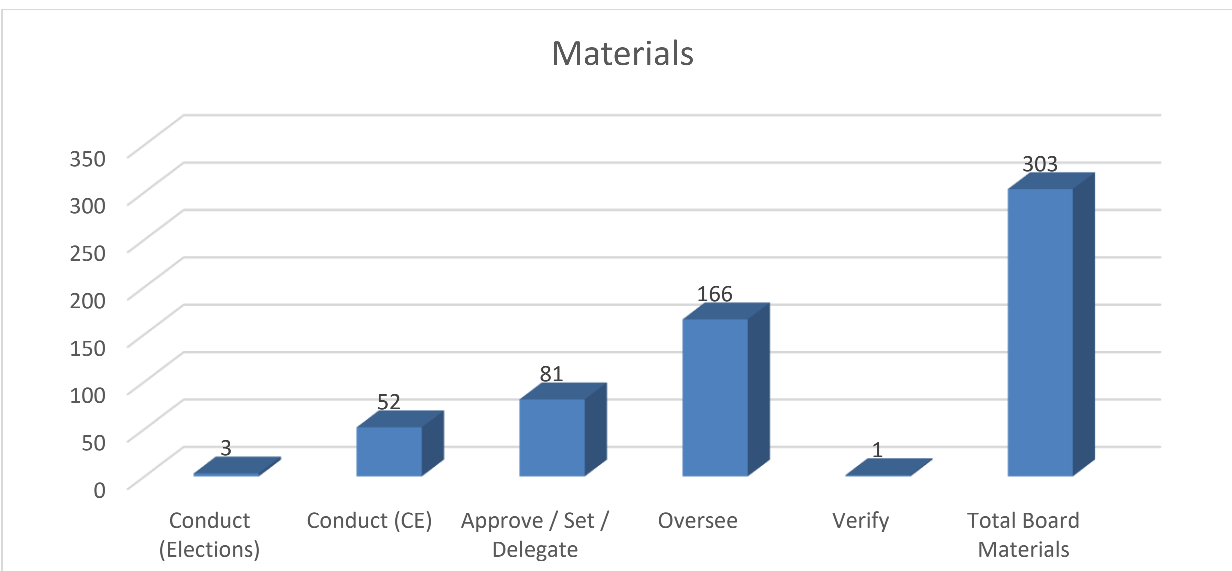


The 32 hours of Oversee time from the chart above is broken down as indicated in the chart below:



As one example where there could be additional board focus, there are currently two major information technology projects underway within STRS; cyber security is an area of increasing concern, and the Board only spent minimal time over the past year in oversight of technology, as shown.

An analysis of typical STRS board book materials indicates that over half are related to oversight and minimal represent verification of reporting and controls.



The Board agenda does not follow a particular order of topical items. Leading practice is to organize the agenda based upon the powers reserved for the Board. After the initial call to order and approval of minutes, this would focus on the strategic policy and delegation items first, followed by approval of Board decisions, then oversight reports, followed by verification reports.

The STRS Board policy *Delegation to the Executive Director* includes the following provision: "No Board member or officer has authority over the Executive Director, except Board committees working within the scope of their respective charters. Information may be requested by these individuals or groups. However, if such request – in the Executive Director's judgment – requires a material amount of staff time or funds or is disruptive, it may be refused."

This policy is typical at most peer funds, as a disciplined process helps to improve responsiveness and ensure requests are followed up appropriately. However, it can be difficult for the Executive Director to refuse a request from a trustee. Therefore, leading practice is to have all substantive requests for information and/or staff follow-up to be fielded by the Board Chair who, in consultation with the Executive Director, will determine the appropriateness and priority of the request. This process also ensures that information is shared with the entire Board rather than with just the trustee who made the request.

Recommendations for Improvement

Board Meetings and Operations

R1.4.2 **The STRS Board should continue to livestream the public sessions of its meetings and consider adding speaker and participant video; recordings should be archived and links should be easily accessible on the STRS website.**

R1.4.3 **STRS should consider providing Board public meeting materials on the website when they are available to trustees, with the understanding that they are preliminary, and maintain an archive of Board meeting agendas, materials, and minutes on their web site to improve transparency.**

R1.4.4 **The STRS Board should formally delegate policy and decision due diligence and more oversight responsibilities to its committees to reduce full Board meeting time and improve decision-making and oversight.**

R1.4.5 **Once a well-functioning committee structure is realized, the Board should consider reducing the frequency of its full Board meetings to bi-monthly.**

R1.4.6 **Staff should provide trustees access to Board book materials at least five working days before the meetings; if Board meeting frequency is reduced to bi-monthly the Board book lead time could be increased more.**

R1.4.7 **The STRS Board should consider organizing its meeting agendas around the powers reserved.**

R1.4.8 **Revise the policy and process for prioritizing and tracking trustee requests for information from staff or consultants/advisors to involve the Board Chair, in consultation with the Executive Director, in prioritization, approval, and follow-up on the requests.**

Committees

Five of the six committees at STRS are the most prevalent with the peer systems – the Final Average Salary Committee is not found at any of the peer systems in this group.

However, STRS is unusual because two of its committees have not met for the past several years (Staff Compensation and Benefits and Health Care).

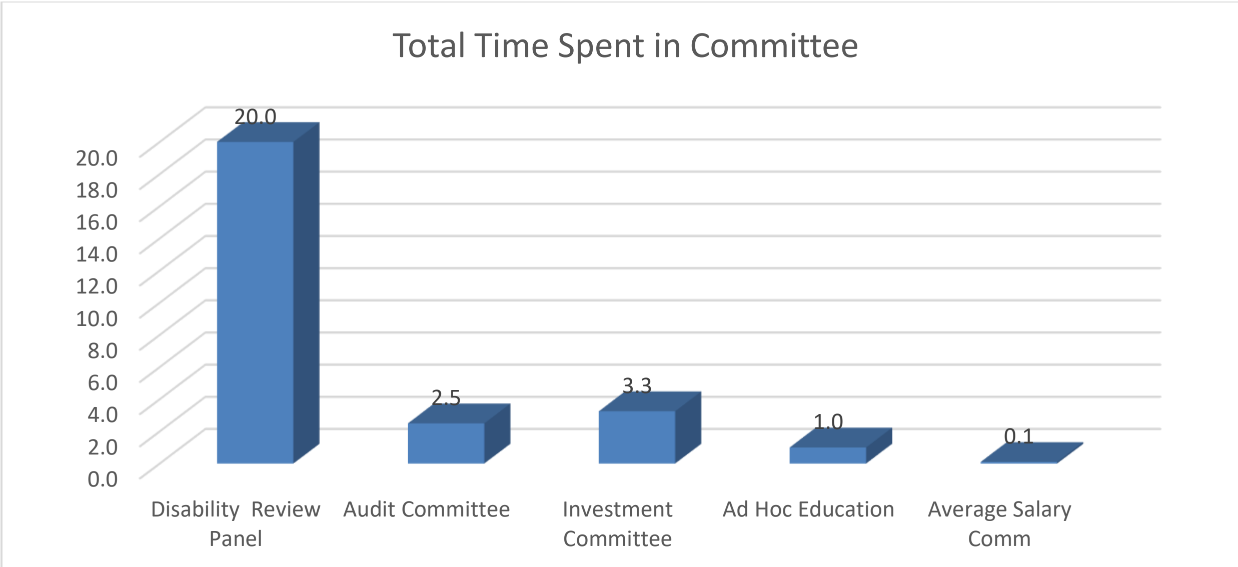
As indicated below, the STRS Board spends twice as many hours in full board meetings annually as compared to the peer group average (60 vs. 29 hours). STRS Board time in committee meetings is about 29 hours compared to the peer average of 35 hours. Most of the elected trustees noted that they each attend most committee meetings, even if they are not members of the committee, and participate in the discussion but do not vote.

However, the STRS Board spends 24 hours, or 80% of its committee time, with the Disability Review Panel – over three times the average for other boards that have a Disability Committee. As a result, all other committees meet significantly less than is typical at peer funds.

Note: STRS responses are indicated by green shading.

Committee	No. of Standing Committees N = 9	Ave. No. of Members	Ave. No. of Meetings	Ave. Duration of Meetings (Hours)	Ave. Time Spent in Comm. Mts. (Hours)
Audit/Audit & Risk	6	4.5 (5)	3.5 (1.5)	1.2 (1.5)	2.8
Investment	6	7.2 (5)	8.3 (3)	2.8 (1)	15.5
Disability/Appeals	4	7.0 (3)	7.1 (9.5)	2.1 (2.5)	6.6
Personnel/Compensation	4	4.8 (5)	3.5 (0)	0.8 (0)	1.2
Health Insurance/Insurance	3	7.0 (5)	4.5 (0)	0.8 (0)	1.2
Legislative/Policy	3	4.0	3.5	1.3	1.5
Benefits	2	4.0	3.5	1.2	0.9
Finance/Administration/ Budget	2	5.0	3.5	1.2	0.9
Governance/Board Governance	2	6.0	4.5	1.2	1.2
Defined Contribution/ Deferred Compensation	1	7.0	1.5	0.8	0.1
Executive	1	5.0	7.5	1.5	1.3
Proxy/Corporate Governance/ Sustainability /ESG	1	7.0	1.5	0.8	0.1
Audit/Risk/Insurance	1	7.0	3.5	2.5	1.0
Administration & Audit	1	4.0	3.5	0.8	0.3
Elections	1	7.0	1.5	0.3	0.1
Final Average Salary	1	7.0 (3)	3.5 (3.5)	0.8 (0.8)	0.3
Average	4.3				35.0
STRS of Ohio	6				28.8

Source: Funston Advisory Service InGov© Research



In summary, we conclude that, with the exception of the Disability Review Panel, and to a lesser extent the Audit Committee, STRS Board committees are not used consistently or effectively. Many trustees stated that they do not see this as a problem and believe all items should be discussed with the full Board.

While prevailing practice is overwhelmingly to have functioning committees of the board that in total meet significantly more hours than the full board, there are exceptions where the board successfully conducts all its business in full board meetings. One board that FAS has worked with meets bi-monthly and spends about 24 hours annually in meetings with no committees. However, they have adopted several leading practices that allow this to function effectively:

- Extensive delegations to staff.
- Effective exception-based reporting significantly reduces time spent on oversight items and allows the board to focus its time primarily on policy items and approvals.
- Half-day retreats twice annually to address a range of issues such as strategic planning, asset/liability management, major projects, business continuity and cybersecurity, board governance, legislative agendas, and budgets.
- Standard templates for policy and decision items that include executive summaries, discussion of alternatives considered, pros and cons of each alternative, risks, business case, and dissenting opinions.

In addition, this system utilizes “working groups” that includes several trustees working with staff in many of the areas that are normally covered by board committees. In Ohio this could be difficult to replicate due to open meeting requirements.

In our experience, development of well-functioning committees is the most effective way to utilize trustee time while improving decision due diligence and system oversight. The current STRS situation of having six standing committees and one ongoing ad hoc committee, with only one standing committee fully functional (the Disability Review Panel), is not effective.

At many systems, the role of the Disability Review Panel (DRP) is handled as an administrative function and is not a function of the board (though subject to board oversight). Prevailing practice with public retirement systems is to have a hierarchy of decision processes and checks and balances in reviewing disability claims and appeals, as this is the nature of the appeals process. A medical review board, which already exists with STRS, reviews and then recommends to staff for acceptance or denial based on the medical documentation and legal requirements.

Legal staff guide the process and compliance with legal standards unique to the system and state's administrative procedures requirements. Some of the STRS trustees, as well as senior staff, stated that the Board rarely disagrees with the recommendations of the medical review board and that the Board could focus more on oversight of a delegated process. It should also be noted that, according to the CEM pension administration benchmarking, the duration of an average disability appeal at STRS is 3 months, compared to peer average of 2 months and leading practice of 1 month. STRS should consider how the disability appeals process can be streamlined to reduce the elapsed time required for resolution; DAP and Board involvement may contribute to the slower process.

Similarly, trustees and staff explained that the final average salary process is defined by administrative rules and is mechanical, and that the Final Average Salary (FAS) Committee does not disagree with any recommended approvals and, consequently, does not add much value.

The STRS Audit Committee has typically met one or two times per year, with last year being an exception due to hiring a new Chief Audit Executive and onboarding a new external audit firm; prevailing practice is three to four times annually, consistent with the internal and external audit planning and reporting cycles. Most of the peer boards, 6 of 8 in our peer group, assign oversight of enterprise (non-investment) risk management (ERM) to their Audit or Audit and Risk Committee; STRS does not assign ERM to any committee. Leading practice is also to have the Audit Committee responsible for overseeing cybersecurity, a growing area of concern; at STRS, this also is not assigned to any committee, although the Internal Audit staff member who focuses on IT does periodically meet with the Audit Committee. The role of the Audit Committee is discussed in more detail in section *5. Risk Management and Controls*.

Potential improvements for the STRS Board committee structure could include:

1. Elimination of the Disability Review Panel (DRP) and Final Average Salary (FAS) committees.
2. A more active Audit Committee that meets quarterly and has an expanded charter to include enterprise risk management (ERM), compliance, and cybersecurity oversight.
3. A more active Investment Committee that oversees investment performance and brings items to the full Board as appropriate, as well as conducting initial due diligence on proposed investment beliefs and investment policy changes.
4. A more active Staff Compensation and Benefits Committee, renamed the Finance and Compensation Committee, that oversees budgeting and financial processes, conducts the annual Executive Director goal setting and evaluation process for the Board, leads Executive Director succession planning, and oversees the staff compensation policies and processes and brings recommendations to the Board.

5. Expanding and renaming the Health Care Committee to become the Member Services Committee with oversight responsibility for both pension administration and health care policy and operations.
6. Formalize the ad hoc Board Education and Planning Committee as a standing committee, renamed the Board Governance Committee, with responsibility for board governance policies, board self-evaluation and continuing education, and oversight of strategic planning.

As mentioned, it is prevailing practice for the Board chair to meet with each trustee, particularly new trustees, and discuss their interests in serving on various committees. The chair then annually makes committee membership appointments, subject to approval of the full Board. Each newly-constituted committee, in turn, elects its chair for the upcoming year. While many appointments carry over from year to year for continuity, there is also a balance in changing committee appointments as a means of trustee development and leadership succession planning.

At STRS, several trustees mentioned that they had not been asked their areas of interest by the Board chair, and that both committee appointments and leadership positions were typically carried over from the prior “seat” when a new trustee joined the Board. This comment was also made as to how committee chairs were selected.

More concerning, the Board Chair is currently chair of four committees (Audit, Disability Review Panel, Final Average Salary, and Investment). Prevailing practice at other large public retirement systems is for the Board Chair to not chair committees, with the except of the Board Governance Committee. We have never seen a system where the Board Chair is also the Audit Committee chair, as this presents a potential conflict of interest.

Also of concern is that the four appointed trustees are not allowed to chair a Board committee based upon recent practice. This potentially under-utilizes the appointed trustees who have experience in accounting and auditing and in institutional investments, for example. Most boards attempt to leverage the experience of their trustees to the extent possible.

Recommendations for Improvement

R1.4.9 **The STRS Board should eliminate the Board’s Disability Review Panel (DRP) and delegate the disability appeals process to staff and the medical review board and focus the Board more on oversight of the policies and procedures, including approval of selection of the medical review board. This will enable the Board to focus on process and oversight where it determines that delegation is prudent.**

R1.4.10 **The STRS Board should eliminate the Final Average Salary Committee and delegate the approval responsibility to staff.**

R1.4.11 The STRS Board should commit to a functioning standing board committee approach, with a streamlined structure with five standing committees, as indicated below, and new charters should be developed that clearly articulate the responsibilities of each committee:

- **Audit Committee**
- **Investment Committee**
- **Finance and Compensation Committee**
- **Member Services Committee**
- **Board Governance Committee**

R1.4.12 Each committee, under the guidance of its chair, should develop its long-term calendar in support of the Board's multi-year calendar to ensure committee activities support key Board decisions effectively.

R1.4.13 The Board Chair should meet with each trustee, especially when they are first elected or appointed, and discuss their interests and experience in consideration of their appointment to committees.

R1.4.14 The Governance Manual should be revised consistent with the existing practice where the Board chair proposes committee membership each year and makes the recommendation to the full Board for approval.

R1.4.15 Each committee should elect its chair annually; the Board Chair should not be the chair of any Board committees, with the exception of the Board Governance Committee if that new committee is implemented.

R1.4.16 Appointed trustees should be considered as potential committee chairs, especially when they have the most relevant experience in the area of responsibility of the committee.

R1.4.17 With assistance from staff, each committee should develop a list of standard questions to ask on each key topic.

See Exhibit D for proposed content for committee charters.

1.5 Budget Process

STRS budget process and its adherence to board approved budget.

Expectations

According to the Greater Washington Society of CPAs Educational Foundation, "A good budgeting process engages those who are responsible for adhering to the budget and implementing the organization's objectives in creating the budget. Both finance committee and senior staff participation is built into the process and a timeline is established leaving adequate time for research, review, feedback, revisions, etc. before the budget is ready for presentation to the full board. The annual budgeting process should be documented, with tasks, responsibility assignments and deadlines clearly stated. A good budgeting process should incorporate strategic planning initiatives and stipulate that income is budgeted before expenses. Fixed costs are identified and related to reliable revenue. Budgeting decisions are driven both by mission priorities and fiscal accountability." [15]

One of the key aspects included in the above statement is the linkage to strategic planning initiatives. A public retirement system typically does not have a capital planning process that identifies key capital investment needs, so it is very important that longer-term project spending is identified and appropriately included in the annual budget.

Since a significant portion of the administrative costs of a retirement system are personnel related, the prevailing practice is to budget and monitor staffing headcount by department. Costs in a number of operational areas in a public retirement system can be driven by volume of activity – for example, costs related to processing new retirees, or costs related to updating member files to conform to rule changes. An effective budgeting process identifies those costs that are primarily fixed and not sensitive to changes in activity levels and those costs that are significantly subject to fluctuation. For those costs that are activity-level dependent, the budget assumptions should specifically include the anticipated volumes that drive costs so that any variance, either over or under budget, can be readily understood.

Regarding budget monitoring, the annual budget should be calendared monthly to allow tracking and reporting on a monthly process. Each department head who is responsible for their budget should receive monthly performance reports on a timely basis, should become aware of any significant variances, and should report to the executive team regarding the source of the variance and whether or not any corrective action was warranted.

Budget Process Standards of Comparison and Findings

Budget Process Standards of Comparison	Findings
The directional framework for both operating and capital budgets cascades from the System's strategic plan.	Partial
There is a comprehensive budget policy which is implemented effectively for all administrative costs (not including external investment fees).	Yes
The budget reporting policy and process is effective in planning and managing costs and providing timely financial performance reports.	Yes
The budgeting and budget reporting processes are largely automated and do not rely on manually intensive processes and spreadsheets.	Partial
There is an integrated budgeting and reporting tool.	Partial
The travel and expense reporting processes have effective controls.	Yes

Conclusions

Budget Policy and Practice

The policies that govern and guide the Ohio STRS budgeting process are laid out in detail in accordance with section 3307.041(D) of the Ohio Revised Code. The policy is highly detailed in (1) the definition of the mandatory timing of budget preparation activities, (2) the classification methodology of budget spending, (3) its linkage to organizational goals, (4) the major steps in the process of budget development and key departmental, senior management, and board responsibilities, and (5) ongoing practices in managing the budget and reporting status throughout the year. The policy is supported by line-item descriptions that facilitate standards in budget development and tracking.

Budget Development

On an overarching basis, the annual budget development process at STRS is considered effective from both a controls and execution perspective. The budget development cycle runs for approximately 4 - 5 months, commencing each February and concluding with submission to the ORSC no later than 60 days prior to the Board adoption of the budget. The annual cycle begins with detailed discussions between the Finance staff and each internal department within STRS. These bottom-up reviews provide the organization with a strong foundation that establishes an important, detailed understanding of annual operating and capital improvement budgets, critical to the staff's ability to provide full details and justifications to the Board at the time the budget is presented, and to properly prepare the standardized accounting of all budgeted line items in accordance with General Ledger codes for ease of roll up reporting and future production of the ACFR.

The numerous iterations in the annual budget development process have been in place for many years and there is a recognition that management across the organization is highly adept in producing budgets annually. Given the long tenure of associates within STRS, the annual budget development process has become highly tuned. Following the standard "ground level" meetings across the entire STRS organization, Finance organizes and conducts a set of roll up reviews across the levels of management within each organization. Multiple department heads in the STRS organization described the existence of a "budget fluency" – a full awareness and appreciation of the annual cycle, its supporting procedures and data standards, expectations of their responsibilities and important deadlines and milestones along its development. Ultimately, the department heads, CFO and Executive Director meet to review and approve all budgets, prior to packaging them up for distribution to and review with the Board and ORSC.

Despite well-defined policies and procedures, the budget development process is inherently inefficient, almost exclusively due to its manual nature and dependency on Microsoft Excel spreadsheets. These Excel workbooks are the primary means of capturing and rolling up budget forecasts for STRS. Internal staff that were interviewed for this audit were uniform in their hope that the organization could leverage automation to facilitate a more straight-through-processing budget development process at a near point in the future. Additionally, a common refrain was shared regarding the frequent requirement to repeat time consuming budget input steps on the spreadsheets whenever adjustments were required due to numerous reasons ranging from upstream budget adjustments by superiors, to simple input errors. This operating paradigm also introduced a collateral challenge of maintaining effective version control. The STRS Finance department recognizes that the use of Excel and its lack of integration with the general ledger system creates a burdensome budget development process within the organization and has set in motion plans to introduce a new, integrated platform to create a more straight-through processing solution.

During the annual review and approval process with the STRS Board, it is common for the Board to raise questions about the budget, notably (but not exclusively) in the areas of variable compensation and capital improvement initiatives. Capital budgets are also developed each year from the bottom-up, not simply carried forward as part of a multi-year forecasting process. The Board will receive and review the proposed annual budget not only as a standalone document, but also relative to current year's results, inclusive of budget notes, a desirable practice in providing proper fiduciary oversight. The Board's attention to detail during the annual budget review enables the broader organization to streamline budget tracking and reporting practices throughout the year following the approval process.

Ohio STRS does not currently develop a three-year operating plan, a practice becoming more commonplace with very large public pension plans. The main benefit of a three-year financial forecast is for the Board to connect the organization's strategic plan to projected spend over a pre-defined cycle of capital investments and operating costs. A three-year plan is also optimized to forecast the influence of external drivers (e.g., projected volume of retirees) on changes in the budget (i.e., vendor costs and staffing.) It serves to highlight risks to maintaining current budget levels and to establish a pipeline of potential capital initiatives. The recommended cadence for a three-year operating plan would be to produce it as a direct follow-up to the publication of the strategic plan and to refresh it at the midpoint between strategic planning cycles.

Budget Tracking and Reporting

Given the strong governance, attention to detail in the bottom-up budget development process, and level of board review of the proposed budget prior to approval, the process of tracking actuals against forecasted budgets within the STRS organization and reporting results to the STRS Board has also become routine. The general ledger system provides online services and important notes to each department to facilitate ongoing expense management throughout the year. Fungibility standards exist to provide management with an important level of flexibility in overseeing their budgets efficiently. The board monthly budget performance reports are developed and distributed by the Finance Team and contain granular level information (i.e., by vendor). The Board takes up the budget only as part of routine matters.

Budget tracking practices at STRS are considered strong and effective. Historically, the organization has maintained a very strong and consistent track record at managing actual spending in accordance with forecasted budgets throughout the annual cycle. On the rare occasion when it was anticipated that spending levels could exceed those budgeted (e.g., 2016), management prepared a timely and detailed review for the board to amend the budget. In looking ahead, management reflects the importance of ensuring current staffing levels in the functional support of operating budget oversight in order to maintain historical levels of operational performance in this area.

Two recent recognitions for performance in financial management bear mentioning. Crowe LLC, the independent, external auditing firm assigned by the Ohio Auditor of State, reported a “clean” opinion on STRS’ fiscal 2021 financial statements, affirming the financial information prepared by the pension fund. The report showed STRS’ financial statements were fairly presented in accordance with generally accepted accounting principles, and the firm found no instances of noncompliance nor any material weaknesses in internal controls. Additionally, STRS earned the Government Finance Officers Association’s (GFOA) Certificate of Achievement for Excellence in Financial Reporting for the system’s Annual Comprehensive Financial Report for fiscal year 2020. In fact, STRS has received this award for more than 30 consecutive years.

The potential breadth and depth of inherent risks (i.e., financial, reputational) associated with high dollar, capital project initiatives, especially those that are developed through the strategic planning process and support mission-critical operational functions including investments, accounting, and member services, suggest that the Board should apply a more heightened level of ongoing oversight to track their progress from both a budgetary and quantifiable benefits realization perspective than that which is currently applied during the routine matters discussion at the monthly Board meeting. Strategic planning documents for STRS effectively lay out the key goals and supportive metrics. Further, the CFO develops and presents a corresponding budget framework to orient the Board on financial impacts of the plan. More detailed attribution of major forecasted capital initiatives to the key goals are included as part of the publication of the plan.

Finally, the practice of reporting monthly budget forecasts to actuals for multiyear capital initiatives is admirable; however, because deviations between the two are often de minimus over short durations, the practice can inadvertently mask important imminent or unplanned impacts on the project and its budget.

Travel, Expense Management and Reporting

The STRS organization maintains strong policies and procedures to support expense management. Policies set spending authorization limits across the organization, establish clear guidelines for competitive bidding, and define ongoing practices for board oversight of expense management. Delegation authorities to financial management for approval of invoices, purchase of goods and services, and routine payments are well codified. Detailed travel and expense policies define permissible and impermissible expenditures and prescribe pre-travel authorization and expense reimbursement procedures which are clearly defined and stringently adhered to.

The aforementioned general ledger platform that is being contemplated is also expected to reduce dependency on manual procedures and batch style processing for expense management as well. New features including receipt scanning and automated reporting should streamline the end-to-end expense management processes, further reinforcing standardization and accelerating entry, validation and reimbursement tasks.

Recommendations for Improvement

R1.5.1 **Continue to move forward with the initiative to convert general ledger platform from Peoplesoft to Workday to eliminate dependency on spreadsheet-based budget development and expense reporting processes and to shorten the overall window of time to develop the annual capital and expense budgets.**

R1.5.2 **As part of the Workday project, redesign current procedures in budget development, reporting, and expense management processes to optimize workflows from an overall efficiency and controls perspective.**

R1.5.3 **Given forecasted retirements across the organization, assess the risk of loss of fluency across the organization's understanding of budgetary policies and procedures and actively commence knowledge transfer activities to avoid potential gaps in the performance of budget development and tracking processes.**

R1.5.4 **Formalize development of a three-year Operating Plan from the strategic plan to produce a multi-year, forecasted capital and expense plan for the organization.**

R1.5.5 **Augment monthly budget reports with quarterly updates of capital improvement initiatives using stop light style formatting for reporting costs, schedule and benefit realization.**

1.6 Conflicts of Interest

Written policies and procedures currently in place to monitor and guard against professional conflicts of interest.

Expectations

A public retirement system should have policies and practices to effectively and transparently address actual or apparent conflicts of interest. It is important that the system's policies clearly identify the persons who are subject to its conflicts of interest policies – i.e., covered persons – typically board members, staff, managers, consultants, and certain key service providers. Board members and staff should receive regular training regarding conflicts of interest, including the process for disclosing and/or curing any potential conflicts. Investment managers, consultants, and other professional service providers should be subject to initial and annual disclosure, as well as ongoing reporting obligations. Board members and staff should be subject to annual verification, certification, and public reporting with respect to compliance.

General Conflicts of Interest Standards of Comparison and Findings

General Conflicts of Interest Standards of Comparison	Findings
The following policies are in place:	
• Ethics	Yes
• Standards of Conduct	Yes
• Conflicts of Interest and Recusal	Partial
• Misuse of confidential/proprietary information	Partial
• Manager/Vendor Referral	No
The Ethics Policy describes board members' obligations with respect to conflicts of interest and provides appropriate guidance to board members regarding their obligations.	No
The Financial Disclosure Statements cover reporting of financial interests that could raise potential conflicts of interest.	Partial
There is an Investment and Business Opportunity Referrals Policy which addresses potential for board member improper influence and adequately protects board members from the appearance of impropriety.	No
Consultants confirm compliance with conflicts of interest and ethics policies annually.	No
There is a policy regarding the use of placement agents or other mechanisms in order to reduce any potential for "pay-to-play" or its potential appearance.	Partial
There is a separate employee personal conduct policy covering prohibited activity, ethical conduct, gifts, personal trading, and whistleblower protection.	Yes

Conclusions

Section 3307.042 of the Ohio Revised Code requires the STRS Board, in consultation with the Ohio ethics commission, to develop an ethics policy governing the Board and STRS employees. The Board has complied with the statutory requirement and adopted an ethics policy (Appendix B to the Governance Manual), and employee ethics is covered in the Associate Guidelines. The Revised Code also requires the Board to periodically provide ethics training to members and employees of the Board. The Board adopted the Board Members' Code of Conduct, which addresses, *inter alia*, the exclusive benefit rule, the duty to avoid conflicts, limitations on employment with the System, the lack of individual authority, and cites the applicable statutory references.

While the Ethics Policy describes certain types of conflicts of interest, it provides no guidance as to the actions that one should take upon the occurrence of a potential or actual conflict, such as consulting with legal counsel, disclosure and recusal. In addition, where a conflict has been identified, circumstances may require that the conflicted party be excluded from certain discussions or screened from to prevent the receipt of confidential information with respect to the conflict.

The Board's Ethics Policy provides that Board members may not use or disclose confidential information protected by law, absent authorization. However, it does not discuss fiduciary or policy limitations on the disclosure of confidential information otherwise. It is important to note that certain information, while not protected by law, could cause harm to the System if improperly disclosed to a third party, and such disclosure could result in a breach of the duty of loyalty.

Section 3307.042 of the Revised Code requires the Board to establish a procedure to ensure that employees are informed regarding procedures for filing complaints alleging violations of the Ohio ethics laws (Chapter 102 and/or Sections 2921.42-43) with the Ohio Ethics Commission or the appropriate prosecuting attorney. While the Board and the Associate Ethics Policies provide the contact information for the Ethics Commission or STRS legal counsel for any advice, assistance, or questions related to the statutes or the Ethics Policies, the policies do not explicitly address the procedures for filing a complaint. In addition, while the Associate Guidelines contain a Non-Harassment policy that encourages employees to report fraud, waste and abuse and prohibits any form of retaliation, STRS does not have a comprehensive whistleblower policy. Consideration should be given to whether reference to additional situations and protections covered in the Ohio Whistleblower Protection Act (Section 4113.51 of the Revised Code) should be added to the Associate Guidelines.

While the sample of STRS investment agreement revealed that it is generally receiving placement agent representations, STRS does not have a stand-alone policy regarding implementation of pay-to-play rules.

Board members, the Executive Director, Chief Investment Officer and State Retirement System Investment Officers are required to file annual financial disclosure statements with the State Ethics commission within 90 days of hire and each May. While disclosures may be reviewed on an ad hoc basis, there is no internal process for reviewing the disclosures or ongoing process for monitoring potential conflicts.

It is a leading practice at peer funds to establish a policy that provides a prudent process for handling situations where Board members encounter potential service providers or investment opportunities and wish to refer them to staff. These policies usually specify a point of contact with the staff (e.g., the Chief

Investment Officer or Executive Director), include a tracking mechanism and provide reports back to the Board or Audit Committee to make sure that co-fiduciaries are aware of referral activities. Policies also usually provide that the same due diligence standards apply, regardless of the referral source, and prohibit attempts to exercise undue influence.

Investment-Related Conflicts of Interest Standards of Comparison and Findings

Investment-Related Conflicts of Interest Standards of Comparison	Findings
There is an insider trading policy and a policy for material non-public information (MNPI).	Yes*
Investment managers are required to affirm that they do not have a conflict of interest at the outset of the relationship and reaffirm this annually.	Partial
Any conflicts that arise with investment managers during the course of the relationship are timely disclosed to the system in writing.	No
The template side letter requires investment managers to complete a disclosure form upon execution of the side letter and again annually.	No
Investment Compliance is responsible for ensuring that the required annual disclosures are received.	No
Investment Compliance verifies that information received is consistent with data reported to the SEC or otherwise available to STRS.	No
Investment Compliance escalates any significant findings.	No
External managers and broker/dealers must affirm compliance with system rules annually.	No

* See specific recommendations with respect to the MNPI policy in section 3.1.9.

Conclusions

STRS' standard Investment Management Agreement ("IMA") requires investment managers to conduct investment activities in manner consistent with the Code of Ethics and the Standards of Professional Conduct adopted by the CFA institute. The IMA also requires investment managers to comply, *to the extent applicable*, with the reporting requirements contained in Revised Code Sections 101.90 *et seq* (Joint Legislative Ethics Committee) and Chapter 102 (Ohio Ethics Commission) of the Ohio Revised Code, and provide evidence of compliance upon request and notify STRS of any change in the representations contained in the IMA. The standard IMA also requires managers to promptly notify STRS if its representations in the IMA, including with respect to conducting its activities in accordance with applicable ethics laws, cease to be satisfied, or as otherwise requested by STRS. STRS' form side letter requires the general partner to cause the partnership to comply with Revised Code Sections 101.90 *et seq.,* 102.03, 2921.43, and 3307 and the reporting requirements related to political contributions.

Revised Code Section 101.90 *et seq* pertains to lobbyist and employer disclosures, and while STRS interprets the definition of "retirement system lobbyist" as covering certain investment manager activities targeted to influence the System's decisions, it is unclear to what extent a reporting obligation would be triggered by a manager in the normal course.

Recommendations for Improvement

R.1.6.1 **Amend the Ethics Policy to identify a process, subject to required external approvals, for consulting with counsel, disclosing and/or curing any potential conflicts.**

R.1.6.2 **Establish a process to monitor and cure any continuing conflicts of interest.**

R.1.6.3 **Adopt a comprehensive confidentiality policy.**

R.1.6.4 **Adopt manager/vendor referral policy, which addresses ex parte communications and avoiding potential for board member improper influence.**

R.1.6.5 **Consider expanding Associate Guidelines to incorporate or reference provisions from the Ohio Whistleblower Act.**

R.1.6.6 **Adopt an SEC pay-to-play policy.**

R.1.6.7 **Require each trustee, senior staff member, and all investment staff to provide an annual certification of compliance with the Code of Conduct, Ethics and Conflicts of Interest policies.**

R.1.6.8 **Require annual affirmations from all counterparties of the investment office, such as investment managers and broker/dealers, that they are in compliance with all contractual, legal and regulatory ethics and compliance requirements applicable to their provision of services to the System.**

R.1.6.9 **Require annual ethics/compliance affirmations from consultants and key professional service providers, such as investment consultants, management companies, and legal counsel, including acknowledgement of receipt of STRS policies at the entity level and individual certifications from key persons.**

R.1.6.10 **Establish a robust compliance process, including comparison of STRS transactions against Financial Disclosure Statements and other public filings and ensuring that all compliance exceptions are escalated for remedial action, as appropriate, and reported to the Board or Audit Committee.**

1.7 Succession planning

Succession planning for key positions.

Expectations

Selecting, evaluating, and preparing for the succession of the executive director (ED) are among the most important functions of a fiduciary board. It is through the executive director that the board's direction and policies are executed, and organizational leadership and public presence are demonstrated.

The importance of the ED's position and the reporting and working relationship with the board cannot be overstated. It is to the ED that a board first looks for implementation, and that individual is the single point of executive accountability as the most senior officer of the system.

The ED has overall responsibility for both operations and enterprise administration in the execution of board approved directions within policy. The ED should lead the strategic planning process to identify and develop needed long-term capabilities and actively engage the board in the process.

The ED is also responsible for advising the board on direction and policy. This includes coordinating staff research and advice and making recommendations based on the pros and cons of the range of available policy options and their implications. The ED should also be able to engage consultants to advise the staff.

The ED is responsible for hiring, evaluating, compensating, and planning for the succession of the senior officers and staff of the system for both operations and enterprise functions. The ED and senior officers should timely report actual progress toward goals and expectations to the board and its committees.

The ED is responsible for providing reasonable (but not absolute) assurances to the board that there are capable people, processes, systems, and resources in place to effectively and efficiently manage the system to achieve expected performance. This includes the responsibility to timely identify and escalate matters to the board when actual performance varies unacceptably from what is expected, or when resources may be inadequate. It also includes the responsibility of providing accurate and timely information for board decision-making. The ED should seek board direction and adapt execution of approved directions as needed.

The ED's goals should be clearly defined in advance and linked to the system's strategic plan. The ED should be held accountable for the achievement of these goals using an annual written evaluation and with compensation linked to measurable performance. It is a prevailing practice among peers for the board to have the authority to set compensation for this position. Certainly, every institutional investor and corporation would see this as fundamental to the relationship.

For all these reasons, the executive director's succession plan is very important in the event of a temporary vacancy in this position or in the event of a permanent vacancy due to retirement or other reasons. The leadership and performance of all senior officers and staff, with the exception of the Chief Audit Executive (CAE) who reports directly to the board, is ultimately the responsibility of the ED.

Succession planning for other key positions in a public retirement system is a critical responsibility of the executive director. The plan should be approved by the board, then updated as necessary. Public retirement systems all have some hurdles in succession planning, especially for those that are directly within the executive function of state government and that operate within civil service requirements and union contracts. Typically, the identification of specific individuals for specific positions is prohibited. Nonetheless, a succession plan, particularly for emergency vacancies, is a prevailing practice for meeting business continuity needs.

The succession plan should maintain internal governance and checks and balances such as segregation of duties. For example, if there are two positions that are control positions in that each is required to countersign documents, then those positions should be covered by someone within those respective functions and not the ED.

The ED has the responsibility to keep the board informed and the plan up-to-date. Within a system-wide plan, the board should ensure there is a clear emergency succession plan for its direct reports, i.e., the executive director and the CAE. The board should also become familiar with the bench strength of the leadership of the system through exposure to executives at board and committee meetings. Succession planning for senior level positions is also typically embedded in hiring and promotion decisions.

Succession Planning Standards of Comparison and Findings

Succession Planning Standards of Comparison	Findings
There is a succession plan for the executive director approved by the board including an emergency succession plan; the emergency succession plan maintains segregation of duties.	Partial
There are succession plans for all key positions given the constraints of the civil service.	Yes
There is a clear understanding of how often the ED and senior staff succession plan is reviewed with the board or a designated board committee.	Yes
The staff ongoing education plans link to developing bench strength and supporting succession plans.	Yes
The system has a robust strategic planning process that is transparent both internally and externally.	No
The strategic plan is a useful and valuable tool used at all levels of the organization in goal setting and accountability.	Partial
There is a standard process for engaging the leadership team, the board and the ED around the strategic plan.	Partial
The board or board committee has a process for meeting with the ED to review and update goals and ensure the ED's focus incorporates important goals of the strategic plan for that year.	Partial

Conclusions

Succession plans vary in detail and depth, with some such as Finance, Member Benefits and IT outlining bench strength, development plans, readiness to assume responsibilities immediately, and where external hires are desired. It is apparent that the majority of departments put significant thought into developing these plans and regularly review and use these plans. **H**owever, technical expertise and management/leadership skills are distinct; training to manage or lead should be part of the overall education and succession planning.

The Executive Director succession plan was developed by the previous ED, and it appears that the current plan has not been updated for 2022 and approved by the Board.

It is apparent that the succession to the new Executive Director went well and the Board followed a prevailing practice of utilizing a national search firm, in this instance Korn Ferry, and sourced both external and internal candidates. STRS had a communication plan upon selection to inform, in a timely manner, all internal associates, legislators, plan members, stakeholders and the public. The ED succession plan did not outline critical skills necessary for the ED position; going forward the Board should include skill identification within its ED succession plan and the Board should have a discussion about the type of person/skills necessary to lead a large organization, both internally and externally. A knowledge of internal functions and processes as well as the skills to be an important ambassador and understand the external landscape in the public sector, and the ability to be an effective spokesperson for the system should be part of the calculus.

Generally, the Department Directors who developed these succession plans were thoughtful about skill sets and segregation of duties.

The Board's Policy Manual outlines that, among other reports, the ED reports on succession planning annually. It is unclear the extent to which the Board reviews or discusses the bench strength within the Executive and other Departments, or pending retirements from critical positions, and it is unclear to what extent Departments are focused on bench strength for the future through its recruitment efforts. It is a balancing act to enhance STRS employee culture by developing from within and with bringing on external talent to develop bench strength and add different ideas and perspectives to the mix. Evaluation of bench strength and key gap identification in staffing back-up is critical.

STRS does have a strategic plan that is consistently updated and presented to the Board monthly on a transactional basis. However, monthly strategic planning updates to the Board that are solely transaction in nature are not meaningful and can obscure the longer-term planning horizon of the plan and the desired outcomes. Updates are more meaningful if they occur no more often than twice yearly and include conversation about the direction of the plan with updates and recommended course correction if necessary.

The Strategic Plan has apparently been updated two or three times in the last 10 years but executive leadership is not clear about the process going forward. There are a variety of strategic planning processes and consultants that can assist, but of importance is that whatever the process, it should contain broad internal and external stakeholder involvement. A common understanding of how the plan is used to support individual goal setting and longer-term needs is essential. The succession plan should be supported by the system's understanding of staffing needs for future desired outcomes and STRS vision.

The longer- term Strategic Plan is not referenced in succession plans nor does it appear to be used directly in department goal setting and review process. The ED is apparently evaluated annually in a process where Deputies of all departments participate in providing information around Executive compliance with policies.

It is unclear whether or when external parties and stakeholders have been involved in strategic planning, but apparently not all stakeholders are involved in the process.

Recommendations for Improvement

R1.7.1 The Executive Director succession plan should be updated and reviewed and approved by the Board and be more specific in its requirements.

R1.7.2 All Department plans should elaborate on training/education needs and coordinate with the HR department to budget and make training available and linked to associates' annual goals and strategic plan.

R1.7.3 The ED and senior staff, and then ED and Board, should candidly discuss the importance of hiring externally for certain positions which are difficult to recruit and retain, address temporary needs or require unique skills or resources.

R1.7.4 STRS should develop a more robust and transparent process around strategic planning.

R1.7.5 Strategic plan updates to the Board and strategic planning conversations should usually take place no more often than twice yearly to avoid confusion of tactical and strategic decisions processes.

R1.7.6 Consistent with R1.4.9, the Finance and Compensation Committee (if implemented) should review ED goal setting and review performance, and reference an updated and inclusive strategic plan.

1.8 Administrative Costs

Administrative costs, including determining their appropriateness compared to comparable public systems.

Expectations

The scope of this section of the review includes the administrative costs of the retirement system. Investment-related costs are addressed separately in *Section Three: Investment Policy and Oversight*.

The system participates in periodic benchmarking of pension administration costs and service levels through studies conducted by an independent service such as, e.g., CEM Benchmarking Inc. of Toronto, Canada. The system manages performance by developing achievable goals in the areas of cost, service and transaction volumes, and considers pension administration cost relative to service levels achieved.

Administrative Costs Standards of Comparison and Findings

Administrative Costs Standards of Comparison	Findings
The administrative headcount is consistent with peers.	Yes
The cost per member and annuitant is consistent with peers.	Yes

Conclusions

Based upon Funston Advisory Services InGov© peer benchmarking, shown below, STRS appears to have reasonable levels of staffing and budgets compared to the peer group. STRS has higher investment staffing due to a much higher level of internal investment management than these peers. Similarly, the level of IT staffing is higher than the peer group average due to support of in-house investment accounting systems.

Metric	STRS	Peer Average	Low	High	No. of Peers
Total FTEs per 10,000 DB Plan Members	10.1	11.9	5.2	22.8	7
Retirement + Member Services + Employer Services FTEs per 10,000 DB Plan Members	2.4	4.2	0.6	11.6	9
Information Technology FTEs per 10,000 DB Plan Members	2.4	1.8	0.6	4.6	9
Finance and Accounting FTEs per 10,000 DB Plan Members	0.5	1.2	0.4	3.9	9
Investment Management FTEs per $1 billion AUM	1.1	0.8	0.5	1.1	7
Total Budget (less Health and Insurance Administration) per DB Plan Member	$230	$290	$117	$789	7

These InGov© findings are consistent with the findings from the most recent CEM Pension Administration Benchmarking report for 2021. This peer benchmarking study focused only on the costs related to member, annuitant, and employer services. It should also be noted that the STRS total service score was 92 out of 100, the second highest in the entire CEM peer universe.

Among the conclusions cited by CEM in their report were:

- "Your total pension administration cost of $101 per active member and annuitant was $7 below the peer average of $108 and $19 below the universe average.
- Between 2014 and 2021 your total pension administration cost per active member and annuitant decreased 1.0% per annum."

We conclude that STRS has done an effective job of managing its administrative costs.

Recommendations for Improvement

No recommendations at this time.

1.9 Communication policies and procedures

Communication policies and procedures of STRS between the board, its members, and its retirees.

Expectations

As a fiduciary, the board has an obligation to provide accurate reports to its fund beneficiaries and employers on plan status and performance, as well as submit statutorily required statement of funds reports to participants, financial statements and various other reports to participants, legislative oversite bodies and interested public. In addition, accurate stakeholder understanding of pension fund issues is critical to participants' retirement security, as well as to the plan's sustainability and success. All Stakeholder groups are included in access to information and dialogue.

A board policy commonly establishes communications roles for trustees and staff to ensure interactions with stakeholders are appropriate and that the information provided is accurate and consistent. The executive director (ED) is normally the designated spokesperson for most matters.

The ED commonly delegates most day-to-day communications responsibilities to a public information officer (PIO). That can entail leading staff or consultants that manage websites, requests for information, social media channels, and the content and design of official materials and media relations. The PIO also typically assists trustees with matters that require a public response from the board. Many larger funds now have a team involved in managing external relations and communications. The PIO and ED develop key messages and communication strategies and ensure the board is well informed. The board approves the basic thrust of a system's messaging. Consistency and clarity of messages is critical. The PIO and ED have been well trained in the development and use of messaging as a critical component of effective communication.

The board chair is usually the spokesperson for matters involving board decisions and situations where it is inappropriate for the ED to speak on behalf of the board. Board policy typically directs that other trustees speak on behalf of the board only when authorized to do so by the board. If an individual trustee is compelled to comment on a board matter, it is important to indicate if they are voicing a personal opinion or if they are speaking for the board.

Peer policies commonly require trustees to inform the ED if they are contacted by media, elected officials, vendors, or by other stakeholders. This policy enables the board and leadership to have a more complete picture of matters that interest stakeholders and to provide a consistent response and develop important messages.

In a public retirement system, it is important to engage key stakeholders such as beneficiaries, active members, retirees and the legislature in the strategic planning process both in the formulation of the plan and in its communication plan development for day- to- day communication expectations and for crisis communications. Transparency is important.

Trustees are typically directed not to provide specific advice regarding the rights or benefits to which an individual fund participant may be entitled. They are also not to divulge information about individual participants in the fund or other confidential matters they may encounter as they carry out their responsibilities. Generally, trustees do not have access to any individual account information nor should they ask to access such information; however, staff provides aggregated information routinely. Prior to engaging in external communications on sensitive issues, the ED is usually expected to consult with the board or board chair, as circumstances allow. Some policies require that the board or board chair review press releases before they are disseminated to ensure that they accurately reflect the board's views. Other funds have delegated this function but expect the board to be updated in real time.

In addition, trustees should each have a system-specific email account for several reasons: first, to clarify the capacity in which they are communicating especially if they wear "multiple hats", and secondly to keep personal and public accounts separate. Are they speaking as a trustee, a private citizen, a legislator or in their official capacity? Public retirement systems may receive requests for information and trustees may have their email accounts included in these requests, as well as discovery requests. For these reasons, the leading practice is for the system to provide system-dedicated email accounts for trustees to be used only for system business.

Communication Standards of Comparison and Findings

Communication Policies and Procedures Standards of Comparison	Findings
There is a robust stakeholder communications policy, communications plan and crisis communications plan.	No
Communications roles are clear for the board and senior executives.	Yes
The board has a policy that the ED speaks for the fund generally, and the board's expectations for being advised.	Yes
• The policy applies to media, legislative, or individual requests for information or position of the fund on any particular issue.	Yes
• The ED is accessible and responds timely. Personal contact with legislators and member and retiree groups is a key responsibility in representing the fund and keeping stakeholders advised.	Yes
• Messaging is consistent and clear and is not a recitation of facts. Messaging has heart and is stated in a manner that advocates for the fund and its beliefs and positions.	Partial
Written and oral communications are in plain language and understandable for those outside the pension fund administration or investment field.	Partial
Policies and practices support a proactive role in keeping legislators adequately informed regarding system performance and on any potential legislative concerns.	Yes
Participants are able to interact with the system and obtain current information electronically or in a paper format if preferred.	Yes
The system is accessible for individual member communications and interaction, and the system can communicate quickly with the vast majority of fund participants electronically.	Partial

Communication Policies and Procedures Standards of Comparison	Findings
Stakeholder communication is clearly written, concise, and stakeholders are advised on contacts for questions or additional information. Key staff including the ED meet with all stakeholder groups at least twice annually in person and listen to questions and share updates on pension fund health and issues going forward. They engage in dialogue around shared issues.	Partial
The Fund is literate in multiple communication media including social media platforms. The Fund has consultants and staff that are capable of monitoring and pushing information via multiple resources.	Partial
Meaningful and impactful messaging is consistent across the system and is always timely and purposeful.	Partial
Trustees utilize a system-specific email account to clarify the capacity in which they are communicating and to keep personal and public accounts separate.	Partial

Conclusions

STRS does not have an internal staff communications policy. Board Governance Policies do specify who may speak for the system and give broad delegation to the ED as well as clarify that individual Board members do not represent the System.

Board members each have Surface tablets that are dedicated to STRS business.

Communications Department staff have experience depth with STRS and generally have the necessary staff and tools to meet communication needs except in certain key areas. Staff has solid communication skills depth and breadth to support internal departmental needs, but the Communications Department does not have social media skills or communication advocacy skills to deal with adverse public or constituent attention, or with crisis communication needs.

Included among the STRS Strategic Planning Goals is Goal 2: Engaged Customers, *Foster and maintain engaged and informed members, employers, and other stakeholders.* Staff consistently update tasks performed as initiatives under this goal. Those tasks list such things as emailed information and member meetings and what staff attended and presented.

STRS does not have a Stakeholder Communication Plan.

Most 2020 and 2021 meetings with third parties were virtual, and some included the ED. There were no combined stakeholder information sharing and listening meetings for pension issues; their stated preference is to meet with constituent groups individually. STRS ED and key staff spend a great deal of time meeting with stakeholder groups and will meet with anyone who desires a meeting , but there is a perception among some that participation and access for input is not even across interested parties.

Communications Department coordinates as needed with Governmental Relations for legislative material or talking points, however communication appears factually dense and that approach obscures the main points of communication. Effective communication is not a recitation of all facts.

Social media had not been an emphasis within the Communications Department, but STRS has needed social media skills more frequently as a result of minority negative social media concerning COLA and investments. All electronic and social media needs have increased during COVID.

STRS currently has email addresses for approximately 75% of its membership, which is a high level compared to peers. Nonetheless, 25% of members still require hard copy communications materials.

STRS has no Crisis Communication Plan and has not worked with a Crisis Communication consultant to develop skills in this area. Expertise in crisis communication, with specialized consultants if needed, is a key part of a communication plan.

Information sharing in response to inquiries appears heavily fact laden and messaging is less strategic. Concern expressed by some interviewees is that external group communication is not as healthy as it should be, and that STRS faces risk in not listening and responding timely with clear and thoughtful messages. FAS heard several times that STRS does not “tell its story” to communicate effectively and respond to inquiries and criticisms. For example, one interviewee noted that STRS has never yet explained its private equity profile nor its fee structure. But overall, this observation pertains to all external communication styles and approach. Facts can be layered and accessible to support messages that should passionately describe what STRS believes in order to meet its fiduciary goals for the benefit of its members and retirees.

Current communication style is not effective when it includes a list of known facts at one time. Factually dense communication obscures the messages. All senior staff, including the ED, should understand STRS key messages and practice how to use messaging by working with a communication consultant skilled in this area. Coaching is extremely helpful to hone skills. All senior staff should be able to stay on message while authentically entertaining questions and engaging in difficult dialogue with constituents. Some expressed that the hesitancy or inability to “tell the story” and step up to communication needs erodes confidence in the system and creates a high level of uncertainty among some of its members and retirees. Timely public messaging is even more important in the face of negative public comments or campaigns.

Although STRS has provided each trustee with their individual STRS email accounts, as well as Microsoft Surface devices for both receipt of board books and messaging, we understand that some trustees do not consistently utilize their STRS email account for STRS business. This could result in lack of clarity for when they are sending messages in their role as an STRS trustee and also expose their personal email account to requests for information, as well as discovery in the case of litigation.

Recommendations for Improvement

R1.9.1 STRS should immediately contract with a communication consultation for skill augmentation, or hire experienced staff with skills in crisis communication, social media, and proactive messaging, and develop internal goals that include these areas of need.

R1.9.2 STRS should work internally with senior staff around messaging to meet the outcomes of its Strategic Goal #2.

R1.9.3 Although already at a relatively high level, STRS should continue to expand its electronic reach beyond 75% of its population and continue to reduce the need for print material.

R1.9.4 **STRS should consider using the Healthcare and Pension Advocates (HPA) group to test its messages and listen to feedback on communication needs.**

R1.9.5 **STRS senior staff, including the ED, should offer to meet at least twice annually with as many stakeholder groups as possible.**

R1.9.6 **STRS should develop a Communications Plan that addresses stakeholder communication, crisis communication and social media, with assigned goals separate from STRS strategic plan.**

R1.9.7 **STRS staff leadership should continue to meet most often and in person with those constituents or members of the public that are most critical of STRS, provided interaction is consistent with advice of legal counsel where ongoing litigation is involved.**

R1.9.8 **The STRS Board should ensure all its members are exclusively utilizing their STRS email account for system-related messages.**

1.10 Oversight of the Defined Contribution Plan

Assess whether the Board of Trustees is fulfilling its fiduciary duties with respect to the Defined Contribution (DC) plan.

Expectations

The fiduciary duties owed to the participants and beneficiaries of a governmental defined benefit ("DB") plan and a defined contribution ("DC") plan are the same; however, the *manner* in which a fiduciary fulfills its responsibilities is different. It is important that board members are aware that the determination of prudence is contextual, and the structural differences between DB and DC plans leads to a divergent analysis regarding whether an action or inaction is prudent under the circumstances. A board's core fiduciary functions with respect to a defined contribution plan include:

- Plan design.
- Administering the plan in compliance with governing documents, including the plan and applicable law.
- Prudently selecting and monitoring service providers and consultants.
- Prudently selecting and monitoring investment options and their performance.
- Monitoring plan expenses and ensuring reasonable investment fees passed to participants.
- Ensuring that participants are appropriately educated about the plan and investment options.

Board members are responsible for being knowledgeable about their requirements to fulfill their fiduciary duties. Board education leading practices include:

- Understanding key industry issues.
- Staying up to date on regulatory and legislative activities and fee trends.
- Committing to ongoing fiduciary development and training.

As continuous monitoring is a key element of DC plan oversight, it is a leading practice for a board to designate responsibility for oversight to an appropriate committee. Sometimes this is a standalone DC Plan committee, particularly during the start-up phase, but more often oversight is included in the charter of a Finance Committee or Benefits Committee or Investment Committee.

DC Plan Standards of Comparison

DC Plan Standards of Comparison	Findings
A committee of the board has oversight responsibility for the DC Plan.	No
The board receives training of their DC plan fiduciary responsibilities at least annually.	No
The board periodically reviews and considers improvements to plan design, for example, annually.	Partial
There is a comprehensive DC plan document(s).	Yes
The DC plan document(s) are reviewed and updated annually.	No

DC Plan Standards of Comparison	Findings
A single senior executive is identified and responsible for overseeing the DC plan and reporting to the board.	Partial
The plan sponsor provides member education that compares the DC plan to other options (e.g., DB and CO plans) and discusses pros and cons of each, inclusive of projected illustrations of income in retirement.	Yes
There is a default option offered to participants based on a target date fund lineup.	Yes
There is a menu of diverse investment options chosen to provide participant choice when developing asset allocation-based decisions based on their individual circumstances.	Yes
The board tracks the performance of the default option and evaluates the glide path in the target date fund option based on their evaluation of the appropriate risk preference for the participant population.	Partial
There is a DC plan investment policy statement.	No
The board regularly reviews the DC plan investment policy statement and investment options, with advice from staff and consultants.	No
DC plan policies clearly define responsibilities for selecting asset class offerings and fund selection.	No
An external third-party provides plan design advice to the board and administers the DC plan(s).	No
An investment consultant provides DC plan investment offering advice and monitors investment option performance against benchmarks and peers.	No
Third-party DC plan provider and advisor contracts are reconsidered periodically, e.g., every 3-5 years, through an effective RFP process.	No
There is an effective ongoing DC plan member education program.	Yes
Daily unit values (NAVs) are set for each fund in the DC plan and are used to value in-good-order transactions by participants (i.e., subscriptions, redemptions, transfers). Proper controls are in place to prevent participant excessive trading and market timing.	Partial
DC plan members are regularly surveyed to obtain member satisfaction and other feedback.	No
DC investment offerings and performance are regularly benchmarked to other DC plans.	Partial
DC plan costs and fees are regularly benchmarked to other DC plans.	Partial
The plan provides pre-retirement counseling and education about annuitization, rollover, and lump sum options to participants.	Yes

Conclusions

Since the DC Plan's inception, STRS has adopted a DC plan investment structure that commingles DC plan assets and DB assets and offers investment strategies designed for the DB plan investment. Members have the unusual and attractive option of annuitizing their account balance at the DB assumed rated of return less 350 basis points. There is no separate investment fund, strategy, or policy statement for the DC plan. Similarly, the Board does not have an independent investment advisor for the DC plan nor an advisor on plan design.

The Board received an update on the DC plan in September 2021 that included a review of election rates and demographics and a review of fees for each fund. Staff intends to make this an annual review going forward, but it had not occurred regularly previously. Participants are also able to access their account balance and performance daily through online websites.

We did not find evidence of Board fiduciary training specifically regarding the Board's responsibilities for DC plan oversight. During our interviews we did not observe a clear understanding by trustees as to the Board's fiduciary responsibilities. The current Board reviews and level of oversight are not up to prevailing practice levels of prudence.

STRS does utilize a separate recordkeeper, NRS, to manage the individual DC plan account "pro-forma balances" and provide participant investment counseling and retirement estimates and options. The STRS investment funds used for DC are valued (on an unaudited basis) each day, and books are closed on a monthly basis. Unaudited daily values are used for participant account balances and transactions. This is a deviation from the prevailing practice of daily valuation and closing in the 401k, 403b, and 457 plan market space. The STRS counselors provide overall retirement counseling for all members.

We observed a fee comparison in the September 2021 Board report to benchmark STRS fees charged versus large third-party investment providers (TIAA and Vanguard) but were unclear regarding the type of vehicles/share classes chosen to compare STRS options with third party choices. We believe this type of analysis and presentation to the Board should be expanded upon in future presentations to either the Board or appropriate committees delegated review responsibilities for DC matters.

Recommendations

R1.10.1 Develop a Board continuing education program for DC plan fiduciary duties, plan design and oversight.

R10.1.2 Hire an independent DC plan advisor and independent investment consultant.

R10.1.3 More formally assign an individual in the STRS organization to lead the DC plan.

R10.1.4 Engage in a review of the DC Plan design and all policies, practices, and processes for the DC plan.

R10.1.5 Establish Board agenda items explicit to required DC and Combined Plan matters and assign oversight of these Plan features to a Board committee.

2. Organizational Structure and Staffing

The Contractor will perform a review of the overall organizational structure of STRS and its capacity and effectiveness in implementing the policy and assignments delineated by the STRS Board and management. Specifically, this will include an analysis of:

2.1 Staffing size, hiring procedures, staff qualifications, roles, compensation, performance evaluation requirements, and an analysis of these factors compared to other similar size public pensions;

2.2 Adequacy of process to evaluate and improve customer/member satisfaction;

2.3 Whether compensation levels are sufficient to facilitate STRS's ability to attract and retain qualified pension fund professionals; and

2.4 Monitoring and maintaining staff qualifications and continuing education requirements, including leadership development process.

Organization Structure and Staffing Review Activities

1. Assessed the organization structure, staffing and capabilities of STRS as compared to peer retirement systems;
2. Reviewed human resources policies and practices and compared them to leading practices;
3. Assessed staff qualifications and hiring and evaluation processes;
4. Evaluated compensation policies and structure;
5. Assessed processes for monitoring, measuring and improving member satisfaction;
6. Reviewed staff training and continuing education policies and program and compared to peer retirement systems;
7. Compared customer service monitoring policies and practices and results with leading practices at peer state retirement systems in the U.S.;
8. Reviewed strategic plans, customer service reports, and the most recent CEM Benchmarking pension administration report, interviewed senior executives, and utilized the FAS public retirement benchmarking knowledgebase to assess member satisfaction monitoring and management;
9. Compared compensation policies and practices with leading practices at peer state retirement systems in the U.S.;
10. Reviewed the compensation structure and the latest system-wide Compensation and Classification Study; and
11. Utilized the FAS public retirement benchmarking knowledgebase to assess compensation policies and structure.

Overview of Organization Structure and Staffing

Overall, STRS has a sound organizational model, a reasonable level of staffing resources, and an effective human resources program, including compensation.

STRS uses the most common structural model among state public retirement systems, an integrated investment and pension administration organization with a single fiduciary board, with an Executive Director (ED) reporting to a Board of Trustees as the sole operating report. Span of control and lines of authority at STRS are clearly defined. Where most appropriate, organizationally defined responsibilities and procedural separation of duties provide important checks and balances to prevent compliance and reputational risk.

Senior Human Resources management provides update reports each month for the board, an indication of the priority the board places on maintaining a capable staff. Key leadership across the organization have cited more recent challenging trends in retention and recruitment. At the present time, employee turnover remains at a modest level.

The HR function at STRS, working with management across the organization, has implemented a highly structured, procedures oriented, and uniform approach to position and performance management, and position descriptions exist across all departments and levels. There is an effective performance management process linked to compensation.

STRS has a biennial succession process whereby organization leaders document eligible successors (if applicable) across all management positions within their purview. STRS could potentially benefit from enhancing this process with a more formalized talent review process and culture surveys. However, overall, the STRS HR function is very professional and effective.

Member services are high quality.

STRS has had a long-term focus on providing high-quality member services and has an extensive system of performance metrics that are monitored, including frequent member satisfaction surveys. The pension administration system, called STaRS, has been designed to maximize member self-service, with extensive integration of information, workflows, and user self-service, and has resulted in higher user satisfaction, higher staff productivity, and a lower volume of inquiries. Based upon the CEM Benchmarking analysis, STRS has consistently had a leading service level score for many years, rating second in its peer group of 43 systems in 2021, while incurring costs 6% below its peer group average in 2021. STRS has reduced its member service costs by 1% annually over the past 8 years while the average peer system has increased by 2.4% annually.

Compensation is consistent with prevailing practice.

In 2005, the STRS Board set in place both a compensation philosophy and policy that govern compensation for associates; both remain in place today. STRS has conducted periodic independent benchmark reviews of positions and associated compensation ranges across the organization. The STRS compensation policy and practices could be considered prevailing practice for peer public funds. The total compensation for the investment professional team (inclusive of Performance-Based Incentives) was running somewhat below the targeted 50/50 blended benchmark peer group median.

The STRS performance management cycle, which includes four integrated steps, is leading practice.

To facilitate retention and recruitment of investment professionals, the STRS Board approved an annual variable component of total compensation for investment professionals in 1985, which is reviewed annually. Approximately 90 out of the 500 staff members within STRS are eligible to receive annual variable pay through the Performance Based Incentive (PBI) program. The population of PBI eligible staff is determined to have a direct influence on investment values and returns for the system. The structure of the PBI program is based on both absolute and relative returns in the investment portfolio. The performance measures that determine the PBI and individual awards are based solely on quantitative goals and the calculation is formulaic. Consistent with leading practices, the determination of variable compensation is based on both short term (one year) and longer term (five years) performance. Although this program is consistent with leading practices, most public retirement systems with incentive compensation programs, like STRS, must proactively communicate the context for both the incentive compensation and the overall level of compensation for its investment professionals. This is an opportunity for improvement for STRS and could be part of an overall stakeholder relations communications strategy and program.

Training and development are leading practices.

Training and development opportunities at STRS are well documented, broad based, and easily accessible. Employee participation is encouraged in formal and ad-hoc programs, inclusive of both internal skills building workshops and external skill building seminars offered through third parties. HR leadership presents statistics on employee attendance across key training and development programs as part of its annual management review to the Board. This practice is another important piece of evidence in support of the organization’s overall mindset and commitment towards employee development.

2.1 Staffing and Compensation

Staffing size, hiring procedures, staff qualifications, roles, compensation, performance evaluation requirements, and an analysis of these factors compared to other similar size public pensions.

Expectations

An effective organization structure facilitates overall organization performance. When assessing the organizational structure of a public retirement system, key considerations include:

- Clarity of lines of reporting and responsibilities with appropriate spans of control;
- Appropriate assignment of responsibilities to operating departments to facilitate development of capabilities and coordination of work;
- Ability of support functions, combined with external service providers, to effectively serve operating departments;
- Delegation and segregation of duties from a control standpoint, where appropriate; and,
- Facilitation of information flow in support of internal and external communications requirements.

When evaluating the staffing and capabilities of a public retirement system and comparing to peer systems, it is important to understand any differences in services provided to members and annuitants, use of third-party providers vs. internal staffing, scale of operations, and any other areas which may not directly compare. Taking those factors into consideration, comparisons to peer retirement systems typically provide an indication of the appropriateness of a system's level of staffing. The capabilities of a system should be aligned with the services offered, regardless of whether they are internally-staffed or from a third-party provider.

Staffing and Compensation Standards of Comparison and Findings

Staffing and Compensation Standards of Comparison	Findings
The organization structure and management span of control is appropriate for a retirement system of STRS's scale, lines of authority are clear, and it appears to function effectively.	Yes
The Chief Financial Officer (CFO) reports directly to the ED.	Yes
There is a separate organization with a director-level leader for its health care insurance operations.	Yes
The Board, ED and Chief Investment Officer work with HR staff to develop a formal/strategic plan and program for long-term staff development and retention of expertise.	Partial
A position description exists for each staff member that describes general and position-specific requirements.	Yes
The system periodically conducts or participates in an independent compensation study and utilizes the results to improve its compensation structure and ranges (See also 2.3).	Yes
Recruitment and hiring practices are effective; open positions and time-to-fill are monitored and open positions are filled in a timely manner. (See also 2.3)	Partial
There is an effective employee performance management system linked to the compensation system (See also 2.3).	Yes
There is a practice for obtaining employee-level input regarding professional satisfaction and retention issues.	Partial
HR staff resources focus on:	
• Hiring issues.	Yes
• Skills gaps.	Partial
• Job rotation and backup capabilities.	Partial
• Staff/positions with retirement eligibility.	Yes
• Succession planning and talent review.	Partial
A tuition reimbursement program is available to all staff to encourage professional development (see Section 2.4).	Yes

Conclusions

Organizational Design

As referenced in *Section 1, Board Governance and Administration*, STRS uses the most common structural model among state public retirement systems, i.e., an integrated investment and pension administration organization with a single fiduciary board, with an Executive Director (ED) reporting to a Board of Trustees as the sole operating report. The organization structure and staffing should take into consideration the services provided by STRS: defined benefit pensions, defined contribution pensions, and health insurance for annuitants. Our assessment in this review is based upon leading practices for this type of public retirement system that offers these services. As also referenced in Section 1, the overall staffing level of STRS is comparable to peers on a per member basis.

Span of control and lines of authority at Ohio STRS are clearly defined. Key positions, including the Heads of Finance, Investments and Member Benefits, also bear the title of Deputy Executive Director. Signed delegation of authority documents exist across the leadership of the organization, both line and staff areas alike. Where most appropriate, organizationally defined responsibilities and procedural separation of duties provide important checks and balances to prevent compliance and reputational risk, including but not limited to:

- Investment Accounting within the Office of the Chief Financial Officer; and
- Human Resource and Audit as approvers of variable compensation (see Section 2.3).

Like many public pension plan operating models, the important client-facing organization, Member Benefits, maintains designated departments to support processing of benefits administration (i.e., disabilities, member benefits, recipient benefits), healthcare benefits, counseling, and services, each headed by a director level manager.

HR Strategy, Organization and Current Challenges

In the most recently developed strategic plan, the organization designated strategic goal number 3 as "Employ experienced and credentialed employees in the workforce." Central to achieving this goal is attracting and retaining people and maintaining a high level of professionalism in the culture. Given the concurrent period of "The Great Retirement and Great Resignation", the inclusion of this goal in the strategic plan is considered prescient. It is worth noting, however, that key critical success factors that will facilitate the realization of this strategy are absent from the STRS enterprise risk register, but note that these topics were mentioned during a recent ERM presentation to the board.

Senior Human Resources management, required to provide update reports each month for the Board, recognizes that addressing this strategic goal requires diligence and attentiveness across most every HR discipline including salary, payroll, and benefits; training and development; recruitment, interviewing and onboarding; and talent management and succession planning. Staffing levels to support many of the critical HR functions is often only one to two people, with many HR associates required to wear multiple hats. The sparsity of resources introduces some key risks including:

- Lack of backup and succession capabilities for delivering critical HR services (key person risk).
- Bandwidth challenges in attending to both day-to-day responsibilities (i.e., payroll, position description management, recruiting and onboarding, training delivery) and those required to effectuate positive change, either tactically or strategically.
- Workload capacity limitations to respond to growth and other drivers of change that impact resource management across the workspace (i.e., volumes, new service offerings, regulatory or legislative requirements, organizational change), and the planning and implementation of strategic initiatives (i.e., PeopleSoft to Workday conversion).

Key leadership across the organization have cited more recent challenging trends in retention and recruitment. The STRS turnover rate is considered low at 8.5% but is projected to rise due to both pending retirements and voluntary separations in the coming years. Universally, senior management across STRS, including HR leadership, cite lengthening recruitment cycles as one of the largest challenges currently facing the organization. Consistent with current marketplace trends, the number of applicants for open positions at STRS has decreased from historic norms. Unfortunately, the difficulty in attracting talent is expected to worsen. From a fulfillment perspective, STRS has not utilized external recruiters since 2009, except for specialized positions (e.g., real estate investment professionals). On the positive side, the organization intends to grow its recruitment function and is using more websites to support their efforts.

Position and Performance Management

The HR function at STRS, working with management across the organization, has implemented a highly structured, procedures oriented, and uniform approach to position and performance management. Position descriptions exist across all departments and levels within the enterprise. Quantitative data is assigned, including job codes and grades. Qualitative information on each description includes a section for duties and responsibilities and another for knowledge, skills, and abilities. A list of current incumbents in each position is also appended to the description.

The responsibilities for both position and performance management are shared between HR and each department. HR creates templates, standards, and procedures for management to use when creating or updating information on a job description or executing periodic performance management functions. HR also maintains and publishes data on job description changes and pertinent demographics for the organization which it includes in its annual Staffing, Compensation and Benefits Review.

Details on the performance management process and its linkage to compensation are included in Section 2.3. HR publishes a list of ratings (using four levels of performance from Exceeds Expectations to Needs Improvement) and a list of associate and managerial competencies for supervisors to use during their execution of annual reviews. Staff goals are set in place at the beginning of each fiscal year and are classified as essential (day-to-day), problem solving (continuous improvement), or innovative (change oriented). The combination of goal development and competency descriptions is designed to create a more robust meaningful evaluative process, by enabling supervisory staff to focus their assessments and comments on both the “what” and the “how”. HR is highly dependent on the Peoplesoft platform to support these functions, which unfortunately is manual in nature and lacks many self-service features found in more modern business systems.

Succession Planning, Talent Assessment, and Employee Feedback

STRS has endeavored to address the key risk of succession through a biennial process. Every other year, STRS organization leaders document eligible successors (if applicable) across all management positions within their purview. The format and level of detail varies widely from organization to organization. Moreover, the process is not produced as the output of a more formal talent review process which is designed to holistically assess associates' strengths, growth potential, important professional development needs, and likelihood / propensity of separation from the organization through retirement or resignation. All four components are considered essential to execute a bottom-up succession plan, and to introduce a valuable job rotation and formalized backup program to mitigate key person risk in critical functional support areas.

Finally, the STRS HR department does not issue a staff culture survey / opinion survey across the organization or utilize a third party to do so. Acquiring staff feedback across a multitude of topics including overall satisfaction, training and development, compensation and benefits, and performance management and promotional practices is considered best practice in both the public and private sector. Given the strategic importance of HR, as designated in the STRS strategic goals, this valuable feedback tool is notably absent from the STRS inventory at the present time.

Recommendations for Improvement

R2.1.1 **Perform a workload and skills analysis of the STRS HR organization including all regular, tactical and strategic responsibilities. Address key person risk in critical HR functions and address bandwidth challenges accordingly.**

R2.1.2 **Assess key capabilities across the discipline of change management to support the planned PeopleSoft to Workday platform conversion. As part of project planning for that effort, consider using third party resources to support key project functions including user acceptance testing, procedures development, and training.**

R2.1.3 **In light of the "Great Retirement" and "Great Resignation", reexamine recruitment challenges and key person risks across the organization. Update key recruitment statistics monthly. Seek to expand the bandwidth of recruiting resources, augment with third party recruiters as needed, and consider introducing incentives for onboarding where appropriate.**

R2.1.4 **Introduce an annual talent review process within STRS. Identify high performers, high potentials, individualized training and development needs, and at-risk associates, incorporate output from talent review into a standardized succession planning report yearly, and keep current in accordance with managerial assignments changes.**

R2.1.5 **Introduce a comprehensive STRS employee culture survey no less frequently than biennially; consider contracting an experienced consultant that measures the characteristics that are the foundation for a high-performance workplace.**

2.2 Customer/Member Satisfaction

Adequacy of process to evaluate and improve customer/member satisfaction.

Expectations

A high-performing public retirement system should have a strong focus on providing high-quality services to its members. To ensure that it is meeting its objectives, it should have identified metrics which measure the effectiveness of key retirement administration processes and put in place monitoring and reporting which provides feedback to staff and allows management to understand how well the system is performing and where it can and should improve.

Key member services processes which are typically measured and monitored, according to CEM Benchmarking, include:

- On-time payment performance.
- Pension inception without a cash flow interruption.
- Disability turnaround time.
- Call center outcomes.
- Call center wait time.
- Percentage of members counseled.
- Percentage of members attending presentations.
- Satisfaction with website capabilities.

In addition, members and annuitants should be surveyed on a regular basis, particularly those which have had direct interaction with the system, such as newly-retired members, members who have called the customer service center, members who have attended counseling sessions or presentations, and members who have made purchases or withdrawals. The survey data is an integral part of the system's member service performance management processes, and reports should be regularly received by operating management. In addition, the Board should receive periodic reports on member satisfaction, typically quarterly.

Customer/Member Satisfaction Standards of Comparison and Findings

Customer/Member Satisfaction Standards of Comparison	Findings
The system has implemented substantial member self-service capabilities on their website.	Yes
The strategic plan includes a focus on maintaining and improving levels of member service.	Yes
The customer service system provides a platform to make member service improvements.	Yes
Employer and member service systems have extensive self-validation and reconciliation capabilities to maintain data integrity without significant manual intervention.	Yes
Service levels are rated as satisfactory or higher by participants.	Yes
There is regular monitoring and reporting of member services metrics.	Yes

Conclusions

STRS has had a long-term focus on providing high-quality member services and has been recognized by their peers as a leading system. STRS has earned the highest service-level score in the CEM Benchmarking study for 12 of the 24 years the study has been in place and had the highest or second highest score for 19 of the 24 years. STRS has an extensive system of performance metrics that are monitored, including frequent member satisfaction surveys. Nearly every member interaction is surveyed, and there are regular reports to the Board in the ED report. STRS initially used outside providers to conduct member satisfaction surveys, but now has the capability to conduct all member surveys with internal staff in each area.

STRS has a strategic plan (developed two years ago) with a 3-5 year time frame that is completed by senior staff. For member services, the plan includes customer service goals and initiatives to expand online, self-service capabilities and obtain more email addresses from retirees and active members (although STRS is already above its peer group average in both). Staff expects to update the strategic plan some time over the next two years.

STaRS, based upon the Vitech V3 application, is the major benefits administration system used by STRS. STaRS can track performance and workflow internally, and documents are scanned and available to users. Call center operations have been linked to STaRS, and operators now have information immediately available, making the call center more productive and efficient.

Since it was initially implemented, the STaRS system has been designed to maximize member self-service. The system improvements, with extensive integration of information, workflows, and user self-service, have resulted in higher user satisfaction and a lower volume of inquiries, resulting in a reduction in Member Services headcount over the period 2013-2021 from 170 to 115 associates achieved through attrition. In addition, data quality has been enhanced, resulting in fewer requirements for clean-up of incorrect data.

The STaRS system is now mature, and most system enhancement requests are now for smaller enhancements, as most of the high volume, low complexity automation opportunities have been addressed.

The pension website self-service capability development is driven by the Member Services organization. Among some of the more advanced self-service capabilities are:

- Scheduling appointments.
- Retirement applications.
- Tax status changes and other real-time edits.

The Vision and Dental plans are separate and provided by third parties, as are the DC plans, which have a separate recordkeeper. This is typical practice among those public retirement systems that provide those benefits.

The CEM Benchmarking, Inc. pension administration benchmarking program is by far the most comprehensive and widely supported program for analyzing benefit administration costs and service levels and identifying leading practices in the retirement industry. STRS has participated in the CEM Benchmarking pension administration benchmarking program annually since its inaugural study conducted in 1998. The most recent report available is for the 2021 calendar year. Results of the 2021 report were shared with the STRS Board of Trustees at their March 2022 meeting.

Based upon the CEM Benchmarking analysis, STRS has consistently had a leading service level score for many years, rating second in its peer group of 43 systems in 2021, while incurring costs per active member and annuitant 6% below its peer group average in 2021. STRS has reduced its member service costs 1% annually over the past 8 years while the average peer system has increased by 2.4% annually.

Among the attributes where STRS achieves very high member service scores from CEM are:

- Member transactions, especially:
    - Pension payments.
    - Pension inceptions (annuity pension inceptions are paid without an interruption of cash flow greater than 1 month between the final paycheck and the first pension check).
    - Service credit purchases and transfer-in applications.
- Member communications, especially:
    - Call center (low wait times and hang-ups).
    - 1-on-1 counseling and member presentations (level of participation).
    - Written pension estimates.
    - Website (level of member self-service and capabilities).
    - Member statements.
- Member experience surveying.
- Disaster recovery.

STRS is to be commended for their very high level of member service. CEM did identify a few areas to consider for potential further improvement recognizing the cost may outweigh the benefit.

- Reduce processing time on a disability application from the current 3 months at STRS; the peer average is 2 months and the standard cited by CEM is 1 month or less.

- Providing a live chat function on the website to allow another channel of service.
- Providing access to videos directly through the website.

STRS could consider any or all of these potential improvements but will need to consider the cost/ benefit of each.

In addition, although there do not appear to be service issues, STRS does not currently regularly survey employer satisfaction, although it does generally obtain feedback after employer interactions. This may be another area to consider for improved customer service.

Recommendations for Improvement

R2.2.1 Consider streamlining the disability application process to reduce the time to resolution. See also R1.4.7

R2.2.2 Consider enhancements to the STaRS system and/or STRS website to provide additional member services improvements:

- **Adding a live chat function on the STRS website**
- **Providing access to videos online through the website**

2.3 *Compensation*

Whether compensation levels are sufficient to facilitate STRS's ability to attract and retain qualified pension fund professionals.

Expectations

An effective compensation policy should be based upon a compensation philosophy designed to support the needs of the organization. The policy should operationalize the compensation philosophy and include detailed compensation practices, such as how the basis for compensation will be determined, determination of salary grading structure, guidelines for merit increases, and benefits.

Leading practice for maintaining an effective compensation structure includes periodically benchmarking compensation levels for each type of position and aligning the structure to current labor market conditions to ensure competitive compensation without significantly exceeding the objectives of the overall compensation philosophy.

Compensation Standards of Comparison and Findings

Compensation Standards of Comparison	Findings
The system has defined its employee compensation philosophy and compensation goals to guide its compensation policy and structure.	Yes
The Employee Compensation Policy defines the compensation approval processes and responsibilities for implementing the compensation philosophy.	Partial
The board of trustees is responsible for approval of annual merit increases and any incentive plans.	Yes
The board approves commissioning of an independent compensation program review at least every five years, at the recommendation of the ED.	Yes
For the investment staff, there is a long-term incentive (LTI) compensation plan that is driven by real and relative investment results directly attributable to the participating eligible employee.	Partial
The Employee Compensation policy also defines the roles of the ED, Deputy ED, and HR in managing and administering the compensation program, including:	
• Review of grade levels and position classifications.	Yes
• Performance management processes.	Yes
• Annual review of salary structure and merit increases and incentive awards	Yes
• A comprehensive set of HR policies has recently been reviewed and updated and defines the overall compensation and benefits program.	Yes
In addition to the Employee Compensation Policy, there are other HR policies	

Compensation Standards of Comparison	Findings
which define other aspects of the compensation and benefits program, including:	
• Assignment of and modifications to salaries	Yes
• Employee recognition	Yes
• Compensation for unused leave time	Yes
The system periodically benchmarks its salary structure through the use of an independent third party as its policy specifies.	Yes

Conclusions

Compensation Philosophy, Policy and Practices

In 2005, the STRS Board set in place both a compensation philosophy and policy that governs compensation for associates. Both the philosophy and policy remain in place today and are referenced in the Appendix of the annual Staffing, Compensation and Benefits review. The philosophy describes a "strategic total compensation program that attracts, motivates and retains top associates" to achieve the organization's vision to provide comprehensive retirement benefits and quality service to their members. Furthermore, the Board adopted compensation principles based on fairness and consistency, internal equity, market competitiveness and flexibility. Key compensation targets set forth in 2005 (base salary) and in the review of the 2009 (investment performance-based incentive compensation) include:

1. Base salaries to a goal of 62.5 percentile of competitive market rates; and
2. The median compensation of a blended peer group weighted 50% to large/leading public funds and 50% to national private sector firms for investment eligible personnel.

STRS conducted an independent benchmark review of positions and associated compensation ranges across the organization in 2013 and repeated it in 2018. Results were published by grade and correlated to the actual minimum, median and maximum compensation for STRS associates. The most recent McLagan survey from 2018, which compared STRS to a peer group that included both public and private sector financial organizations, suggested that STRS salary levels for non-investment staff were competitive with median base salary levels without consideration of private sector variable compensation. STRS non-investment staff do not have bonus compensation. On the investment side, McLagan found that STRS base salary levels were competitive, but total compensation for the investment professional team (inclusive of PBI) was modestly below the blended peer group median.

The Board's Staff Compensation and Benefit Committee charter has the responsibility to review the salary structure and benefits provided by STRS, compare them with the competitive marketplace, and recommend modifications where deemed appropriate. They are also tasked with reviewing the employment practices of STRS, including the Performance Based Incentive (PBI) Program for eligible investment associates, and suggesting modifications where deemed appropriate. In lieu of the Committee, which has not met recently, the full Board has effectively adopted these responsibilities.

In between benchmark cycles, STRS Human Resources compensation pulls data from external compensation surveys (e.g., Mercer, Towers Watson, Gartner) and develops an average compensation level for all rolls which is published to the salary master guide. The multiple guides for positions are updated annually. This practice enables the organization to respond more quickly to changes in the marketplace. Finally, Human Resources produces a Staffing, Compensation and Benefits review on an annual basis. The document is shared with senior staff each year and with the Board on a biennial basis. Additionally, the head of STRS Human Resources meets periodically throughout the year with his peers from the other Ohio State Retirement Systems. These meetings are valuable in reviewing and comparing compensation and benefit practices and examining shared benefits (e.g., OPERS retirement benefits) among participating Systems.

The processes supporting the compensation philosophy are well documented, effectively controlled and integrated into the organization's annual budget cycle. HR procedures for STRS management to conduct evaluations and submit merit and variable compensation award recommendations into the system are provided to all supervisory personnel. The annual merit increases and incentive awards are linked to the budget submission, approved up through the ED, and ultimately presented to the Board for approval jointly by the Heads of HR, Finance and the ED. Specific to the determination of the ED's annual goals, evaluation and compensation, the head of HR maintains a dotted line to the Board and meets privately with them.

It is notable that while the Associates Guidelines document contains a wealth of materials describing the organization's policies, as well as in depth material on individual components of the organization's compensation program, it lacks mention of an overarching policy on compensation.

Performance Management Process and Link to Compensation

The performance management process is clearly described in the STRS Associate Guidelines document. The description includes a direct link between performance management and compensation. The performance management cycle eloquently describes four integrated steps that, in totality, serve not only as an annual evaluation tool for STRS associates, but also as a mechanism to support the continuous improvement goals of associates and the organization. The performance management process begins with the Goal Setting stage – designed to establish clear and measurable objectives for associates using three specific categories of goal types – essential, problem solving, or innovative. A minimum and maximum number of goals is prescribed in the initial stage of the performance management cycle.

The second stage of the performance management process reinforces the shared roles of management and staff and is entitled Feedback and Coaching. From a timeframe perspective, it represents the longest of the stages (since it is effectively continuous) and is considered a best practice in performance management. At the end of the annual performance management cycle, during the Performance Appraisal stage, associates are encouraged to develop self-appraisals and management prepares an assessment against the original goals. A performance indicator is assigned to the associate for their performance over the period. During the fourth and final stage of the performance management process, Recognition and Rewards, associates are compensated for both their achievement of goals and for the demonstration of skills and behaviors in doing so.

Investment Staff Variable Compensation

A seemingly never-ending challenge for both boards and executive management of state retirement systems exists in the topic of incentive-based compensation for investment professionals. Incentive based compensation is viewed as an essential tool in competing with the private sector for front-office portfolio management and investment analytical talent and in retaining high performing staff.

There is still considerable ongoing debate about "best practices" for either asset management (i.e., in house investment management) or asset ownership (i.e., third party investment management) models across US public pension plans. Within the state retirement systems of Ohio, there is considerable variability in the use of performance-based incentive programs for investment professionals. Strong opinions in either direction (for or against) are commonly found on boards comprised of elected trustees representing participants and retirees and appointed trustees with investment experience. One can see this same internal debate on paying market-based compensated levels for in-house investment talent within other market sectors – with higher education as a good example. While many aspects relating to this topic are discussed by the board during executive session, it is widely accepted that leading practices for public pension plan boards that adopt incentive-based compensation programs for investment professionals include the following:

- A united position in communicating their support for the program and the processes that support it.
- A clear rationale and written philosophy supporting the decision to adopt a variable compensation program based on investment results.
- A transparent and unified message about the results and the board's role in approving them.

To facilitate retention and recruitment of investment professionals, the STRS Board approved an annual variable component of total compensation for investment professionals beginning in 1985, which is reviewed and approved by the Board annually. Approximately 90 out of the 500 staff members within STRS are eligible to receive annual variable pay through the Performance Based Incentive (PBI) program. The population of PBI eligible staff is determined to have a direct influence on investment values and returns for the system. Through the annual budgeting process, the Board sets in place the variable compensation pool and separately approves its distribution soon after the beginning of the fiscal cycle.

The structure of the PBI program at STRS is based on both absolute and relative returns in the investment portfolio. The performance measures that determine the PBI and individual awards are based solely on quantitative goals and the calculation is formulaic. Detailed information about the plan, including formula and process, is published in the Ohio STRS Associate Guidelines to promote transparency. Consistent with leading practices, the determination of variable compensation is based on both short term (one year) and longer term (three to five years) performance.

A summary of the key features of PBI that support the tightly controlled and transparent aspects of the program include:

- Exclusive utilization of quantitative performance measures in the determination of an investment professional's variable compensation award.
- Direct linkage of the maximum incentive awards to the absolute results of the broader market with pre-defined haircuts when the market returns are negative.

- Executive Director is responsible for approving PBI compensation, submitting it to the Board, and reviewing the results with HR and Legal in Executive Session. The STRS Board approves annual PBI policy/program and payouts.
- Formulaic determination of awards identifying critical variables, eligibility by grade, hurdle rates, and calculations that are transparent to staff.
- Clear separation of responsibilities between Investments and Finance in the calculation of portfolio performance.
- Utilization of compensation benchmark provider in the determination of total compensation.
- Third party, independent validation of total portfolio and asset class returns.
- Consideration of risks taken to achieve relative returns at an asset class level.
- Advanced submission of individual goals by Investments and approval by HR and the Executive Director.
- Independent verification of each associate's award by Investments, Audit, and Human Resources to ensure that it is in compliance with Board policy.
- Clear separation of responsibility between Investments and HR with the latter solely responsible for final processing and payment release of PBI.

Against the three best practices for board adoption and communication of the PBI program, the published compensation philosophy and board policies are effective in providing overarching support for the overall program and its purpose. The Board has been less attentive in their delivery of a unified and transparent public message supporting the results, even though they are central to the approval and distribution of the compensation.

Long term (deferred) compensation has not been a part of the STRS total compensation package for investment professionals. While the annual variable awards promote sustained performance over a prolonged period (5 years), all PBI awards are distributed annually. More recently, many public pension plans have adopted a more bifurcated approach to variable compensation, based on models historically observed in the asset management private sector. In the bifurcated model, total compensation opportunities are divided into three buckets – base salary, annual variable compensation (i.e., PBI), and longer-term variable compensation. The components of the latter typically include (1) an annual award of "long term units[16]" having an initial cash value; (2) a formulaic calculation of the variables that determine the initial and ongoing values of the units awarded, often based more heavily on rolling performance; (3) a clearly defined methodology for refreshing the value of unvested units on an annual basis between award and vested date; (4) a predefined vesting and payout schedule for deferred, variable compensation that may be staggered across multiple years; and (5) published policies for the disposition of unvested units due to separation, disability and retirement.

Additional Compensation Opportunities

The total compensation-based philosophy at STRS incorporates a number of other monetary opportunities for associates that recognize individual performance, support of the organization, and professional development. The full suite of these programs is documented in the Employee Associate Guidelines. Their compensation values vary but most are relatively modest in size. Their existence in total lends support to the organization's compensation philosophy goals of employee engagement and retention. Associates are encouraged to participate and hurdles for qualification are not considered burdensome. In no particular order, they include:

- Certification Award Programs.
- New Associate Referral Programs.
- Recognition Awards (for outstanding performance, special projects and cost savings ideas considered above and beyond job responsibilities).
- Service Anniversary Awards (given at five-year anniversaries to non-PBI eligible associates at pay grade 10 or below).
- Compensatory and Overtime.
- Compensation for Unused Leave Time.

Finally, participation in the OPERS retirement plan requires a 10% contribution (of base salary) from associates which is coupled with a 14% contribution from STRS.

Recommendations for Improvement

R2.3.1 **Establish a Board communication to STRS participants, employers and retirees about the approved results of the performance-based incentive program annually.**

R2.3.2 **Package key details of compensation targets, compensation processes, and compensation-based programs into an overarching compensation policy document that cascades from the compensation philosophy.**

R2.3.3 **Engage McLagan or another third party to refresh the independent compensation study as soon as possible. Consider adopting a policy to conduct independent compensation studies on a defined periodic basis.**

R2.3.4 **Conduct an analysis of a long-term deferred variable compensation program for investment professionals and senior management of STRS.**

R2.3.5 **Consider modifying the application of absolute market return haircuts uniformly to all annual individual performance awards to a total pool-based structure to enable outperformers to be appropriately recognized for extraordinary relative performance in an otherwise down market year.**

R2.3.6 **Execute the platform conversion from PeopleSoft to Workday to streamline compensation and performance management procedures.**

2.4 Staff Qualifications and Continuing Education

Monitoring and maintaining staff qualifications and continuing education requirements.

Expectations

Leading practices for staff training and continuing education policies within public retirement systems include:

- A staff training policy which requires minimum annual levels of training, such as:
    - Mandatory for all employees (e.g., fiduciary, compliance, information security).
    - Department specific (e.g., investments, IT, member services).
    - Role-specific (e.g., leadership training for managers and directors).
- Training roles and responsibilities.
- New employee orientation requirements.
- Types of acceptable training (e.g., on-the-job training, on-site training classes, self-study including online, training available through other state agencies, external training programs).
- Employee reimbursement policy for external training.
- Tuition reimbursement policy.
- Professional certification expense reimbursement policy.

A well-executed employee training program should include a comprehensive training plan and program for the organization which identifies training needs and monitors participation at the individual level. Typically, the Human Resources (HR) department will have a central leadership and coordinating role in providing training which is common across the organization, and each department head has a lead role for department-specific training, with support from HR.

Staff Qualifications and Continuing Education Standards of Comparison and Findings

Staff Qualifications and Continuing Education Standards of Comparison	Findings
Staff development design and offerings are well structured to support the organization's strategic plan.	Yes, but linked only indirectly
There are effective staff training and continuing education practices and these are included in formal policy statements.	Yes
There is an onboarding program for new employees which includes training and a structured review process.	Yes
There are tuition and professional certification reimbursement policies for staff.	Yes
An organization-wide staff development program includes tracking individual skills and experiences, completed education, monitoring the relationship between development, performance and retention, and establishing a continuous improvement culture for training and development needs.	Partial

Conclusions

Strategic Goal number 3 in the STRS Strategic Plan, entitled High Quality Workforce, reads as follows. "Employ an experienced, credentialed, professional and dedicated STRS workforce. Supporting objectives include (1) continue to attract, develop, and maintain a high quality, diverse and engaged workforce, and (2) foster a culture of professionalism, service orientation and ethical business practices. A critical success factor in the attainment of this goal and its underlying objectives is the development and delivery of a high-quality training and development program across the STRS organization.

Achieving success in staff development begins with a culture and mindset that supports continued training and education. Evidence of this paradigm exists at STRS at numerous levels beginning with the breadth and depth of training and educational opportunities described within the employee guide both within the compensation section and well as the employee benefit section. The linkage of formal education and staff training to overarching employee policies effectively codifies its value among senior leadership and the Board, while certification and tuition reimbursement incentives promote the retention of staff who value the importance of professional development.

Training and development opportunities at STRS are well documented, broad based, and easily accessible. Employee participation is encouraged in formal and ad-hoc programs, inclusive of both internal skills building workshops and external skill building seminars offered through third parties. HR maintains and publishes a calendar of upcoming training programs, provides important descriptions of them and indicates applicability to targeted audiences where appropriate. Formal mentoring programs for associates and 360º feedback and developmental programs for supervisors, offered through Center of Creative Leadership, are additional optional offerings that are notable. For the vast majority of these offerings, authorization for enrollment and participation is achieved simply through departmental permissions. Monetary certification awards accompany completion of external certifications that are essential or valuable to the execution of an associate's responsibilities.

On the whole, following a general orientation training (Charting Your Success) for new hires, training and development at STRS can be summarized as having an "employee choice" based approach, notwithstanding mandatory trainings and/or educational offerings on ethical and compliance-based subjects, requiring periodic certification and/or attestation of completion. Policies and practices in the four stages of performance management – Planning and Setting Goals, Feedback and Coaching, Performance Appraisal and Recognition and Rewards – do not emphasize continued development for STRS associates. Further, professional development is not considered one of the three recommended goal types (Essential, Problem Solving, Innovative) in an employee's appraisal process. Inclusion of a developmental goal in the annual performance management process would be considered a best practice for organizations that encourage a mindset of continuous improvement.

HR leadership presents statistics on employee attendance across key training and development programs at STRS as part of its annual management review to the Board. This practice is another important piece of evidence in support of the organization's overall mindset and commitment towards employee development. Maturing this process into the future towards best practice would involve two additional actions. The first is the establishment of goals for employee participation in training and development programs against which actual attendance may be compared while the second would require the capability to broadly correlate employee training and development practices with performance evaluation results, career growth, and retention. The latter would serve as an evaluative tool of the efficacy of the training program and provide important information to foster a culture of continuous improvement in offerings. Given staff workload constraints, HR may seek to engage third party service providers to effectively incorporate the recommendations that appear below.

Finally, it is worth noting that at the time of this fiduciary audit, STRS employee participation in training has decreased precipitously due to the pandemic. However, the organization has taken important steps to reestablish development program offerings in advance of associates return to the office.

Recommendations for Improvement

R2.4.1 **Cross reference training and development offers against the strategic goal and underlying objective and triage the relationship between them and their perceived influence in the attainment of the goal (e.g., direct, indirect, none). Expand and augment offers to fill in main training and development gaps that are not currently addressed.**

R2.4.2 **Ensure that the goals in the strategic plan identify skill and capability requirements to ensure that the organization has the essential skills necessary to achieve those objectives.**

R2.4.3 **Introduce a minimum of one professional development goal into each employee's annual performance plan.**

R2.4.4 **Regularly monitor tuition reimbursement maximums for full and part time employees, both on an annual and lifetime basis. Adjust levels as prescribed by industry trends in order to provide retention incentives for staff.**

R2.4.5 **Set bottom-up training and development attendance goals concurrent to the budget development cycle, maintain statistics on attendance, and introduce analytic capabilities to understand effectiveness of training offers vis-a-vis performance evaluation, career progression, and retention, and maintain the inventory of internal and external training options on the basis of correlated results.**

3. Investment Policy and Oversight

Overview and Summary of Findings

A majority of STRS assets are managed internally.

The State Teachers Retirement Board of Ohio ("Board") is vested with the authority to manage the assets of the State Teachers Retirement System of Ohio ("STRS"). As described in Section 1 of this review, the majority (88%) of the largest U.S. state retirement plans utilize both internal and external management of pension assets. The STRS Board has adopted this approach. STRS' investment office operates as a multi-strategy investment management organization and is reflective of the organizational structure of STRS' largest U.S. peers such as CalPERS, CalSTRS, State of Wisconsin Investment Board, and the Teacher Retirement System (TRS) of Texas, all of which manage a majority of their assets internally.

The effective use of lower cost in-house management by STRS is at an advanced level, as demonstrated by the CEM investment management report.

Strong performance results versus benchmarks and peers (as measured by the independent reporting received from Callan and CEM and verified by ACA) has been generated in all areas. STRS' early adoption of what has become known as GIPS performance standards for asset owners demonstrates a commitment to transparency and fairness when reporting performance.

There is a collegial and respectful work culture.

In addition, we observed a collegial and respectful work culture during our review (which we believe is the basis for ongoing success). Our discussions with senior members of the investment department, Board, service providers and our review of the documentation of the STRS investment policies utilized when investing the assets of the retirement system suggest it is operating with prevailing or leading practices in nearly all areas as compared to other very large professionally managed United States public pension plans.

3.1 Investment Policy and Procedures

STRS' Statement of Investment Objectives and Policy (SIOP) is consistent with prevailing practice. A Statement of Investment Beliefs (SIB) should be written and adopted by the Board to provide an explicit basis to guide the various implementation policies utilized by the staff and outlined in the SIOP.

The content of the SIOP itself is also typical for a U.S. public retirement system. The STRS system of ensuring the investment portfolio is kept within the approved asset allocation is working well and all necessary information is available on a timely basis to decision makers and compliance/monitoring agents. The SIOP adheres to the most recent Asset Liability Management (ALM) study and the policy changes established since the most recent ALM study, with the exception that the discount rate assumption was lowered to 7.0% in June, 2021, and this is not yet reflected in a revised SIOP.

A leading practice to consider would link the investment allocation to the unique liability characteristics and funding policies of the STRS defined benefit plan. The SIOP should also document the in-house investment approach taken by STRS, including policies and procedures to determine when investment portfolios will be managed in-house and when outsourced to external investment managers.

A separate SIOP should be developed for both the STRS Defined Contribution (DC) plan and the STRS Post Employment Healthcare plan (PEHC).

These separate pools of assets overseen by the STRS Investment Department on behalf of the STRS Board should each have a SIOP that considers the different purposes and different potential structures and cash flows of these plans.

The rebalancing policies and procedures are articulated in the SIOP and appear thoughtfully considered and implemented through an approval process including the asset class heads and the office of the Deputy Executive Director - Investments. However, documentation of the rationale for rebalancing actions should be improved. Investment decision due diligence is generally sound.

The process and due diligence standards used by staff when selecting external managers are outlined well and documented. The STRS Investment Outlook and expectations for change in investment approach are documented well in the annual investment plan. Targets for capital market allocations (within ranges established by the Board in the periodic strategic asset allocation review) over the coming year and active risk expected within each asset class are identified and articulated well in this annual investment review document and could be considered a leading practice.

The "Ends vs. Means" model of policy governance is not intuitive and needs updating.

The STRS Governance Manual covers many of the topics expected in a retirement system governance manual; however, the "ends vs. means" organizing framework is not intuitive for the reader and does not sufficiently convey the powers reserved for the Board and those delegated to the Executive Director and committees. Topics that would typically be in a single policy or subsection are dispersed throughout the different sections of the manual or only addressed in administrative rules or by statute, leaving the reader to search through several sources of authority to find the applicable governance rule.

In addition, many of the "policies" in the Governance Manual are not policies; rather, they address procedures and tasks that are more appropriate for implementation procedures. STRS should consider substantial revisions to the Governance Manual to address applicable policy gaps and make the Governance Manual a more user-friendly resource for Board members, staff, professional service providers, participants, and stakeholders.

3.2 Investment oversight and review.

STRS appears to follow prevailing industry practices in all areas of performance measurement and monitoring.

The use of ACA to perform GIPS asset owner verification and performance examination services at the plan and individual asset level is a leading practice. The measurement of after fee performance benchmarking through CEM is a prevailing practice for large public funds. Attribution techniques performed by the general consultant, Callan, follow prevailing practice. Northern Trust's performance calculations of the internally and externally managed strategies for liquid alternatives, US equity swaps, international equities and external fixed income portfolios are a prevailing industry practice. Grosvenor's role as a third-party administrator monitoring and documenting all cash flows for the alternatives program and real estate portfolios provides independent verification of all the inputs required for performance calculations for these portfolios and is a prevailing practice.

The appraisal process for direct investments in the Real Estate department appears in keeping with prevailing industry practices and provides an arm's length appraisal/valuation process for these difficult-to-value investments.

There are several areas for improvement in oversight and clarity of roles.

Due to the extensive use of internally-managed portfolios, we recommend that STRS retain a third-party to provide a periodic due diligence review of each in-house investment strategy. Other improvement opportunities include formalizing the role of third-party investment and operational due diligence advisors in the monitoring and evaluation process and, over time, establish a valuation process for private equity co-investments that is performed by an independent third-party to ensure transparency.

Transaction cost management and broker practices are highly controlled at STRS and considered consistent with leading practices across the public pension plan space.

On a semiannual basis, the STRS Board receives and reviews a Broker Evaluation and Associated Policies Document. STRS staff prepares the report, and Callan, in their role as investment consultant, offers their opinion.

The level of detail and bottom-up methodology utilized by the STRS Investment Team in the area of Brokerage Selection and Reporting, CSA and Soft-Dollar inclusive of policy setting, decision criteria, process execution, and enforcement and oversight of the program are considered to be prevailing practice.

For trade cost analysis, STRS effectively utilizes the services of Virtu to measure trade execution effectiveness against a variety of parameters including by trader, by account, by market. In the future, STRS may consider augmenting the results of this analysis with that offered through the transaction cost survey offered by CEM (or other service provider) as part of their Investment Cost Effectiveness Analysis Report.

The benchmark development process for the asset portfolio, the calculation of performance results and the presentation of performance results to the STRS Board is at leading practice level.

In particular, the early adoption of GIPS standards and the use of ACA to audit performance calculations in compliance with these standards for asset owners is a leading practice. The Callan benchmark review documentation and the Board approval of these benchmarks in January 2021 is an example of a leading practice in the area of benchmark development at the asset class and Plan level.

All aspects of external manager compensation are leading or prevailing practice.

The Ohio STRS practices in managing the end-to-end processes for external manager compensation are well documented, tightly controlled and disciplined, and broad based. On an overall basis, they compare very well to best practices in public pension plans for external managers of both public accounts and alternative based accounts. The execution and validation practices for external manager fees processes at STRS are among the most thorough and well controlled in the public pension plan space. Private / alternative asset procedures and practices for external manager fee validations are also considered robust.

The CEM investment benchmarking report indicates that, for the asset allocation approved by the Board, the internal and external costs of managing the fund are 14 basis points below the peer median.

STRS has engaged the benchmarking services of CEM to analyze investment performance and cost. In the most recent report presented during December 2021, CEM reported that STRS costs were 14.0 bps below what median peers would expect to pay for similar services if they had the STRS asset mix during the five-year period ended 12/31/20. The analysis showed that STRS fee levels rated near or better than the peer group benchmark levels for the majority of public funds (by sub-asset class) and alternative funds (by asset class), with the latter being measured against both costs as a percentage of commitment and as a percentage of AUM. STRS should request that CEM, in its next investment benchmarking report, reflect STRS' actual carried interest for private equity instead of utilizing the peer median as default carried interest.

STRS investment sourcing, due diligence and decision-making processes are consistent with prevailing practices in the industry.

The annual investment plan outlines the assumptions that are incorporated into the investment outlook for the total plan and each of the asset class areas and could be considered leading practice. Once a decision is made to conduct an external manager search, the sourcing of external managers for public asset classes relies on a broadly distributed RFP process conducted at the staff level, with assistance from the investment consultants, a prevailing industry practice. The General Partner sourcing process followed by the Alternatives team is appropriately tailored to the target areas identified, and both the operational due diligence and investment due diligence are done in-house by the investment team, according to documented process and procedures. This is also true for co-investment ideas brought to the team by existing investment partners. The Investment Strategy Committee is the approval body for manager selection and is limited to investment staff only. Leading practice is to include other key staff such as general counsel, compliance, and operational due diligence, with the ability of non-investment office staff to either veto or escalate the decision on investments for operational or legal reasons.

3.3 Investment and fiduciary risk.

The Board is risk-aware with respect to investments and receives appropriate aggregation reports that identify investment positions.

The Board appears to be aware of the relevant investment risks being undertaken in the overall investment of the STRS portfolio, with the monthly Investment Activities report providing a clear understanding of the major risk positions and staff activities overseeing the investment pools. Aggregate public equity positions are reported by country, industry, capitalization range and fixed income positions by duration, quality sector, country sector. Similar consolidated position reporting for the Board is also produced by the Alternatives area and Real Estate area.

The governance of the risk process associated with the implementation of the investment portfolios and the asset classes (and the total Plan) is prevailing practice.

The quantitative and qualitative performance reports received by the Board from Callan and staff on the investment portfolio as well as the checks and balances that are in place to assure the accuracy of these reports are appropriate.

3.4 Custodian policy.

Custody of public assets at STRS is contracted with Fifth Third Bank for domestic securities, and through Fifth Third Bank to Northern Trust Bank (as sub-custodian) for international securities, respectively.

The two relationships have been in place since 1995 (Fifth Third Bank) and 2016 (Northern Trust as sub-custodian to Fifth Third). The banking relationships are managed through the Treasurer of State (TOS), who performs this function for all Ohio state public pension plans and other agencies with asset safekeeping needs. RFPs are issued every four years. Additional fee-based service offerings provided by the banks are contracted directly through the participating agency.

During the most recent selection process, the TOS included STRS staff in the development of the RFPs and in evaluation of proposals. The selection process resulted in STRS receiving services from the custodial bank it wanted. However, STRS was not part of the contractual negotiations.

The Ohio custodian policy, with the Treasurer of State selecting custodial banks, and the requirement for an international sub-custodian, has over time resulted in STRS following an in-house strategy and minimizing services from the custody banks.

Over past decades, STRS has chosen not to establish a broad-based and integrated relationship with its custody bank due to its historical lack of control of the custodial bank selection process and the requirement to utilize an Ohio-based bank that cannot support its global needs. The vast majority of institutional investment management organizations outsource official back-office, books-and-records accounting (ABOR) and performance reporting to their custodial bank, and an increasing number are opting to outsource historic middle office functions such as order management support, trade and corporate actions processing, proxy and class action services, reference data management, capital call and distribution processing, and tax reclaim services.

Today, the full suite of front-, middle-, and back-office investment services functions and technology are supported in house at STRS. This "best in class" componentized model has been replaced over time by a nimbler, integrated, data-centric approach, typically provided by the external custodial bank.

Within the narrower scope of external services provided to STRS, the relationship and operating environment between the agency and its two custodial banks can effectively be summarized as an "optimization of the suboptimal".

Our analysis concludes that existing (limited) services offered by Fifth Third Bank and Northern Trust to STRS are operationally sound, form the basis of a highly collaborative relationship, and are supported by an effective reporting and oversight program. The nature of the relationship has evolved over time as STRS has experienced three bank changes over a six-year period. All parties view the currently defined service levels and scorecard reporting process as highly effective. For custodial bank monitoring, contractual compliance and performance feedback, the TOS has developed a monthly process, facilitated by a third-party expert firm, that produces a performance scorecard with ratings provided by each custodial bank, by STRS, and by TOS staff.

The cash management services provided to STRS by Fifth Third and Northern Trust are considered robust and well controlled.

The custodians effectively manage cash balances to ensure that investment operations are not adversely impacted by the absence of funds (e.g., purchase settlements) and that cash available across both internally managed and externally managed portfolios is effectively and efficiently invested in either short term investment funds (STIF), money market funds, or in direct deposit accounts (DDAs), all of which are interest bearing.

Ohio has a unique custodial services model that does not lend itself to comparison to peers with respect to cost.

The uniqueness of the Ohio custodial service model – resulting in a state domiciled provider for domestic securities and another (often more highly sophisticated) bank for international securities – makes it somewhat challenging to perform an effective economic comparative analysis of services received.

Although the Ohio custodial services model is a lagging practice, the Treasurer of State's office has improved custody bank selection and oversight processes.

The lack of authority for the STRS Board of Trustees to select the custodial banks is a lagging practice, as is the lack of authority for STRS staff to directly manage the custodial bank relationship on a day-to-day basis. Having said that, the current TOS staff are to be commended for taking a constructive and collaborative approach to working with STRS to select and contract with the appropriate custodial banks and proactively monitoring and managing performance. Under the current statutory requirement for the TOS to serve as custodian of the STRS funds, this could be considered to be an effective approach. We recommend that the Treasurer of State and STRS develop a Memorandum of Understanding that documents current policies and procedures with respect to selection and oversight of the custodial banks to ensure that the effective current policies and processes remain and are improved in the future, even as new Treasurers are in office.

The law in Ohio Revised Code 135.03, "Institutions eligible as public depositories", and its interpretation, severely restricts the selection of potential custodial banks which can serve STRS.

While the statute states, "Any national bank, any bank doing business under authority granted by the superintendent of financial institutions, or any bank doing business under authority granted by the regulatory authority of another state of the United States, located in this state, is eligible to become a public depository, subject to sections 135.01 to 135.21 of the Revised Code." It is our understanding that the phrase "located in this state" has been interpreted in a way that eliminates all but one of the major global custodial banks. As a result, an additional sub-custodial bank has been selected to handle investment manager accounts with international holdings.

This legal requirement is highly unusual for U.S. state public pension funds. FAS is not aware of any other state that has an in-state custodial bank requirement. As a result, all state funds outside of Ohio utilize a single custodial bank for their global custody services. This results in more efficient processing and reporting, fewer reconciliation requirements, and lower costs.

While many states, including Ohio, have laws encouraging selection of in-state investment managers, there is typically a qualifier that the managers must offer competitive services to other managers being considered. Indeed, the Ohio statute encourages the selection "when an Ohio-qualified agent offers quality, services, and safety comparable to other agents otherwise available." As all but one of the Ohio-based custodial banks do not offer international support, they do not offer comparable services to the many other global custodial banks available to serve STRS.

The legislature should eliminate the requirement for the STRS custodial bank to have a presence in Ohio to allow for a single global custodial bank to serve STRS to reduce costs and complexity.

3.1 Investment Policy and Procedures

Scope of Review

The Contractor will perform an evaluation of the board investment policy and procedures. The Contractor will:

3.1.1 Review the process by which the investment policy is adopted and compare that process to best practices.
3.1.2 Review the Investment Policy Statement and compare it to industry best practices.
3.1.3 Determine whether STRS investment policy includes all critical elements, acknowledging an understanding of STRS's financial and actuarial characteristics, and in accordance with established investment and funding goals, and risk tolerances.
3.1.4 Evaluate whether the asset allocation is tied to the investment policy statement.
3.1.5 Evaluate whether STRS investment policy is compatible with the most recent asset/liability study and five-year experience review.
3.1.6 Evaluate the adequacy of the mechanisms and decision-making processes utilized for setting, periodically reviewing, and rebalancing the asset allocation.
3.1.7 Evaluate whether STRS policy specifies to what extent the basis for particular investment decisions should be articulated in writing by the Board or STRS staff.
3.1.8 Evaluate the extent to which STRS observes its formal written investment policies and procedures, and identify what, if any, practical problems have resulted either on a systematic or isolated (but significant) basis.
3.1.9 Evaluate how often and by what process the board or staff reviews STRS's written policies, guidelines, and procedures.

Review Activities

For our assessment of the Board's Investment Policy and Procedures, we utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices:

- STRS's current Investment Policy Statement (SIOP) and Statement of Fund Governance (SFG) dated March 18, 2021 and prior versions made available
- Interviews and follow-up discussions with STRS investment staff
- Interviews and follow up discussions with the general investment consultant Callan and the Alternatives Consultant Cliffwater
- Interview with the Cost Consultant CEM
- Interview with the Performance Consultant ASA
- Interview with the STRS in-house finance staff, Deputy Executive Director – Investments and in-house actuary
- Interview with the STRS external actuary – Cheiron
- Interview with the STRS Custodians Northern Trust and Fifth Third and the STRS Alternatives Administrator Grosvenor

- Monthly Investment Activity reports, Rebalancing reports and Risk reports and analyses/presentations historically provided to the STRS Board such as the Callan benchmarking study presented in Dec 2020/Jan 2021
- FAS investment policy and operations knowledgebase
- STRS's ACFR annual investment report and monthly investment reports during the past 3 years
- STRS's most recent 2017 asset-liability study and Callan presentations and observations regarding the 2022 asset-liability study now underway
- STRS's most recent five-year experience review and documents presented by Cheiron related to the current experience review being undertaken
- STRS's rebalancing policies reviews and rebalancing activity reports
- STRS's Board minutes
- Asset Class Review documents presented to the Board during 2021
- STRS's investment files related to specific investment managers and related investment ideas
- The Investment Staff Guidelines and Procedures document and related documents particular to the implementation of each asset class
- Relevant STRS's internal audit reviews and Staff Investment Committee (SIC) documentation

To develop our assessment, we utilized the knowledge of our team members and the FAS knowledgebase to assess the contents of the SIOP. The FAS team reviewed documents provided to evaluate consistency of investment staff actions with established policies. Using the information described above, the FAS team:

1. Assessed how the SIOP is developed and updated and compared to leading and prevailing practices.
2. Reviewed the content of the SIOP and compared to peer leading practices.
3. Determined whether STRS SIOP includes an understanding of STRS' financial and actuarial characteristics and is developed in accordance with established investment and funding goals, and risk tolerances.
4. Assessed consistency between the SIOP and the asset allocation, the asset/liability study, and the most recent five-year experience study.
5. Reviewed mechanisms and decision-making processes for periodically reviewing and rebalancing the asset allocation.
6. Evaluated STRS's policies and practices for documentation of investment decisions.
7. Evaluated STRS's compliance with documented investment policies and procedures and identified any issues .
8. Reviewed STRS Board and staff policies and processes for periodic review and updating of investment policies, guidelines and procedures.
9. Observed how the STRS Board assesses risk during the asset allocation process.
10. Observed how the system identifies and controls investment and fiduciary risk and compared to leading practices.

Note: our review activities did not include tests of transaction compliance with policy.

3.1.1 Investment Policy Development Process

Review the process by which the investment policy is adopted and compare that process to best practices.

Expectations

Good governance practices create a formal decision-making process that guides the establishment and implementation of investment policies following fiduciary standards. The formality and accountability that derives from good governance practices, including the development and adoption of clear and comprehensive policies (and compliance with such policies), is essential to demonstrating prudence. The twin duties of prudence and care combine to create the core fiduciary responsibilities for those charged with investing retirement assets.

A Statement of Investment Beliefs (SIB), written and adopted by the board, is typically developed as a separate document, although occasionally incorporated into the SIOP. The outcome of this exercise is generally used as a basis for understanding the various implementation policies utilized by the staff and outlined in the SIOP. In the SIB, the board agrees to the general philosophies that guide staff when implementing the investment portfolio (beliefs about market efficiency, risk, active vs. passive, internal management vs. external management, approach to ESG, etc.), establish appropriate investment time horizons, discuss fee sensitivity, discuss sensitivity to external influences such as liquidity constraints as well as stakeholder interests. The SIB documents these philosophies as a guide for use by the staff when implementing the investment portfolio and provides guidance to the board and external stakeholders when reviewing results.

A SIOP is the overarching document which establishes the intended policies and procedures for the management and operations of a fund's investment program consistent with the SIB. It is meant to establish guidelines that will be followed yet not be formulaic by requiring actions when circumstances may not warrant such actions. It should be reviewed and approved by the ultimate fiduciary for the Plan – the Board – and kept current, reflecting input from all aspects of the sponsoring organization and service providers assisting the staff/board.

The SIOP also typically documents the conclusions of a strategic asset allocation plan that considers both the opportunities from an asset perspective and the unique liability needs of the Pension Plan and is adopted for a multi-year (typically 3-5-years) period. Most plans, including STRS, conduct asset / liability studies as part of the process of establishing a strategic asset allocation plan. The asset side of this study takes into account the current investment portfolio, anticipated asset class assumptions for beta returns and risks and correlations between asset classes, anticipated risk adjusted alpha potential and the operational ability to implement desired changes over the Plan's implementation horizon. The unique liability characteristics of the plan are typically incorporated into the ALM analysis – with an analysis of the asset returns, expected contribution policies or possible variations in expected contributions and also an outlook for funding levels. Although it may be revisited annually, both to examine progress towards meeting long-term goals and to consider whether the assumptions and conditions extant at the point of adoption are still valid, rapid changes to the asset allocation are generally discouraged. Rebalancing to maintain asset allocation targets within acceptable ranges is generally mandated unless extraordinary circumstances are being encountered and discussed with the board.

The board typically actively participates in the establishment of strategic asset allocation targets through the ALM study. This participation allows the board to consider its expectations for the future economic environment, reach consensus on its views of the potential capital market assumptions (expected risk/return/correlation) of various asset classes, develop an understanding of key actuarial characteristics and expected outcomes, consider all implicit issues such as economic leverage, transparency, fee levels, liquidity, and whether the board has reason to believe its staff and managers have the resources and skills required to implement the expected goals.

When asset allocation changes are suggested that require meaningful changes in the asset allocation targets previously established in the ALM process, the documentation of the strategic asset allocation process should include implementation schedules, approved by the board, that outline expectations for the investment office to move to the new asset allocation over time Also, the strategic asset allocation process allows a thorough review of the Plan's actuarial characteristics and assumptions inherent in the determination of the plan's makeup. Fiduciaries need to evaluate the ability of the Plan Sponsor to continue making required contributions to fund the plan going forward, the governance context the plan is working under and the plan's ability to sustain potential challenges to the current governance structure and other relevant externally imposed changes to the current plan situation. From this perspective, inclusion of an Enterprise Risk Management assessment is ideal. This process allows the board to understand and evaluate whether both investment risks and possible externally imposed governance changes that exist in any target investment allocation are appropriate for the Plan and its participants.

The process and frequency for reporting on investment strategies and the portfolio risk management program should be defined and documented in the SIOP.

SIOP Development Standards of Comparison and Findings

SIOP Development Standards of Comparison	Findings
The SIOP typically includes the conclusions of a strategic asset allocation plan and is adopted for a multi-year (typically 3-5-years) period.	Yes
The board actively participates in a robust strategic asset allocation process through the ALM study.	Yes
The strategic asset allocation process should include implementation schedules, approved by the board, that outlines expectations for the investment office to move to the new asset allocation over time when there are significant allocation changes.	Yes
A Statement of Investment Beliefs (SIB), written and adopted by the board, is typically either incorporated into a Statement of Investment Policy or developed separately with the outcome incorporated into this document.	No
The process and frequency for reporting on investment strategies and the portfolio risk management program is defined and documented in the SIOP.	Yes

Conclusions

We believe STRS follows leading practices in the process of development of the SIOP. Input is solicited from multiple sources by the Board and Staff, actuarial input, stakeholder input, an understanding of the sensitivities of funding issues from the Ohio legislative process are all evidenced in the Board materials and minutes. Interviews with the Trustees, review of Board minutes, and interviews with Staff and observations from the STRS website suggest most are acting with a high level of knowledge regarding the key issues impacting the STRS investment policy for the DB plan. We found most are offering constructive input and consideration of the issues involved when setting the investment policy.

While we acknowledge there are many points typically brought up in a Statement of Investment Beliefs (SIB) contained throughout the STRS documentation process, STRS should consolidate these thoughts and include in a separate SIB. This document would provide the philosophical foundation for the approach that STRS is using to manage and administer the retirement plans for the organization.

The STRS Board received a presentation from Callan regarding investment beliefs during its March 2022 meeting. The concept appeared to be well received, and a committee will be formed to oversee development of a proposed Statement of Investment Beliefs. The Board expects to discuss the draft at a meeting later this year.

Recommendations for Improvement

R3.1.1.1 The STRS Board should add to the guidance provided by the Board to staff by the development of a Statement of Investment Beliefs (SIB).

3.1.2 The Investment Policy Statement

Review the investment policy statement and compare it to industry best practices.

Expectations

The SIOP serves as a strategic guide in the planning and implementation of an investment program. The SIOP articulates unique issues related to governance of the investment program, establishes appropriate asset allocation targets, incorporates policies and beliefs used to implement an investment program with internal and/or external managers, establishes the approaches and frequency to monitor results and risks. The SIOP also establishes accountability for the various entities that may work on behalf of an asset owner. Most importantly, the SIOP serves as a policy guide that offers an objective course of action to be followed during periods of disruption when emotional or instinctive responses might otherwise result in less prudent actions. It is meant to establish guidelines that will be followed yet not be formulaic, requiring actions when circumstances may not warrant such actions. The SIOP should be consistent with a Statement of Investment Beliefs (SIB) that is reflective of the approach fiduciaries believe is appropriate to implement the investment program.

Investment Policy Statement Standards of Comparison and Findings

Investment Policy Statement Standards of Comparison	Findings
The Investment Policy Statement (SIOP) specifies delegations and responsibilities, including:	
• Defines the major risks and risk management approaches, including links to underlying liability structure.	Partial
• Includes the asset allocation, implementation approach, rebalancing, and performance benchmarks both for asset classes and for the fund as whole.	Yes
• Makes levels of delegations and related accountabilities explicit.	Yes
• Incorporates a Statement of Investment Beliefs (may also be free-standing).	No
• It is detailed, yet clear and concise.	Yes
• The SIOP articulates the principles that are important to the board to provide guidance to staff rather than a rules-based approach with limited flexibility.	Partial
The SIOP should focus on investment portfolio structures and policies that govern investment functions and practices.	Yes

Conclusions

The STRS Statement of Investment Objectives and Policy (SIOP) is at prevailing practice levels in most areas.

On the positive side of the ledger – the SIOP specifies staff authorities, Board delegations and responsibilities, defines the return objectives and liquidity objectives, the SIOP outlines asset class targets and return/risk assumptions, details active risk and return objectives for each asset class, and specifies performance benchmarks. It is detailed, yet clear and concise. It outlines policies relating to most key asset implementation areas including rebalancing, derivatives, proxy voting, Ohio Investments, Trading, Securities Lending, Valuations and Performance Measurement. Looked at from an asset only perspective, the SIOP is strong.

While we recognize public retirement systems do not typically focus on the relationship between liabilities and assets in the SIOP, leading practice organizations link the investment allocation to the unique liability characteristics and funding policies of that specific plan. Reference to the plan actuarial characteristics and funding policies followed by State mandate for STRS given its funding position are missing from the SIOP. Consequently, the logic for how the SIOP's target allocation supports STRS specific circumstances is missing. The SIOP can be improved by incorporating a Board approved understanding of the key actuarial assumptions utilized. This is timely, as discussions of the key actuarial risks and goals took place during the January and February 2022 Board meetings regarding funding goals and risk awareness. Actuarial concepts and risks explored at these Board meetings could be incorporated into the SIOP. STRS should consider identifying key actuarial assumptions contained in the forecasted liability (contribution rates, mortality rates, salary assumptions, etc.) and specifically outline ranges of measurement expectations for these items. Based on this analysis, STRS could identify key liability targets to be met during the forecast horizon or that might pose a rethinking of the asset allocation targets. Funding assumptions/goals for both contributions (which are outside the purview of the SIOP but directly impact the need for return) and investment goals should be articulated.

Additionally, we believe articulating a Statement of Investment Beliefs (SIB) (see above) by the Board will provide better support and justification for the approach staff utilizes in the implementation of the investment program. In particular, an understanding of the reliance on active management through in-house investments and the key risks and advantages of relying on this approach should be mentioned in the SIB. Having the Board adopt a SIB would provide strong direction to the investment team regarding the appropriate investment strategies for plan participants. We note that several beliefs are articulated within the SIOP (active vs. passive and return expectations is well articulated as well as active risk budgeting concepts) and the Statement of Fund Governance which contains a strong articulation of the expectation of roles of the Staff and Board as well as the expected approach to Board Oversight. However, acknowledging that there are critical issues associated with the development of in-house implementation of active management in all asset categories and including analysis of where external management will be implemented is expected. The SIB could also set forth STRS' approach to Environmental, Social and Governance (ESG) issues including Responsible Investment. By articulating the logic for the investment program and the approach being utilized we believe this will allow greater transparency to stakeholders – and hopefully furtherance of trust will result.

Recommendations for Improvement

R3.1.2.1 **The SIOP should be customized to reflect the unique liability and risk assumptions relative to the circumstances of Ohio STRS DB Plan**.

3.1.3 IPS Completeness

Determine whether STRS's investment policy includes all critical elements, acknowledging an understanding of STRS's financial and actuarial characteristics, and in accordance with established investment and funding goals, and risk tolerances.

Expectations

The SIOP should define all key policy issues, including actuarial assumptions, and articulate responsibilities and accountabilities for them.

SIOP Completeness Standards of Comparison and Findings

SIOP Completeness Standards of Comparison	Findings
Overall structure for setting and reviewing the asset allocation is provided in the SIOP, including the risk profile and targets.	Yes
Documents the policies, processes, and responsibilities for:	
• Selection and use of benchmarks.	Yes
• Rebalancing for both asset classes and sub-asset classes or styles, including levels of tactical over/under weights.	Yes
• Liquidity.	Yes
• Securities lending, including collateral management and policies.	Yes
• Foreign exchange.	Yes
• Transition management.	Yes
• Use of brokers.	Yes
• The standards for permitted and prohibited investments.	Yes
• ESG considerations.	No
• Any specials programs (e.g., in-state, MWBE, Iran/Sudan, etc.).	Yes
Monitoring methodology for portfolios, whether external or internal.	Yes
Prohibited investments are specified.	Yes
Delegations to the investment staff are explicit, as are the conditions for those delegations.	Yes
Decisions reserved for the board are explicit.	Yes
The framework and process employed for development of internal management strategies (if applicable) is documented.	No
If there are other retirement plans, for example DC or hybrid plans, they have their own separate SIOP documents.	No

Conclusions

The SIOP articulates investment implementation guidelines and guidance regarding implementation policies and procedures well. As described earlier, the SIOP omits an explanation of the origin of these policies sourcing from the actuarial assumptions and plan characteristics. The SIOP also omits the facts, circumstances, and beliefs to document the origins of, and the rationale for, the in-house investment approach taken by STRS and supporting analyses in the documentation to support these conclusions.

Given the importance of this approach to the implementation of the STRS investment portfolio, we believe the Board should set up policies and procedures to determine when investment portfolios will be managed in-house and when outsourced to external investment managers This should be part of the overall SIOP.

We believe a separate SIOP should be developed for both the STRS Defined Contribution (DC) plan and the STRS Post Employment Healthcare plan (PEHC). We reviewed the Defined Contribution Plan Procedures document and found the documentation of the procedures robust. While we understand general policies and procedures for these Plans are included in the current SIOP, the different purposes and different potential structures and cash flows of these plans warrant a separate logic statement and investment process review from the DB plan.

Recommendations for Improvement

R3.1.3.1 Consider the inclusion of a policy in the SIOP for determining when investment portfolios will be managed in-house and when hiring external managers for a given portfolio is warranted.

R3.1.3.2 Establish a Statement of Investment Objectives and Policy (SIOP) and monitoring process for the Defined Contribution Plan.

R3.1.3.3 Establish a Statement of Investment Objectives and Policy (SIOP) and monitoring process for the Post Employment Health Plan.

3.1.4 Linkage of Asset Allocation to the SIOP

Evaluate whether the asset allocation is tied to the investment policy statement (SIOP).

Expectations

Real time asset allocation is actively managed and monitored within the standards set by the SIOP.

Linkage of Asset Allocation to the SIOP Standards of Comparison and Findings

Linkage of Asset Allocation to the SIOP Standards of Comparison	Findings
Investment Beliefs, SIOP and asset allocation are consistent.	Yes
Processes in the SIOP for the development, delivery, approval and oversight of strategic and tactical investment plans, including rebalancing, are followed.	Yes
There are measures in place to monitor the asset allocation on a real-time, or reasonably real time, basis.	Yes
Where it is impractical to achieve the asset allocation in the SIOP (for instance where there is a major change to a private asset class) there is a transition plan in place, and it is monitored and reported upon.	Yes
There are appropriate periodic reports on the actual asset allocation to the board.	Yes

Conclusions

We found that the STRS system of ensuring the investment portfolio is kept within the approved asset allocation is working well. We believe all necessary information is available on a timely basis to all appropriate decision makers and compliance/monitoring agents. It was beyond the scope of this review to evaluate the efficiency of this in-house developed system of linking multiple service providers. It is possible that with the evolution of the new Finance/Accounting system greater efficiencies can be realized. The chart below from the SIOP dated March 2021 is indicative of the regular monthly reporting that the Board receives regarding the linkage of the actual asset allocation to the targets. The monthly formal compliance assertion by the Investment Policies Director is an example of the checks and balances that take place between departments to assure the Asset Allocation is linked to the SIOP.

Asset Class	Target*	Band	Actual	Var to Target	Within Band
Equity-Dom	28%	23%-33%	28.0%	0%	Yes
Equity-Int'l	23%	18%-28%	23.2%	0.2%	Yes
Alternatives	17%	10%-22%	19.8%	2.8%	Yes
Fixed Income	21%	12%-28%	19.4%	-1.6%	Yes
Real Estate	10%	6%-13%	8.7%	-1.3%	Yes
Liquidity Reserve	1%	0%-5%	0.9%	-0.1%	Yes

These targets were in place on 9/30/21 and were updated in March 2022.

Recommendations for Improvement

No recommendations at this time.

3.1.5 IPS Compatibility with Asset/Liability Study and Experience Review

Evaluate whether STRS investment policy is compatible with the most recent asset/liability study and five-year experience review.

Expectations

Overarching governance documents (e.g., SIB and SIOP) should be informed by the relevant studies (asset/liability study and experience study). Decisions to deviate from the findings of the studies in creating the SIOP and asset allocation should be noted and explained.

SIOP Compatibility with Asset/Liability Study and Experience Review Standards of Comparison and Findings

IPS Compatibility with Asset/Liability Study and Experience Review Standards of Comparison	Findings
The SIOP is compatible with the most recent asset/liability study and five-year experience review.	Yes
Should there be no major differences between the most recent asset/liability study or experience review, the reasons should have been made explicit and the board should have taken affirmative action to accept them.	Yes

Conclusions

The SIOP adheres to the most recent ALM study, and the policy changes established since the most recent ALM study with the exception that the discount rate assumption was lowered to 7.0% during June, 2021. This is not yet reflected in a revised SIOP.

Given that an updated ALM study is in progress as of the writing of this report, STRS should update the SIOP with the new actuarial discount rate and the new target asset allocations once they have been adopted. The STRS approach to ALM review and management appears to be in keeping with prevailing practices. Reliance on externally developed (Callan) investment assumptions reviewed by in-house experts (Chief Economist and asset class heads) appears thoughtful and well developed. The Callan ALM report takes a 10-year investment horizon in their investment outlook while the Cheiron actuarial assumptions rely on a 30-year outlook. The more conservative Callan investment return assumption is lower than the 30-year assumed rate of return by Cheiron. This type of difference in forecasted return given the difference in time horizon is common in ALM studies such as the one currently underway. This was well documented and the Board received ample explanation of the approach. The formulation of the actuarial assumptions via Cheiron and review by in-house staff again appears to be following leading practices, as does the approach they are using to recommend changes to key assumptions in the experience review just presented is appropriate. Callan's approach to model asset and liability outcomes appears in keeping with industry practices. The presentation of the modeling output in special sessions of the Board appears to give ample time for education and review of the material by the Board. The SIOP documents the results of the various inputs from past ALM studies in a concise and efficient manner.

Recommendations for Improvement

No recommendations at this time.

3.1.6 Asset Allocation Review and Rebalancing

Evaluate the adequacy of the mechanisms and decision-making processes utilized for setting, periodically reviewing, and rebalancing the asset allocation.

Expectations

A written rebalancing policy should specify the criteria for rebalancing and procedures to faithfully implement that rebalancing policy, and should be reasonably designed to achieve the approved asset allocation.

Asset Allocation Review and Rebalancing Standards of Comparison

Asset Allocation Review and Rebalancing Standards of Comparison	Findings
There are adequate processes in place to monitor actual asset allocation so as to be able to recognize the need to rebalance in a timely manner.	Yes
Rebalancing responsibilities, processes, and provisions are well defined.	Yes
Rebalancing decisions are well-documented. The files are reflective of the processes and actions undertaken and the reason for those actions is documented.	Partial
The actual process of rebalancing is risk-based, sophisticated, and consistent with the investment philosophy of the fund overall.	Yes

Conclusions

The rebalancing policies and procedures are articulated in the SIOP (Section 5.0), and the Investment Staff Guidelines and Procedures document dated 10/1/20. The rebalancing and cash raising efforts are reported in the monthly Investment Activity Report to the Board. Rebalancing actions appear thoughtfully considered and implemented through the weekly trade order discussion and approval process between the asset class heads and the office of the Deputy Executive Director - Investments. In addition, the Investment Compliance Verification Report provides a detailed monthly analysis of the allocations to the asset classes specified in the SIOP. This report demonstrates adherence to the asset class target exposures and tolerance bands and also provides a detailed analysis of the active risk budget adherence to SIOP targets for each asset class. The management of the illiquid portions of the portfolio (Real Estate and Alternatives) appear to be thoughtful regarding their cash forecasting efforts and are incorporated well into the overall cash management of the plan. We believe the checks and balances in place between staff, the Ohio Treasurer's office and Grosvenor acting as a third-party administrator for the private asset classes represents a strong process and are evidence of STRS following industry prevailing practice in the area of cash management and rebalancing.

The meaningful required cash outflows for benefit payments (expected $4.0 billion - $5.0 billion per year) requires constantly monitoring the expected cash flow at the Plan level. In addition, variable cash flows from the illiquid portfolios managed by STRS – Real Estate and Alternatives – and the moderate use of derivatives (some of which require daily cash settlement) necessitate a constant monitoring of short and intermediate term cash requirements. We believe STRS staff have appropriate internal policies and procedures and operational technology to handle this important task. The liquid treasury portfolio allocation plays a critical role in liquidity management in the STRS target portfolio.

The role of the Deputy Executive Director – Investments in managing the rebalancing needs and ongoing cash flow requirements is quite important. This role acts as the balancing agent between the various rebalancing and cash raising demands. While we found guidelines the role follows, we did not find explicit acknowledgement of this role in the either the SIOP or the Investment Staff Guidelines and Procedures. Documenting his / her role as the ultimate decision maker regarding rebalancing, cash raising and cash management within the asset allocation boundaries established in the SIOP with the ability to go outside boundaries when approval is sought and granted by a decision party such as the Executive Director would be additive. We also believe that a method of documenting the weekly cash management and rebalancing decisions made would be helpful over time should the need for recreating the circumstances surrounding the weekly decisions be required.

Recommendations for Improvement

R3.1.6.1 **Include a description of the Deputy Executive Director Investments – Chief Investment Officer role as the ultimate decision maker and the process followed by the staff in the rebalancing process and cash management effort in the SIOP and the Investment Staff Guidelines and Procedures to clarify his/her authorities within the overall rebalancing policies established in the SIOP.**

R3.1.6.2 **The reasoning for rebalancing actions should be documented and retained for future reference.**

3.1.7 Due Diligence Documentation

Evaluate whether STRS policy specifies to what extent the basis for particular investment decisions should be articulated in writing by the Board or STRS staff.

Expectations

All investment decisions should be documented to the extent necessary for an observer to understand what information and analyses the decision maker had at the time, and the rationale for and appropriateness of the investment.

Due Diligence Documentation Standards of Comparison and Findings

Due Diligence Documentation Standards of Comparison	Findings
Due diligence processes and standards are well documented for:	
• Investment fit.	Yes
• Investment due diligence.	Yes
• Operational due diligence.	Yes
Due diligence activities and reports and investment memos are retained electronically to document strategy and processes.	Yes
Investment decisions and rationale are well-documented.	Yes
The files are reflective of the processes and actions undertaken.	Yes
The Investment Committee periodically (e.g., biennially/triennially) reviews strategic and decision-making documentation formats to enable assessment/ suggestions as to their fiduciary/communication effectiveness.	No

Conclusions

The STRS Investment Outlook and expectations for change in investment approach are documented well in the annual investment plan. This document is presented once per year to the Board – typically in June – and contains a good picture of the current economic outlook, portfolio position and expectation for future portfolio changes/emphases. Targets for capital market allocations (within ranges established by the Board in the periodic strategic asset allocation review) over the coming year and active risk expected within each asset class are identified and articulated well in this annual investment review document. We found this annual review documentation at a leading practice level.

Summaries of investment activities and updates to the Board are presented in the monthly activity report. These monthly reports are supplemented by periodic sector updates presented once or twice per year to the Board by each sector head. Examples of these sector review reports are included in Sept/Oct of 2021 and the Real Estate update in Feb 2021 presentations to the Board. The combination of the above reporting, together with the independent Callan reports and analyses on the investment portfolio emphases provides the Board a good understanding of where the portfolio is today relative to target allocations and benchmarks, where the staff has taken positions and where it expects to change the investment positions and what actions it expects to take to implement the investment changes.

The Investment Staff Guidelines and Procedures document outlines the process to be used by investment personnel in making their decisions in each asset class. During our discussions with the investment staff, we found evidence of a strong risk awareness and extensive use of risk management tools when establishing portfolio positions and determining overall portfolio weights. The internal work was not documented in the Investment Staff Guidelines and Procedures manual. For the sake of transparency and appropriate documentation, the investment structure work that staff appears to be conducting consistent with expectations, should be documented in internal files and the process utilized to review the investment structure updated into the Investment Staff Guidelines and Procedures document. The Board is kept aware of the current investment structure vs target in the Monthly Investment Activities report and the Callan quarterly report. In section 3.2.1 below we outline a recommendation for the inclusion of a periodic review of the internally managed investment portfolios by a qualified third-party due diligence provider. The expectation of this review should be documented in the Investment Staff Guidelines and Procedures document as well.

The process and due diligence standards used by staff when selecting external managers are outlined well in this document and are transparent. The documented standards include reference to externally published RFPs, compliance with Ohio Enhanced Investment Managers program requirements, input from the investment consultant (which we understand from our interviews includes Operational Due Diligence reviews), and a streamlined process of narrowing candidates – with a final report provided to the Deputy Executive Director - Investments.

While we found the Board communications from the Investment Staff effective and the materials complete with the exception of ideas we include later in this report, we didn't find evidence of "taking a step back" to determine other ways of presenting information. While we believe there is always room for improvement in presentation formats and styles, STRS is operating at a prevailing practice level today and we believe the Board is well served by the investment information flow they are currently receiving.

Recommendations for Improvement

R3.1.7.1 **Update the Investment Staff Guidelines and Procedures document to include the process that the Investment Staff uses to determine and monitor portfolio risk positions and discuss the process they use to determine target positioning versus Strategic Benchmarks by monitoring portfolio weights and strategy sizing decisions.**

3.1.8 Implementation Compliance

Evaluate the extent to which STRS observes its formal written investment policies and procedures, and identify what, if any, practical problems have resulted either on a systematic or isolated (but significant) basis.

Expectations

There is a comprehensive investment compliance program in place that incorporates pre-trade and post-trade compliance with investment guidelines, and compliance at the prohibited security, portfolio, asset class and fund levels. Other parties to the investment program (consultants, brokers, custodians) are utilized to increase the reliability of the compliance rules (including personal trading and ethics rules as well as investments).

Implementation Compliance Standards of Comparison and Findings

Implementation Compliance Standards of Comparison	Findings
There is a comprehensive compliance program that monitors fund compliance with investment policies, and it is adequately resourced.	Yes
Compliance technology is used appropriately.	Yes
The Compliance function is independent of the Investment function.	Yes
Compliance has the needed access to books, records and personnel to perform its function.	Yes
Due diligence compliance checklists are used and reviews are documented and monitored.	Yes
Due diligence is handled by competent personnel.	Yes
There are no perverse incentives regarding compliance or due diligence.	Yes
A policy for handling of investment compliance exceptions is clearly articulated, including when the board should be informed.	Yes
Compliance exceptions are documented.	Yes
Compliance applies to both externally and internally managed investments.	Yes
An effective internal audit capability and process that monitors investment processes and controls.	Yes

Conclusions

As is explained in section 3.2.2 below regarding the securities trading policies and procedures and also in the Investment Staff Guidelines and Procedures document, the STRS systems in place to provide real time monitoring of investments and the adherence to overall SIOP targets are leading practice. The separation of the investment accounting, performance function between the finance and investment areas, the use of Northern Trust Investment risk and analytic services to calculate results independently, the use of Grosvenor for documenting cash flows related to the Private Alternatives program and the verification of Plan level performance calculations through ACA Group using GIPS standards for asset owners is representative of strong compliance practices relying on both internal and external resources. There appear to be strong checks and balances with the custodial process, the Ohio Treasurer's office, finance staff and investment staff – in particular through the Office of Investment Policies to assure the actual investment program follows Board approved targets and ranges.

Recommendations for Improvement

No recommendations at this time.

3.1.9 Policy Review

Evaluate how often and by what process the board or staff reviews STRS's written policies, guidelines, and procedures.

Expectations

Good governance practices create the formal infrastructure that guides fiduciary decision-making. The formality and accountability that derives from good governance practices, including the development and adoption of clear and comprehensive policies (and compliance with such policies), is essential to demonstrating prudence. The duty of prudence is a core fiduciary principle; while the standard of care may vary based on applicable state law, most states (including Ohio) apply a prudent expert standard which requires the fiduciary to exercise the care, skill, prudence and diligence that a prudent expert would use in a similar enterprise.

Policy setting is one of the key powers reserved for a board. A comprehensive set of governance policies will provide consistency and guidance to the board and staff, establishing clear limits or standards to be met in the execution and implementation of board-approved objectives.

In establishing policies, it is important that trustees periodically benchmark their governance practices against that of their peers. Peer benchmarking requires ongoing education regarding evolving practices. This can be accomplished through structured board training and education programs. Peer benchmarking also requires fiduciaries to actively seek the advice of consultants, counsel and/or other experts who have access to such information. Reviewing and analyzing peer practices can assist fiduciaries in determining not only how their fund or system's governance practices align against their peers, but in identifying gaps and strengthening the system's governance practices and policies.

A prevailing practice among pension funds is to establish a governance policy framework and compile governance policies in a governance policy manual. The governance policy manual is a central repository for all of the board's governance documents and should be user-friendly since it is an important resource for the board, staff, professional service providers, participants, and stakeholders.

Policy Review Standards of Comparison and Findings

Policy Review Standards of Comparison	Findings
Each policy includes a minimum timeframe (e.g., annually, biennially, triennially) for review and updating, as appropriate.	Yes
The board obtains peer policy comparisons when reviewing each policy.	No
Policy review responsibilities are clearly assigned to the appropriate board committees.	No

Conclusions

The STRS Governance Manual covers many of the topics that you would expect in a retirement system governance manual; however, the "ends vs. means" organizing framework is not intuitive for the reader and does not sufficiently convey the powers reserved for the Board and those delegated to the Executive Director and committees. Topics that you would typically see in a single policy or subsection are dispersed throughout the different sections of the manual or only addressed in administrative rules or by statute, leaving the reader to search through several sources of authority to find the applicable governance rule.

Many of the "policies" in the Governance Manual are not policies; rather, they address procedures and tasks that are more appropriate for implementation procedures. The Section entitled "Executive Director Limitations" reads as a "do not do this list," rather than affirmative performance obligations that can be measured against standards and metrics approved by the Board.

The STRS Governance Manual reads as a series of unassociated statements rather than a cogent framework with substantive policies, which makes it difficult for the reader to navigate and find useful information. STRS should consider substantial revisions to the Governance Manual to address applicable policy gaps (as identified in the matrix below), and make the Governance Manual a more user-friendly resource for Board members, staff, professional service providers, participants, and stakeholders.

Specifically, STRS should adopt bylaws consistent with the statutory governance requirements and administrative rules and addressing the subject matter gaps identified in the Model Governance Manual Framework. Bylaws are a foundational and central governance document that is essential to establishing the affairs and conduct of the Board with respect to the performance of its functions, powers, and duties under governing law. While many of the topics that should be covered STRS' bylaws are discussed in other sources of authority, formally codifying bylaws will consolidate all the relevant information and rules in a central location that is easy to access and understand. Specific bylaws recommendations are included as Exhibit B.

The Governance Manual should be organized by powers reserved for the Board and policy gaps should be addressed, for example (see also *Overview of Governance and Administration* in Section 1):

- *Conduct the business of the board and its committees:* Add policies for: election procedures and guidelines; conflicts of interest/recusal; board confidentiality; referral of investment opportunities and service provider candidates; board travel; board self-assessment; fiduciary review.
- *Approve/Set/Delegate*: Add policies for: actuarial services policy; strategic planning process; delegations to the executive director; performance review process for the executive director; board-staff relations; board communications; stakeholder communications; legislative communications; crisis communications; enterprise performance and risk management; non-U.S. proxy voting; ESG; DC Plan; DC Plan investment policy statement; funding; pension benefits.
- Oversee: Add policies for: placement agent disclosures; SEC pay-to-play rule compliance and reporting; financial disclosure; whistleblower and reporting; and revise the insider and personal trading policy per the below recommendation.
- *Verify*: Add policies for audit; compliance.

More detailed recommendations on each of these potential new policies is included in Exhibit C.

Recommendations for Improvement

R3.1.9.1 Adopt a more comprehensive set of bylaws or Board governance policies. See Exhibit B for examples.

R3.1.9.2 Formalize the process for policy setting, including identifying policy needs and reviewing peer practices.

R3.1.9.3 Revise the Governance Manual to be more comprehensive and user-friendly, including refining the content of STRS' existing policies and developing new policies where there are gaps (S*ee* Exhibit C addressing opportunities for improvement of existing policies).

R3.1.9.4 Revise the insider trading and Material Non-Public Information (MNPI) policies (and related practices) to ensure that an information barrier exists between the private and public investment teams, and add an explicit prohibition on the public side of STRS from investing in IPOs or secondary offerings or corporate debt offerings (including packaged bank loans for companies) that are held or that were held immediately preceding the IPO within any related fund without prior consultation with legal counsel.

R3.1.9.5 Eliminate the "ends" vs. "means" policy framework, and organize policies around powers reserved.

R3.1.9.6 Develop Strategic Policy Calendars for the Board and each Committee that identify policy development priorities; these should be approved by the Board annually.

3.2 Investment oversight and review.

The Contractor will perform an evaluation of the oversight and control of investments. The Contractor will:

3.2.1 Evaluate the appropriateness of board and staff controls, procedures, and capabilities to regularly review and monitor the performance of the investments and the practices of investment managers, as well as ensuring compliance with policies.

3.2.2 Evaluate STRS' process for measuring, evaluating, and controlling transaction costs, directed brokerage and commission recapture (if any), and compare the process to other funds as well as public or private third-party industry surveys.

3.2.3 Evaluate the process used to determine and measure investment performance, including how performance data is collected and verified and selection of appropriate benchmarks.

3.2.4 Evaluate the basis and methodology for the compensation of external investment managers and advisors and payments to others, if any.

3.2.5 Evaluate the written policies and procedures currently in place to monitor and guard against professional conflicts of interest.

3.2.6 Analyze how investment managers are selected, including the transparency in the decision-making process, due diligence provisions, whether specific criteria and procedures govern the selection process, whether they are actually observed in the selection process, and whether there is adequate documentation of selection process.

Review Activities

For our assessment of the Board's Investment Policy and Procedures, we utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices:

- STRS's current Investment Policy Statement (SIOP) and Statement of Fund Governance (SFG) dated March 18, 2021 and prior versions made available
- Interviews and follow-up discussions with STRS investment staff
- Interviews and follow up discussions with the general investment consultant Callan and the Alternatives Consultant Cliffwater
- Interview with the Cost Consultant CEM
- Interview with the Performance Consultant ACA
- Interview with the STRS in-house finance staff, Deputy Executive Director – Investments
- Interview with the STRS Custodians Northern Trust and Fifth Third and the STRS Alternatives Administrator Grosvenor
- Investment Activity reports, Rebalancing reports and Risk reports and analyses/presentations historically provided to the STRS Board such as the Callan reports
- FAS performance reporting, trading and operations knowledgebase
- STRS's ACFR annual investment report and monthly investment reports during the past 3 years

- STRS's rebalancing policies reviews and rebalancing activity reports
- STRS's Board minutes
- Asset Class Review documents presented to the Board during 2021
- STRS's investment files related to specific investment managers and related investment ideas
- The Investment Staff Guidelines and Procedures document and related documents particular to the implementation of each asset class
- Relevant STRS's internal audit reviews and Staff Investment Committee (SIC) documentation

To develop our assessment, we assessed the reporting function that exists between staff and board based on our knowledge of the STRS investment program and standard reporting templates used by asset owners. The FAS team:

1. Assessed the flow of performance monitoring actions and reports between staff, consultant and board relating to the how the investment program is structured and compared to leading and prevailing practices.
2. Reviewed the performance calculation approach utilized at STRS and compared to FAS knowledge of leading practices.
3. Reviewed the checks and balances and controls instituted by STRS staff and third parties such as ACA and CEM and Northern Trust in the calculation of results.
4. Discussed with Staff and Consultants the concept of risk reporting and reviewed the reports provided the Board on the concept of investment risks.
5. Reviewed the STRS Benchmark development process and performance benchmarks in place – paying particular attention to the Callan Benchmark report from December 2020 and January 2021.
6. Reviewed external manager agreements in place and the process of conducting due diligence on external investment managers.
7. Discussed in detail the valuation process in place for the Real Estate direct investments and the Co-Investments made by the Alternatives staff.
8. Interviewed STRS investment and trading personnel on the subject of brokerage commissions and trading cost analyses.
9. Reviewed internal documents such as the Semiannual Broker Evaluation document and the ACFR documents as well as Board reports on Brokerage transactions and external reports such as the CEM Investment Cost Effectiveness Analysis report and Virtu Trade Cost Analysis (TCA) summary reports.
10. Interviewed Finance, Investment and Operations staff, Grosvenor and other relevant individuals on the fee calculation and negotiation process.

3.2.1 Monitoring and Compliance

Evaluate the appropriateness of board and staff controls, procedures, and capabilities to regularly review and monitor the performance of the investments and the practices of investment managers, as well as ensuring compliance with policies.

Expectations

The SIOP should allocate responsibility for monitoring investment performance at board, staff and consultant levels. Monitoring by the board should be frequent enough and detailed enough to be timely and provide complete information on critical issues – yet should emphasize the oversight and policy roles of the board and not be used as a decision-making process. Monitoring reports should include whether portfolio, asset class and total fund performance are within expectations with regard to both performance and risk. Outliers should be explained, and, where appropriate, action plans detailed to the senior investment staff and/or board, as appropriate.

Monitoring and Compliance Standards of Comparison and Findings

Monitoring and Compliance Standards of Comparison	Findings
Performance and risk reports are compiled at least quarterly. Appropriate flash reports are available to the investment staff. A manager/GP monitoring policy defines frequency of due diligence visits, as well as whether in-person and/or on-site visits are required and conditions which dictate a special visit.	Yes
Monitoring policy and practice include benchmark comparisons, personnel and other organizational change notices, regulatory notices, etc.	Yes
Investment management agreements provide for external managers to provide notice to system in the event of material personnel changes, changes in corporate structure, regulatory investigations or findings, etc.	Yes
Investment management agreements and broker agreements provide for annual ethics confirmations.	No (See recommendation in Section 1.6)
Investment management agreements with outside managers, and the equivalent policies for internal management, should define appropriate benchmarks, expected risk profiles, permissible and prohibited investments.	Yes
A general investment consultant that is hired by the board, provides counsel to both the board and investment staff, and opines on investment staff decisions. The consultant reviews both internal and external management.	Yes
Specialty consultants (where appropriate) hired by the board provide counsel to both the board and investment staff, and opine on investment staff decisions. The consultant reviews both internal and external management.	Yes

Conclusions

STRS appears to follow prevailing industry practices in all areas of performance measurement and monitoring. The use of ACA to perform GIPS standards for asset owner performance reviews at the plan and individual asset level is a leading practice. The measurement of after fee performance benchmarking through CEM is a prevailing practice for large public funds. Attribution techniques performed by the general consultant (Callan) follow leading or prevailing industry practice. Northern Trust's performance calculations of the externally managed strategies for international equities and external fixed income portfolios are a prevailing industry practice. Also, Grosvenor's role as a third-party administrator monitoring and documenting all cash flows for the alternatives program and real estate portfolios provides independent verification of all the inputs required for performance calculations for these portfolios is at prevailing industry standard.

The appraisal process for direct investments in the Real Estate department appears in keeping with prevailing industry practices and provides an arm's length appraisal/valuation process for these difficult to value investments. We believe the Real Estate appraisal process outlined in the STRS "Real Estate" Valuation Policy Manual represents industry leading practice. The finance department calculation of overall performance results is independent of the investment teams and appears robust and makes use of both external providers and internal skills. Overall, the performance and monitoring processes performed by staff and consultants for the real estate investment program is at least at prevailing industry standards and in some cases above that.

The Alternatives Investments area is an important growth area at STRS. We found the 10/24/21 Board overview particularly insightful regarding the direction STRS is taking to implement the STRS program. We note the large amount of attention this area has received given the fees that can be paid for successful programs and suggest STRS continue to support areas of fee transparency currently being discussed by the SEC. We found the STRS approach to the Alternatives area well documented – and specifically refer to the STRS Co and Direct Investment Guidelines, the Private Equity Policy and Procedures Monitoring Policy, the Opportunistic/Diversified Staff Policy and Procedures for Direct and Co-Investments, the Alternatives Investments Policy and Procedures Overview and other policy documents we reviewed. The reliance on General Partner (GP) Audited valuations in determining STRS Limited Partner (LP) valuations is an industry prevailing practice. The reliance on GP valuations for Co-Investments, given the fact that the STRS program is still relatively early in the maturity of its investment program, is understandable. While it is difficult to anticipate the exact valuation process for co-investment that will become required for this portion of the portfolio at the time of this writing – following an independent process similar to the one in place for direct real estate valuation at STRS would be seen as leading practice. While we believe the current valuation process is working fine – preparing for a more independent process for the co-investment program is seen as a longer horizon goal.

In our discussions with the various asset class heads at STRS, we found the due diligence process they utilize in the monitoring of external managers in the STRS program both thorough and thoughtful. The information sharing that exists between the asset class heads and the external consultants – Callan and Cliffwater - also appears in keeping with industry standards for pension plans with large in-house staffs. The Monitoring and Evaluation policies followed by staff are documented in the Investment Staff Guidelines and Procedures document dated 10/1/20. While we find the staff well qualified to perform this role, industry practice would be to formalize the inclusion of external consultant due diligence outcomes when available – even when the opinions voiced in these due diligence reports differ from the inclusions of in-house staff. Formalizing the input from external due diligence providers – with a process in place of overruling the opinions voiced – in the Investment Staff Guidelines and Procedures document by asset class would be additive.

The STRS incentive compensation program provides a strong incentive for the asset class heads to closely monitor the various external managers and their potential for adding value in excess of fees. That said, given the extensive use of in-house management at STRS and the performance-based incentive compensation program in place, it is particularly important for an independent investment advisor such as CEM to perform after fee performance comparisons of in-house managed strategies with externally managed products. The strong and diverse checks and balances in the performance measurement process should give the Board and other stakeholders assurance that the reports of past success of the in-house effort is an accurate reflection of performance results.

While the Board is provided appropriate performance reporting and portfolio monitoring on all aspects of the plan's investment activity, we did not find evidence of external due diligence monitoring on the in-house investment activities. From this perspective, the Board's due diligence effort for the in-house strategies could be enhanced by retaining an independent third-party due diligence consultant to periodically provide detailed reviews of each in-house investment strategy. We understand from our discussions this type of review were provided by the previous investment consultant, Russell. Having an independent, external check and balance in place that provides due diligence reports on the people and investment processes followed by the STRS investment teams, and detailed performance attribution of each internally managed strategy over varying time periods, combined with an analysis of what could be obtained externally, would be additive to the Board's oversight responsibilities to assure proper capabilities are in place. Specifically, we could envision an external due diligence report being prepared in advance of the launch of any new in-house managed strategy and updated every 3-5 years in an attempt to monitor the in-house efforts vs. externally available strategies. In-house management, in most cases, will have an inherent fee advantage to externally managed portfolios, so all other things being equal, this process should confirm the quality of the STRS investment efforts and improve the Board's overall monitoring effort. Of course, sometimes all other things are not equal, but such a process would reveal those situations.

Finally, the discipline of requesting that internal investment professionals and external investment providers/employees certify confirmation with CFA Institute standards and applicable ethics laws is a prevailing practice among STRS peers. We believe requesting each individual or organization involved with the investment process of STRS funds to annually certify compliance with these standards would provide meaningful reinforcement of expectations that these standards are important and should be adhered to when implementing investment decisions on behalf of STRS members.

Recommendations for Improvement

R3.2.1.1 Retain a third-party to provide a periodic due diligence review of in-house investment strategies. These reviews could include detailed attribution analyses and performance versus custom peer groups of external managers and will help articulate the value add that STRS has gained by moving the bulk of their investment activities in-house.

R3.2.1.2 **Formalize the role of third-party investment and operational due diligence advisors in the Monitoring and Evaluation Process in the Investment Staff Guidelines and Procedures document.**

R3.2.1.3 **Over time, establish a valuation process for Private Equity co-investments that is performed by an independent third-party to ensure transparency.**

R3.2.1.4 **Establish an annual ethics confirmation for all investment professionals / organizations responsible for managing STRS assets that details ethics expectations and requests annual certification of compliance. (See also recommendations in Section 1.6)**

3.2.2 Transaction Costs

Evaluate STRS's process for measuring, evaluating, and controlling transaction costs, directed brokerage and commission recapture (if any), and compare the process to other funds as well as public or private third-party industry surveys.

Expectations

Prevailing practice with respect to public asset brokerage includes a best execution policy which requires the pension fund and its managers to take all reasonable efforts to obtain the best possible result in trading securities on a consistent basis, taking into account both quantitative factors (e.g., price, commission, spread, implicit market impact, and size of the trade relative to volume) and qualitative factors (e.g., likelihood of execution within a desired time frame, market conditions, ability to act on a confidential basis, ability to handle large trades in securities having limited liquidity without undue market impact, creditworthiness, willingness to commit capital to a particular transaction, market knowledge, and back office infrastructure).

Prevailing practice is also to generally allow each investment manager to select their brokerage firms through which trading will be completed for the pension fund. Each investment manager is also responsible for conducting all appropriate due diligence on the brokerage firms it selects.

Many public funds also provide the option for their investment staff to retain the right to direct brokers and enter into brokerage commission recapture agreements. Directed commission brokers are selected by the investment staff, often with consultant assistance. Investment managers mutually agree to direct a percentage of their portfolio under management to the fund's directed commission brokers. The objective is to select a percentage amount that generates substantial commission savings, without hindering the investment manager's ability to execute investment strategies that meet the objectives set forth in the IMA. Many funds of the scale of STRS choose to not utilize directed brokerage based upon a cost/benefit analysis and the desire to allow investment managers to make their own selection and be responsible for their net returns.

Each investment manager is typically required to report on brokerage firms they are using and the terms of those relationships. The disclosure usually covers payment for order flow, soft dollars, covered expenses, and the nature of the broker selection process. The term "soft dollars" typically refers to the amount by which a commission exceeds the price of executing a transaction. In some cases, that amount is converted to credits and given to the investment manager by the executing broker for the manager to pay third parties for certain research, trading software and subscriptions. Soft dollar practices are regulated by the Securities and Exchange Commission. However, critics argue that soft dollar trades are less transparent and may result in more benefit to the manager than the client or more benefit to clients other than the one for whom the broker was making the trade. The use of soft dollars has been declining with public pension funds and is considered a lagging practice.

At a minimum, the investment staff reviews investment manager transactions and arrangements for compliance with the fund's policies through a best execution analysis. The investment managers and custodian provide the information necessary to conduct this review.

Leading practice is for a public pension fund to periodically engage a trade analytics firm to independently monitor public equity transactions over a specified time period. Typically, the firm maintains a trading database with institutional averages for commissions, fees and market impact costs in most markets in which the public fund invests. Reports usually compare the trading costs of the fund's public equities investment managers to those benchmarks. While the trading analytics firms also provide similar services for fixed income trades, this service is less often used and provides less benefit due to much lower fixed income trading costs.

Transaction Costs Standards of Comparison and Findings

Transaction Costs Standards of Comparison	Findings
There is a program to evaluate internal and external trading to ensure that all securities transactions be affected to the best advantage of the system regarding price and execution.	Yes
Investment Managers provide an accounting of soft dollar transactions and an explanation of the goods or services received by the Investment Manager.	Yes
Internal audit and/or the board periodically reviews soft dollar and commission sharing arrangement usage.	Yes
There is a policy for oversight of foreign exchange by staff.	Yes
For funds with internal management, a continuously updated and vetted database of broker-dealers qualified to perform execution services for all internally managed portfolios.	Yes

Conclusions

Transaction cost management and broker practices are highly controlled at STRS and considered on par with leading practices across the public pension plan space. On a semiannual basis, the STRS Board receives and reviews a Broker Evaluation and Associated Policies Document. STRS staff prepare the report, and Callan, in their role as investment consultant, offers their opinion on three key aspects:

- Their comfort level with the factors that STRS takes into consideration when evaluating brokers;
- The appropriateness of documentation about execution, brokerage selection, research, soft dollar policy, and brokerage usage; and
- A definitive recommendation for the Board to approve the report.

The document provides detailed information on brokerage evaluation methodologies and results, future allocation methodologies and estimates for commission sharing arrangements, and actual commission expenditures by broker by designation. As important, the report contains detailed descriptions of the following:

- Brokerage Commission Policy;
- Ohio and Emerging Brokerage Firm Procedures;

- Ohio Investment Manager and Broker Policy and Program;
- STRS Investment Protection Principles; and
- Soft Dollar Policy, including descriptions of fiduciary responsibility, research services, soft dollar guidelines, budget, and ongoing monitoring requirements.

The Board is requested to formally approve all contents of the Broker Evaluation and Associated Policies Document on a semiannual basis.

Brokerage Selection and Reporting, CSA and Soft-Dollar

The Ohio statute governing broker selection is considered a typical and prevailing practice, and while a targeted goal to increase utilization of Ohio-qualified brokers would not be considered as such, the best execution policies for trading take clear precedence over all other factors. In other words, while policies and practices comply with the statutory requirement to attempt to increase the use of Ohio-certified, women-owned, and minority-owned brokers, those practices are subordinate to best execution policies. Consequently, Ohio-based and other brokerage utilization requirements will only achieve the level of "equal consideration" to the broader universe of approved brokers. This essentially ensures that above all other decision criteria, the best interest of STRS members takes overarching priority in the selection of brokers to support STRS public securities trading.

The Annual Comprehensive Financial Report clearly identifies the Board as responsible for the review and approval of the purchases and sales broker dealer list; although exceptions that delegate broker selection to the Deputy Executive Director, Investments exist for best execution reasons and other factors (e.g., FINRA eligible members of IPO syndicates). The proven structure and evidenced discipline of broker analysis also provides the staff with an opportunity to utilize the services of brokers not on the list and to present them to the Board for retroactive approval at the next presentation of the semiannual report. Given the varying nature of securities trading between fixed income and equities instruments, the criteria used by STRS to approve brokers appropriately varies by asset class. The Board approves both lists as part of their semiannual review.

The evaluation of brokers for fixed income is performed against six categories including financial strength, underwriting capabilities, secondary trading capability, investment research, economic research, and portfolio services. Rankings are developed quantitatively and utilize external designations (e.g., level of government securities dealers) and private third-party data analysis (e.g., Bloomberg). The resultant ranking suggests a direct correlation to trade volumes in the following time period.

On the equity side, the STRS investment area maintains a list of brokers into trading eligible categories including bundled service providers, execution only brokers, and commission sharing arrangement (CSA) eligible brokers. The document details the broker voting process practiced by the domestic and international equity teams and how rankings are developed to inform proposed commission allocations for the following period. The allocation estimates are provided to the Board in the semiannual report. Following the Board's vote, the results are shared with the broker-dealers (exclusive of the proposed allocations), along with qualitative evaluative commentary from the investment teams. This is considered a leading practice for institutional investors.

Both bundled commission arrangements and CSAs are used by STRS to obtain research services commonly found in soft dollar arrangements. There are clear responsibilities set forth in the STRS Soft Dollar Policy section of the document that govern the fiduciary responsibilities and standards of care and diligence that provide guidance for the STRS soft dollar arrangements. Definitions of what qualifies as research services, guidelines on how transactions are executive, and requirements for obtaining STRS legal approval on soft dollar contracts – in writing – are also described. Finally, the financial aspects of the soft dollar policy are clarified, including setting soft dollar research budgeting and CSA account maintenance and brokerage monthly reporting requirements. In aggregate, this policy and the enforcement and oversight of it is in line with peer standards.

Finally, the brokerage commission policy contains language for evaluating foreign currency transactions including comparisons of broker prices to market prices and the use of third-party platforms (for transparency purposes) and the required utilization of custodial banks, where required to support more stringent settlement policies.

Trade Cost Analysis and Benchmarking

The head of trading for STRS provides all purchase and sales information for publicly traded securities to Virtu for third party trade cost analysis. Using an Agency Cost Estimator against a Global Peer database, the vendor is able to quantify STRS trade execution effectiveness against a variety of parameters including by trader, by account, and by market. Results, including weighted average commission levels, execution slippage and P&L are provided to STRS on an annual basis.

Finally, the most recently received CEM Investment Cost Effectiveness Analysis Report references a transaction cost survey. CEM cites that on a historic basis, there has been a lack of enough plans that could provide this data consistently. In the report received by STRS, the benchmark provider highlights the increasing trend of pension plans to provide this information and presents initial qualitative results including percentile transaction costs by asset class and transaction costs as a percentage of purchases and sales. STRS transaction cost data is not included in the paper.

Recommendations for Improvement

R3.2.2.1 **Amend tables within the Semiannual Broker Evaluation and Associated Policies report to the Board to include identification of women and minority owned brokers, where applicable.**

R3.2.2.2 **On an annual basis, place results of third party (Virtu) TCA trade cost analysis, with accompanying STRS commentary, into an appendix of Semiannual Broker Evaluation and Associated Policies report.**

3.2.3 Performance Measurement

Evaluate the process used to determine and measure investment performance (including how performance data is collected and verified) and selection of appropriate benchmarks.

Expectations

There should be performance benchmarks appropriate to each asset class or strategy and for the total fund. Performance should be monitored regularly at the asset class, strategy and total fund level by both the board and the staff. The staff should also regularly monitor performance at the individual manager level.

Performance Measurement Standards of Comparison and Findings

Performance Measurement Standards of Comparison	Findings
There are appropriate performance benchmarks for every portfolio, whether internal or external.	Yes
There are appropriate performance benchmarks for all asset classes.	Yes
There are appropriate performance benchmarks for the entire fund that both benchmark return relative to the market and return relative to liabilities.	Partial
Where there are aspirational benchmarks (i.e., a benchmark which is unrelated to the asset class such as S&P + some percentage used for private equity), there should be some basis for understanding if the fund can, or has, achieved that benchmark over a market cycle.	Not applicable
Benchmarks should be explicitly approved by the board.	Yes

Conclusions

The benchmark development process for the asset portfolio, the calculation of performance results and the presentation of performance results to the STRS Board is at leading practice level. In particular, the early adoption of GIPS standards and the use of ACA to verify performance calculations and reporting in compliance with these standards for asset owners is a leading practice. The Callan benchmark review documentation and the Board approval of these benchmarks in January 2021 is an example of a leading practice in the area of benchmark development at the asset class and Plan level. Callan reviewed each of the major asset classes included in the STRS portfolio, discussed the pros and cons of the benchmark in use and alternative benchmarks and recommended a going forward benchmark for each asset class and the total plan. A peer review of use of various asset class benchmarks was also included in this report.

Periodic review of benchmarks is a leading practice, and we suggest ongoing reviews such as this every 3-5 years at a minimum. The one asset class benchmark that was changed as a result of the review was the private alternatives area. FAS experience is that this area can be particularly difficult to benchmark. Callan's report provided the Board a good roadmap for the decision among benchmark possibilities and a strong logic for the choices that were ultimately made.

Consistent with our comments in the SIOP review section of this report, we did not find ongoing reporting on the progress STRS is making against liability measures in the performance reporting process, though the periodic actuarial updates provided by the finance department and Cheiron to the Board are helpful in this regard. Given the inherent linkage between the investment performance of the plan and the various actuarial statistics measuring the plan's funding status and other actuarial measures, inclusion of liability measures such as funded status and other relevant actuarial areas would be additive to helping improve the Board understanding of the health of the pension.

Recommendations for Improvement

R3.2.3.1 Include a brief overview of the measures of the actuarial health of the Plan in the Callan quarterly report. These could include estimates of funding status, time to close the funding gap and other relevant top-level measures of actuarial health.

3.2.4 External Manager Compensation

Evaluate the basis and methodology for the compensation of external investment managers and advisors and payments to others, if any.

Expectations

Fees and payments due to an external investment manager are typically defined in an Investment Manager Agreement (IMA) or Limited Partnership Agreement (LPA) signed by the manager and the pension fund. Investment managers agree to a payment schedule, often on a quarterly basis in the case of the IMA. Public market investment fund fee terms are usually a straightforward calculation of a percentage fee based upon assets under management at a point in time or weighted across a defined time period. Occasionally, a manager of public assets, commonly a hedge fund investor, will receive an incentive fee based upon investment performance.

Private market (e.g., private equity, real estate) investment fund fee arrangements are often more complex, usually containing both a management fee and a performance fee. However, the basis of the private market calculations can be more variable (e.g., committed vs. invested capital) and there can be various offsets which reduce fees which are not visible to the pension fund. Unlike public funds, the invoicing of fees for private market funds lacks simplicity and standardization. Fees are commonly blended into capital calls and the levels of transparency vary greatly. The lack of standards and transparency from General Partners (GPs) have led to efforts on the part of Institutional Limited Partner's Association (ILPA) to use communications protocols and documentation requirements to enforce standards in information sharing, classifications and terms. In a very recent publication, which will likely be embraced by the broader limited partnership (LP) community – inclusive of public pension plans – the SEC has proposed bringing much needed transparency and standardization to fee billing practices in the alternative investment space.

Leading and prevailing practices for the payment and verification of investment manager fees is designed to ensure that the public pension fund has processes in place which independently calculate invoiced fees and validate manager invoices on a regular basis. When there are discrepancies, the manager is contacted and any differences are promptly resolved.

External Manager Compensation Standards of Comparison and Findings

External Manager Compensation Standards of Comparison	Findings
There is a documented fee policy that is constructed around the concept of alignment of interests and articulates staff authority for fee negotiations.	Yes
Manager fee reporting annually summarizes fee levels (direct and indirect, including carried interest at all levels) by manager and in the context of relative and absolute performance.	Yes
Investment management costs are periodically benchmarked with peers by a third-party firm to compare costs on a basis adjusted for differences in asset allocation.	Yes

External Manager Compensation Standards of Comparison	Findings
There is an effective process for ensuring payments to investment managers of public assets are appropriate.	Yes
There is an effective process for ensuring payments to managers of private assets are appropriate.	Yes
The system works with ILPA and peers in support of the Transparency Initiative.	Yes

Conclusions

The Ohio STRS practices in managing the end-to-end processes for external manager compensation are well documented, tightly controlled and disciplined, and broad based. On an overall basis, they compare very well to best practices in public pension plans for external managers of both public accounts and alternative based accounts.

Policies and Standards

At the highest governance level, STRS publishes an annual Statement of Investments and Policy – Statement of Fund Governance document. Within the report's section on governance is an explicit reference that the Board delegates authority to prepare, negotiate and execute external investment manager mandates, guidelines and fee arrangements to qualified STRS investment staff. Cascaded guidelines and processing requirements for external manager fee arrangements are further referenced in numerous other legal and functional documents including but not limited to:

- Schedule B standards included in Investment Management Agreements[17];
- Standards for LPA side letters;
- Fee Monitoring Procedures for Alternative Investment and Real Estate Fund fees;
- Process for Payment of External Manager Fees – Equities;
- Private Equity Monitoring Policy; and
- Asset Manager Fee Reconciliation Review Procedures.

The STRS organization does not formally publish an external manager fee policy document, per se. Fees that are established or negotiated at the time of contract development bear in mind comparisons to competitive fee levels for the asset class as well as performance objectives net of fees. Where appropriate, performance-incentive fees are considered by investment teams and with guidance from STRS investment consultants. The collection of these guidelines and policies serves as the foundation for highly effective processes such as setting external manager fees, mandating and standardizing reporting, clarifying roles and responsibilities in performing effective oversight, and ensuring the submission of timely and accurate payments.

Contractual language in IMAs set the standard for external manager submission of fee invoices and calculation of fees. For alternative investments, GPs are encouraged (but not mandated) to utilize ILPA reporting templates. For real estate assets, property managers are engaged in the fee validation process.

Processing and Validation

The execution and validation practices for external manager fees processes at STRS are among the most thorough and well controlled in the public pension plan space. For third party managed accounts of public securities, there is a detailed, nine-step procedure for the end-to-end validation and payment processes. Within the procedures, validation steps for confirming the integrity of the fees or for authorizing the payment of them are mandated for the external manager, administrative assistant, investment operations, portfolio management, the Executive Director, and Treasurer of State. All invoices are validated against both custodial statements to verify AUM values and against IMA fee schedules.

Private / alternative asset procedures and practices for external manager fee validations are also considered robust. For alternative investments, GPs are required to submit quarterly fee statements on a semi-annual basis to Grosvenor (GCM). Although the GPs are requested to utilize ILPA compliant reports, only about 30% of them are willing or able to do so, but that number is increasing. GCM, who provides cash flow and document management services to STRS for alternative investments, aggregates external manager fees using an “AI Fee Tracker” and reports fees both as a percentage of commitment and as a cost basis (expense ratio) of AUM. GCM works directly with a dedicated resource at STRS who was hired recently to track and reconcile fees for private assets. Their combined efforts remove much of the traditional obfuscation. Finally, on the real estate side, monthly reviews of property manager submitted fee reconciliations are performed by asset managers according to detailed guidelines in the property management agreements, income statements, adjustments, and G/L accounts.

Reporting and Benchmarking

External manager fee reporting is performed by the STRS investment team on a regular basis. The audited Annual Comprehensive Financial Report contains a two-year schedule of external management fees by asset class. Quarterly fee reports for externally managed public funds and semiannual fee reports for alternative investment funds are produced and made available to the Board.

STRS has engaged the benchmarking services of CEM to analyze investment performance and cost. In the most recent report presented during December 2021, CEM reported that STRS external manager costs were 14.0 bp below what median peers would expect to pay for similar services if they had the STRS asset mix during the five-year period ended 12/31/20. The analysis showed that STRS external fee levels rated near or better than the peer group benchmark levels for the majority of public funds (by sub-asset class) and alternative funds (by asset class), with the latter being measured against both costs as a percentage of commitment and as a percentage of AUM.

The CEM analysis of STRS private equity carried interest utilizes group median carried interest because only about 35% of the peer group provide full carried interest information. The CEM analysis for STRS has been criticized for not using actual peer private equity fees. STRS could request that its private equity fees be benchmarked using the actual data from the 35% of peers which do report, rather than the median of those reported fees. Over time, it is expected that the percentage of peers who do report detailed private equity fees will continue to increase.

Recommendations for Improvement

R3.2.4.1 Expand the Statement of Investment Objectives and Policy and Statement of Fund Governance document under the section on Board Oversight to include a Board responsibility to review external manager fees on an annual basis.

R3.2.4.2 Continue to encourage external managers of alternative assets to utilize ILPA standards, while monitoring trends (recognizing that it may still be impractical to implement a mandate covering all managers given current adoption levels, though deal terms may shift over time).

R3.2.4.3 Improve effectiveness of two-way communication on external manager fees with outside stakeholders. Expand external manager fee reporting to include performance and incentive fees, carried interest and pass-through limited partnership expenses. Consider posting results of semi-annual manager fee review process to STRS website, along with proactive STRS efforts to reduce fees. (Some information is already included the ACFR, but it provides little qualitative value.)

R3.2.4.4 Continue to provide public support for the SEC proposal to standardize and improve fee transparency for private equity and alternative investments. Monitor progress and prepare infrastructure to adopt changes if and when they are codified into law.

R3.2.4.5 STRS should request that CEM, in its next investment benchmarking report, reflect STRS' actual carried interest for private equity instead of utilizing the peer median as default carried interest.

[1] Schedule B and side letter standards are part of IMA and LPA contracts, respectively and subject to STRS Ohio Investment Legal Due Diligence Process and STRS Ohio Contract Review Procedures.

3.2.5 Conflicts of Interest Investment-related conflicts are addressed in Section 1.6

3.2.6 Investment Manager Selection

Analyze how investment managers are selected, including the transparency in the decision-making process, due diligence provisions, whether specific criteria and procedures govern the selection process, whether they are actually observed in the selection process, and whether there is adequate documentation of selection process.

Expectations

There should be a structured, thoughtful, documented process to: a) determine if a new portfolio or investment manager is needed; b) whether internal or external management is the best solution to the need; and c) select the potential candidates, utilizing a process that includes quantitative due diligence, qualitative due diligence, operational due diligence, and portfolio "fit" analysis. Similar considerations should be given to new internal portfolios. The structure review process, outlined herein, should be updated on a periodic basis and presented to internal review bodies. The board should be periodically updated on these internal structure reviews.

Investment Manager Selection - Standards of Comparison and Findings

Investment Manager Selection Standards of Comparison	Findings
Investment sourcing processes are linked to identified investment needs.	Yes
Investment staff has a long-term perspective on investment sourcing.	Yes
Portfolio fit assessment is both qualitative and quantitative.	Yes
Policies clearly define operational due diligence requirements and responsibilities vis-à-vis staff and consultants.	Partial
The board is properly aware of current due diligence processes utilized for each portfolio.	Yes
An internal investment decision-making committee or group reviews and approves each investment opportunity and includes other key staff such as general counsel, compliance, and operational due diligence, with the ability of non-investment office staff to either veto or escalate the decision on investments for operational or legal reasons. This applies to both internal and external portfolios.	Partial
Pipeline reports of contemplated investment changes are provided to the board, so as to, as much as possible, create a "no surprises" environment for the board.	Yes
There are organizational checks and balances that provide effective controls and minimize the potential for single point of failure decision making.	Yes
Contract negotiations with outside managers are led by internal staff supplemented by outside assistance, as needed.	Yes

Investment Manager Selection Standards of Comparison	Findings
A staff investment committee is the focal point for cross-asset information class sharing.	Yes – Investment Strategy Committee
Actual due diligence procedures match the written policies in the SIOP and in other relevant documentation. Deviations are documented and escalation procedures in place for approvals or rejections.	Yes

Conclusions

The annual investment plan outlines the assumptions that are incorporated into the investment outlook for the total plan and each of the asset class areas. The economic analysis and investment analysis is robust and inclusive, and the asset class outlooks in the annual review are both thoughtful and reflective of the staff's intended investment emphases. The annual plan takes the review process most plans utilize to a leading practice level. We found the Board educational presentation instructive of the key issues being faced in each asset class. Overall, from a top-down perspective of informing the Board of future investment initiatives and issues being focused on in each asset class, STRS is operating at a leading practice level.

We discussed the sourcing of external accounts with each of the investment teams. The determination of when assets are managed in house vs. using externally sourced investment ideas is done primarily at the level of the asset class head, with oversight from the office of the Deputy Executive Director - Investments, and is based on the asset class head's opinion of what would produce the better after-fee performance and risk profile. The design of the incentive compensation program helps to keep the objectives of above benchmark, after fee, risk aware investment performance for the plan aligned with those responsible for the recommendation of external investment products. During our review, the determination and testing of the approach to decide if small cap international equities would be run in-house or through hiring external managers was well thought through at the staff level. As is outlined in section 3.2.1 above, the process of outlining the decision to "in-source" investment ideas vs. "outsource" investment management could be documented better and presented to the Board for information purposes and input.

Once a decision is made to conduct an external manager search, the sourcing of external managers for public asset classes relies on a broadly distributed RFP process conducted at the staff level. Ideas from Callan and Cliffwater are sourced in parallel to that process. This is in keeping with industry practice. Overall, the acknowledgement of capacity constraints and skill constraints on internally managed portfolios appears well thought through and the decision of when to hire external managers and when to manage internally appears to be a logical outcome of this analytical process. The inclusion of Ohio firms as required by state law is followed. Quantitative screening techniques, qualitative judgments on each manager made by the asset class heads along with input from the consulting teams all appear to play a balanced role in determining appropriate candidates for consideration. Fees are considered in addition to all portfolio specific information.

The role Callan plays in the ongoing operational due diligence of external managers and in the manager selection process was not documented in the Investment Staff Guidelines document but was referred to in our interviews. The Callan (or another third party) role should be documented in this document. The due diligence effort on external managers is written up and presented to the Deputy Executive Director-Investments for input and the Investment Strategy Committee for approval. The Board is informed of external manager decisions but not expected to vote on these decisions as they are delegated to investment staff. The delegation of the hire/fire decision to the investment staff is prevailing practice for an investment operation of the size and sophistication at STRS.

STRS takes a long-term partnership approach in developing relationships with external managers. We saw evidence of frequent due diligence calls by staff to monitor the external investment managers. The team – given its extensive investment background – appears to understand and accept the inevitable periods of underperformance (or overperformance) that can come with actively managed portfolios and also has particular insights into the investment processes followed by the external manager teams. We find this approach by the staff to monitoring the external managers appropriate. We believe the Callan performance reporting to the Board supplemented by Callan Operational Due Diligence and the oversight by the asset class teams in line with prevailing industry practice.

The General Partner sourcing process followed by the Alternatives team is appropriately tailored to the more opportunistic approach desired for this portion of the portfolio. Target areas are identified, and both the operational due diligence and investment due diligence are done in-house by the investment team. The Alternative Investments Documentation Procedures guide identifies the process and procedures followed by the Alternatives team in sourcing ideas, getting approvals and monitoring investments. This is also true for co-investment ideas brought to the team by existing investment partners. We found the documentation of the Co-Investment Investment Staff policies and approval process particularly robust. Discussions with staff indicate these policies and procedures are well implemented.

Like the alternatives team, the real estate team follow a well-defined approach outlined in the Real Estate Acquisition and Disposition Manual for property selection and management. The significant organizational effort to real estate investment and management strategies relies on the regional real estate asset class heads. The regional directors operate in a property management oversight capacity, hiring local contractors for leasing, property management, maintenance, contracting for maintenance, required upgrades and all other aspects of the real estate management process. Roles of the staff and the Real Estate Investment Committee (REIC) are articulated well in the Investment Staff Guidelines and Procedures Manual. Overall, we believe STRS is operating at a leading practice level in the direct real estate management program.

The Investment Strategy Committee is the approval body for manager selection and is limited to investment staff only. Leading practice is to include other key staff such as general counsel, compliance, and operational due diligence, with the ability of non-investment office staff to either veto or escalate the decision on investments for operational or legal reasons. There should be a formal policy for committee composition, voting and approval processes.

Recommendations for Improvement

R3.2.6.1 Formalize the role of an external advisor in the provision of Investment Due Diligence and Operational Due Diligence in their role in the search for new mandates and in the periodic review of external investment managers in the Investment Staff Guidelines and Procedures Manual.

R3.2.6.2 The Investment Strategy Committee should consider including non-investment members, such as the chief legal officer, compliance officer, or the head of operational due diligence, when approving new manager selection.

R3.2.6.3 Develop formal charters for staff committees that specify the members, and voting and approval processes and procedures.

3.3 Investment and fiduciary risk.

The Contractor will perform an evaluation of the awareness of risk and management of risk in investments. The Contractor will:

3.3.1 Evaluate the processes by which the board is aware of the risks associated with the asset allocation they have adopted; and

3.3.2 Examine investment risk factors. Attention should be on the types, levels, and appropriateness of risks in the investment portfolios and overall funds as well as any internal controls in place at STRS to ensure compliance with the adopted standards, policies and procedure for managing investment and fiduciary risk. This examination should include a comparison to best practices.

Review Activities

For our assessment of the Board's Investment Policy and Procedures, we utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices:

- STRS's current Investment Policy Statement (SIOP) and Statement of Fund Governance (SFG) dated March 18, 2021 and prior versions made available
- Interviews and follow-up discussions with STRS investment staff and Board Trustees
- Interviews and follow up discussions with the general investment consultant Callan and the Alternatives Consultant Cliffwater
- Interview with the STRS in-house finance staff, Deputy Executive Director – Investments
- Investment Activity reports, Rebalancing reports and Risk reports and analyses/presentations historically provided to the STRS Board such as the Callan reports
- STRS's ACFR annual investment report and monthly investment reports during the past 3 years
- STRS's rebalancing policies reviews and rebalancing activity reports
- STRS's Board minutes
- STRS's investment files related to specific investment managers and related investment ideas
- The Investment Staff Guidelines and Procedures document and related documents particular to the implementation of each asset class
- Relevant STRS's internal audit reviews and Staff Investment Committee (SIC) documentation
- Reviewed the Callan ALM reports and presentations recently made by Callan and Cheiron regarding the current ALM study

To develop our assessment, we assessed the reporting function that exists between staff and board based on our knowledge of the STRS investment program and standard reporting templates used by asset owners. The FAS team:

1. Assessed the flow of risk monitoring actions and reports between staff, consultant and board relating to the how the investment program is structured and compared to leading and prevailing practices.
2. Reviewed the risk estimation approach utilized at STRS and compared to FAS knowledge of leading practices.
3. Discussed with Staff and Consultants the concept of risk reporting and reviewed the reports provided the Board on the concept of investment risks.

4. Reviewed the STRS Benchmark development process and performance benchmarks in place – paying particular attention to the Callan Benchmark report from December 2020 and January 2021.
5. Discussed in detail the valuation process in place for the Real Estate direct investments and the Co-Investments made by the Alternatives staff.

3.3.1 Risk Appetite

Evaluate the processes by which the board is aware of the risks associated with the asset allocation they have adopted.

Expectations

The board should have adopted a risk appetite, either explicitly, or, implicitly through the asset allocation discussion and decision. Non-volatility risk sensitivities, such as liquidity, leverage, reputation, fees, ESG issues, etc. should be noted.

Risk tolerances should be established and there should be methods to monitor whether the fund is within or outside those tolerances. There should be an approved escalation policy for exceptions. The system should have quantitative tools and resources (either internally, or provided by an investment consultant, or, both) to perform risk analyses at the manager, asset class/strategy and total fund level. Risk analyses should be used as inputs into investment decisions by the investment staff. The board should receive appropriate risk analyses to assist it in its oversight function.

We would also expect a degree of interpretation by the board regarding the unique characteristics of the pools of assets that are being invested. The board should also be aware of the risks that are being undertaking in the implementation of the investment portfolio by staff and the external investment managers employed.

Risk Appetite Standards of Comparison and Findings

Risk Appetite Standards of Comparison	Findings
The SIOP includes a risk tolerance framework that prioritizes the board's perceptions of the largest risks to the system.	Yes
The SIOP includes risk sensitivities in addition to volatility targets (e.g., liquidity, leverage, ESG, etc.).	Partial
Asset allocation processes address risk appetite.	Yes
The rationale for risk tolerances and limits is well documented in a Statement of Investment Beliefs (SIB) or included in the SIOP.	Yes
Periodic risk and return reports, as well as operational reviews of internal and external managers summarize new and continuing risks, so as to allow the board to oversee how the investment staff manages risk. Occasional presentations on cyclical economic and market risk are included from time to time (e.g., a biennial or triennial trustee educational update on drawdown risk controls and strategies).	Yes

Conclusions

The Board appears to be aware of the relevant investment risks being undertaken in the overall investment of the STRS portfolio. The monthly Investment Activities report provides a clear understanding of the major risk positions and staff activities overseeing the investment pools. The systems utilized by staff that have been developed and explained in other portions of this report to provide a daily list of investment positions and allows virtually real time assessment of portfolio risks, look through understanding of portfolio positioning and potential portfolio risk from the public market portfolios is evident and robust. This information system that provides staff daily positions of public market positions is considered at a leading practice level. The valuation of the alternative investment General Partnership holdings and real estate portfolios is subject to internal and external audited appraisals.

We observed evidence of aggregated position reporting to the Board from the public market asset class such as equities and fixed income in the monthly Investment Activities report. Aggregate equity positions are reported by country, industry, capitalization range and fixed income positions by duration, quality sector, and country sector. We observed consolidated position reporting for the Board from the Alternatives area and Real Estate area. Given the importance of these portfolio positions, we believe the enhanced portfolio position is additive to the Board's understanding of the aggregate positions held and by inference the aggregate risk positions. We saw strong evidence of and awareness of the concept of risk budgeting in the SIOP, the annual investment plan and the Callan reports. Overall, the concept of the development of a predicted tracking error for the aggregate portfolio was well developed and we believe at an industry prevailing practice level. The tracking of experienced performance and attribution reporting by Callan to the Board was at a prevailing practice level.

We found the process of establishing more soft risks associated with the investment of STRS assets less well developed. For example, the reliance on in-house management has defined implementation risk attached to it that cannot be measured through traditional portfolio management analysis. A Statements of Investment Beliefs (SIB) touching on areas such as the ability to hire/train and develop in-house staffs, ESG risks, actuarial estimation risks, etc. could be developed to develop a better understanding and appreciation of these non-economic but very real soft risks associated with the management of the STRS portfolio. Our recommendations regarding process enhancements by developing a Statement of Investment Beliefs (SIB) are outlined earlier in this document.

We also found the analysis and reporting on the potential and actual risks of the STRS Defined Contribution Plan and the STRS Post Employment Health Plan lacking. The recommendation for improvement in this area is also outlined earlier in this document.

Recommendations for Improvement

No recommendations at this time.

3.3.2 Investment risk factors

Examine investment risk factors. Attention should be on the types, levels, and appropriateness of risks in the investment portfolios and overall funds as well as any internal controls in place at STRS to ensure compliance with the adopted standards, policies and procedure for managing investment and fiduciary risk. This examination should include a comparison to best practices.

Expectations

There are adequate methods and resources to measure quantitative risk, to monitor qualitative risk, and to detect risk that is out of tolerance. There are working escalation policies when/if such out-of-tolerance risk occurs.

Investment Risk Factors Standards of Comparison and Findings

Investment Risk Factors Standards of Comparison	Findings
There are periodic risk reports to the board that provide appropriate risk contextualization and rationale. Out of tolerance risks are highlighted and action plans noted.	Yes
There is a dedicated investment analytical system that models risk.	Yes
Staff uses risk reports appropriately.	Yes
Internal audit periodically reviews investment risk management processes and verifies that the processes remain functional.	Yes
There is an ongoing plan for formal staff training (or required credentialing) in investment risk assessment and the quantitative risk tools used by the fund.	Yes
There is at least one external source of quantitative investment risk monitoring (consultant, custodial bank, specialty consultant) in addition to internal review.	Yes
Qualitative risk factors are evaluated appropriately, including operational risk and ESG factors.	Yes
Liquidity projections include buffers for unexpected private equity cash flows.	Yes

Conclusions

The governance of the risk process associated with the implementation of the investment portfolios and the asset classes (and the total Plan) is at industry prevailing practice level. The quantitative and qualitative performance reports received by the Board from Callan and staff on the investment portfolio as well as the checks and balances that are in place to assure the accuracy of these reports are appropriate. The internal and external audit of these performance calculation process are discussed in other aspects of this report where we find the process and procedures at leading industry practices. Liquidity risk is adequately considered and reported in the monthly investment activity report and the weekly investment staff meetings. The ongoing education of the Board in the investment concepts required to monitor a plan of the size and sophistication of STRS is in line with industry practice. The policies and procedures created and adopted by the STRS investment staff on the investment process and the various compliance and investment risks were adequate and in line with expectations and industry standards for a plan like STRS.

One non-quantitative, but important risk to highlight is the area of ongoing staffing of the in-house investment, legal, compliance and audit teams. STRS is effectively competing for talent with the largest investment organizations globally, nationally, and locally to manage the portfolios STRS runs in-house. While historically STRS has been able to sustain senior level talent attraction and retention, there is the potential for a "retirement cliff" for senior investment professionals at STRS. We see this inevitable transition as a key, non-quantitative risk to STRS. Going forward, we believe an enhanced talent management program will be required for STRS to sustain the level of investment results it has achieved in the past. The potential for recruiting sources of talent from the strong Ohio college and university systems is an underexplored opportunity. Instituting a policy of intentionally hiring entry level and mid - level employees, developing them to be future senior investment management, and sustaining the focus on talent management will be essential to sustain STRS' strong investment function in the future.

Recommendations for Improvement

R3.3.2.1 Consistent with our analysis and recommendations in Section 2.1 for an organization-wide talent review, STRS should formalize and implement a talent management effort and recruitment effort focused on the investment area.

3.4 Custodian policy.

The Contractor will evaluate STRS's relationship with its custodial bank. This will include:

3.4.1 The custodial bank's breadth of services, technological planning and capability to address STRS's needs.

3.4.2 The bank's structure and level of fees.

3.4.3 Cash management and analytical services.

3.4.4 Ability of STRS to have oversight over custodial functions .

3.4.5 The custody model used by the Ohio Treasurer of State as custodian of financial assets for STRS and evaluate the oversight provided as compared against other public systems and best practices.

Expectations

The primary role of a custodial bank is the safekeeping of assets. This is almost always a complex portfolio of public and private investments for major public pension funds. Compared to decades ago, custody has expanded from safekeeping of physical securities in a safe to include many services which are essential to the smooth and effective functioning of today's public funds.

When a major institutional investor selects a custodial bank, it is typically looking to take advantage of two key resources: the technology platform and support staff which facilitates their transactions and reporting and the bank's network of agent banks in international locations.

An effective custodian is at least as much a technology and data management facility as a lockbox. Leading custodial banks offer the services of a technology platform to their institutional investor clients which could not be replicated on a cost-effective basis by an individual fund.

In addition to holding assets in custody, providing asset pricing, monitoring and settlement transactions, posting income, and daily and monthly reporting, the custodian typically offers a number of other functions. These are available at the fund's discretion and include: fund accounting; portfolio analysis; compliance monitoring; derivative services; processing corporate actions; proxy voting; tax reclaim services; cash management; securities lending; and, foreign exchange.

Major institutional investors also rely on the global network (e.g., sub-custodian network, depositories) of their custodial bank, which has evolved over many years of servicing global clients, to allow them to invest in securities in international markets. A number of markets have complex local requirements which demand a local presence in order to participate in local investment opportunities.

At most retirement systems, a senior member of the system staff who is independent of the investment office (often the CFO) is responsible for leading the selection process and managing the day-to-day relationship with the custodial bank on an ongoing basis.

It is leading practice to have a service level agreement (SLA) with the custodian. The SLA is a description of the operational, escalation and communication framework under which the fund, the custodian, and other service providers will operate. SLAs typically contain contact details, operational responsibilities, description of workflows, responsibilities, deliverables and timeline for delivery, and other key metrics. The primary objective of an SLA is to ensure that the custody and related processes are documented, achievable and will result in a satisfactory service being delivered.

Increasingly, public pension funds are changing the way that they approach contracting for securities lending and foreign exchange services. In the aftermath of the Great Recession (2007-2009), virtually all custodial banks experienced a significant drop in securities lending revenue. With a bundled services contracting approach, the custodial bank's share of securities lending revenue, typically 10-20% of gross lending revenues, was used to heavily subsidize the costs of providing other custody services, obscuring the true cost of those services.

Over the past few years, there has been a trend, which FAS considers leading practice, to contract separately for securities lending and foreign exchange services, even if the primary custody bank is ultimately selected to provide those services also.

3.4.1 Breadth and Quality of Services

The custodial bank's breadth of services and technological capabilities to address STRS's needs.

Review Activities

The FAS team reviewed services provided by its two custodial banks. The research activities included reviews of domestic operating procedures between Fifth Third Bank, the Treasurer of State and STRS; international operating procedures between Northern Trust, TOS and STRS; existing services contracts with Fifth Third for domestic securities and with Northern Trust, as sub-custodian of Fifth Third for international securities services; interviews with STRS management whose organizations directly interact with the custodians, interviews with the Treasurer of State (TOS) who oversees custodian relationships, and interviews of custodial bank operational and relationship management personnel. FAS also utilized public retirement and public sector benchmarking knowledgebase to assess STRS' custodial services.

Breadth of Services Standards of Comparison and Findings

Breadth of Services Standards of Comparison	Findings
The system receives services comparable to most peer public funds.	No
The system receives effective information technology systems and support from its master record keeper.	Partial
The custody and recordkeeping service processes work effectively and relationships with service providers are collaborative.	Yes
The system has a service level agreement (SLA) with the custodian and utilizes quantitative metrics to assess the custodian's performance.	Yes

Conclusions

For the purposes of this fiduciary audit, FAS was limited to assessing only the basic asset safekeeping services provided to STRS by Fifth Third Bank and Northern Trust. Endeavoring to compare the breadth of custodial services for STRS against other peer public funds is elusive due to the uniqueness of the bifurcated custodial model and the limitations that it creates to enable STRS to leverage a more common, holistic-based service offer more broadly from either bank.

More specifically, STRS has chosen not to establish a broad-based and integrated relationship with its custody bank, combining traditional asset safekeeping services with other "commodity" investment support functions to establish a more holistic, economically friendly, value-added relationship. Currently, it is estimated that over 90% of institutional investment management firms now outsource official back-office, books-and-records accounting (ABOR) and performance reporting to their custodial bank, and an increasing number are opting to outsource historic middle office functions such as order management support, trade and corporate actions processing, proxy and class action services, reference data management, capital call and distribution processing, and tax reclaim services. Further, advances in custodial application and data infrastructures, achieved through acquisition and/or organic development, have enabled banks to expand their service offerings to buy-side firms to replace traditional insourced business systems such as order management, fund administration (for alternative investments), and performance attribution. Lastly, many buy-side firms now look to their custodians for cloud-based investment data hub and warehouse solutions to facilitate communications, reporting and data analytics.

Today, the full suite of front-, middle-, and back-office investment services functions and technology are supported in house at STRS. The organization boasts of an "internal first" culture of fulfillment of investment services. Accordingly, the design of the internal investment infrastructure that STRS has in place today matches a classic "best in class" application-centric, componentized model. In the 1990's and early 2000's, this was considered the primary technology operating model across the institutional investment management landscape, where robust internal IT and operations teams managed and integrated home grown or off-the-shelf packages for the front office software (OMS / compliance), Investment and Accounting Books of Record, and downstream performance and attribution tools. More sophisticated asset managers constructed or purchased data hub and data warehouse capabilities to improve cross-application data reconciliations, to provide a "golden copy" of referential, transactional, and positional information, and to reduce the high costs of managing data communications between internal and external software platforms.

The "best in class" componentized model has been replaced over time by a nimbler, integrated, data-centric approach. Custodians have been at the forefront of this transformation, expanding their service offers to cover all traditional middle office and performance / attribution functions at economies-of-scale price points that would be advantageous for all but the largest asset managers. Bundled services are commonly offered as part of a holistic package, along with assets safekeeping, to asset managers and asset owners alike. The penetration rate for outsourcing back-office accounting is estimated at over 90% while outsourcing percentages continue to rise for traditional middle-office and investment book of records (IBOR) support. Investment operations and accounting staff have been redeployed to deliver more sophisticated, competitive advantage services, such as portfolio modelling, compliance monitoring, performance attribution analysis, risk analytics, and transaction cost analysis.

Within the narrower scope of services provided to STRS, the relationship and operating environment between the agency and its two custodial banks can effectively be summarized as an "optimization of the suboptimal". Custody of public assets at STRS is contracted with Fifth Third Bank for domestic securities, and through Fifth Third Bank to Northern Trust Bank for international securities, respectively. The two relationships have been in place since 1997 (Fifth Third Bank) and 2016 (Northern Trust as sub-custodian to Fifth Third). The banking relationships are managed through the Treasurer of State, who performs this function for all Ohio state public pension plans and other agencies with asset safekeeping needs. RFPs are issued every four years. Additional fee-based service offers provided by the banks are contracted directly through the participating agency.

In summary, our analysis concludes that existing (limited) services offered by Fifth Third Bank and Northern Trust to STRS are operationally sound, form the basis of a highly collaborative relationship, and are supported by an effective reporting and oversight program. The nature of the relationship has evolved over time as STRS has experienced three bank changes over a six-year period. According to STRS, Northern Trust compares favorably to prior international custodians during the past two decades. While TOS owns the custodial contracts, STRS is considered a partner to it, provides significant input to the RFP process and the ongoing semi-annual scorecard review.

Detailed operating procedures are in place across all processes for each custodian and kept current through the Treasurer of State. Staff at STRS regularly utilize online technology portals at both banks for transaction and authorization processing. Traditional core responsibilities of asset safekeeping included in the domestic banking contract and accompanying operating procedures include, but are not limited to:

- Detailed accounting of investment transactions and balances.
- Daily transmission of holdings and transactions to the TOS and reconciliation of holdings and transactions with STRS internal accounting system (Maximus).
- Trade settlements and income and principal collection.
- Cash management services (i.e., sweep account).
- Records retention of transactions, holdings and documentation for a period of seven years.
- Cash clearing and wire authorization and release functions.
- Proxy voting administration.
- Support for third party securities lending.

Additional core functions in the Northern Trust contract and operating procedures for international securities includes:

- Foreign exchange (standing instructions and directly negotiated).
- Tax Reclaim processing.
- International fund pricing and valuation.
- Performance reporting and attribution.
- Securities lending and derivatives servicing (under separate contract).

All parties view the currently defined service levels and scorecard reporting process as highly effective. The TOS, custodians, and STRS meet on a regular basis (monthly) and update official scorecards semi-annually. Both custodians are required to submit SOC reports (SSAE-16) to the Treasurer of State. The Ohio STRS Board does not play a role in either the approval of contracts or review of custodial service performance.

Recommendations for Improvement

R3.4.1.1 **Continue to seek opportunities to strengthen and expand oversight of custodial banks, including seeking custodial support in expanding oversight on both the quality and timeliness of third-party manager operational performance and developing and publishing an annual scorecard of custody performance, including securities lending and foreign exchange services, to the Board.**

R3.4.1.2 **Seek to standardize metrics and compare banks' performance to each Ohio pension plan and other agencies that utilize custodial services.**

R3.4.1.3 **Amend Custody Operating Procedures documents to identify custodial performance scorecard processes, agreed upon key performance indicators and service levels, and thresholds. Describe end-to-end steps to complete custodial evaluation and oversight processes.**

3.4.2 Structure and Fees

Evaluate the bank's structure and level of fees.

Review Activities

In considering custodial fees and appropriate contractual structures, the FAS team examined the Treasurer of State's contract with Fifth Third as custodian, and the Fifth Third sub-custodian contract with Northern Trust for international securities services. We also reviewed contract addenda developed to support ancillary functions (i.e., overdraft, FX) and separate tri-party agreements with BNY Mellon, the securities lending agent for STRS. The team discussed fee oversight practices with internal staff from investment operations and investment accounting and reviewed the internally produced monthly custody fee summary workbook. Finally, we reviewed the CEM Cost Effectiveness Analysis final report from 12/31/2020.

Structure and Fees Standards of Comparison and Findings

Structure and Fees Standards of Comparison	Findings
The amount the system pays for its custody and recordkeeping services is comparable to its peers.	Partial
There are separate contracts for a securities lending agent and foreign exchange services, even if the agency's custodial bank is the service provider.	Yes

Conclusions

The uniqueness of the Ohio custodial service model – resulting in a state domiciled provider for domestic securities and another (often more highly sophisticated) bank for international securities – makes it somewhat challenging to perform an effective economic comparative analysis of services received. This is attributable to the fact that the bifurcated custodial support model essentially precludes STRS from leveraging a broader relationship that can more efficiently combine custodial service offers and achieve bundled pricing. The more widely adopted bundled services model in the asset management space has been proven to deliver more advantageous pricing to public and private institutional asset managers alike. Additional information about the custodial model may be found in Section 3.4.5.

Beyond the aforementioned bank services, the use of two custodian banks introduces additional levels of workload and associated costs on the part of the STRS investment operations and investment accounting teams. Examples include the necessity for an extra reconciliation between custodian books, internal accounting records and external manager records (where applicable) for third party managed portfolios, and requirements to support communication interfaces to seamlessly operate with two separate online custodial applications. Finally, the operating model also increases the potential for higher out-of-pocket fees and errors, especially when asset and cash movements are required between the two banks.

In the most recent CEM Cost Effectiveness Analysis benchmark report for the five-year period ending on 12/31/2020, STRS custodial costs were bundled with trustee fees. The costs for these services, at approximately $1.8m represented less than 1bp of the total investment costs and were estimated to be approximately 0.2 bps below the peer median. These benchmark comparisons would exclude any additional fees incurred by STRS to maintain the two-bank operating model.

FAS also notes that the current domestic custodial contract between TOS and Fifth Third covers three Ohio pension plans -- STRS, PERS and SERS. TOS is commended for their use of third-party professional consulting support in both the development of RFPs and the development of the custodial contract. While the terms and conditions for services to each are identical, the fee agreement schedules differ between all three. STRS projected annual fees are estimated at $619,050 and include 0.1 bps for AUM based account maintenance charges but no additional transaction fee charges. PERS and SERS pay 0.05 bps and .125 bps for account maintenance charges respectively, but both also pay fees for transactions for six distinct types of investment transactions in accordance with a schedule contained in the contract. While difficult to confirm, the pricing model variability would hopefully deliver the most advantageous economic outcome for each System based on their investment structures and practices.

Additional custodial services to STRS are supported within either contract addendum (FX, overdraft) or under separate contract (securities lending, derivatives portfolio collateral management, international performance reporting). In the case of securities lending, the contracts are tri-party in design between the lending agent, custody or sub-custodial bank, and STRS, and clearly lay out responsibilities and appropriate indemnifications. The Treasurer of State also hires outside services to evaluate Northern Trust in their execution of foreign exchange transactions while STRS closely monitors bank movement fee transfer charges between the custodial bank and lending agent (BNY Mellon), perhaps as a result of recent experiences from peer agencies who have surprisingly observed dramatic increases in out-of-pocket fees in a third-party securities lending model.

Recommendations for Improvement

R3.4.2.1 Conduct a periodic TCO (total cost of ownership) comparative analysis between the STRS in-sourced investment support operating model and one that bundles asset safekeeping and comparable functions at major custodial banks, including full breadth of operational, technological, and data services costs and considerations of both operational and investment risk.

3.4.3 Cash Management and Analysis

Evaluate the custodial bank's cash management and analytical services.

Review Activities

In examining the custodian's service in cash management and analysis, FAS conducted interviews with the investment trading, operations, and accounting leadership and STRS and at Fifth Third and Northern Trust. Documentation reviews included banking contracts and investment management agreements, sweep account and DDA statements, Northern Trust Government STIF and Federated Trust US Treasury obligation money market funds legal documentation.

Expectations

The term "cash management" in the context of a public pension plan relates to both strategic and tactical decision making, execution, and oversight over a broad range of functions. Cash, as an asset class, can carry a targeted weight and specified range in the pension system's overall investment allocation plan. The control of cash drag is commonly prescribed in external investment management agreements, and oversight of cash balances of third party managed accounts are often central to a pension plan's compliance monitoring function. Additionally, a holistic approach and ongoing diligence applied to the major inflows of money originating from employer contribution, fund redemptions and distributions, and to the outflows to support retiree pension payments, subscriptions, and capital calls, can facilitate an organization's near-term investment plan to ensure that cash balances remain available when needed and are otherwise invested on a timely basis when not.

In the context of a custodian's service offering to a public pension plan, cash management most commonly refers to three key functions:

- The daily sweep of cash from investment accounts to attain interest on a daily basis – commonly referred to as "an overnight rate";
- Foreign exchange (FX) currency services as required for trade settlement and capital call support; and
- The daily repatriation of foreign currency balances into USD, if so prescribed as a default strategy by a public pension plan.

For the purposes of this fiduciary audit, FAS has been requested to focus on cash management functions at the custodian. The scope of FX trading services, which are commonly shared by the custodian, third-party agent, and/or select external advisors who possess comparable capabilities to execute F/X on their own behalf, are not included in the scope of the custodial cash management function. Further, advanced foreign currency services beyond currency repatriation and trade settlement support activities including investment overlay strategies and vehicles to mitigate foreign currency risk, are also outside of scope in this section of the analysis.

Custodial cash management services may appear within a standard service contract with the public pension plan or as a separate agreement. Most commonly, a custodian will establish a sweep account which will contain a single investment commonly known as a short-term investment fund (STIF).[18] A STIF product may exist in either the form of a separate account or a commingled vehicle into which many institutional asset management clients invest. The custodian provides detailed documentation on the terms and conditions of the STIF (commonly called fund declaration documents), and if registered, provides historical performance values and fees.

All investment accounts containing publicly traded assets are typically investors in the sweep account, both internally and externally managed. For the latter, it is common for the investment management agreement between the public pension plan and the investment advisor to reference the use of a sweep account for investing daily cash. In accordance with the terms and conditions (or prospectus) of the sweep account, all available cash within the investment accounts is "swept" at a specific time of day, and the sweep account purchases units in the STIF for all investment accounts. The next morning, the sweep account sells units in the STIF as required to deliver cash balances back to the investment accounts that are needed for daily purchase settlements and other investment related outflow events. The interest from the STIF is typically accrued daily and is credited to the investment account or aggregated and transferred into a main DDA account of the public pension plan to use as desired.

Alternatively, a public pension plan may opt not to use a STIF or money market vehicle, and instead request that the custodian commingle investment cash across multiple portfolios with other main cash flows (i.e., retiree benefit payments, premiums received from employers) directly into a single DDA account to simplify cash management (payables and receivables) operations. In this model, the individual portfolios are not credited with income earned from their cash balances, which is kept in the DDA to use for specified purposes such as expense management or distributed as needed to meet payable requirements. The centralized DDA model can also help to facilitate cash forecasting, especially if the timing of large cap stock activity (i.e., non-investment inflows and outflows) is considered predictable.

Cash Management Standards of Comparison and Findings

Cash Management Standards of Comparison	Findings
The custodian regularly publishes official documentation about STIF vehicles.	Yes
For portfolios utilizing a STIF or money market product for cash management, all investment separate accounts for publicly traded securities, internally and externally managed, are set up to sweep cash daily. The custody bank provides regular reports on all accounts that invest cash in these products.	Yes
Formal contracts are in place between the pension plan and custodian for sweep account and STIF investing. Language in the agreement includes eligible investments and liquidity requirements.	Yes
If the public pension plan invests in a commingled STIF or money market product, the custodian makes the investment area aware of not only the size and holdings of the fund, but also statistics about other investors (i.e., number of investors, average balances activities) that are essential to	Partial

Cash Management Standards of Comparison	Findings
managing adverse selection impact risk.	
The public pension plan conducts a periodic review of the sweep account performance and overall STIF or money market fund statistics against other custodial and third-party comparative offers.	Yes
Procedures are documented clearly describing both the operational and reporting aspects of the custodian in managing the sweep account and at the public pension plan for performing oversight functions.	Partial
Procedures for daily cash reconciliation between the System and custodian are clearly documented and understood when a central DDA type product is used across multiple portfolios	Yes

Conclusions

STRS contracts cash management services from both Fifth Third and Northern Trust for domestic and international accounts, respectively. The services cover both internal portfolios and externally managed separate accounts. Each bank offers both registered and unregistered commingled products to their sweep clients, managed internally by Northern Trust, and outsourced by Fifth Third to Federated. Larger institutional investment clients of both banks may opt for customized investment separate account vehicles (i.e., ultra-short duration). STRS does not utilize a customized investment separate account vehicle at either bank.

The cash management services provided to STRS by Fifth Third and Northern Trust are considered robust and well controlled. The custodians effectively manage cash balances to ensure that investment operations are not adversely impacted by the absence of funds (i.e., purchase settlements) and that cash available across both internally managed and externally managed portfolios is effectively and efficiently invested in either short term investment funds (STIF), money market funds, or in direct deposit accounts (DDAs), all of which are interest bearing.

On the domestic side, Fifth Third Bank does not offer a commingled STIF investment product to STRS and other institutional investors. Externally managed domestic portfolios utilize a third-party money market fund, Federated Trust US Treasury Obligation Money Market Fund, for daily cash sweeps. The daily cash management processes work similarly to the Northern Trust sweep vehicles; however, a money market cash vehicle will typical credit investor returns daily as opposed to accruing returns and crediting them at the beginning of the following month. As an aside, while daily cash balances for externally managed accounts are available through both the Northern Trust STIF and the Federated Trust Money Market Fund, it does not appear that STRS is regularly examining those balances at this time against cash targets and maximum allowable cash levels as documented in the third-party investment management agreements. Further, since both investment products are commingled, there is a possibility that securities contained within them are not in strict adherence with the restrictions and investment policies set forth in the STRS Investment Policy Statement.

Internally managed domestic funds cash needs are managed through a Fifth Third DDA account. Unlike either the international accounts or externally managed domestic accounts, the daily cash management services performed by Fifth Third for domestic, internally managed portfolios does not calculate income for, or distribute income to the investment portfolios. The "main DDA" account that supports the daily cash needs of the internally managed domestic portfolios serves as the heart of the STRS's main cash flow needs, inclusive of employer pension plan contributions, retiree distributions, capital call, distributions, subscriptions, and redemptions. Each day, the operations teams at Fifth Third and at STRS will forecast and reconcile daily cash needs across the business and ensure that liquidity is provided where needed. The DDA account nightly cash balance is credited with interest based on the Fed Funds Target Rate. The earnings are transferred to Fifth Third and applied to the custodial fee balances. Presently, the earnings for the Fifth Third DDA account are stronger than either the Northern Trust Government STIF or the Federated Money Market Fund.

As a final note, Fifth Third also retains separate DDA accounts for real estate properties, which is essential to the efficient cash flow needs of the assets. This is considered prevailing industry practice to facilitate the effective management of properties and to properly account for all inflows and outflows.

Recommendations for Improvement

R3.4.3.1 STRS should conduct a periodic review of the Northern Trust Government STIF product and Federated money market fund to review returns against benchmark and peers, to ensure that holdings within the products are in line with the investment policy statement, and to track the percent ownership of the vehicle (as a prevention of adverse selection risk).

R3.4.3.2 On a periodic basis, STRS should examine STIF and money market daily cash balances for externally managed accounts against IMA guidelines on cash balance limits to ensure effective compliance oversight of cash drag.

3.4.4 Custodial Oversight

Evaluate the ability of STRS to have oversight over custodial functions.

Review Activities

The FAS team interviewed the leadership of the Trust Department with the Treasurer of State's Office, the domestic custodial bank team, the international custody bank team, STRS staff who interact with the custody bank, including in the Investment Department, Finance, and Investment Accounting, and all STRS trustees.

We reviewed numerous documents, including the custodial bank agreements, the most recent domestic custody and international custody Requests for Proposal, custody bank fee reports, and monthly custody bank vendor management reports.

We also utilized the FAS InGov© peer benchmarking database, the most recent CEM Investment Cost Report, and the experience of the FAS team with similar public pension systems in our assessment.

Expectations

Oversight of the custodial bank, as with most key external service providers, includes the following elements:

- Identification of business requirements.
- Selection of the third party provider and contractual negotiations.
- Setting of customer service standards.
- Day-to-day relationship management and contractual oversight.
- Performance monitoring and feedback.

Prevailing practice is for the board of trustees to have approval authority in custodial bank selection, but all other custodial oversight activities are delegated to system staff.

The custodial bank relationship is usually central to investment operations for a fund and there are many users of information across the fund. Consequently, it is critical that processes and procedures are defined and well documented, and that issues are escalated appropriately in a timely matter to achieve resolution.

Typically, there is someone specifically charged to manage day-today relationship matters and pursue resolution of any issues. Often, this person is in the Investment Operations function since the Investment Office relies heavily on the custodian on a day-to-day basis.

Custodial bank contracts are typically of long duration, at least four or five years, with options for one or two year renewals, because a transition to a new custodial bank is difficult and time consuming, often taking a year or more to fully realize the benefits of the services of a new custodial bank. A system will usually only make a change from its incumbent bank to a new custodial bank when there is a clear cost and/or service advantage.

Custodial Oversight Standards of Comparison and Findings

Custodial Oversight Standards of Comparison	Findings
The retirement system board of trustees has final approval authority for selection of the custodial bank.	No
There are effective policies and processes in place for oversight of the custodial bank for:	
• Identification of business requirements.	Partial
• Selection of the third-party provider and contractual negotiations.	Partial
• Setting of customer service standards.	Yes
• Day-to-day relationship management and contractual oversight.	Partial
• Performance monitoring and feedback.	Yes

Conclusions

The Ohio Treasurer of State (TOS) is the statutory custodian of the STRS funds with the authority to hire the custodial banks for STRS. The STRS Board of Trustees has no responsibility or authority for selection of the custodial bank although this is a prevailing practice at over 90% of U.S. public retirement systems. If there are any issues, STRS must get the TOS staff to agree to address them.

Similarly, STRS staff does not have the independent authority to define its business requirements, make the selection of its custodial banks, negotiate the contracts, set customer service standards, or monitor and manage the day-to-day relationship. However, with the cooperation and collaboration of the TOS staff who do have these authorities, the custodial bank oversight processes in recent years have worked relatively well.

With respect to identification of business requirements for the custodial bank, as discussed in section *3.4.1 Breadth of Services*, STRS would potentially receive more services from its custodial bank if it had authority for the relationship. Instead, it generally only specifies those services as included in the two RFPs for the domestic and international custodians.

During the most recent selection process, TOS included STRS staff in the development of the RFPs and in evaluation of proposals. The selection process resulted in STRS receiving services from the custodial bank it wanted. However, STRS was not part of the contractual negotiations.

For custodial bank monitoring, contractual compliance and performance feedback, the TOS has developed a monthly process, facilitated by a third-party expert firm, that produces a performance scorecard with ratings provided by each custodial bank, by STRS, and by TOS staff. The results are shared and discussed among the three parties and any identified performance issues are addressed. There is an escalation process, facilitated by the TOS staff, for any unresolved issues. All four parties agreed that this process has been effective in managing service levels and developing improvements.

In summary, the lack of authority for the STRS Board of Trustees to select the custodial banks is a lagging practice, as is the lack of authority for STRS staff to directly manage the custodial bank relationship on a day-to-day basis. Having said that, the current TOS staff are to be commended for taking a constructive and collaborative approach to working with STRS to select and contract with the appropriate custodial banks and proactively monitoring and managing performance. Under the current statutory requirement for the TOS to serve as custodian of the STRS funds, this could be considered to be an effective approach.

In the past, under different Treasurers of State, we have been told that the role of TOS staff was not as constructive and collaborative as it currently is, and that oversight processes were not as effective. There is concern that with a different TOS and potentially new Trust Department staff, some of the current effective processes could be degraded or stopped. There is currently no Memorandum of Understanding or any other document that formalizes how TOS and STRS work together in overseeing and managing the custodial bank relationships to provide a basis continuous improvement going forward and, more importantly, to codify the policies and processes for future Treasurers and administrations.

A more significant concern is the need to manage two separate custodial bank relationships as required by the interpretation of the requirement for eligible custodial banks to be "located in this state." This is addressed in detail in the next section *3.4.5 The Custody Model*.

Recommendations for Improvement

R3.4.4.1 The Treasurer of State and STRS should develop a Memorandum of Understanding that documents current policies and procedures with respect to selection and oversight of the custodial banks to ensure that the effective current policies and processes remain and are improved in the future, even as new Treasurers are in office.

3.4.5 The Custody Model

Review the custody model used by the Ohio Treasurer of State as custodian of financial assets for STRS and evaluate the oversight provided as compared against other public systems and best practices.

Review Activities

The FAS team reviewed the current custody model of STRS under the Ohio Revised Code and compared it with practices at peer state retirement systems in the U.S. We interviewed STRS executives, TOS Trust Department staff who oversee the custody relationships, and staff at both the domestic and international custodial banks; and utilized the FAS public retirement benchmarking knowledgebase to assess STRS' custodial bank services.

Expectations

Prevailing practice for an integrated public retirement system and for public investment boards is for the board of trustees to approve the selection of the custodial bank and to oversee the ongoing relationship. Typically, the system staff, (upon approval by the board and under the direction of the CFO, as explained above) prepares an RFP, receives proposals, evaluates the bids, and makes a recommendation to the board for approval. A contract is typically for five years, with options for extensions. Funds do not want to change custodians frequently due to the high level of effort and disruption; nonetheless, it is important to do periodic RFPs to benchmark market service levels, fees, capabilities, legal terms, and pricing.

Prevailing practice is to have one custodial bank that provides master recordkeeping services, the primary custody technology platform, and access to a network of international agent banks. Although most systems also receive securities lending and foreign exchange services from their custodial bank, leading practice is to obtain these services under separate contracts and award the business to the provider with the best fit for the system's needs.

The Custody Model Standards of Comparison and Findings

As mentioned earlier, in recent decades, for public retirement systems, custody has expanded from safekeeping of securities to include many services that are essential to the smooth and effective functioning of today's public funds. As a result, nearly all states in the U.S. have transitioned the custodian responsibility to the fiduciary board of trustees who are entrusted with overseeing the fund assets. For example, over the past decade this has included statutory changes in New Mexico (2011) and South Carolina (2017).

Ohio is in a small minority of U.S. states (Iowa, Ohio, Pennsylvania, Tennessee) where the Fund cannot select the custodial bank for the state retirement system DB plans. FAS considers that a lagging practice. In each of these four states, selection of the custodial bank has been reserved by statute for the State Treasurer. While this can operate effectively, it depends significantly upon the relationship between the retirement system and the State Treasurer. The FAS team has observed multiple instances where a poor relationship resulted in significant dysfunction. As mentioned, the custodial bank is an integral part of the day-to-day operations of a public retirement system, and a third-party in between the investment operations staff and the custodial bank can lead to operational challenges unless all three parties are working in harmony.

There is no precedent of which we are aware where a private sector institutional investor has an external third party select their custodial bank and manage the relationship and service standards. This is such a central investment operations function for any institutional investor that outsourcing the relationship management is not even a consideration in the private sector.

In addition, there are three states (Kentucky, New Mexico, and New York (for Teachers)) which, although the State Treasurer is the custodian of record, the Board of Trustees selects the custodial bank, either through statute or by delegation.

Peer Comparison of Custodian of Record and Custodial Bank Selection
STRS Compared to the 43 Largest U.S. State Retirement Systems

Among 43 Largest U.S. State Integrated Retirement Systems with an Investment Staff	Custodian of Record	Selects Custodial Bank
Treasurer	14	8 *
Board of Trustees	29	35

* Includes Iowa (1); Ohio (4); Pennsylvania (2); Tennessee (1)

Prevailing practice is also to have one custodial bank for domestic and international services. The major U.S.-based custodians offer a network of international agent banks as well as an integrated technology platform. We are not aware of any public retirement systems outside of Ohio that utilize multiple custodial banks for domestic and international services such as STRS.

Conclusions

Custodial Bank Selection

Ohio Revised Code Section 3307.12 states that "The treasurer of state shall be the custodian of the funds of the state teachers retirement system, and all disbursements therefrom shall be paid by him only upon instruments duly authorized by the state teachers retirement board and bearing the signatures of the chairman and secretary of the board. Such signatures may be affixed through the use of a mechanical check signing device."

As a result of this statute, the contracting of custodial bank services is conducted on STRS' behalf by the Treasurer of State (TOS), who also oversees the ongoing relationship between STRS and its custodial banks.

The most recent search was conducted by the TOS in a very collaborative and timely manner, and STRS was satisfied with both the selection process and the outcome. However, this level of collaboration has not always been the case. STRS has in the past been forced to accept the results of a procurement process to which they had minimal input and were not pleased with the outcome or the services provided.

One of the arguments posited by the TOS staff is that having the custodial bank arrangements centrally coordinated for all five state retirement systems, as well as other state accounts manages by TOS, results in more leverage to reduce fees. While this could theoretically occur, it does not appear to be the case with the Ohio funds because they choose five different custodial banks for domestic custody and two for international custody. This results from different service requirements for each system, as well as a desire by the TOS to minimize concentration risk. The custody fees are addressed in section *3.4.2 Structure and Fees*.

Additionally, as addressed in section *3.4.1 Breadth of Services*, STRS receives a narrower range of services from its custodial banks than most state retirement systems. Over time, it has built up more internal capabilities to avoid having to rely on its custodial bank, to a great extent because it did not control the relationship and believed it was a lower risk approach to develop capabilities in-house.

Requirement for Ohio-Based Custodial Bank

The law in Ohio Revised Code 135.03 *"Institutions eligible as public depositories"*, and its interpretation, severely restricts the selection of potential custodial banks which can serve STRS. While the statute states, "Any national bank, any bank doing business under authority granted by the superintendent of financial institutions, or any bank doing business under authority granted by the regulatory authority of another state of the United States, located in this state, is eligible to become a public depository, subject to sections 135.01 to 135.21 of the Revised Code." It is our understanding that the phrase "located in this state" has been interpreted in a way that eliminates all but one of the major global custodial banks. As a result, an additional sub-custodial bank has been selected to handle investment manager accounts with international holdings.

This legal requirement is highly unusual for U.S. state public pension funds. FAS is not aware of any other state which has an in-state custodial bank requirement. As a result, all state funds outside of Ohio utilize a single custodial bank for their global custody services. This results in more efficient processing and reporting, fewer reconciliation requirements, and lower costs.

While many states, including Ohio, have laws encouraging selection of in-state investment managers, there is typically a qualifier that the managers must offer competitive services to other managers being considered. Indeed, the Ohio statute encourages the selection "when an Ohio-qualified agent offers quality, services, and safety comparable to other agents otherwise available." As all but one of the Ohio-based custodial banks do not offer international support, they do not offer comparable services to the many other global custodial banks available to serve STRS.

Recommendations

R3.4.5.1 The STRS Board of Trustees should be given authority to select the STRS custodial bank. This could be accomplished in one of two ways:

a. The Treasurer of State could delegate authority to the STRS Board; or,
b. The legislature could consider authorizing the STRS Board of Trustees to select its custodial bank and oversee the relationship.

R3.4.5.2 The legislature should eliminate the requirement for the STRS custodial bank to have a presence in Ohio to allow for a single global custodial bank to serve STRS to reduce costs and complexity.

4. Legal Compliance

The Contractor will evaluate the adequacy of STRS' legal compliance with applicable state and federal law and regulations. The evaluation will include an analysis of:

4.1 Legal compliance and adherence to IRS regulations.
4.2 Adequacy of internal and external counsel.
4.3 Adequacy of ethics training, disclosure, and monitoring of compliance.
4.4 Board and staff compliance with legal requirements.

Legal Compliance Review Activities

We utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices:

- IRS filings over the past three years;
- Most recent IRS Determination Letter;
- Investment compliance checklists;
- Transaction files (ten investment managers across the asset classes, focusing on the most recently hired and those with the largest allocations);
- List with description of external legal services obtained over the past three years;
- Ethics training materials used by system;
- Compliance reports for Board members and staff;
- Interviews with legal, compliance and investment staffs; and
- The FAS project team experience and the FAS knowledgebase.

The FAS team utilized interviews with internal counsel and the investment staff and peer information on level of legal staffing and use of outside counsel resources. We assessed the adequacy of legal services over the past three years. Using the information described above, the FAS team:

1. Reviewed communications with the IRS to identify potential compliance deficiencies.
2. Reviewed the process by which the system monitors compliance with IRS requirements and responds to compliance issues.
3. Assessed legal services in comparison to peers over the past three years.
4. Reviewed the ethics training and compliance programs, as well as compliance reporting processes, and compared them to leading practices.
5. Reviewed transaction compliance checklists for each asset class and reviewed a sample of transactions for compliance with guidelines and legal requirements.

Overview of Legal Compliance

We found the STRS legal team to be competent and knowledgeable from a legal operations perspective.

STRS has very little turnover in the legal department, which means that the attorneys have a wealth of institutional knowledge and appear to have effective and integrated working relationships with the other functional units of the organization. The key areas of opportunity for the STRS legal team are: (1) succession planning, including addressing key person risk; (2) building out a robust compliance program; (3) aligning their practices with leading practices; and (4) obtaining more direct access to expert external legal resources.

STRS needs to obtain periodic assurance with respect to IRS compliance.

It does not appear that STRS has engaged outside counsel to conduct a document compliance audit or receive any other assurance with respect to IRS compliance status. Given that the most recent IRS compliance determination letter is from 2014, it may be stale and no longer reliable. Since the IRS has discontinued the determination letter process, we recommend that STRS adopt a policy that provides for a formal IRS compliance program that includes a requirement to obtain periodic assurance from outside tax counsel with respect to IRS compliance practices as a result of the changes to the IRS determination letter process. This would likely require engagement of outside tax counsel to conduct a document compliance review with respect to each plan. STRS should also adopt procedures for ensuring tax compliance and appropriate documentation with respect to limited liability vehicles.

STRS needs to create a Compliance Officer position to develop and manage an enterprise compliance plan and program.

While STRS has a Chief Legal Officer and a roster of attorneys with functional expertise, it does not have a compliance officer and appears to be lacking depth in certain areas where there is key person risk and a foreseeable need for succession planning. STRS does not have a central and independent compliance function, with an organization-wide view of the various compliance functions. Compliance processes are non-standard and siloed in the functional units. We recommend that STRS create the position of Compliance Officer, reporting to the Chief Legal Officer and indirectly to the Audit Committee.

STRS should hire an additional attorney to reduce key person risk and ensure adequate succession planning.

While STRS has a roster of attorneys with functional expertise, it lacks depth in certain areas where there is key person risk and a foreseeable need for succession planning. STRS' plan to add another investment attorney and cross-train investment lawyers to provide improved backup should address succession planning concerns.

Either the legislature should allow the STRS Board to hire external legal counsel, or the Attorney General should allow STRS to have input into external counsel selection and acceptable billing rates.

Section 3307.13 of the Ohio Revised Code provides that the attorney general shall be the legal adviser to the Board. As a result, the Board does not have the authority to engage its own external counsel. The attorney general's office is responsible for hiring outside counsel and negotiating billing rates, in its sole discretion. The attorney general's office has a practice of capping attorney billing rates well below even discounted market rates for certain legal specialties and/or in certain areas of the country, significantly constraining STRS' ability to engage and/or retain qualified outside counsel. The complexity of STRS' direct real estate and other investment programs necessitates the ability to hire competent counsel at market rates. We recommend that STRS seek legislation permitting the Board to engage legal counsel, in its sole discretion. In the absence of the discretion to engage legal counsel, an alternative approach could be to enter into a memorandum of understanding with the Attorney General's Office that permits STRS to have greater input into the selection of counsel providing services to the System and establish billing rates consistent with relevant market, locale, and expertise necessary for the type of legal services engaged.

Compliance reporting could be streamlined.

STRS maintains a "Compliance Manual" that contains memos to file on various compliance topics. Many of the memos do not provide meaningful information from a compliance and monitoring perspective. For example, a memo with respect to monitoring executive performance is of little value where it does not pertain to an exception in performance with respect to associate conduct. STRS could streamline compliance reporting to highlight exceptions from expected conduct or requirements.

4.1 System Legal Compliance

Evaluate legal compliance and adherence to IRS regulations.

Expectations

Public pension plans like STRS are typically considered governmental plans under Section 414(d) of the Code and receive favorable tax treatment as a qualified employee retirement plans under Section 401(a) of the Code. Other laws may confer tax exemption, such as IRC section 501(a) or implied statutory immunity. The IRS has established a process for governmental plans to request that the IRS review their plan document (*i.e.,* applicable statutes) to ensure it meets the applicable tax qualification requirements.

Although making the request to the IRS for a determination letter is not mandatory from a compliance perspective, it is established practice among public pension funds. Public pension plans that receive a favorable determination letter minimize the risk that the IRS will disqualify the plan on audit because the plan document does not satisfy the applicable tax-qualification requirements and plans can use IRS correction programs to correct plan errors. **We note that in 2016 the IRS limited its determination letter process, except in certain limited circumstances.** Where a determination letter is not an option, many pension plans periodically seek assurance from outside law firms that their plans meet the IRS requirements.

Public pension plans like STRS may also have tax reporting obligations with respect to any entities wholly-owned by the pension plan.

Employee retirement plans qualified under section 401(a) of the Code must satisfy the Code's requirements both in form and operations. Employee retirement plans could previously request determination letters from the IRS to confirm that the form of the plan satisfies the Code's requirements for qualified plans. STRS has taken advantage of this opportunity, as described in Section 4.1. In addition to the form of the plan, the operation of the plan must also satisfy the Code's requirements. State pension funds like STRS often rely on outside legal counsel to advise on changes to federal tax law, which is consistent with STRS' policies and practices.

System Legal Compliance Standards of Comparison and Findings

System Legal Compliance Standards of Comparison	Findings
Communications with the IRS regarding the system’s qualification as a governmental plan qualified under 401(a) appear to be reasonable and consistent with leading practices.	Yes
Policies, procedures and practices for monitoring compliance with IRS requirements are reasonable and consistent with peer practices.	Partial

Conclusions

In 2014, with the assistance of outside counsel, STRS applied for and received favorable determination letters with respect to the defined benefit, defined contribution, and combination plans. The determination letters for the defined benefit and combination plans also confirmed that the retiree medical benefit account meets the requirements of section 401(h) of the Internal Revenue Code. Due to the IRS' modification of its process, the determination letters cannot be renewed and may be stale. It does not appear that STRS has engaged outside counsel since 2014 to conduct a document compliance audit or receive any other assurance with respect to its compliance status now that the determination process is no longer available for ongoing reviews.

There are numerous limited liability vehicles that are wholly owned by STRS and utilized for purposes of making direct investments, particularly in the real estate program. It is unclear whether tax compliance with respect to the various limited liability vehicles has been timely and consistently documented.

Recommendations for Improvement

R4.1.1 Adopt a policy that provides for a formal IRS compliance program that includes a requirement to obtain periodic assurance from outside tax counsel with respect to IRS compliance practices.

R4.1.2 Engage outside tax counsel to conduct a document compliance review with respect to each plan.

R4.1.3 Adopt procedures for ensuring tax compliance and appropriate documentation with respect to limited liability vehicles.

4.2 Legal Counsel

Evaluate the adequacy of internal and external counsel.

Expectations

Internal and external legal counsel play vital roles in helping retirement systems to manage risk, conduct legal diligence, ensure compliance with applicable laws/rules/regulations, support fiduciary oversight, and partner and support business units in implementing board policies and administering benefits.

The size and internal expertise within legal departments at retirement systems vary greatly depending on the size of the system, the complexity of operations, and whether or not investments are managed internally. Large retirement systems with internal management typically have a chief legal counsel (CLC), a compliance officer, and a full roster of staff counsel, each with specific legal subject matter expertise on areas relevant to the systems operations (e.g., benefits, investments, litigation, etc.). The CLC is typically hired and supervised by the executive director (with input from the board) and serves as primary counsel for the executive director, staff and board, with ultimate legal obligations to the system.

In a survey conducted by FAS, 93% of public pension plans reported that their CLC was appointed by and reported to the executive director. Nevertheless, like all senior executives, the position has “dotted line” reporting obligations to the board whenever legal compliance or fiduciary obligations to the fund and its beneficiaries are involved. The CLC attends all board meetings as the board’s expert legal counsel on state and local pension laws.

It is a prevailing practice for boards to engage outside litigation, tax, and investment counsel, as well as other outside legal experts where circumstances dictate the need for specific legal expertise. It is a leading practice to engage independent fiduciary counsel, who is typically selected by and represents the board, but whose ultimate legal obligation is to the system. While STRS has retained and uses fiduciary counsel for fiduciary training, fiduciary counsel can often provide counsel to the board on matters when the chief legal counsel has a conflict. In addition, fiduciary counsel typically advise the boards of multiple systems and this have a broad view of peer practices and can provide fiduciary and governance training.

The board is provided with annual ethics and fiduciary training, and receives additional training through the combined education program. Board member compliance with the statutory and policy requirements is tracked via attendance. STRS employees are provided with one hour of annual online ethics training through the Ohio Ethics Commission E-Course. Most recently, STRS employees were required to complete training by October 29, 2021, and provide a certificate of completion to STRS legal via e-mail. Adoption of an ethics compliance reporting system could enhance the ethics program and incorporate findings into an annual compliance report.

Legal Counsel Standards of Comparison and Findings

Legal Counsel Standards of Comparison	Findings
The legal function is staffed appropriately.	Partial
The board has access to its own independent counsel, as necessary.	No
Outside counsel is qualified.	Yes
Outside counsel is utilized when there are experience, capability, or capacity gaps with internal counsel.	Yes
A pool of outside counsel firms is identified and agreements/contracts are in place before specific needs arise to ensure timely support is available.	Yes
Legal fees appear to be reasonable in comparison to peers.	Yes*

* While we did not undertake to review outside counsel billing rates as compared to peers on specific matters, our understanding of the AG's rate caps and our general understanding of the range of market rates for specialized legal services suggest that STRS' billing rates for outside counsel lag those of its peers. Aggregate spending on outside counsel fees does not appear to be excessive for a complex investment program facing issues similar to STRS.

Conclusions

While STRS has a Chief Legal Officer and a roster of attorneys with functional expertise, it does not have a compliance officer and appears lacking depth in certain areas where there is key person risk and a foreseeable need for succession planning. For example, STRS' real estate counsel appears to have substantial institutional knowledge as well as substantive expertise; however, he is the only internal real estate counsel and is the key person supporting legal diligence and compliance across a vast real estate program. STRS also faces a similar issue with internal legal counsel for alternatives. We understand that STRS has plans to add another investment attorney and cross-train investment lawyers to provide improved backup and address succession planning concerns. We believe that would be a reasonable way to address the current situation.

Section 3307.13 of the Ohio Revised Code provides that the attorney general shall be the legal adviser to the Board. The Board does not have the authority to engage its own external counsel. The attorney general's office is responsible for hiring outside counsel and negotiating billing rates, in its sole discretion. Although the current practice of the attorney general's office is to consult with STRS attorneys regarding the selection of outside counsel, consistently having a say on counsel has historically been a challenge for STRS. In addition, the attorney general's office has a practice of capping attorney billing rates well below even discounted market rates for certain legal specialties and/or in certain areas of the country, significantly constraining STRS' ability to engage and/or retain qualified outside counsel. The complexity of STRS' direct real estate and other investment programs necessitates the ability to hire competent counsel with specialized expertise at market rates. While we did not identify any material problems with the qualifications of STRS external legal counsel, the current hiring structure presents potential future legal risks and fiduciary duty compliance challenges,

Recommendations for Improvement

R4.2.1 **Create the position of Compliance Officer. This position should report to the Chief Counsel and indirectly to the Audit Committee.**

R4.2.2 **Hire an additional attorney to enhance support of investments to avoid key person risk and facilitate succession planning and knowledge transfer.**

R4.2.3 **Provide the Board with regular access to fiduciary and governance counsel to provide guidance on the practical application of the fiduciary duties and perspective regarding peer practices.**

R4.2.4 **Seek legislation permitting the System to engage legal counsel, in its sole discretion; or if that is not achievable, enter into a memorandum of understanding with the Attorney General's Office that permits STRS to have input into the selection of counsel providing services to the System and establish billing rates consistent with relevant market, locale, and expertise necessary for the type of legal services engaged.**

4.3 Ethics

Evaluate the adequacy of ethics training, disclosure, and monitoring of compliance.

Expectations

Section 171.50 of the Ohio Revised Code requires the Ohio retirement systems to jointly develop a retirement board orientation program for new trustees and a continuing education program for trustees that have served more than a year. The orientation program and the continuing education program must both incorporate ethics considerations. New trustees must complete the training within 90 days of their election or appointment. Trustees that are not newly elected or appointed must participate in at least two continuing education sessions per year.

Section 3307.042 of the Ohio Revised Code separately requires STRS to periodically provide ethics training to board members and employees regarding the requirements of Chapter 102 (Ethics), Section 2921.42 (Unlawful Interest in Public Contracts) and 2921.43 (Soliciting or Accepting Improper Compensation) of the Ohio Revised Code.

Ethics Standards of Comparison and Findings

Ethics Standards of Comparison	Findings
Sufficient opportunities are provided to board members and employees so that they may meet their ethics training requirements.	Yes
There is a robust investment ethics compliance reporting system that appears to be operating satisfactorily.	Partial

Conclusions

The Board is provided with annual ethics training, and receives additional training through the combined education program. Board member compliance with the statutory and policy requirements is tracked via an attendance spreadsheet that provides no insight as to the substance of the training or whether it is compliant with the ethics training requirements. In addition, it is unclear whether compliance or non-compliance with the ethics requirements is reported to the Board on a regular basis.

STRS employees are provided with one hour of annual online ethics training through the Ohio Ethics Commission E-Course. Most recently, STRS employees were required to complete training by October 29, 2021, and provide a certificate of completion to STRS legal via e-mail. STRS tracks self-reported compliance by ticking each employee as complete in an undated excel spreadsheet upon receipt of the certificate of completion from the employee. The Board has been informed of staff compliance with the ethics training requirements, but does not have a policy that formalizes reporting compliance exceptions to the Board or Audit Committee as a standing requirement

Recommendations for Improvement

R4.3.1 Adopt an ethics compliance reporting policy to incorporate exception findings into an annual compliance report to the Board or Audit Committee.

4.4 Board and staff compliance

Evaluate Board and staff compliance with legal requirements.

Expectations

As noted elsewhere, the Board has delegated certain investment authority (as set forth in the IPS and in annual resolutions) to the staff. Many other public pension plans have similarly delegated almost all investment authority to staff. In order for a public pension board of trustees to continue to provide effective oversight of its investment program under this type of delegated investment authority, it is important for public pension boards to have a clear process for periodically reviewing investment policies, monitoring investments, and seeking independent assurance to ensure that investment activities remain within policy guidelines.

FAS also reviewed the transaction files to review compliance with the following legal requirements and policies, though many of these legal requirements and policies were not applicable to all investments reviewed:

- Fully executed documents in transaction file;
- Conflicts of Interest language;
- Ethics Laws;
- Iran and Sudan Transaction Report
- Notice of significant strategic, organizational or staffing changes;
- Quarterly reporting;
- Capital call and distribution information consistent with ILPA template;
- No contingent compensation arrangement.

The below table, Summary of Transaction Reviews, summarizes the results of our review for each covered transaction.

Board and Staff Compliance Standards of Comparison and Findings

Board and Staff Compliance Standards of Comparison	Findings
There is a comprehensive set of policies that define required practices.	Partial
A Compliance Officer leads efforts to monitor compliance and has ready access to the board, as necessary.	No
The compliance function is adequately staffed or is supplemented by external resources to meet requirements or obtain specialized capabilities.	No

Conclusions

STRS does not have a central and independent compliance function, with an organization-wide view of the various compliance functions. Compliance processes are non-standard and siloed in the functional units. As recommended in section 4.2 above, STRS should hire a Compliance Officer, reporting through the legal function, to be responsible for all organizational compliance processes.

STRS maintains a "Compliance Manual" that contains memos to file on various compliance topics. While certain topics may be appropriate for a compliance memo, others pertain to more qualitative performance areas or documentation of existence of a policy. Several compliance memos are knowledge-qualified certifications pertaining to the absence of bad acts, which do not provide meaningful information from a compliance and monitoring perspective. For example, a memo with respect to monitoring executive performance is of little value where it does not pertain to an exception in performance with respect to associate conduct.

Recommendations for Improvement

R4.4.1 Streamline compliance reporting to highlight exceptions from expected conduct or requirements.

R4.4.2 Report policy and compliance information, such as the maintenance of required insurance, in a searchable matrix or checklist format with term and renewal information and confirmation dates.

Summary of Transaction Reviews

Transaction Name	MFS Institutional Advisors	GTCR Fund XIII	JP Morgan	EQT Infrastructure V	CBRE	Wellington	Acadian Asset Management	Sixth Street Opps V	NB-Affordable Care Corp. Co-Invest	Thoma Bravo Growth
Asset Class/Investment Strategy	**Emerging Markets Debt**	**Private Equity-Buyout**	**High Yield Debt**	**Infrastructure**	**Real Estate**	**Ex-US Small Cap**	**Ex-US Small Cap**	**Opp./Divers. Spec. Finance – Private Credit**	**Opportunistic/ Diversified PE Co-Invest**	**Private Equity-Buyout**
Due Diligence Memorandum	X	X	X	X	X	X	X	X	X	X
Consultant Recommendation	X	N/A[1]	X	N/A	N/A	X	X	N/A	N/A	N/A
Signed Approval Form	X	X	X	X	X	X	X	X	X	X
Alternative Investment Committee Approval	N/A	X	N/A	X	X	N/A	N/A	N/A	N/A	X
Opportunistic/ Diversified Investment Committee Approval	N/A	N/A	N/A	X	N/A	N/A	N/A	X	X	N/A
Signed Documents (LPA, Subscription Agreement, Side Letter, IMA (as applicable)	X	X	X	X	X	X	X	X	X	X
Ethics Laws Acknowledgement	X	X	X	X	X	X	X	X	X	X
Confirm No Political Contributions	N/A	X	N/A	X	X	N/A	N/A	X	X	X
Reporting at least quarterly	X	X	X	X	X	X	X	X	X	X
ILPA Template	N/A		N/A	X		N/A	N/A	X	N/A*	X
Iran/Sudan Policy[2]	X	N/A	X	N/A	N/A	X	X	N/A	N/A	N/A
Conflicts	X		X	X		X	X	X	X	
No Contingency Payments/Placement Agent Fees	X	X	X	X	X	X	X	X	X	X

- **May not be applicable if no fee/no carry.**

[1] The private equity consultant does not provide a separate recommendation to the Board.

[2] The Iran/Sudan free policy is applicable only to STRS' directly owned, actively managed international equity and international fixed income portfolios.

5. Risk Management and Controls

The Contractor will evaluate the risk review and control procedures of STRS. The Contractor will also evaluate the STRS management process by analyzing, as appropriate, the essential components of its internal control structure. These components include segregation of duties, availability of information, timeliness, accessibility, and accuracy of information, policy manuals, supervision and review, audits, and training and planning. A review of this task area should also encompass an assessment of whether the pension fund utilizes a holistic view of risk management.

The evaluation will include an analysis of:

5.1 Holistic view of risk.

5.2 The appropriateness and utility of regular reports provided to the Board and management, and how that reporting compares to industry standards and leading practices.

5.3 The adequacy of financial controls and integrity of financial statements. This includes an analysis of the purchasing policy and adherence to that policy.

5.4 The adequacy of the current accounting process.

5.5 Sufficiency of internal and external audit procedures.

5.6 The adequacy of the record-keeping system.

Risk Management and Control Review Activities

We reviewed STRS approach to enterprise risk management (a holistic approach). Because of its overall importance to the organization and the System's members and beneficiaries, we have placed that topic first in this section of our report.

The team conducted interviews with the Audit Committee Chair, Executive Director, Chief Investment Officer, Chief Benefits Officer, Chief Financial Officer, Controller, Investment Accounting Senior Manager, Chief Actuary (the point person for enterprise risk management), Chief Audit Executive and various other department leaders. We also interviewed representatives of the external audit and actuarial firms.

We compared the System’s policies and procedures with leading practices at peer state retirement systems in the U.S., guidance promulgated by American Institute of Certified Public Accountants (AICPA), the Government Accounting Standards Board (GASB), and the COSO Internal Control Framework.

In addition, we reviewed the recent annual financial report (ACFR) which was audited by the System’s external CPA firm, Crowe LLP, and we reviewed their related communications required by the AICPA under generally accepted auditing standards. We also reviewed the System’s financial accounting and reporting policies and procedures.

We compared the system’s policies and practices with guidance promulgated by The Institute of Internal Auditors, Inc. (IIA) in their International Professional Practices Framework (IPPF). We reviewed the

Internal Audit charter, the audit risk assessment approach for prioritizing Internal Audit activities, communications to the board, the Internal Audit Department (IAD) Manual, and a sample of Internal Audit reports. Our activities do not replace a formal external quality assurance review (QAR) performed in conformance with IIA's *International Standards for the Professional Practice of Internal Auditing* (*Standards*). We discuss that in more detail below.

We also conducted a review of the purchasing policy and analyzed a sample of major purchases (excluding investment purchases) for compliance with policy and leading practices.

We utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices:

- System risk policies and procedures;
- Purchasing policy and procedures;
- Description of accounting processes and accounting manual;
- External audit reports for prior three years, including any management letters;
- Operational risk reports;
- Internal audit charter, manual, plans and reports;
- Record-keeping policies, procedures and systems;
- The ERM report;
- Interviews with Executive Director, Deputy Executive Director, Chief Audit Executive, Chief Actuary and Head of ERM, Chief Financial Officer and staff, the external auditor, and several other members of the System's staff;
- FAS project team experience and the FAS risk and reporting knowledgebase; and
- InGov® and Fiduciary Priorities Surveys.

Overview of Risk Management and Controls

The basics of STRS' Enterprise Risk Management (ERM) approach are prevalent in the industry and public companies; however, they are insufficient for on-going effective holistic risk management.

Deficiencies in the process result from annual risk assessments that are quickly outdated due to a rapidly changing environment and use of subjective "guesstimates" of inherent risk, the effectiveness of controls, and of residual risk. Although commonly used, they are, by their very nature, unreliable and typically result in misleading estimates (over / under exposure).

STRS' current ERM process lacks utility as either a management control or board oversight tool. The ERM report lacks visibility to the entire organization. Performance and risk are not understood as inseparable, and there has been no clear linkage to the strategic plan or to Internal Audit planning.

Overall, STRS could benefit from a more systematic, comprehensive and coherent and yet simpler approach.

STRS needs to improve the relevance, reliability and timeliness of performance and risk intelligence and thereby improve board insight for direction and policy setting and effective oversight. STRS has many of the building blocks in place to transform its enterprise risk management (ERM) function to an Enterprise Performance Risk Management (EPRM) system that would address the deficiencies.

Ohio STRS uses an electronic board portal to provide secure access to all board reports. It is not currently utilized to facilitate "drill-down" linkages to more detail, but it does provide access to prior reports, as appropriate. Dashboards are used effectively for actuarial reports, but otherwise there is no comprehensive, unified overview of performance and trends with key metrics across all areas. Performance reports typically have a summary at the beginning but are not structured to provide a summary level understanding with an ability to drill down to details where appropriate.

In some cases, the Board has clearly articulated the acceptable range of expected performance and the limits, both positive and negative. However, many reports to the Board do not consistently highlight performance that is outside expected limits through the use of exception-based reporting. The STRS Board should adopt exception-based performance risk reporting, require timely escalation of exceptions, and use exception-based dashboards to provide a comprehensive overview of performance and trends for key metrics. This should reduce the volume of information provided while improving utility and insights.

Management appears committed to the highest ethical values.

Policy requires that all staff attend an annual Ethics Refresher training session that reiterates STRS policies on the prohibition against improper gifts, the limitations on outside compensation, the handling of conflicts of interest and the confidentiality of STRS records. STRS enforces these prohibitions by requiring mandatory acknowledgements and disclosures of certain Board and staff activities. State laws impose severe sanctions on convicted violators of ethics laws.

STRS financial accounting and reporting policies and procedures are consistent with prevailing practices.

STRS has annual audited financial statements prepared in accordance with accounting principles that are generally accepted practice for public pension systems in the United States. The annual audit examination performed by the external CPA firm requires a look at the controls over financial reporting. The external auditor did not note any deficiencies on the financial reporting control structure. With respect to the remainder of the control structure, i.e., the control structure not associated with financial reporting, nothing came to our attention that would indicate a significant deficiency in internal controls.

The audited financial statements bear the attestation of fairness from a qualified audit firm. A knowledgeable user can rely on them on that basis. Nothing came to our attention that would cause us to question the integrity of STRS audited financial statements and the process used to report them.

The purchasing/procurement activities of STRS are governed primarily under its Operational Asset Protection Policy (OAPP). With this overarching policy prohibition in place, STRS has developed numerous implementation controls and operational procedures to ensure compliance. We recommend that STRS acquire a contract management system to enhance the procurement processes.

The STRS Finance and Accounting function is comprised of around 40 associates, and senior staff within the F&A department have many years of experience.

Separation of duties is appropriately maintained and is important for completeness, accuracy and reliability.

We noted reconciliations, performance measurement and variance analysis are performed which could highlight anomalous data or transactions. Nothing came to our attention that would indicate the existence of inappropriate division of duties among staff and departments that might weaken internal control.

STRS is evaluating a new accounting application that would significantly reduce manual processes and use of spreadsheets and also reduce the need for reconciliations.

If implemented, this should also improve productivity in the Finance function.

The STRS Internal Audit Department (IAD) consists of four staff positions, which is small for an organization of STRS' scale and complexity.

A new Chief Audit Executive (CAE) was recently appointed after the prior CAE retired. As required by the Audit Committee (AC) Charter, the AC approved the appointment.

The IAD has fallen behind in its compliance with the Institute of Internal Auditors International Professional Practices Framework (the Standards).

Specifically, the IAD's last external independent Quality Assessment Review (QAR) was performed in 2013. Such an assessment is required under the Standards every five years. Likewise, the Standards require administration of an internal Quality Assurance and Improvement Program (QAIP) to be ongoing within the department.

The STRS Audit Committee could improve its oversight of the IAD in this regard and should have known that certain of the Standards were not followed. It is likely the insufficient number of meetings with the Audit Committee and the brevity of the normal two meetings held contributed to the lapse.

The Audit Committee should promptly fill a vacant staff position in the IAD and also hire such additional internal audit staff that are necessary to meet and maintain compliance with IIA Standards and to execute an aggressive internal audit plan with adequate resources.

STRS generally follows prevailing practices with regards to the external audit.

The Audit Committee should meet more frequently with the external auditor without staff present.

STRS has one of the most comprehensive, systematic, and detailed records filing systems we have seen.

Each of the more than 40 discrete functional areas within STRS has identified a filing plan that lists numerous relevant categories of records, the respective retention periods, the locations for storage, and the person responsible. STRS also maintains an enterprise-wide Records and Information Management (RIM) Program within the legal function, including an organizational records retention schedule and a detailed RIM Program Manual and SharePoint site that is available to all personnel. RIM Liaisons exist within each department and meet quarterly as a group.

5.1 Holistic View of Risk

Expectations

Risk is pervasive and inherent in every business. Certain risks are unique to public pension systems, such as potential opposition to defined benefit plans, potential declines in funded status and potential illiquidity to pay benefits. Other risks are common to institutional investors such as the potential for failure to meet the expected rate of return at a point in time and market risk. There are also risks common to all enterprises such as key person risk and information security risk. Unfortunately, a holistic approach to risk has proven to be difficult for most organizations in both public and private sectors.

Trustees and executives should be risk intelligent. They need timely information and useful insights to understand the various types of risks and the degree to which the organization is exposed. With these insights, trustees can determine how much of what types of risk they are willing to accept and allocate resources to priorities for mitigation and monitoring. Over the long-term, good risk management and good risk intelligence are inseparable from good governance and good performance.

There are three principal sources for risk management frameworks that can provide Standards of Comparison. These are the Committee of Sponsoring Organizations of the Treadway Commission ("COSO")[19], the International Standards Organization ("ISO")[20] and the Basel Committee on Banking Supervision ("Basel").[21] The approach currently used by STRS most closely resembles the COSO model:

- Risks are events that affect achievement of objectives;
- Use of risk universes;
- Use of subjective assessments of impact, probability and velocity; and,
- Risk assessments are usually annual events.

While there is much to commend in the COSO framework, there are also many problems. To name a few:

- Risks (effects) are often confused with causes;
- Risks become separated from objectives such that assessments lack meaning for management and often become just an annual form filling exercise; and
- The use of probability is appropriate for certain insurable risks where there are established quantified relationships between cause and effect such as age and mortality. Indeed, these are appropriately applied by the STRS actuaries in determining the expected future pension cost. Unfortunately, attempts at qualitative assessments of impact and probability, while common, are unreliable.[22] History is littered with the casualties of those who thought disaster could not affect them because it was improbable.[23]

Using a Basel-based definition for operations, reporting and compliance risk offers an approach better suited to a public retirement system such as STRS:

> Operational risk is "the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events. This definition includes legal risk but excludes strategic and reputational risk."[24]

Strategic risk (i.e., risks related to the business model and caused by changes in the business environment) ought to be addressed within the overall strategic planning process. In addition, reputational risk is a consequence of failure in managing strategic and operational risk.

Simply put, risk is the potential for an unacceptable difference between actual and expected performance regardless of cause (internal or external). This is consistent with the approach used by STRS actuaries.

> "For pension plans, the three primary valuation results that can significantly differ from those expected are in assets, liabilities, and employer contributions. While there are several factors that could lead to these results being different, we believe the primary risks to this Plan (STRS) are:
>
> - Investment risk,
> - Longevity and other demographic risks,
> - Benefit change risk,
> - Contribution risk, and
> - Assumption change risk.
>
> For example, *Investment Risk* is the potential for investment returns to deviate from what is expected.[25]

While much of the COSO Framework is applicable to public pension systems, Basel offers a more practical definition and approach to performance risk and avoids some of the pitfalls inherent in COSO which relies heavily on subjective estimates of impact and likelihood. Systems should still prepare for unlikely risks that have potentially high impact and are relevant to the business.

Like many organizations, consideration of risk is part of everyday management at STRS. STRS has adopted a conventional risk framework from the Committee of Sponsoring Organizations of the Treadway Commission (COSO). However, like many organizations in the public and private sectors, STRS has struggled to effectively utilize that framework to create and maintain an effective holistic view of risk.

An organization of the size and complexity of STRS would benefit from a common or holistic approach to enterprise performance risk management ("EPRM").[26] Operational performance and risk should be understood as inseparable. The Standards of Comparison represent practices that provide the necessary foundation for STRS to move from the prevailing ERM framework toward EPRM and leading practices. Therefore, the significant number of "No" findings below is not a reflection of poor performance on STRS part but are indicative of the proposed direction and recommendations to develop a more holistic and practical view of risk.

A holistic approach to risk management in operations, reporting and compliance includes:

- Performance risk is built into the way the enterprise runs its business (strategic performance and risk is addressed by the strategic plan).
- There is high situational awareness of what's vitally important (vital functions and vital signs).
- There is visible, timely feedback on performance and risk at all levels of the organization for faster organizational learning.
- The reporting process is dynamic and potentially more automated.
- Appetites / tolerances for risk are clearly established and approved by the board.
- Exception-based reporting for timely escalation as required together with root cause analysis of significant variations.

- Preparedness for inevitable uncertainties / disruptions includes the use of Failure Modes and Effects Analysis (FMEA) to identify and prevent potential causes of future failure.
- Reliability of performance risk reports is independently verified by Internal Audit and third parties.

Holistic Risk Standards of Comparison and Findings

Holistic Risk Standards of Comparison	Findings
Risk is clearly defined.	No
The use of subjective estimates of impact and probability (and likelihood) are avoided.	No
Responsibility for management of performance and risk has been clearly assigned to an executive(s).	Yes
Risk management is built into / integrated the way the enterprise runs its business (strategic performance and risk is addressed by the strategic plan).	Partial
There is high situational awareness of what's vitally important (vital functions and vital signs).	Partial
There is visible, timely feedback on performance and risk at all levels of the organization for faster organizational learning.	No
The performance risk reporting process is timely, dynamic and consistent (potentially more automated).	No
Exception-based reporting provides timely escalation as required.	No
Risk metrics are updated based on the volatility of the metric.	No
The system is prepared for inevitable uncertainties / disruptions including incident management, business continuity and disaster recovery including Failure Modes and Effects Analysis (FMEA).	See Business Continuity Section 6.9
Cyber-security is robust.	See Section 6.8
The reliability of performance risk reports is independently verified by Internal Audit and/or third parties.	Partial
Responsibility for oversight of performance and risk has been clearly assigned to a committee within the board.	Partial
Responsibilities for assurance and reassurance are clear.	Yes
Underlying assumptions are systematically identified and challenged as part of the strategic planning process.	No
The board approves:	
• A set of strategic goals and objectives.	Yes
• The system's risk appetite for those goals, i.e., the risks of the goal themselves are part of the strategic planning process.	Partial (Investment Risk)
• Vital functions performed by the system and vital signs for measuring	No

Holistic Risk Standards of Comparison	Findings
the state of health of those functions.	
• Expected performance and tolerances for actual variation from expected (upper and lower control limits) (i.e., risk tolerances).	No
• The escalation criteria and process for alerting the board when actual performance begins to approach or exceed established tolerances.	No
There is effective oversight of holistic performance and risk.	No
There is a regular assessment of the internal control environment.	Partial
There is regular training to improve risk awareness for all staff and the board.	No

Conclusions

Risk is managed on a daily basis by STRS in everything it does, yet there are many different perceptions of the meaning of risk among Board members and management. Risk itself is not defined.

STRS' policy is that enterprise performance risk is to be overseen by the Audit Committee. Appropriately, the Executive Director is responsible for managing enterprise risks through the department heads. The ERM function is responsible for risk assessment but not risk management which is clearly assigned to the managers and staff throughout the organization. Risks covering all major areas of the organization are assessed.

As part of its ERM process, STRS has a risk register that identifies 33 risks. Those risks were subjectively assessed by each department head and the CFO regarding their impact, probability and velocity (time horizon). The assessment was facilitated by the Chief Actuary.

The assessment process is annual. High-level mitigation efforts were also described. The results were presented to the Board in February 2021 and on February 17, 2022. Representatives of FAS attended the latter presentation. The presentations included: Current Risk Focus, Risk Changes, ERM Program Framework; Risk Assessment Process; Risk Assessment Example; STRS ERM Assessment; Key Risk Mitigation Tools; and Executive Summary.

The basics of STRS' ERM approach are prevalent in the industry and public companies but are insufficient for on-going effective holistic risk management. Annual risk assessments are performed but unfortunately, the value of an annual risk assessment "snapshot" in a rapidly changing environment is limited to the time period it is taken. The frequency of updates should be based on the volatility of the metric to avoid becoming stale. The related subjective "guesstimates" of inherent risk, the effectiveness of controls, and of residual risk are inevitably biased. They are, by their very nature, unreliable and typically result in misleading estimates (over / under exposure).

STRS' current ERM process lacks utility as either a management control or board oversight tool. The ERM report lacks visibility to the entire organization. The assessment process is time consuming and does not take into account risk interactions or volatility. It appears to be more of a "check the box" approach to risk assessment and management. Performance and risk are not understood as inseparable. There is no clear linkage to the strategic plan or to Internal Audit planning.

As noted earlier, the committees of the Board are largely underutilized as many topics are instead presented to the whole board. The Audit Committee appears to devote little time and attention to discussion of the annual risk report. See section *1.4 Governance Provisions and Practices*. Board oversight of holistic performance and risk is impaired due to the ineffectiveness of its committees, the absence of exception-reporting, the subjective nature of current risk assessments and the apparent absence of frequent and substantive discussions of performance risks between the Board and operating management.

Overall, STRS could benefit from a more systematic, comprehensive and coherent and yet simpler approach. STRS needs to improve the relevance, reliability and timeliness of performance and risk intelligence and thereby improve board insight for direction and policy setting and effective oversight.

STRS has many of the building blocks in place to transform its enterprise risk management (ERM) function to an Enterprise Performance Risk Management (EPRM) system. We have supplied an example dashboard to staff that would address the majority of these conclusions and recommendations and significantly improve board oversight. The goal is to ensure the Board and executive are situationally aware of what's vitally important, what's changed or changing and the implications for direction and policy.

Recommendations for Improvement

R5.1.1 **Adopt a Basel-based definition of risk, i.e., risk is the potential for an unacceptable difference between actual and expected performance regardless of cause.**

R5.1.2 **Develop an integrated performance risk framework for strategy, operations, reporting and compliance.**

R5.1.3 **Ensure performance risk management (EPRM) is built into the way STRS runs its business.**

R5.1.4 **Approve vital signs for vital functions and increase situational awareness throughout the organization about what's vitally important.**

R5.1.5 **Require updates based on the volatility of the vital sign metrics.**

R5.1.6 **Clearly establish and approve risk appetite for all strategic goals as currently done with asset allocation decisions.**

R5.1.7 **Clearly establish tolerances for performance objectives, i.e., how much variability (positive and negative) the Board is willing to accept re: actual vs. expected performance.**

R5.1.8 **Cease to require subjective "guestimates" of impact, probability and velocity (inevitably biased).**

R5.1.9 **Perform an annual assessment of the internal control environment.**

R5.1.10 **Conduct at least annual risk awareness training for all staff and the Board.**

5.2 Reporting to the Board

Evaluate the appropriateness and utility of regular reports provided to the Board and management, and how that reporting compares to industry standards and best practices.

Expectations

In an organization such as Ohio STRS, we expect to find that the board is financially literate such that it understands the reporting structure, the content of reports, and the importance of financial controls and public accountability. Overall, management's reports should be structured so that information is easily accessed. Information should be clear and accurate, and the board annually, at a minimum, should have the ability to discuss financial and other staff reporting in general to ensure that it meets the needs of the board.

Senior staff and third parties who produce these reports should be available during and between board meetings to answer questions and may dedicate time at a retreat for board education on financial accountability and reporting and other matters. The purpose of board education is to support public pension system financial accountability, sound governance, and public pension fiduciary standards. Trustees do not need to be experts, but they should have the ability to constructively challenge management and advisors by asking hard and probing questions of third parties and staff.

The board and ED, as well as other senior leadership in the financial accountability as well as program performance accountability structure, should have a culture of transparency, accountability and reporting so that it is safe for staff or leadership to acknowledge any mistakes. If it is not safe to admit and correct mistakes in information that has gone to the board or other public entities, then the board will lose an important control element within its culture and undermine true accountability.

All reports should be as free from jargon as possible, and terms should be well explained. All conclusions should be clearly stated in plain language, whether in oral discussion or in written reports.

It is the Executive Director's responsibility to understand the needs of the board and to understand the expectations of staff and third parties. Reporting on matters of this importance should be part of the board's annual calendar and the board should know when to expect certain information and presentations. This annual scheduling should cascade to the schedules for committee work and contracting with third parties for annual audits and other reviews and assessments. A standard board calendar should also enable the board to ask for certain education or supplementary information in advance of important presentations and votes.

Reporting Standards of Comparison and Findings

Reporting Standards of Comparison	Findings
An electronic board portal is used to provide easy, secure access to all board reports and facilitate linkages to more detail and prior reports, as appropriate.	Yes
Reports to the board are consistently relevant and insightful.	Partial
Reports to the board are consistently accurate and reliable.	Yes
Reports are linked to the strategic plan and strategic objectives.	Partial
Reporting dashboards provide an overview of performance and trends for key metrics.	Partial
Performance reports are structured to provide a summary level understanding with an ability to drill down to details where appropriate.	Partial
The board clearly articulates the acceptable range of expected performance and the limits, both positive and negative, that require performance to be brought to the board's attention.	Partial
All reports to the board highlight performance that is outside expected limits through the use of exception-based reporting.	Partial
Reports focus on variance analysis that describes why performance is outside the expected "normal range" and what management is doing to rectify any poor results.	Partial
The board periodically reviews all regular reports with staff and identifies opportunities to improve or streamline reporting and eliminate unnecessary reports.	No
The reporting process is periodically independently reviewed by the internal audit function to determine reliability.	No
Board members are adequately educated so that they are financially literate generally about pension system financial requirements, risk management, and the importance of consistent and reliable controls within the system, so that they understand the reporting and could ask meaningful questions	Partial

Conclusions

Ohio STRS uses an electronic board portal to provide secure access to all board reports. It is not currently utilized to facilitate "drill-down" linkages to more detail, but it does provide access to prior reports, as appropriate.

Some Board members complain of overload and difficulty in discerning what's important, what's changed or changing, and the implications in terms of direction and policy. While Board members do not question the accuracy or reliability of reports, some do express confusion over what information is relevant and insightful for them. The Board spends at least 55% of its time on Oversight activities. Some, but not all, reports are linked to the strategic plan and strategic objectives.

Dashboards are used effectively for actuarial reports, but otherwise there is no comprehensive, unified overview of performance and trends with key metrics across all areas. Performance reports typically have a summary at the beginning but are not structured to provide a summary level understanding with an ability to drill down to details where appropriate.

In some cases, the Board has clearly articulated the acceptable range of expected performance and the limits, both positive and negative. Many reports to the Board do not consistently highlight performance that is outside expected limits through the use of exception-based reporting. Reports generally do not focus on variance analysis that describes why performance is outside the expected "normal range" and what management is doing to rectify any poor results.

The Board does not periodically review all regular reports with staff and identify opportunities to improve or streamline reporting and eliminate unnecessary reports. The reporting process is not periodically independently reviewed by the internal audit function to determine its reliability.

Board member education on key public pension issues and on financial literacy about pension system financial requirements, risk management, and the importance of consistent and reliable controls within the system, is up to each trustee to determine, although there are regular training sessions during Board meetings.

Currently, every presentation to the Board is considered as continuing education. Going forward, general or routine Board presentations should not be considered educational since they are presented for informational or oversight purposes. Educational sessions should be specifically designated as such. In addition, there is not an annual plan for individualized continuing education although individual participation is tracked annually.

Recommendations for Improvement

R5.2.1 **Adopt exception-based performance risk reporting and require timely escalation of exceptions.**

R5.2.2 **Use exception-based dashboards to provide a comprehensive overview of performance and trends for key metrics and reduce the volume of information presented to the Board while improving its utility and insights.**

R5.2.3 **Require visible, timely feedback on performance and risk at all levels of the organization which, in turn, will contribute to faster organizational learning.**

R5.2.4 **Increase transparency and accessibility by requiring "drill down" capabilities from high-level executive summaries and exception-based dashboards to supporting detail and prior reports, as appropriate.**

R5.2.5 **Require quarterly reports on vital signs for vital function and thereby create a more dynamic and consistent reporting process. Management should identify opportunities for automation of reporting.**

R5.2.6 **Require that reports be consistently linked to the strategic plan and strategic objectives.**

R5.2.7 **Require that exception reports (positive and negative) provide a variance analysis that describes why performance is outside the expected "normal range" and management's response.**

R5.2.8 **Require a Root Cause Analysis of all significant exceptions and identify significant direction and policy implications.**

R5.2.9 **Periodically review all regular reports with staff and identify opportunities to improve or streamline reporting and eliminate unnecessary reports.**

R5.2.10 **Require that all performance reports to the Board be periodically independently reviewed by the internal audit function (or other independent reassurance source) to determine their reliability especially regarding reports that indicate "normal" or expected performance.**

R5.2.11 **Require that Board members continuing education topics include pension system financial requirements, risk management, and the importance of consistent and reliable controls within the system and not include regular reports to the Board.**

R5.2.12 **Develop a list of "standing" questions that should be asked regularly about all vital functions and of advisors, e.g., ten questions that should always be asked of the external auditor.**

5.3 Financial Controls, Financial Statements, and Purchasing Policy

Evaluate the adequacy of financial controls and integrity of financial statements and financial reporting process. This should include an analysis of the purchasing policy and adherence to that policy.

Financial Controls

Assess the adequacy of the financial control framework, including segregation of duties, supervision and review, and audit activity

Expectations

Various governmental regulatory and self-regulatory bodies have promulgated internal control standards and guidance that comprise internal control frameworks. Public pension systems have taken the standards and guidance and frameworks and established policies and practices to create appropriate enterprise risk management structures. An effective internal control framework can be designed to reduce the risk of asset loss and help ensure that information is complete and accurate, financial statements are reliable, and its operations are conducted in accordance with the provisions of applicable laws and regulations. An effective system of internal control within the appropriate framework helps to protect the organization in two ways:

- By minimizing opportunities for unintentional errors or intentional fraud that may harm the organization. Preventive controls, which are designed to discourage errors or fraud, help accomplish this objective.
- By discovering small errors before they become big problems. Detective controls are designed to identify an error or fraud after it has occurred.

Internal control is a process — effected by management and other personnel and overseen by those charged with governance. Internal control is designed to provide reasonable assurance regarding the achievement of objectives in the reliability of financial reporting. The organization’s policies, procedures, organizational design and physical security are all part of the internal control process. The following are some general characteristics of satisfactory internal control over financial reporting:

- Policies and procedures provide for appropriate segregation of duties to reduce the likelihood that deliberate fraud can occur.
- Personnel are qualified to perform their assigned responsibilities.
- Sound practices are followed by personnel in performing their duties and functions.
- A system that ensures proper authorization and recording procedures for financial transactions.

The Committee of Sponsoring Organizations of the Treadway Commission’s (COSO) Internal Control — Integrated Framework (*Framework*) provides detailed information about internal controls. The COSO *Framework* has been recognized by external auditors, internal auditors, executives, board members, regulators, standard setters and professional organizations as an appropriate and comprehensive framework for internal control. The *Framework* has three categories of objectives: reporting, operations and compliance.

The role of the external financial auditor is to communicate to the board and others in the organization whether there are certain deficiencies or weaknesses in internal controls over the plan's financial reporting. The external auditor is focused primarily on evaluating the accuracy and fairness of the financial statements, whereas, an effective system of internal control for a pension plan should be designed to address all operations, all risks, and more than just financial reporting.

All external plan auditors follow Generally Accepted Auditing Standards (GAAS) as well as the GAO's Governmental Auditing Standards, which requires that "significant deficiencies" and "material weaknesses" (as defined) identified during the annual independent audit be communicated to the Audit Committee and management in writing.

These communications must be made every year in which significant deficiency or material weakness exists, even if it has already been communicated to the organization in the past. These must include an explanation of the potential effects of the significant deficiencies and material weaknesses identified. Such communications will improve awareness of the importance of internal control over financial reporting, and to help assess the costs and benefits of implementing adequate controls, weigh the risks of each significant deficiency or material weakness, and determine if and how to address them.

In this respect, the role of the board is to oversee the effectiveness of the system of internal control including establishing and promoting an effective "tone at the top".

Management's responsibility is to provide reasonable assurances to the board that they have established control processes and procedures. Control activities include identifying and assessing risk, implementing controls to mitigate risks, and communicating activity to internal stakeholders and, if necessary, the board.

Leading practice is to have executives and management certify their assurances to the board and implement monitoring activities under the oversight of executive management. Such monitoring includes, for example, enterprise risk management and compliance activities. Key to these functions is risk identification, assessment, and mitigation. The leaders of these activities typically report to the executive director.

The role of the Internal Auditor (and others independent of operating management) is to provide independent reassurance about the reliability of management's assertions about governance, risk management and controls, including how management ensures compliance with policies, laws and regulations. Internal Audit is not responsible for overall operational compliance, with the exception of its own compliance requirements for the internal auditing function.

The scope of Internal Audit work is determined through risk-based planning, resource allocation based upon risk levels and coverage by external auditors or other independent parties engaged by the board or the state auditor's office and direction of the board through the audit committee. Leading practice is for Internal Audit to liaise with external auditors and focus primarily on strategic, operational and compliance objectives.

Financial Controls Standards of Comparison and Findings

Financial Controls Standards of Comparison	Findings
There is a strong tone at the top emphasizing internal controls and that reinforces ethical behavior.	Yes
Senior management and staff appear firmly committed to doing the "right thing" for the members, employers and the organization by adhering to the organization's Code of Ethical Conduct.	Yes
The board relies on management to implement control processes and provide reasonable (but not absolute) assurances that the processes are functioning as intended.	Yes
Items that ought to be of concern to the board follow a pre-determined escalation process.	Partially
The essential components of the financial control structure are consistent with peer pension and benefit systems and the essential components of the remainder of the control structure should be appropriate to the organization's purposes. For example, some pension systems manage the state employee health benefits systems, but most do not.	Yes
A process is in place, administered by an independent internal activity (usually internal audit) or external provider (or combination thereof), to allow for the reporting, evaluation, and disposition of suspected wrongdoing. This reporting is summarized, and the results are routinely reported to senior management and the board.	Yes

Conclusions

All interviewees responded affirmatively to our questions about management's commitment to the highest ethical values. Additionally, policy requires that all staff attend the annual Ethics Refresher training session. The training session reiterates STRS policies on the prohibition against improper gifts, the limitations on outside compensation, the handling of conflicts of interest and the confidentiality of STRS records.

Essentially, STRS has a zero-tolerance on the acceptance of gifts by its associates. Similarly, STRS policy prohibits acceptance or solicitation of any compensation in exchange for the performance of public duties, or honoraria of any form. Its Gift Policy also emphasizes the prohibition on acceptance of anything during travel (the so-called "no-Coke" rule).

STRS policy on conflicts of interest prohibits solicitation or acceptance of employment, benefits, or business by Board members or staff for themselves, their family members or anyone with whom they have a business or employment relationship. Likewise, they may not use their position to secure business in which they or a related party have an interest.

STRS enforces these prohibitions by requiring mandatory acknowledgements and disclosures of certain

Board and staff activities. State laws impose severe sanctions on convicted violators of ethics laws.

The Board relies on management to implement control processes and provide reasonable (but not absolute) assurances that the processes are functioning as intended. However, while management provides reasonable assurance on controls, there are improvements that could be made to enhance the assurance and reassurance activities. (We use the term reassurance to make the distinction between management's role for assurance and other forms of assurance provided by internal and external audit, and other third parties.)

The Board has not approved the escalation criteria and process for alerting the Board when actual performance begins to approach or exceed established tolerances and expectations.

STRS has prevailing financial accounting and reporting policies and procedures in place. STRS has annual audited financial statements prepared in accordance with accounting principles that are generally accepted practice for public pension systems in the United States. Its annual financials are audited in accordance with generally accepted auditing standards by a qualified firm in whose opinion the statements were presented fairly in all material respects. In that regard, STRS follows prevailing practice.

The annual audit examination performed by the external CPA firm requires a look at the controls over financial reporting. Based on that work, the firm does two basic things: 1) it obtains an understanding of the system of controls over financial reporting and whether and to what extent to rely on those controls, and 2) it reports to the Board and management on any material weaknesses in internal financial controls. The level of reliance the CPA firm places on controls is a judgement call based on many factors, both objective and subjective.

With respect to the remainder of the control structure, i.e., the control structure not associated with financial reporting, nothing came to our attention that would indicate a significant deficiency in internal controls. This determination was based solely on our limited review of documents and interviews with Board members, staff and knowledgeable third parties.

The Board has established an Internal Audit Department (IAD). The system's entire internal control structure is the primary focus of the IAD. The IAD audits each of approximately 60 functions within the System on a 3- 4-year cycle based on the assessed risk of the function.

A process is in place, including a fraud reporting line, administered by the STRS Legal Department. The process allows for the reporting, evaluation, and disposition of suspected wrongdoing. This reporting is summarized by the STRS legal department, and significant matters are reported to senior management and the Board.

Recommendations for Improvement

R5.3.1 Each Key Risk Indicator (KRI) should have one or more associated Key Performance Indicators (KPIs) and emphasize the status of performance rather than the risk.

R5.3.2 The fraud/whistleblower reporting communication line/link should be displayed more prominently throughout the organization and in key online locations on the System's intranet and website.

Note: Please see Section 5.5 below for a more detailed discussion of internal and external audit staffing and activities at STRS and our additional recommendations.

Integrity of Financial Statements & Reporting

Evaluate the integrity of financial statements and reporting.

Expectations

The financial statement and reporting process is governed by standards set forth by the AICPA as well as the GASB. Furthermore, an independent public accounting firm performs an annual audit of financial statements as well as reviews its annual public disclosures contained within the Annual Comprehensive Financial Report of the State Teachers Retirement System of Ohio (ACFR). Ultimately, financial reporting should possess these basic characteristics: understandability, reliability, relevance, timeliness, consistency and comparability.

Financial Statement Standards of Comparison and Findings

Financial Statement Standards of Comparison	Findings
Financial statements and reports are provided to senior leadership frequently and the board periodically.	Yes
The STRS Comprehensive Annual Financial Report is issued within 6 months of their June 30, fiscal year end.	Yes
Financial statements are audited on an annual basis by a qualified independent auditing firm.	Yes
The external auditor's reports have not identified any material or internal control issues that would affect the integrity of the financial report.	Yes
The external auditors issue an annual report on "The Auditor's Communication with Those Charged with Governance" containing a Summary of Significant Accounting Estimates and the basis for their conclusion on the reasonableness of the estimates.	Yes
The Executive Director and Chief Financial Officer sign a Management Representation Letter as part of the issuance of the annually audited financial, confirming that all the information contained in the financial statements is true and correct and that all relevant disclosures of business practices and compliance with laws and regulations have been made.	Yes
Monthly reports are provided to senior leadership with discussion and analysis of various key financial indicators.	Yes
Monthly or quarterly budget analysis process is in place with reporting to management and the board.	Yes

Financial Statement Standards of Comparison	Findings
Compliance with financial-related legal or contractual requirements is part of the financial reporting process.	Yes
Review procedures are up to date to ensure that financial staff are following approved procedures.	Yes

Conclusions

STRS has annual audited financial statements prepared in accordance with accounting principles that are generally accepted practice for public pension systems in the United States. Its annual financials are audited in accordance with generally accepted auditing standards by a qualified firm. The firm gave its opinion that the financial statements were presented fairly in all material respects. In that regard, STRS follows prevailing practice.

While audited annual financial statements are a necessity, and they provide useful and relevant information about recent and historical financial information of the System, they are of minimal use to management in the day-to-day operations of the organization because of their untimely nature. However, they can be very valuable to interested third parties, member stakeholder groups, creditors, and legislative and regulatory bodies. The audited financial statements also are useful to perform trend analysis and, in this regard, can be beneficial to internal management.

STRS procedures for vetting the draft financial statements include circulation of the draft for comment among all relevant parties within the organization and also with the external auditors. The process collects input from the various parties. We believe this to be a leading process that provides transparency into the preparation of the ACFR and contributes to achieving the goal of having the most accurate and readable report.

The audited financial statements bear the attestation of fairness from a qualified audit firm. A knowledgeable user can rely on them on that basis. Nothing came to our attention that would cause us to question the integrity of STRS audited financial statements and the process used to report them.

Recommendations for Improvement

No recommendations at this time.

Purchasing Policies and Procedures

Evaluate purchasing policies, practices and compliance with policies

The FAS team compared policies, procedures, and compliance with prevailing and leading practices of state retirement systems in the U.S. Specifically, we reviewed the purchasing policy and any recent Internal Audit reports related to procurement activities. This review focused on major purchases for operations of the System and excluded investment purchases.

Expectations

Public pension systems are often required to comply with purchasing standards and requirements of the plan sponsor such as the state, county or municipal government. Nonetheless, purchasing policies and procedures should be designed to provide a single purchasing policy and process with centralized monitoring of completeness and compliance throughout the contracting process.

The standards promulgated by the plan sponsoring government may represent leading practice for purchasing. However, aspects of the purchasing and procurement activities of public pension systems are often not anticipated in the operations of the plan sponsor and therefore require the system to modify the application of such rules and regulations to enhance internal control and provide for effective and efficient procurement while also considering the fiduciary requirement to expend system resources for the exclusive benefit of plan members and beneficiaries.

Purchasing Standards of Comparison and Findings

Purchasing Standards of Comparison	Findings
The System has a written purchasing/ procurement policy.	Yes
The procurement process consistently includes:	
• A minimum of three qualified bids or proposals.	Yes
• An internal review of the proposer's qualifications, proposal, and fee schedule.	Yes
• A determination that the proposal meets external laws and internal standards, mandates and policies.	Yes
• A written recommendation to, or approval by, the appropriate level of management.	Yes
• Appropriate legal counsel sign-off on compliance.	Yes
• Execution of a written agreement or contract.	Yes
Workflow functions support the development of new contracts and allow electronic approvals according to delegated authorities.	Yes
Automated support for development of Requests for Proposal (RFPs).	Yes

Purchasing Standards of Comparison	Findings
Standard contracting terms and conditions checklists are provided for each type of procurement in a central repository.	Yes
Contract expiration dates are automatically monitored and STRS staff are alerted appropriately in advance and proactive consideration is given to expiring contracts.	Yes
Compliance with the policies and procedures is monitored.	Yes
Approval authorities are clearly defined by department and management level to facilitate efficient procurements with appropriate levels of control.	Yes
Major purchases are included in the budget approved by the board.	Yes
The general counsel collaborates to ensure consistent contracts.	Yes
Vendor performance is monitored and compared to the contract terms.	Yes
Purchasing activities are reported separately from accounts payable to ensure appropriate segregation of duties.	Yes

Conclusions

The purchasing/procurement activities of STRS are governed primarily under its Operational Asset Protection Policy (OAPP). The OAPP provides that any purchase of goods or services for $100,000 or more in any one-year period of the agreement must be based on an evaluation of responses to requests for proposals from at least three vendors, followed by a determination of the most qualified vendor of the goods or services. An exception to this may occur if the goods or services in question are available only from a single (sole source) provider. If three bid responses are not provided, then the Executive Director may grant an exception to this requirement and he/she will advise the Board when such an exception is granted.

The Executive Director will provide the Board with a Contract Summary Sheet if a potential purchase is expected to exceed $100,000, or if the contract is for goods or services provided directly to the Board.

With this overarching policy prohibition in place, STRS has developed numerous implementation controls and operational procedures to ensure compliance. These include prior approval of vendors, a comprehensive legal review process, clear written delegations of authority and approval amounts, comprehensive budgetary controls, proper accounting procedures, and an accounts payable workflow control system that ensures invoices handled properly and validated before payment, among other routine and common controls such as separation of duties, bank reconciliations and check-writing protections.

Leading practices for purchasing and procurement also include a functional contract database and related document management system. We understand STRS management is evaluating the acquisition of such a system and we think it would be beneficial.

Recommendations for Improvement

R5.3.3 STRS should acquire a contract management system within the confines of a prudent cost/benefit analysis.

5.4 Accounting Processes

Evaluate the adequacy of the current accounting process.

Expectations

Financial accounting information must be assembled and reported objectively and in the context of industry norms. For this reason, financial accounting relies on "Generally Accepted Accounting Principles" (GAAP). GAAP principles include:

- **Regularity:** Regularity is defined as conformity to enforced rules and laws.
- **Consistency:** The consistency principle requires accountants to apply the same methods and procedures from period to period.
- **Sincerity:** The accounting unit should reflect in good faith the reality of the company's financial status.
- **The Permanence of Methods:** This accounting principle aims to provide coherence and allow comparison of the financial information published by the company.
- **Non-Compensation:** One should show the full details of the financial accounting information and not seek to compensate (offset) a liability with an asset, a revenue with an expense, etc.
- **Prudence:** All reporting of financial data is to be factual, reasonable, and not speculative and aligned with industry accounting norms. Typically, revenue should be recorded only when it is certain and a provision should be entered for an expense which is probable.
- **Continuity:** When stating financial information, one should assume that the business will not be interrupted, i.e., it is a going-concern.
- **Periodicity:** Each financial accounting entry should be allocated to a given period and split accordingly if it covers several periods. If a client pre-pays a subscription (or lease, etc.), the given revenue should be split to the entire timespan and not counted for entirely on the date of the transaction.
- **Full Disclosure/Materiality:** All material[27] financial accounting information and values pertaining to the financial position of a business must be disclosed in the records.

Accounting Processes Standards of Comparison

Accounting Processes Standards of Comparison	Findings
There is an adequate accounting system that is the repository of all accounting transaction information and provides effective accounting reports, providing various journals and ledgers that are appropriate to the needs of the System.	Yes
The accounting and investment operations are adequately staffed to provide:	
• A robust financial function with investment middle office (e.g., capital calls, liquidity management, counterparty risk) and back office (e.g., investment accounting, valuation, performance reporting) capabilities.	Yes
• Effective internal controls and segregation of duties.	Yes
• Opportunities for key person backup, cross-training, and career development.	Yes
The organization structure effectively supports segregation of duties to enhance internal controls.	Yes
Securities prices provided by the custodian are from independent sources.	Yes
An internal valuation committee ensures investment valuations are marked-to-market in a transparent and consistent manner utilizing information provided by third parties.	Yes
Annual external audits result in unmodified opinions.	Yes

Conclusions

The STRS Finance and Accounting function is comprised of around 40 associates, several of whom hold the Certified Public Accountant license. The highest levels of staff within the System's finance department have many years, even decades, with the System. Such experience is invaluable in “keeping the books” of the System completely, accurately, and reliably, in accordance with generally accepted accounting principles (GAAP).

STRS associates in key areas reported regular involvement by supervisors and managers performing required review and approval functions. Such separation of duties is important for completeness, accuracy and reliability. We noted reconciliations, performance measurement and variance analysis are performed which could highlight anomalous data or transactions. Also, the internal audit function is not restricted from any area in the organization. Internal Audit is an effective management control that provides for detection of errors and acts as a deterrent to malfeasance. Nothing came to our attention that would indicate the existence of inappropriate division of duties among staff and departments that might weaken internal control.

As further evidence of the STRS staff competence at performing the accounting function and strength of its internal control system, we interviewed the external audit firm and inquired about the condition of the accounting records for the audit, the nature of any audit adjustments made (there were none) and the level of internal control findings that were reported (there were none). As a result, the auditor confirmed to us that the accounting process is such that the System can place reliance on it to maintain timely and accurate financial records and generate the annual financial statements and footnotes that are suitable for the external auditors to apply their audit procedures. Lastly, there are sufficient written procedures within the organization to further enhance understanding of controls and support their implementation provided they are followed consistently.

We understand that STRS is evaluating a new accounting application. Care must be taken when replacing the general ledger system so that this important component of the overall internal control structure remains reliable. Good information is dependent in a very large way on the proper function of the General Ledger and its related supporting ledgers.

Recommendations for Improvement

No recommendations at this time.

5.5 Internal and External Audit

Evaluate the sufficiency of internal and external audit procedures

Internal Audit

Expectations

Internal Audit (IA) is one of several sources available to the board for independent reassurance regarding the reliability of operating management's assurances. IA also consults with operating managers to improve controls. Guidance and certifications for Internal Audit, primarily the CIA and CISA designations, are promulgated by the Institute of Internal Auditors (IIA) and the Information Systems Audit and Control Association (ISACA), respectively. The IIA's *International Standards for the Professional Practice of Internal Auditing* (*Standards*) focus is on Internal Audit management and performance of Internal Audit activities. Likewise, ISACA's Information Systems (IS) Audit and Assurance Standards focus on the minimum level of acceptable performance required to meet the professional responsibilities set out in the ISACA Code of Professional Ethics. Additionally, the GAO's Generally Accepted Government Auditing Standards (GAGAS) focus on the delivery of performance audits, attestation engagements and financial audits. Occasionally, State Audit Offices are directed to comply with GAGAS.

A leading practice for quasi-government and non-government entities is to conform with the IIA's *Standards* unless otherwise directed by legislation. The *Standards* are part of the IIA's International Professional Practices Framework (IPPF) which also includes the Mission and Definition of Internal Audit, Code of Ethics, Core Principles, *Standards* and recommended guidance for performing Internal Audits.

The purpose of Internal Audit is best captured in the IPPF's mission of Internal Audit, definition of Internal Audit and core principles for the professional practice of Internal Auditing.

> *<u>Mission of Internal Audit</u> - To enhance and protect organizational value by providing risk-based and objective assurance, advice, and insight.*
>
> *<u>Definition of Internal Audit</u> - Internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.*
>
> *<u>Core Principles for the Professional Practice of Internal Auditing</u>*

- Demonstrates integrity.
- Demonstrates competence and due professional care.
- Is objective and free from undue influence (independent).
- Aligns with the strategies, objectives, and risks of the organization.
- Is appropriately positioned and adequately resourced.
- Demonstrates quality and continuous improvement.
- Communicates effectively.
- Provides risk-based assurance.

- Is insightful, proactive, and future-focused.
- Promotes organizational improvement.

For a public pension board of trustees to obtain effective independent reassurance from Internal Audit, leading practice is for Internal Audit to implement a program that includes:

- Governance practices approved by the board;
- An environment that is ethical, independent and objective;
- Risk-based approaches;
- Competent people;
- Adequate tools; and,
- Quality and continuous improvement.

Internal and External Audit Standards of Comparison and Finding

Internal and External Audit Standards of Comparison	Findings
The Audit Committee of the board has a committee charter (AC Charter).	Yes
The board or Audit Committee are actively engaged with the CAE and provide direction and oversight to the CAE, including reviewing and approving the annual internal audit plan, and reviewing results.	Yes
The board has hired a competent CAE.	Yes
There is a control environment and tone at the top that enables the Internal Audit Department to be ethical, effective, independent, and objective.	Yes
There is an Internal Audit Charter (IA Charter) that describes the roles and responsibilities of the Chief Audit Executive (CAE) and the internal audit function.	Yes
The IA Charter requires Internal Audit to act in accordance with the IIA's IPPF.	Yes
The CAE and board have established a quality and continuous improvement program.	No
The CAE has implemented a risk-based approach to audit planning.	Yes
A quality assurance review (QAR) is conducted on a regular basis	No
Tools used by the CAE appear to be appropriate.	Yes

Conclusions

The STRS Internal Audit Department (IAD) consists of four staff positions. Recently, the Chief Audit Executive, who served for many years, has retired. The position was filled internally by a long-time member of the IAD. As required by the AC Charter, the Audit Committee approved the appointment. For reasons unknown, the IAD has fallen behind in compliance with the IIA IPPF (the Standards). We believe that the STRS Audit Committee could improve its oversight of the IAD in this regard and should have known that certain of the Standards were not followed.

Specifically, the IAD's last external independent Quality Assessment Review (QAR) was performed in 2013. Such an assessment is required under the Standards every five years. Likewise, the Standards require administration of an internal Quality Assurance and Improvement Program (QAIP) to be ongoing within the department. Both of these Standards are explicitly referenced and adopted in the System's relevant internal documentation, i.e., the AC Charter, the IA Charter, and the IAD Manual of operating policies and procedures.

We believe that the new Chief Audit Executive (CAE) understands these deficiencies and is competent to create a business plan to address what needs to be done to regain compliance with the Standards.

The Audit Committee of the Board has a committee charter (AC Charter) but it could use some modifications to more closely reflect actual practice. Alternatively, actual practice by the audit committee could follow the AC Charter more closely. We recommend the latter. See below for recommendation details.

The Board and Audit Committee are actively engaged with the CAE and provide direction and oversight to the CAE, including reviewing and approving the annual internal audit plan, and reviewing results.

The Board has named a competent CAE.

There is a control environment and tone at the top that enables the Internal Audit Department to be ethical, effective, independent, and objective.

There is an Internal Audit Charter (IA Charter) that describes the roles and responsibilities of the CAE and the internal audit function. In particular, the IA Charter requires Internal Audit to act in accordance with the IIA's IPPF.

The CAE has implemented a risk-based approach to audit planning.

The CAE and Audit Committee have established a quality assurance and improvement program (QAIP). However, the QAIP has been neglected. Recently, the new CAE discussed non-compliance matters with the AC Chairman and desires to bring the IAD back into compliance.

An independent quality assurance review (QAR) of the IAD by a qualified third-party is not conducted on a regular basis, as it should be. The QAR was last done in 2013 and the IAD is behind in compliance. The new CAE plans to get up to speed again with compliance with the Standards. The 2022 audit plan allots administrative time for this.

Tools used by the CAE appear to be appropriate but it should implement continuous auditing for efficiency. Using data warehouse and BI for near real time interactive reports.

With a small Internal Audit staff of four it is difficult for the CAE, who is needed to perform audits, to also perform administrative tasks such as the QAIP and the QAR. In fact, there are numerous and time-consuming administrative tasks that are required by an internal audit function that are often out of sight of senior management and the Audit Committee. For example:

Typical and Necessary Internal Audit Departmental Administrative Responsibilities

Administrative Functions of an Internal Auditing Department
Quality Assurance and Improvement Program
Quality Assurance Review
Risk Assessment
Annual Audit Plan
Departmental personnel and HR matters
Staff Continuing Professional Education
Staff certification tracking
Departmental external correspondence
Audit correspondence
• Announcement/Entrance Conference • Status Reports
Post audit surveys
Administrative documents
• IA Manual • IA Charter
AC liaison
• Agenda prep • Minutes
Working paper management
Departmental Staff Function Coordination

Unfortunately, this list represents non-audit work that still must be done. The CAE needs to make the business case to the Audit Committee regarding the IAD's resource and staffing levels, including new hires and administrative assistance to the CAE, that are needed to accomplish the audit and non-audit work. This was not done in the past and as a result the IAD is struggling now to function in accordance with prevailing and leading practices for a $90 billion global institutional investor.

The failure to maintain compliance with the IIA IPPF should have been discovered in a timely manner by the Audit Committee. We refer specifically to the non-compliance mentioned above with the Quality Assurance and Improvement Program (QAIP) and the Quality Assurance Review (QAR) requirements. If the AC had paid closer attention to its compliance and monitoring milestones it would have expected the prior Chief Audit Executive to provide reports on both of these responsibilities. We believe that the insufficient number of meetings with the Audit Committee, and the brevity of the two meetings held, contributed to the lapse. That said, the prior CAE was the focal point for the actions that should have been taken to maintain compliance, but the buck stops ultimately with the Audit Committee.

When the Audit Committee considers hiring additional Internal Audit staff, the deliberations should include the input of the Executive Director but the final decision on the level of resources should be up to the Audit Committee. Other members of management should not have a say in decisions on IAD staffing.

Recommendations for Improvement

R5.5.1 **Internal Audit (or other independent reassurance source) should include regular testing and reassurance on the accuracy and reliability of the reported status of performance, i.e., red, green, yellow, the trend/direction, and the suitability or appropriateness of the KPI for the KRI. (See also R5.2.10)**

R5.5.2 **The Audit Committee should meet more often with the Internal Auditor, e.g., quarterly; meetings should not be time-limited simply because they are held before a scheduled full Board meeting.**

R5.5.3 **The Audit Committee should develop a comprehensive monitoring and compliance calendar.**

R5.5.4 **The Audit Committee should hire its own professional advisor to the Audit Committee and the Chief Audit Executive in order to:**

- **Provide continuity to the ongoing work of the committee.**
- **Minimize disruption caused by member turnover.**
- **Provide ongoing and relevant education for the AC.**
- **Provide coaching and guidance to the CAE.**
- **Monitor the AC's adherence to its Charter.**
- **Monitor the IAD''s adherence to its Charter.**
- **Provide ongoing professional input and advice to the IAD, the Audit Committee and Board.**

R5.5.5 **The Audit Committee should promptly fill the vacant staff position in the IAD and also hire such additional internal audit staff that are necessary to meet and maintain compliance with IIA Standards and to execute an aggressive internal audit plan with adequate effort assigned to the administrative support of the department; if hiring cannot be achieved in a timely manner, outsourcing to a third party or identifying additional agreed-upon procedures from the external audit firm could provide a solution.**

External Audit

Expectations

The United States Government's Department of Labor developed guidance on selecting external auditing firms for the purposes of auditing employee benefit plans. Specific audit guidance (GAAS and GAGAS) has been issued for audits of employee benefit plans. In addition, the American Institute of Certified Public Accountants ("AICPA") has established the Employee Benefit Plan Audit Quality Center, a firm-based voluntary membership center for firms that audit employee benefit plans to help ensure quality audits and provide resources to its members.

Based on these sources, guidance focuses on these selection criteria:

- The personnel, size and reputation of the firm in the industry;
- The firm's clientele;
- The firm's proven and demonstrated experience in examining the financial statements of a state or local governmental employee retirement agency; and,
- The firm's audit methodology, audit approach and use of information technology tools.

External Audit Standards of Comparison and Findings

External Audit Standards of Comparison	Findings
The independent external auditor firm is selected and approved by the board or its Audit Committee.	NA
The external auditors meet with the Audit Committee periodically throughout the year to discuss:	
• Audit plans.	Yes
• Audit results and reports.	Yes
• Any material findings and recommendations.	Yes
Proposed audit adjustments are few, if any.	Yes
The external auditor meets with the Audit Committee in executive session, without system staff present, at least once annually.	No
Audits are completed on a timely basis.	Yes
Annual audit opinions are clean and not modified.	Yes

Conclusions

We generally found that STRS practices are consistent with the standards of comparison listed above for external audit, with the exception that the Audit Committee should meet more frequently with the external auditor without staff present.

Recommendations for Improvement

R5.5.6 The Audit Committee should meet privately at least annually with the external auditor and internal auditor and without members of the management team present other than legal counsel.

R5.5.7 Audit Committee member education should include a frank and candid discussion of the purpose, use and value of the annual external audit.

5.6 Record-keeping system

Evaluate the adequacy of record-keeping system

Expectations

STRS is exempt from following the State of Ohio Records Management practices; therefore, leading and prevailing practices among state retirement systems were used as the basis for this review.

- Prevailing practices for records management activities include: ISO 27001 is an Information Security Management Systems standard that incorporates several management, physical, and technical controls. The standard provides guidelines and principles to enhance security and protection in the Records Management Lifecycle.
- AICPA discusses the importance of designing security and privacy into an organization's records management program and how security and privacy are accomplished using Generally Accepted Privacy Principles (GAPP) .
- DoD 5015.2 (Department of Defense) standard provides implementation and procedural guidance on the management of records and record- keeping systems. DoD 5015.2 is the de facto standard for Records Management tools.

Note: In Section 6, we also discuss STRS procedures for electronic records compared to EBSA Cybersecurity Program Best Practices. Please refer to section 6 and in particular to section *6.7 Review IT Security and Confidentiality of the Records Systems.*

The purpose of an effective enterprise-wide record-keeping program is to promote efficient administration, compliance, management and retention of the records, and the basis of support for past and present reported assets and liabilities.

Record Keeping Standards of Comparison and Findings

Record Keeping Standards of Comparison	Findings
A record-keeping plan with scope, objectives and clearly understood applicable regulatory obligations.	Yes
A governance model for managing record-keeping policy and providing oversight.	Yes
An enterprise-wide taxonomy and inventory including the following:	
• Definition of a record;	Yes
• Classifications for records; and,	Yes
• Retention schedule based upon record classification and format (paper and digital);	Yes

Record Keeping Standards of Comparison	Findings
A disciplined approach to the management of the retirement system's records to include:	
• Policies and procedures to comply with all legal and regulatory requirements and the retention of multiple copies and formats.	Yes
• Guidance for destroying and transferring records.	Yes
• Guidance to secure records per applicable regulations.	Yes
• Procedures to retrieve information.	Yes
Training and awareness to educate staff on the enforcement of the record-keeping policies.	Yes
Ensuring that the records are protected in accordance with the enterprise data and information security program, including STRS records retained at vendor sites.	Yes
Ensuring that technology is available to read the offsite storage media until the retention period is over.	Yes
Ensuring that the appropriate history and level of transactional detail is retained and easily accessible within cost/benefit constraints.	Yes
Establishing a compliance monitoring framework and baseline metrics; and	Yes
Having a plan for continuous program improvement.	Yes
The system has developed adequate policies and procedures for the retention, destruction, and governance of records; records and security should be cross-referenced in the records management policy.	Yes
There is a document retention and destruction tool that retains the custody and authorization trail after destruction of the record.	No
The system educates and raises awareness with staff about record-keeping through the record-keeping administration and record agent relationship.	Yes
Management can articulate tasks being performed for records management.	Yes
There is an overall records management strategy that has been documented and formally agreed upon by executive management.	Yes
Member service and history records are complete and accurate to support the work of the independent actuary.	Yes

Conclusions

STRS has one of the most comprehensive, systematic, and detailed records filing systems we have seen. Each of the more than 40 discrete functional areas within STRS has identified a filing plan that lists numerous relevant categories of records, the respective retention periods, the locations for storage, and the person responsible. Taken together these file plans account for several hundred categories of records that are maintained by the organization. For example, each of the Legal, HRS, and Member Benefits departments has identified over two dozen categories.

According to the STRS Records and Information Management (RIM) program Guidelines, RIM is responsible for the creation, maintenance and enhancement of the Records and Information Management program to govern the information lifecycle. This is achieved by integrating industry best practices and Generally Accepted Recordkeeping Principles.[28] The RIM Guidelines also describe the roles of STRS personnel that are involved with record receipt, creation, storage and destruction, etc.

In addition to the individual file plans and the RIM Guidelines, STRS also maintains an enterprise-wide records retention schedule and a detailed RIM Program Manual that is available to all personnel. Currently, RIM uses the standard office suite of software tools to create and manage the bulk of its documents and records. We understand that STRS routinely evaluates electronic records management systems for potential benefit to the organization.

Recommendations for Improvement

R5.6.1 The Record Keeping System should include an organizational-level tool to track/ authorize/ memorialize file destruction information.

6. IT Operations

The Contractor will evaluate the control, accuracy, and integrity of the STRS information technology system. This should include a review of STRS data integrity; security and confidentiality of its records system; contingency and continuance planning; and incident management system. The Contractor will evaluate the overall risk level for STRS IT operations. The analysis will include an analysis of:

- The quality of processes and controls for the organization and management of IT operations and governance; IT project and portfolio management; data management; application development and maintenance; local area network infrastructure; security; business continuity plan and disaster recovery; and
- Areas of high risk and STRS' mitigating controls for those defined high-risk areas. The analysis will compare the STRS' control structure with IT industry best practices.

FAS organized this assessment into the following section:

6.1 IT operations and governance.
6.2 IT project and portfolio management.
6.3 Data management.
6.4 Application development and maintenance.
6.5 Local area network (LAN) infrastructure.
6.6 Data integrity
6.7 Security
6.8 IT disaster recovery and business continuity planning
6.9 Incident management
6.10 Areas of high risk and mitigating controls

IT Operations Review Activities

For the IT Operations and IT Security review, we utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices:

1. Assessed the system's overall IT governance structure, policies, procedures and control structure;
2. Assessed the organizational structure of IT to support the ongoing performance of the fund operations;
3. Reviewed the technology infrastructure and applications portfolio along with the service catalog;
4. Evaluated systems and data infrastructure;
5. Assessed project management policies, procedures and capabilities;
6. Reviewed major IT projects underway, including the status and related risks;
7. Evaluated data integrity, confidentiality and security policies and practices and compared to industry leading practices;

8. Reviewed the cyber security capabilities of STRS' operations and systems, including the technology environment delivering applications and data;
9. Reviewed the disaster recovery and continuity planning policies, plan and practices and compared to leading practices;
10. Reviewed incident reporting system; and,
11. Assessed risks associated with IT operations.

Overview of IT Operations

For the most part, the controls over the Information Technology function meet and, in some cases, exceed our expectations.

The IT Services (ITS) function is well structured, with leadership addressing IT operations, project management (Business Enabling Services), investment applications (Investment Services), business applications (Enterprise Solutions) and quality assurance (Quality Services). These five functions report to the Chief Information Officer.

The size of the IT STRS organization is in line with other systems with assets under management of a magnitude comparable with STRS and extensive internal management.

There are approximately 125 employees in ITS, which constitutes nearly 25% of STRS' overall headcount. This proportion is higher than we would expect to see in an organization the size of STRS, but appropriate considering their in-house investment strategies.

The depth of ITS's resources and the cohesion of its management structure are leading towards STRS undertaking two transformative projects simultaneously.

ITS is migrating the fund's investment management system from SS&C's Maximis to SimCorp's Dimension and will soon transition its fund management and accounting system from Oracle PeopleSoft to Workday.

Each of these implementations would be a significant undertaking by itself. Pursuing both will be a considerable effort. We note that ITS has documented software development life cycle and project risk management processes in place to address the issues raised by these two endeavors.

More generally, ITS has documented control-related procedures for project management, information security, application testing, privileged account management, configuration management, system change management, IT disaster recovery and business continuity management. Business Enabling Services, which includes Information Security, oversees compliance with these procedures.

The Information Security Officer and his staff have at their disposal a significant number of software tools for access control and to prevent misuse of systems and data.

These include tools for identifying system vulnerabilities that might be exploited in a cyberattack. In addition, STRS retains the services of a third-party firm to monitor the systems for misuse.

As with most organizations, there is room for improvement and we have made recommendations, where appropriate, accordingly. These are intended to enhance the function in the future rather than to correct deficiencies.

IT Operations Standards of Comparison

The primary standards used as the basis of this evaluation are listed below. There are other standards that address specific areas of concern and are referenced as required.

- The COBIT 19 Framework: Governance and Management Objectives. COBIT 19 is a framework for the governance and management of information and technology, aimed at the whole enterprise. Enterprise IT means all the technology and information processing the enterprise puts in place to achieve its goals, regardless of where this happens in the enterprise. In other words, enterprise IT is not limited to the IT department of an organization but certainly includes it.
- COBIT Focus Area: Information & Technology Risk. In formulating a business or operational strategy, the board of directors and senior management often decide explicitly to accept some level of risk to achieve enterprise objectives. In COBIT, this practice is known as risk appetite, that is, the amount of risk, on a broad level, that an entity is willing to accept in pursuit of its mission (or vision) and the achievement of business objectives. Risk governance and management primarily focus on leveraging resources and activities to help reduce the business impact from a realized risk or the likelihood (or probability) of a risk materializing that exceeds acceptable levels.
- Employee Benefits Security Administration (EBSA) Cybersecurity Program Best Practices. This document provides guidance for use by recordkeepers and other service providers responsible for plan-related IT systems and data, and for plan fiduciaries making prudent decisions on the service providers they should hire. While it is specific to cybersecurity it is also applicable more broadly to information security as a whole.
- National Institute of Science and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity, also known as the NIST Cybersecurity Framework. While nominally focused only on deliberate and malicious attacks on information systems, the framework addresses information security more broadly, while also proposing specific measures to deal with cyberattacks.

6.1 IT Operations and Governance

Assess the quality of processes and controls for the organization and management of IT operations and governance.

Expectations

There is clarity of authority and responsibilities in achieving the System's missions, goals and objectives. Moreover, there is a consistent approach to the governance of IT, integrated and aligned with the overall approach to governance within the System. IT decisions are made in line with the System's strategies, objectives and desired values. To that end, IT-related processes are overseen effectively and transparently, including governance involvement by the board of trustees.

IT Operations and Governance Standards of Comparison and Findings

COBIT 19's Evaluate, Direct and Monitor domain addresses establishing and maintaining a Governance Framework to ensure benefits delivery, risk optimization, resource optimization and stakeholder engagement. In this domain, the board evaluates strategic options, directs senior management on the chosen strategic options and monitors the achievement of the strategy. COBIT 19 recommends addressing these objectives with manageable component sub-processes under the heading of Evaluate, Direct and Monitor (EDM). The standards included in the five sub-processes under the EDM heading are:

IT Operations and Governance Standards of Comparison	Findings
A governance framework is in place.	Yes
Delivery of benefits is tracked.	Yes
There is a process for risk optimization.	Yes
There is a process for resource optimization.	Yes
Stakeholders are engaged through multiple Steering Committees.	Yes

Conclusions

The governance of IT appears to be guided by the business needs of the System. Within the IT function, there are organizational units addressing investment related systems (Investment Services) and systems supporting member services and other business needs (Enterprise Solutions). There are also units focused on IT operations and infrastructure and on the overall quality of the department's services (Quality Services). This structure appears overall to meet STRS basic needs for managing information systems.

There are multiple steering committees that oversee and provide direction to IT. These include a Business Continuity Committee and Selection Committees for major acquisitions.

While the Chief Information Officer has briefed the Board of Trustees on cybersecurity and privacy, most reporting concerning information technology is delivered to the Board by the Executive Director. There is little indication that the Board of Trustees is actively involved in the strategic direction of IT nor of oversight of the management of IT-related risks and opportunities.

Recommendations for Improvement

R6.1.1 **The Board of Trustees should be more involved in oversight of IT-related matters, including known risks such as cyberattacks (especially ransomware) and the breaches of the privacy of member records.**

R6.1.2 **The Board should encourage staff to consider additional opportunities for greater service to the members using information technology through more frequent reporting by and interaction with the Chief Information Officer and including information technology as an agenda item for the Audit Committee.**

6.2 IT Project and Portfolio Management

Assess the quality of processes and controls for IT project and portfolio management.

Expectations

IT projects are based on enterprise goals and other design factors. The roles and responsibilities for IT project and portfolio management, and the required skills and competencies to achieve relevant management objectives, are well defined and communicated. The portfolio of application systems is consistent with the needs of the business.

IT Project and Portfolio Management Standards of Comparison and Findings

COBIT 19's Align, Plan and Organize domain sets forth management objectives for ensuring that IT manages activities and projects in alignment with the needs of the business. This domain addresses the management of certain areas relevant to this aspect of the audit.

IT Project and Portfolio Management Standards of Comparison	Findings
The IT function includes oversight of the system's portfolio of applications and projects.	Yes
Budgets and costs are tracked.	Yes
Deployment of personnel is well managed.	Yes
There is a defined process for managing relationships.	Yes
There is a process for managing service agreements.	Yes
There is a process for vendor management.	Yes
There is a process for managing the overall quality of IT services.	Yes
Responsibilities for managing risk are defined and there is a risk management methodology in place.	Yes
Responsibilities for information security are identified and resources are available.	Yes

Conclusions

The mandate of the Business Enabling Services function includes oversight of the system's portfolio of applications and projects. In addition, there is a Portfolio Review Committee, chaired by the Chief Information officer and including the managers of the IT managers. They determine which projects – and by extension which applications – should be implemented.

Two items should be noted: Not all projects are accepted. There are currently two projects under way that will have major implications for STRS. One is the migration to a new investment management system and the other is the conversion of the current financial management system to a more effective application.

There is a well-documented project management process. It has been in use for at least 15 years. Project managers are assigned to guide all projects. The complexity and importance of each project determines seniority of the project managers assigned to it.

Portfolio and project management practices are appropriate to the System's needs and seem consistent with those in place at organizations much larger than STRS.

IT constitutes nearly 25% of all STRS employees and human resources appear to be well managed. Relationships are managed via Steering Committees.

The Chief Information Officer and his direct reports manage risk and use the FAIR methodology for risk assessment.

There is an Information Security function and a Database Administration function, but there is no Data Management function.

Recommendations for Improvement

R6.2.1 Given the importance of the two major projects currently under way, the Board of Trustees should be regularly informed of their progress.

6.3 Data Management

Assess the quality of processes and controls for data management.

Expectations

There is a Data Management function to administer the use of data and a Database Administration function to control the use of electronic databases. These functions evaluate and categorize data according to sensitivity, privacy and classification. The Data Management functions put processes in place to minimize or eliminate data duplication.

Data Management Standards of Comparison and Findings

Data Management Standards of Comparison	Findings
Key data is identified and there is an adequately-resourced data management function.	Partial
Data management policies and processes are documented and effectively implemented.	Yes

Conclusions

The Data Management Body of Knowledge (DMBOK) 2, as published by the DAMA International defines data management as the development, execution, and supervision of plans, policies, programs, and practices that deliver, control, protect, and enhance the value of data and information assets throughout their lifecycles.

Data management activities are wide-ranging. They include everything from the ability to make consistent decisions about how to get strategic value from data to the technical deployment and performance of databases.

There is no Data Management function at STRS. It is not common to find one at an organization the size of STRS. There is, however, a Database Administration function.

Nonetheless, STRS' Information Security Handbook does describe a classification schema for the System's information, stating that "if a system's information is not designated as sensitive, it will be considered as public".

Recommendations for Improvement

R6.3.1 **STRS should consider a more granular schema for information classification, perhaps distinguishing categories such as "Internal Use Only" or "Private" to distinguish members' personal information from sensitive investment or other information.**

6.4 Application Development and Maintenance

Assess the quality of processes and controls for application development and maintenance.

Expectations

Processes are in place to ensure that applications developed or acquired are aligned with the needs of the business and to manage application development complexity and technical dependencies.

A systems development life cycle (SDLC) is defined, documented and observed. It requires that application testing involve formal user acceptance and that application development projects have defined endpoints and a process for transfer to a maintenance state. The SDLC ensures that project risk is minimized through review and oversight processes.

Access to production software is controlled and monitored.

Application Development and Maintenance Standards of Comparison and Findings

COBIT 19's Build, Acquire and Implement domain treats the definition, acquisition and implementation of IT solutions and their integration in business processes. This domain addresses the management of certain areas relevant to this aspect of the audit.

The COBIT Focus Area: Information & Technology Risk addresses project risk advisory services. These services help to ensure new/changing business strategies, programs, projects, processes and technology maintain an optimized level of risk.

Application Development and Maintenance Standards of Comparison	Findings
There is a clear management structure within IT.	Yes
There is a documented system development process.	Yes
There is a disaster recovery plan that includes a means of operating IT systems during an event that makes offices unavailable.	Yes
There are defined processes for IT interaction with the business and system users.	Yes
There is a documented change management procedure that includes user acceptance testing.	Yes
There is an effective training program for IT staff.	Partial
There is a defined process for management of IT application assets.	Yes
The IT application configuration is managed by IT Operations.	Yes
There is a process for managing quality embedded in each IT project.	Yes

Conclusions

STRS has a documented systems development life cycle (SDLC). It includes a requirements definition, a development process, user acceptance testing and a process for closing out projects and transitioning applications to production/maintenance status. The SDLC seems appropriate for STRS' needs. It will be particularly important to adhere to it during the implementation of the two major conversions STRS is pursuing.

There is an IT Disaster Recovery plan based on the use of a "hot site". As STRS' IT migrates into the cloud, this plan will be modified towards Disaster Recovery as a Service.

IT interacts with the organization with Business Analysts who are "IT ambassadors."

IT training is targeted to specific needs. It has been negatively affected by the pandemic.

IT assets are managed as an aspect of IT Operations. The migration to the cloud will change the nature of this requirement.

Projects are managed by Business Enabling Services.

Recommendations for Improvement

No recommendations at this time.

6.5 Local Area Network (LAN) Infrastructure

Assess the quality of processes and controls for managing the local area network (LAN) infrastructure.

Expectations

All assets on the local area network are identified and managed with appropriate configuration management tools. The LAN and VLAN are documented and mapped.

LAN Infrastructure Standards of Comparison and Findings

COBIT 19's Build, Acquire and Implement domain addresses configuration management. As noted above, this domain addresses the management of certain areas relevant to this aspect of the audit:

- Availability and Capacity
- Assets
- Configuration

LAN Infrastructure Standards of Comparison	Findings
The disaster recovery plan addresses network availability.	Yes
There is a defined process for management of IT network assets.	Yes
The IT network configuration is managed by IT Operations.	Yes

Conclusions

All the assets on the local area network (LAN) are identified. Both the LAN and the wide area network (WAN) are documented and mapped. Management of the LAN seems appropriate for STRS' needs and consistent with widely accepted practices.

IT Disaster Recovery plan based on the use of a "hot site". As STRS' IT migrates into the cloud, this plan will be modified towards Disaster Recovery as a Service. Capacity will also be managed as a cloud service.

Recommendations for Improvement

No recommendations at this time.

6.6 Data Integrity

Assess the quality of policies, processes, and controls for ensuring data integrity.

Expectations

There are processes in place to ensure:

- Segregation of duties regarding the use of program data.
- Reconciliations are performed in a timely and complete manner.
- Variances are identified and rectified in a timely manner.

Data Integrity Standards of Comparison and Findings

COBIT 19 Align, Plan and Organize, addressing the overall organization, strategy and supporting activities for IT. This domain addresses the management of certain areas relevant to this aspect of the audit.

See *6.3 Data Management* and *6.4 Application Development and Maintenance*.

Data Integrity Standards of Comparison	Findings
Segregation of duties regarding the use of program data.	Yes
Reconciliations are performed in a timely and complete manner.	N/A
Variances are identified and rectified in a timely manner.	N/A

Conclusions

Banking records are reconciled on a monthly basis, which supports a monthly close of the books. Any variances are expected to be resolved by the data owner.

See also Section 6.7 Security, below, for our observations regarding access privileges and segregation of duties.

Recommendations for Improvement

No recommendations at this time.

6.7 Security

Assess the quality of policies, processes, and controls for IT security and the confidentiality of the records systems.

Expectations

There is an Information Security function that ensures processes in place that result in:

- Only authorized individuals have access to databases required for their job functions.
- Access permissions are revoked or revised when an individual is transferred or terminated.
- Access credentials are validated whenever an individual attempts to access program records.

The requirement for the confidentiality of the program's records should be incorporated in program policy.

Security Standards of Comparison and Findings

EBSA Cybersecurity Program Best Practices. This document addresses a broad range of information security concerns, all of which are relevant to the prevention, detection and response to cyberattacks, but also have broader applicability.

NIST Cybersecurity Framework, Protect domain has six categories. This domain defines major activities for an Information Security function relevant to this audit:

- Identity Management and Access Control 1
- Awareness and Training
- Data Security
- Information Protection Processes and Procedures
- Maintenance
- Protective Technology

COBIT Focus Area: Information & Technology Risk: Key Roles and Structures identifies specific responsibilities for certain functions related to those of the Information Security function:

- Enterprise risk management (ERM)
- Chief risk officer (CRO)
- Audit department
- Compliance department
- IT risk officers/ managers

EBSA recommendations include:

Security Standards of Comparison	Findings
There is a formal, well documented cybersecurity program.	Yes
Prudent annual risk assessments are conducted.	Yes
Reliable third-party firms conduct an audit of security controls annually.	Yes
Information security roles and responsibilities are clearly defined and assigned.	Yes
Access control procedures are strong.	Yes
Any assets or data stored in a cloud or managed by a third-party service provider are subject to appropriate security reviews and independent security assessments.	Yes
Cybersecurity awareness training is conducted periodically.	Yes
The system development life cycle (SDLC) program addresses information security adequately.	Yes
There is a business resiliency program addressing business continuity, disaster recovery, and incident response.	Yes
Sensitive data, both stored and in transit, is encrypted.	Yes
Strong technical controls are implemented in accordance with best security practices.	Yes
Any past cybersecurity incidents had received appropriate responses.	Yes

Conclusions

The Information Security function oversees cybersecurity and has implemented a number of tools to protect against attacks. The function is well aware of the importance of protecting members' personal information. STRS maintains an extensive Information Security handbook that spells out the System's policies with regard to information security. There is a process in place to find amenable solutions to business requests that deviate from these policies.

Risk Assessments are performed using the FAIR methodology. STRS periodically hires outside testers to perform penetration tests. The strongest vehicle for security awareness is STRS' Information Security policies, which are well supported by management.

STRS takes a role-based approach to granting access to the System's data. Individuals are enabled to access only the data required for them to perform their job functions. Therefore, if roles and access rights are properly assigned, this would establish a basis for segregation of duties with regard to the use of STRS' information.

ServiceNow is used to identify when a person's position changes and initiates a change in access permissions. Microsoft's Active Directory (AD) is used as the repository for these access privileges, although not all applications are supported by AD.

Managers throughout the organization are required to recertify access privileges on an annual basis. IT has a process to identify and escalate any perceived conflicts that would undermine segregation of duties. Notably, all these control processes regarding segregation of duties are primarily manual and partially supported by software tools.

Recommendations for Improvement

R6.7.1 STRS should consider role-based access control (RBAC) software to make the processes of assigning access privileges more continuous, consistent and efficient; there are a number of commercially available tools for this purpose.

6.8 IT Disaster Recovery and Business Continuity Planning

Assess the quality of policies, processes, and controls for business continuity planning and disaster recovery.

Expectations

There is a plan for recovering IT systems and data within the requirements of the business as well as a plan for continuity of the business in the event of an IT disruption. These plans are based on a thorough understanding of the needs of the business. They are tested and maintained on a regular basis.

IT Disaster Recovery and Business Continuity Planning Standards of Comparison and Findings

NIST Cybersecurity Framework, Recover domain has three categories that are relevant to this audit:

IT Disaster Recovery and Business Continuity Planning Standards of Comparison	Findings
There is a Business Continuity Plan and an IT Disaster Recovery Plan.	Yes
The information security program is regularly updated.	Yes
The Business Continuity Plan includes provisions for communications in the event of a disruption.	Yes

ISO Standard 27031, Information technology — Security techniques — Guidelines for information and communication technology readiness for business continuity describes a management system which complements and supports an organization's business continuity and/or information security program, to improve the readiness of the organization to:

- Respond to the constantly changing risk environment.
- Ensure continuation of critical business operations supported by the related IT services.
- Be ready to respond before an IT service disruption occurs, upon detection of one or a series of related events that become incidents.
- Respond and recover from incidents/disasters and failures.

Conclusions

STRS plan for recovering its information systems in the event of a disaster in the data center is based on bringing the systems up at a recovery center fifteen miles away, in Westerville, OH. This exposes STRS to significant disruption should there be a region-wide disaster such as a tornado or earthquake, simultaneously affecting both the data center and the backup site.

IT management is aware of this exposure and is planning to alter the recovery strategy when the contract with the backup site expires in 2024. It is planned that recovery will occur in the cloud, using a methodology known as disaster recovery as a service or DRaaS. Management is currently evaluating

DRaaS vendors.

The Business Continuity Plan also calls for the relocation of staff to the Westerville site in the event of a disruption to operations at the System's headquarters. While this strategy may have been appropriate in the past, recent experience during the pandemic has shown that staff would work in their home and access information systems remotely.

The Business Continuity Plan incorporates communications but has not been needed for execution.

Recommendations for Improvement

R6.8.1 **STRS should re-write its Business Continuity Plan in the anticipation that management and staff would work at home, enabling continuity of operations much more quickly than relocation to a recovery site; such a plan could be easily tested by having personnel periodically work remotely.**

6.9 Incident Management

Assess the quality of processes and controls for incident management policies, procedures and reporting.

Expectations

An organizational unit is in place to respond promptly and thoroughly to reported incidents, with incident management policies, procedures and reporting requirements that address cyber incidents and other disruptions to IT operations and breaches of program policy (e.g., privacy breaches).

Incident Management Standards of Comparison and Findings

NIST Cybersecurity Framework, Response domain has five categories:

Incident Management Standards of Comparison	Findings
There is a documented incident response procedure.	Yes
There are incident logs that document any system incidents.	Yes
Procedures for mitigating the effects of incidents are included in incident planning and control procedures.	Yes
Incident plans have been tested.	Yes

Conclusions

There is a documented incident response procedure that includes but is even broader than response to cyberattacks. A managed security service provider (MSSP), SecureWorks, monitors system logs and provides security event and incident management (SIEM). IT has also engaged a third party to validate that software has not been compromised.

If there were to be a security incident, a computer security incident response team (CSIRT) would be formed, with a core of a member of the Information Security team, the IT Operations manager and other managers and staff from IT. Fortunately, the incident response procedure has never had to be used, but it has been tested.

Recommendations for Improvement

No recommendations at this time.

6.10 Areas of High Risk and Mitigating Controls

Assess areas of high risk and STRS's mitigating controls for those defined high-risk areas. The analysis will compare the STRS control structure with IT industry best practices

Expectations

With regard to IT, there is an established risk appetite with identified acceptable tolerances (i.e., variances) and capacity, with Key Risk Indicators (KRI) to monitor operations. Controls are in place to mitigate risks when they approach the risk appetite and tolerances. Moreover, stakeholder needs are considered when developing indicators of risk.

Areas of High Risk and Mitigating Controls Standards of Comparison and Findings

COBIT Focus Area: Information & Technology Risk: Key Roles and Structures - Information Flows and Items addresses a number of areas concerning IT risk:

Areas of High Risk and Mitigating Controls Standards of Comparison	Findings
There is a formally-defined IT risk profile.	No
There is a formal IT risk communication plan to ensure executives and staff are aware of key IT risks.	Partial
There is an IT risk map that identifies where risks exist and how they interrelate.	Partial
IT risk appetite, tolerance and capacity are included in the IT risk profile and considered in mitigation plans.	Partial
Key risk indicators are identified and monitored on an ongoing basis.	Yes
Emerging IT risk issues and factors are identified and monitored.	Yes

Conclusions

An overall profile of IT risk at STRS has not been developed. STRS has an Information Security Risk Register that addresses security-related matters but not other IT-related risks. The last entry in the register was made in 2019.

There is no formal risk communications plan, but there is an active informal program of IT risk management by IT management and the Executive Director.

Risk appetite is not formally documented. However, the Information Security handbook includes a process for policy compliance and exception management.

There are no formally designated Key Risk Indicators, but there are numerous sources of information about the status of the information systems, including intrusion detection and prevention services, a threat detection service and vulnerability scans. A managed security service provider monitors a variety of risk indicators related to information security. On a periodic basis IT staff consider the most pressing IT-related risks facing the organization. Then, following the process for surfacing and elevating those risks, they are considered for inclusion on the organizational risk dashboard with presentation to the Retirement Board.

STRS stays abreast of emerging technology risk issues, primarily through its managed security service provider.

STRS has a plethora of products to prevent and detect cyberattacks and other malicious attempts to misuse or destroy the System's information resources. However, it is not clear that there is an overall, integrated information security architecture that will persist over time, as technology changes and threats increase.

There are several enterprise information security architecture (EISA) models currently in the literature and supported by software and network vendors. The most prominent of these is known as the Zero Trust model. Many vendors claim that their products are "Zero Trust compliant".

Recommendations for Improvement

R6.10.1 STRS should develop a formal information security architecture that will limit the ability of an intruder to get into the information systems, limit what he can do and where he can go if he nonetheless manages to penetrate the systems and alert monitoring staff if it should occur.

R6.10.2 STRS should investigate Zero Trust and other models as well as the products that support them, not so much for its current needs but rather as the basis for assuring information security over the next decade or longer.

Exhibits to the 2022 STRS Fiduciary Performance Audit

Exhibit A – The Ohio Retirement Study Council

The Ohio Systems

Ohio's five public state retirement systems are the State Teachers Retirement System (STRS), created in 1920 for teachers in public schools, colleges, and universities; the Public Employees Retirement System (PERS), created in 1935 for state employees and expanded in 1938 to cover local government employees; the School Employees Retirement System (SERS), created in 1937 for non-teaching school employees; the State Highway Patrol Retirement System (SHPRS), created in 1944 by the withdrawal of all state troopers from PERS; and the Ohio Police and Fire Pension Fund (OP&F), created in 1967 after the consolidation of 454 local police and fire relief and pension funds.

As of January 1, 2022, the five state retirement systems have combined assets of approximately $266 billion with approximately 655,000 active contributing members, 1,100,000 inactive members, and 486,000 beneficiaries and recipients. The State of Ohio has a long tradition of providing benefits to public employees. These benefits are managed by the five systems and funded through employer and employee contributions and investment earnings on those contributions.

With respect to STRS, the ORSC reviews the following:

• Annual Comprehensive Financial Report (ACFR)	• 5-Year Experience Review
• Annual Valuation Report	• Introduced Legislation with a Financial Impact
• Annual Health Care Report	• New Travel Policy
• Annual Disability Report	• Employee Bonus Program (STRS PBI)
• System Budgets	• Dissemination of Information to the Public
• Annual Iran/Sudan Divestiture Report	• Ethics Policy
• Annual Internal Auditor Report	• 5-Year Mitigating Rate Analysis
• 30-Year Funding Plan (90 days after valuation indicates that it exceeds 30 years)	• Periodic Investment Reports (twice per year)

Exhibit B – Bylaws Recommendations

Bylaws should address the following:

1. Outline statutory framework and administrative rules in the introductory section.
2. Given the level of importance, the statement of fiduciary duties should be a separate section and expanded to include a more comprehensive statement of fiduciary duties, including the application of recent developments in trust law.
3. Board composition.
4. The statute addresses designee or appointee qualifications; however, qualifications of other members not otherwise addressed.
5. The general powers of the Board are referenced throughout various policies; however, this should be consolidated and addressed in the bylaws.
6. Board member terms of office.
7. The mechanics of filling a vacancy are discussed in the administrative rules, but there does not appear to be a process for declaring a vacancy (other than criminal removal).
8. § 3307.05—Board Membership provides that the Superintendent may appoint a designee.
9. § 3307.08 requires the Oath of Office upon appointment or election. Filed with the secretary of state.
10. § 3307.061 addresses proceedings for removal dues to misconduct; resignations are not otherwise addressed. Removal and resignations should be addressed in the bylaws.
11. Compensation is addressed in Appendix A of the Board Policies.
12. Attendance is currently addressed in the Board Attendance Policy (GM at 15). This should be moved to the bylaws and revised to provide greater clarity around this vote (threshold and basis for excuse).
13. Delegation to committees.
14. Board direct reports is addressed in the Board Job Description and the Audit Committee Charter. This is lacking detail and should be developed into a broader policy. It is also unclear how the performance evaluation is conducted for the internal auditor.
15. Place of meetings is partially addressed in Rule 3307-1-02.
16. Open meetings requirements.
17. The requirements with respect to regular, special, and emergency meetings.
18. Meeting agendas are addressed in the Officers, Terms of Office, Duties Policy (GM at 17).
19. The annual calendar.

20. Meeting notice requirements.
21. Quorum and voting requirements are addressed in § 3307.09 and Officers, Terms of Office, Duties Policy. This is buried in the authority of the Chair list. The requirements should be addressed in the bylaws.
22. The Public Participation at Board Meetings Policy (GM at 33) should be moved to the bylaws.
23. Executive session requirements and mechanics.
24. § 3307.11 provides that the Board shall elect from its membership a chairperson and a vice-chairperson. There is no statutory requirement that this be an elected member; however, this is established by policy in the Governance Process: Officers, Term of Office, Duties (GM at 16).
25. Board officer vacancies not addressed (other than the VC acting as temporary chair).
26. Chairperson term limits and succession should be addressed in the bylaws. The current one-year term limit is very unusual; if term limits remain, they should be at least three or four years for improved continuity of leadership.
27. The Powers and Duties of the Secretary/ Executive Director
28. § 3307.13 provides that the attorney general shall be the legal adviser to the Board. The bylaws should also address the role of the Chief Legal Counsel. Also, we note that it is a prevailing practice for a board to have the discretion to hire independent fiduciary counsel.
29. § 3307.10 provides for expense reimbursement and authorizes the Board to secure insurance. However, the Board should adopt a policy to address any carveouts from indemnification and advancement.
30. Amendments (including the voting threshold for adopting).

Exhibit C – Proposed Policies to be Developed

- The Governance Manual should be organized by powers reserved for the Board:
  - Conduct the business of the Board and its committees
  - Approve/Set direction then Delegate
  - Oversee
  - Verify
- Conduct the business of the Board and its committees.
  - ***Election Procedures and Guidelines Policy.*** § 3307.06 addresses Board Elections; §3307.075 requires the adoption of election rules, which are set forth in Rule 3307-2-01. Retirement Board Elections Policy (GM at 28) is not a policy; rather, it simply lists 5 tasks. The Governance Manual should reference the admin rule and, to the extent that the Board wishes to reserve any of the listed tasks, this should be addressed in the powers reserved.
  - ***Conflicts of Interest/Recusal Policy.*** The Board should adopt a policy that addresses consultation, disclosure, and recusal.
  - ***Board Confidentiality.*** The Board should adopt a comprehensive confidentiality policy.
  - ***Referral of Investment Opportunities and Service Provider Candidates; Related Communications; Undue Influence.*** The Board should adopt a policy.
  - ***Board Travel Policy.*** The current policy anticipates Board member travel to attend meetings with investment advisors or consultants and to oversee investment assets and properties. Given the extensive delegation, Board member travel for investment oversight is likely not appropriate.
  - ***Board Self-Assessment Policy.*** The current policy provides that the vice chair will develop and/or update the Board self-evaluation instrument and the methodology for administering and reporting. We note that this is typically a governance committee function and using a consultant may be additive. The Board Self-Evaluation Policy is not a substantive policy and the "Governance Process" policies are simply task lists that do not lend to a qualitative analysis or identify development needs. The Board should revise the policy to establish a process for identifying gaps in skill and core competencies, as well as identifying key strategic initiatives, and tailor education accordingly.
  - ***Fiduciary Review Policy.*** The statutory requirement should be referenced in the Governance Manual.
- Approve/Set/Delegate.
  - ***Actuarial Services Policy.*** The Board should adopt an actuarial services policy that

addresses: (1) scope, (2) selection of actuary, (3) annual valuation, (4) experience study, (5) actuarial audit, and (6) transparency, in addition to any other applicable topics.

- ***Strategic Planning Process.*** The Governance Manual provides that the Vice Chair in consultation with the Board will develop "long-term" plan for *year* that he or she will serve as chair. (GM at 17). The Board should develop a policy that addresses long-term integrated strategic planning and associated metrics.

- ***Delegations to Executive Director.*** Delegations are addressed in the Statement of Fund Governance/IPS. The Board also adopts delegation resolutions annually and in connection with the Investment Management Plan. The Executive Director job description lacks expected detail regarding roles, responsibilities, and accountabilities. This should be revised to provide further clarity regarding clarity on performance metrics and accountabilities. Importantly, the Board should adopt a comprehensive (cross-functional) delegation policy that includes the investment-related delegations (which are well-established as compared to the non-investment delegations).

- ***Performance Review Process for Executive Director.*** There is an Evaluation of the Executive Director Policy (GM at 37); however, it is not substantive—it simply states that the Board will develop and instrument and methodology for conducting an annual review. The Board should adopt a substantive policy, including a review process that ties to metrics established through strategic planning.

- ***Board-Staff Relations.*** See above comment in the Standing Committees section. Board-staff relations should be addressed comprehensively in a separate policy.

- ***Board Communications Policy.*** This topic is not currently addressed (other than Chair as spokesperson). The Board should adopt a comprehensive policy.

- ***Stakeholder Communications.*** The Board should adopt a policy.

- ***Legislative Communications.*** The Board should adopt a policy.

- ***Crisis Communications.*** The Board should adopt a policy.

- ***Enterprise Performance and Risk Management (EPRM) Policy.*** The Board should adopt a policy.

- ***Non-U.S. Proxy Voting Policy*****.** STRS' policy does not distinguish between U.S. and non-U.S. proxy voting. If the practice is to default to the external manager's policies or to standard ISS non-US policies, at a minimum, there should be a record that STRS reviewed and accepted whatever applies and periodically monitors compliance. However, it is a prevailing practice to have separate policies for U.S. and non-U.S. proxy voting because of different issues and practices between markets. The Board should adopt a separate policy.

- ***ESG Policy.*** The Board should adopt a policy.

- ***Investment Policy Statement—DC Plan*****.** The Board should adopt a separate IPS for the DC plan.

- ***Funding Policy.*** This is partially addressed on page 4 of the Governance Manual. Appendix C sets forth the metrics to guide the funding policy. We note that it is unclear how intergenerational equity would be inconsistent with other funding objectives. The Board should consider its funding objectives in the context of appropriate time horizons, consistent with the duty of loyalty.
- ***Pension Benefits*.** There are various statutory provisions and administrative rules, with certain items requiring Board approval. DB plan oversight should be referenced in a policy or otherwise addressed in the powers reserved.
- ***DC Plan.*** The Board has adopted rules; however, DC plan oversight should also be addressed by policy.

- Oversee
  - ***Policy on Placement Agent Disclosures.*** The Board should adopt a policy
  - ***SEC "Pay-to-Play" Rule Compliance and Reporting Policy***. The Board should adopt a policy.
  - ***Financial Disclosure Policy.*** The Board should adopt a policy, consistent with statutory requirements and requiring compliance reporting.
  - ***Insider and Personal Trading Policy.*** STRS has adopted Associate Person Trading Guidelines and an MNPI Policy. The insider trading and confidentiality policies should also apply to Board members.
    - STRS should revise the MNPI Policy and its practices to ensure that:
      - an information barrier exists at all times between the private and public investment teams as a preventive measure to avoid any potential for the public investment team to come in contact with private holdings information that could be considered MNPI.
      - There is an explicit prohibition on the public side of STRS from investing in IPOs or secondary offerings or corporate debt offerings including packaged bank loans for companies that are held or that were held immediately preceding the IPO within any of their GP funds.
  - ***Whistleblower and Reporting Policy.*** The Board should adopt a policy.
- Verify
  - ***Audit Policy.*** The Board should adopt a policy.
  - ***Compliance Policy.*** The Board should adopt a policy.

Exhibit D – Proposed Model Committee Charter Elements

Each charter to include model charter elements:

I. Purpose and Authority

II. Composition

III. Meetings

IV. Responsibilities

   A. Recommend direction and policy to the Board

   B. Recommend approval of key decisions

   C. Oversee; escalate performance exceptions to the Board

   D. Obtain independent verification of the reliability of reports received and issued

V. Reporting to the Board

VI. Self-Evaluation

VII. Frequency of Review/History

Endnotes

[1] https://www.investopedia.com/terms/f/forensic-audit.asp

[2] National Institute on Retirement Security March 3, 2022, Retirement and Healthcare Benefits Viewed as Key Tools to Attract and Retain Public School Teachers and Staff

[3] National Institute on Retirement Security March 3, 2022, 83 Percent of Americans Worried About K-12 Public School Staff Shortages, New National Institute on Retirement Security Survey Finds

[4] www.orsc.org

[5]http://www.acgactuary.com/faq.html#:~:text=The%20main%20tasks%20of%20pension,be%20paid%20to%20its%20retirees.

[6] ACA Compliance Group was founded in 2002 by four former SEC regulators and one former state regulator. The founders saw a need for investment advisers to receive expert guidance on existing and new regulations. ACA services now include GIPS® standards verification and other services to financial institutions and asset managers. Source: ACA website

[7] "The CFA Institute seeks to set professional standards for investment management practitioners and broadly engage other finance professionals through their interest and interactions with the investment management industry. Improving outcomes for investors advances our social mission and benefits members through greater demand for educated and ethical investment management professionals." Source: CFA Institute website

[8] Public Pension Issues and Trends, Keith Brainard, Research Director, National Association of State Retirement Administrators, State Teachers Retirement System of Ohio Board Education & Planning Meeting November 2021

[9] Cheiron: Actuarial Valuation Report June 2021

[10] Co-fiduciary liability is explicitly established under ORC 3307.181 (D).

[11] This framework is the subject of guidance Funston Advisory Services LLC is developing for use by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). COSO has previously published, for example, an Internal Control Framework and Enterprise Risk Management.

[12] Keith Brainard, ibid.

[13] RVK

[14] CEM 2021

[15] The Budgeting Process, Elizabeth Hamilton Foley, Greater Washington Society of CPAs Educational Foundation

[16] For private sector asset managers that are within publicly traded companies, long term awards often take the form of common stock. For others, the unitization of the award facilitates the annual valuation process. Unvested long-term compensation commonly appears as a liability on the general ledger and ACFR.

[17] Schedule B and side letter standards are part of IMA and LPA contracts, respectively and subject to STRS Ohio Investment Legal Due Diligence Process and STRS Ohio Contract Review Procedures.

[18] If a custodian bank does not have a STIF product to offer its institutional investors, they may offer similar third-

party products, such as a money market fund, as an alternative.

[19] http://www.coso.org/documents/coso_erm_executivesummary.pdf

[20] http://www.iso.org/iso/home/standards/iso31000.htm

[21] Basel Committee on Banking Supervision, Revisions to the Principles for the Sound Management of Operational Risk, March 2021

[22] ISO/IEC 73, IIA Standards Glossary Definition, COSO ERM

[23] Taleb, Nassim, "The Black Swan: The Impact of the Highly Improbable", Random House, 2007.

[24] FDIC, "Operational Risk Management: An Evolving Discipline", https://www.fdic.gov/regulations/examinations/supervisory/insights/sisum06/sisummer06-article1.pdf#:~:text=Operational%20riskis%20defined%20as%20therisk%20of%20loss%20resulting,definition%20includes%20legal%20risk%2C%20butexcludes%20strategic%20and%20reputationalrisk.

[25] https://www.wallstreetmojo.com/investment-risk/

[26] "Enterprise performance" is an inclusive term intended to include investment performance and all other significant performance metrics that are relevant to the System's strategic plan and initiatives.

[27] Materiality is a modifying convention and subjectively determined. If the difference in reported financial condition or operations is not material between two alternative accounting principles, then management is free to decide which principle is applied. The concept of cost/benefit often is a consideration in making the decision.

[28] Generally Accepted Recordkeeping Principles® ©2017 ARMA International