2022 Fiduciary Performance Audit of the Ohio Police & Fire Pension Fund

FINAL REPORT

Conducted on Behalf of the Ohio Retirement Study Council

Funston Advisory Services LLC

Submitted
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Executive Summary

Introduction

Funston Advisory Services LLC (FAS) was selected to conduct simultaneous 2022 Fiduciary Performance Audits of the Police and Fire Pension Fund (OP&F) and State Teachers Retirement System (STRS) 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 for both OP&F and STRS and using the same methodology. 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 over 230 pages) details our expectations, the standards of comparison, and our specific findings, conclusions and recommendations for the Ohio Police and Fire Pension Fund.

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

1. Fiduciary duties to current and future members and beneficiaries.
2. Powers reserved exclusively for the OP&F 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.

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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 Ohio Police and Fire Pension Fund (OP&F) is no exception.

For public employees, who dedicate themselves to a career of public service, public employment offers financial security and compensation and the promise of lifetime 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. Questions about the long-term value and security of benefits increase difficulties in public employee recruitment and retention.[i]

For the public, communities benefit when public employers are able to attract and retain skilled public employees.[ii] And, 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, 1,100,000 inactive members, and 486,000 beneficiaries and recipients.

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 performance 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 performance audit was conducted in 2006 and an actuarial audit in 2017 The 2022 fiduciary performance audit was commissioned by the ORSC through a competitive process that selected Funston Advisory Services LLC (FAS) to perform the audit. The actuarial review and experience review as well as an Asset/Liability Study is currently underway. Future fiduciary performance audits and actuarial reviews commissioned by the ORSC should be timelier.

Summary Roles and Responsibilities	
Legislative Oversight	
Ohio Retirement Study Council (ORSC)	ORSC selects independent reviewers: fiduciary, actuarial and investment and also reviews OP&F's reports and budgets. Oversees OP&F's performance on behalf of the Ohio Legislature. Has engaged RVK to provide semi-annual investment performance analysis of OP&F (and the other four systems).
Direction, Oversight and Control	
OP&F 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	Cavanaugh MacDonald is the actuary for OP&F. The main tasks of pension actuaries are ensuring that their clients are in compliance with the law, calculating the employer's liability for the defined benefit pension plan and determining contributions to be made to the plan. They provide calculations of monthly pension amounts to be paid to its retirees. Pension actuaries perform annual valuations to determine the employer's liability for the pension plan. The valuation includes two main areas: funding and expense.[iii]
Investment Consultants	The Board's retained investment consultant, currently Wilshire, reviews investment performance results and provides investment advice at least quarterly. Wilshire, Aksia/TorreyCove and Townsend provide a host of investment consulting services to the Board, and act as fiduciaries under state and federal law.

Summary Roles and Responsibilities	
Reasonable Assurance	
Executive Director & Staff	Responsible for the execution of direction within policy. Engaging with stakeholders. Reporting vital signs for vital functions. Providing reasonable assurances re: "normal" or expected performance. Escalating exceptions together with direction/policy insights. Advising the Board on direction and policy.
Independent Verification	
Internal Audit	OP&F's internal audit team is independent of management and performs operational, financial and compliance audits of all OP&F departments. Internal audit staff has unrestricted access to all OP&F activities and records and reports directly to the Board's Administration and Audit Committee.
Ohio Auditor of State	OP&F undergoes an annual external financial audit by RSM US LLP, under the oversight of the Ohio Auditor of State. The audit covers the financial statements and related notes to the financial statements. OP&F has consistently received a clean opinion that indicates the financial statements were presented fairly in accordance with generally accepted accounting principles.
Independent Benchmarking	
CEM Investment Benchmarking	CEM annually presents a report to the Board comparing OP&F's investment costs and performance to those of peers.

The Purpose of a Fiduciary Performance Audit

Independently assess whether OP&F's 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 as assessment provides reasonable, but not absolute, assurance.

Ohio Revised Code Section 742.03 | Board of trustees to administer and control fund.

(B) The administration, control, and management of the Ohio police and fire pension fund, created under section 742.02 of the Revised Code, is vested in a board of trustees of the Ohio police and fire pension fund.

Ohio Revised Code Section 742.11 (A):

(A) The members of the board of trustees of the Ohio police and fire pension fund shall be the trustees of the funds created by section 742.59 of the Revised Code. 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 Ohio police and fire pension fund; 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; and by diversifying the investments of the disability and pension fund so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so.

Fiduciary Performance Audit Scope

FAS was asked by the ORSC to review six main topics "for the primary purpose of identifying areas of strengths and weaknesses in OP&F, comparing OP&F operations with best practices of other pension plans, and to make recommendations for improvement":

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, managers, or benchmark service. We have experienced no attempts at undue influence. Our recommendations solely aim to improve fiduciary performance to benefit current and future OP&F 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 Performance 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 OP&F's purposes under present and future circumstances.

We reviewed documents, conducted a survey of trustees and executives, collected benchmark information, interviewed the OP&F 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 150 recommendations for improvement.

Overview of the Ohio Police and Fire Pension Fund (OP&F)

OP&F was created in 1965 by the Ohio General Assembly to provide pension and disability benefits to the state's full-time police officers and firefighters. OP&F also provides survivor benefits and health care support for eligible retirees and their dependents.

Operations began in 1967, when assets of $75 million and liabilities of $490 million were transferred from 454 local public safety pension funds across Ohio. As of March 29, 2022, OP&F's investment portfolio was valued at $19.04 billion.

Today, OP&F serves approximately 27,000 active members and more than 30,000 retirees and their beneficiaries. Public employees in Ohio do not participate in Social Security so the retirement systems are their main pension resource.

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

OP&F's operating expenses are paid solely out of investment returns. No member contributions or tax dollars are expended. OP&F's 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 OP&F 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.

OP&F provides several vital retirement functions:

- Investment
- Benefits
- Administration

Fiduciaries have a duty to ensure the fund is sustainable for the benefit of current and future members and beneficiaries.

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

Ohio Revised Code Section 742.11 (A) sets forth the fundamental fiduciary duties that apply to OP&F. 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 OP&F.

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[iv]

There is high potential for conflicts of interest inherent in the governance of public retirement systems. The nine trustees are elected and appointed. Four are elected by contributing members, two are elected by retired members, and three are appointed investment experts (one appointed by the Ohio Senate/House, one by the Treasurer of State, and one by the Governor). 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 OP&F Board appears to have acted with loyalty and impartiality solely in the interests of current and future members and beneficiaries.
Prudence / Care*	The OP&F Board appears to act with appropriate prudence and care.
Stay informed	The OP&F 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	OP&F appears to effectively control costs while maintaining high performance standards.
Comply with law/ reporting	OP&F 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 would suggest fraud or defalcation or unethical behavior on the part of any fiduciary.

B. Exercise of powers reserved exclusively for OP&F Board

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 OP&F Board.

The OP&F Board is comprised of nine members as follows:

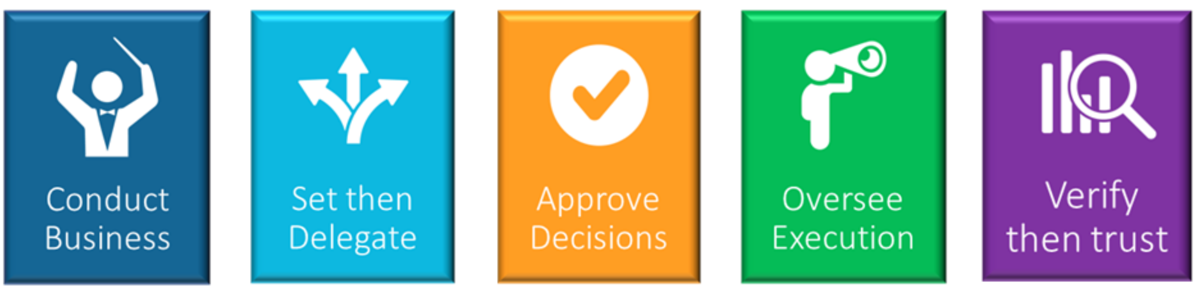
Six employee members elected by their respective member groups

- Two representatives of police departments
- Two representatives of fire departments
- One retired firefighter
- One retired police officer

Three statutory members with professional investment experience

- One appointed by the Governor
- One appointed by the State Treasurer
- One appointed jointly by the Senate President and the Speaker of the House.

The Ohio code prescribes the powers granted to the OP&F Board. FAS has developed a proprietary Powers Reserved Framework which we used to assess how the OP&F Board exercised powers to fulfill its duties:[v,vi]



- Conduct the business of the board and its committees
- Set direction and policy and then prudently delegate
- Approve key decisions above a threshold
- 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 OP&F 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 OP&F.

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 OP&F 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. Addressing these lagging practices would require legislative action that is beyond the control of OP&F.

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

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 OP&F Board
Ohio Code and Legislative Oversight
• Ohio statutes governing the public retirement systems are leading practice in many respects with the exception of OP&F's inability to select external legal counsel and the custodian.
• ORSC's oversight is leading practice but future fiduciary performance audits need to be timelier.
• Trustee terms should be fully staggered by statutory enactment. Terms are currently staggered, but vacancies can cause multiple elections in a year.
Conduct the business of the board and its committees
• Chairs and vice-chairs should be selected on merit and include appointees and allow for re-election for continuity. Board policy presumes single terms, but permits re-election upon Board action. Constituency emphasis may detract from the duty of loyalty to all current and future members and beneficiaries.
• Develop a comprehensive stakeholder communications plan.
• OP&F's use of committees is effective.
• Consider rebalancing the committee structure to better manage workload and improve oversight.
• A comprehensive and integrated multi-year decision / event calendar for the board and each of its committees would help anticipate required board decisions and approvals.
• The OP&F 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., stream, record, and archive board meetings on-line. Board books should be publicly available beyond interested parties.
• While ethics policies and procedures are appropriate, compliance with ethics policies can be improved.

Key Conclusions / Recommendations re: Powers Reserved for OP&F Board
Approve key decisions above a threshold
• Due diligence standards / procedures need to be clarified for each key decision requiring Board approval.
Set direction then prudently delegate
• Staff compensation is consistent with prevailing peer practices.
• Delegations can be improved using powers reserved framework to improve clarity and resolve gaps.
• There should be separation of responsibilities between investments and investment accounting to ensure independence.
Oversee the execution of direction within policy
• OP&F's external manager fees, when adjusted for its investment strategy, are comparable to peers.
• Oversight of strategy, operations, reporting and compliance can be improved through adoption of exception-based reporting.
• OP&F needs to establish, refine and approve performance metrics, risk tolerances and escalation processes.
• Risk is not clearly defined. OP&F 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.
Verify then trust / obtain independent audit and advice
• Internal Audit has budgetary and spending authority and should consider outsourcing for specialized audits and advisory support.
• IA alignment on reliability of management reports can be improved.

C. Fiduciary Performance Audit Scope

1. Governance and Administration

While Ohio statutes are leading practice in many respects, OP&F should seek legislative authority to select external legal counsel for investment and fund management matters. OP&F should also continue to pursue legislation that provides for fully staggered Board member terms. Terms are currently staggered; but vacancy provisions need to be updated. OP&F has pursued a permanent legislative fix for several years as vacancies mid-term can cause multiple elections in a year.

Delegations from the Board to the executive are currently functioning well. The OP&F Board has increased investment decision delegation to the Executive Director and CIO and should continue to increase delegation over time. Using the powers reserved framework described earlier, a Board policy should be developed to clearly articulate the decisions reserved for the Board and those that are delegated to the Executive Director.

The OP&F Board onboarding and continuing program appears to be effective but could be improved. The Board should repeal its current policy that precludes non-elected trustees from being elected as Board chair, so that selection of Board leadership can be made based solely on merit. The Board should consider policies that would provide for re-election of chairs and vice chairs for improved continuity, as well as a more deliberate process for committee appointments. Board policy presumes single terms, but permits re-election upon Board action.

OP&F could improve transparency of decision making for stakeholders by livestreaming meetings and making board materials publicly available. OP&F communications and outreach have improved greatly over the past year, and both Trustees and stakeholder groups expressed satisfaction; however, OP&F should develop its current plan into a more comprehensive stakeholder communications plan. The OP&F Board has adopted a clearly developed and thoughtful strategic plan; OP&F could engage more effectively with key stakeholder groups during development of future plans. OP&F should develop a multi-year strategic policy agenda that includes the timing of all key Board decisions expected over the next several years.

The OP&F Board should consider rebalancing its committee structure to better manage workload and improve oversight. The OP&F trustees spend more time in committee meetings than peers, but appear to utilize the committees effectively, resulting in shorter full Board meetings. The Board should revise its policies regarding selection of committee officers. The chair should annually make committee membership appointments, subject to approval of the full Board. With assistance from staff and advisors, each committee should develop a list of standard questions to ask on each key topic.

The annual budget development process at OP&F is considered effective from both a controls and execution perspective; the administrative operating budget could be expanded to three years, similar to the capital outlay budget. The organization's policies, processes and oversight practices have enabled OP&F to operate within budget for nine years out of the last ten; one key opportunity for improvement is in the justification and reporting of capital initiatives.

OP&F has appropriate ethics policies and standards of conduct in place that implement Ohio statutory requirements. However, there are several opportunities to improve compliance aspects of those policies. The OP&F Board has had an effective succession planning process for the Executive Director; it worked well with the recent leadership transition.

2. Organizational Structure and Staffing

OP&F appears to be comparably staffed to other state public safety pension funds after accounting for scale. Overall, the OP&F organization is consistent with prevailing peer practices in terms of structure and staffing. There should also be separation of responsibilities between investments and investment accounting to ensure independence.

Human Resources is a priority for the Board and staff has strong capabilities, but limited capacities. Staff recruitment is a growing challenge. OP&F has a structured, procedures oriented, and uniform approach to position and performance management; however, the number of uniquely defined positions should be streamlined. Supporting HR systems are effective. OP&F has implemented a succession plan and continues to develop its bench strength.

OP&F has had a reasonable level of voluntary turnover in recent years. However, impending retirements are a risk; HR has taken steps to mitigate risks from a retirement wave. HR has not regularly obtained employee feedback on culture and job satisfaction but should do so.

Member services reports to the Board focus on volume of applications, member selections of plans, disability statistics, and payment initiations, but do not address service levels. OP&F does not obtain member satisfaction feedback as extensively as most peer systems and does not obtain benchmarking reports on service levels and costs. Many of the member services processes are manual, but they function reliably. A new pension administration system is being implemented that will significantly automate many processes and increase the level of member self-service.

Practices for setting and monitoring compensation across the organization are consistent with prevailing practices for public pension plans. OP&F typically commissions compensation benchmarking reports every five years; the last report was completed in 2015 by Gallagher Benefit Services, an outside consultant. OP&F responded to some, but not all, of the 2015 compensation recommendations. A new compensation benchmarking report was recently completed by CBIZ, a different compensation consultant. The new compensation benchmark report should be very important to OP&F.

OP&F has a strong foundation for staff development; however, several areas could be strengthened. HR has also commenced the practice of integrating training and development into the OP&F succession plan. Greater change management skills are needed at OP&F, in particular, in support of the transformational new pension administration system being implemented.

3. Investment Policy and Oversight

The OP&F Board has chosen to hire a small, but highly qualified in-house investment staff with extensive use of external investment advisors and investment managers to invest the portfolio. No funds are managed directly in-house. OP&F is among a very small number of major institutional investors to have adopted a risk parity investment approach across the Plan's entire investment structure. OP&F's 10-year performance is in the top quartile (14^{th} percentile) among peer public pensions, and over 135 basis points annualized performance above the policy benchmark on an after-fee basis. The OP&F Board, Staff and Consultants are clearly thinking "outside the box" in their search for risk adjusted returns for the OP&F beneficiaries.

The OP&F Board follows prevailing practices in the development of their Investment Policy Statement (IPS). A separate Statement of Investment Beliefs should be developed by the Board. The IPS is consistent with prevailing practice in most areas. The IPS articulates investment implementation guidelines and guidance regarding implementation policies and procedures well. OP&F should develop a separate IPS for the Post Employment Healthcare plan (PEHC).

Staff should create a summarized monthly compliance report that includes long term and interim investment guidelines, asset allocation ranges, and an affirmation of compliance with these ranges over the past monthly period. The external manager compliance monitoring system is prevailing practice level.

The Board is currently conducting a new asset-liability study and recently lowered the expected rate of return from 8% to 7.5%, which is still high relative to peers. OP&F has a high degree of cash awareness and attentiveness on their alternative positions. OP&F should establish a new uniform template for Board investment approval packets that includes a short cover page summary.

OP&F should collect all significant policies, statutes, and rules within a single reference document (e.g., the Governance Manual) that is regularly updated. The Board should establish a policy for either internal or external benchmarking of policies on a set periodic or policy by policy basis.

OP&F is consistent with prevailing industry practices when generating performance measurement reports and monitoring their external investment managers. The quality of the regular board reporting should be improved. The regular asset class reviews provided by Wilshire, Townsend and Aksia/TorreyCove – separate from the quarterly performance reporting process – provide a greater level of detail on the investment structure and philosophy behind the portfolio strategy. More detailed information should be provided to the Board regarding investment performance.

The due diligence process utilized in the monitoring of external managers is both thorough and thoughtful. The discipline of having internal investment professionals and external investment providers/employees certify confirmation with CFA Institute standards and applicable ethics laws is a prevailing industry practice.

Transaction cost management and broker practices are controlled and monitored at OP&F and considered on par with peer practices. There are a number of Board approved transition benchmarks resulting in "policy benchmarks" for both the Plan and Asset Class level in the calculation of results. OP&F should conduct a Plan and asset class level benchmark review in the investment structure reviews provided by Board consultants.

On an overall basis, OP&F has leading or prevailing practices for managing external manager fees both in public accounts and alternative based accounts. The validation and oversight practices for external manager fees are considered thorough and well controlled, although practices for private assets could be improved.

The annual manager fee report to the board and in the annual comprehensive financial report could be enhanced by adding relative and absolute performance information and breaking out management fees from performance fees, and including carried interest costs, where applicable. OP&F's external manager fees, when adjusted for its investment strategy, are comparable to peers.

The manager search process is effective and well documented in the Investment Manager Search Policy document. External manager monitoring processes are appropriate. Guidelines for investment risk are appropriate and prevailing practice. The process of defining and understanding soft risks associated with the OP&F investment portfolio is less well developed. Developing and maintaining staffing and talent on the OP&F investment team is a key risk.

Custody of public assets at OP&F is contracted with Huntington National Bank for domestic securities, and through Huntington to Northern Trust Bank (as sub-custodian) for international securities, respectively. Northern Trust also provides foreign exchange trading, derivatives servicing and collateral management, and investment risk and analytic services.

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 OP&F following an in-house strategy, with support from other third-party providers, and minimizing services from the custody banks. Prevailing practice at peer public funds is to leverage the custodial bank's extensive technology suite, supplemented by other providers as necessary. Within the narrower scope of external services provided to OP&F, the relationship and operating environment between the agency and its two custodial banks can effectively be summarized as an "optimization of the suboptimal".

All parties view the currently defined service levels and scorecard reporting process as effective. The cash management services provided to OP&F by Huntington and Northern Trust are considered robust and well controlled. Ohio has a unique custodial services model based in statute that does not lend itself to comparison to peers with respect to cost. Although the statutory Ohio custodial services model is a lagging practice, the Treasurer of State's office has improved custody bank selection and oversight processes. TOS and OP&F should take steps to ensure that the current positive custody relationships and processes continue to improve.

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

4. Legal Compliance

OP&F legal staff appear to be well qualified; outside counsel firms are also experienced legal advisors to public pension funds in their respective areas of expertise. OP&F should adopt a policy that provides for a formal tax compliance program that establishes standards for obtaining periodic written assurance from outside tax counsel with respect to continued IRS compliance.

Board and staff ethics policies should be updated to explicitly provide for reporting on compliance review results to the Audit Committee, in addition to the Executive Director. Legal staff should consult with the Attorney General to ensure that satisfactory expertise and processes are in place to enable OP&F recoveries on foreign corporate fraud claims in litigation outside the U.S. OP&F should compile a compliance manual as the repository for compliance policies, processes and assigned responsibilities.

OP&F should seek legislative authority to select external legal counsel for investment and fund management matters or engage with the Attorney General about a Memorandum of Understanding that formalizes a process which recognizes the fiduciary duties which OP&F has in selection of and contracting with counsel. An MOU should help to provide consistency through Attorney General transitions.

5. Risk Management and Control

OP&F has implemented a conventional approach to enterprise risk management. OP&F would benefit from a simpler approach built upon an enterprise performance and risk management approach, which could be built on the exception-based performance reporting already used by OP&F in much of its operations.

Reporting to the Board could also be streamlined through the use of exception reporting based upon tolerances approved by the Board. Oversight by Board committees could be improved with an enterprise performance and risk approach.

The ability of trustees to navigate board books for executive summaries to the detail behind the analysis could be greatly enhanced. The essential components of the OP&F financial control structure are consistent with prevailing peer pension and benefit systems, with one exception. OP&F should move the Investment Accounting function from the Investment Office to Finance to improve segregation of duties.

OP&F financial reporting and financial statements are sound. OP&F procurement policies and processes are fundamentally sound. The OP&F Finance and Accounting function is capable, and the accounting systems appear to be effective. Internal Audit appears to function well, although it may be under-resourced. Internal Audit has budgetary authority and should consider outsourcing for specialized audits and advice (e.g., IT system development and controls).

OP&F has a substantive policy for keeping, retaining, and destroying important records and preserving a trail when records are moved to storage, scanned or destroyed.

6. Overview of IT Operations

There are a number of opportunities for improvement for OP&F. The IT function at OP&F is in a period of significant change, with a recent upgrade to its financial systems and a pension system replacement currently underway.

The Board should review the Ariel implementation progress at least quarterly and be appraised of any budget or timing issues encountered. OP&F needs to evaluate its IT resource needs, considering the balance of internal IT staff vis-à-vis its use of external resources, and develop a resourcing plan for the next three years.

The IT organization has made an investment in acquiring internal project management skills, supplemented by project management consultants contracted to support the implementation of Ariel. OP&F should expand project sponsorship of the Ariel LifeWorks project to include the heads of Finance and Member Services.

IT should update its disaster recovery and business continuity plans. OP&F should contract with a third-party managed security service provider (MSSP) to perform day-to-day information security tasks.

The Board of Trustees should ensure its understanding of the risks to the System involved in information technology, in particular, cyberattacks including ransomware.

Detailed Recommendations

1. Board Governance and Administration

R1.1.1 **Consider development of an aspirational list of Board skills and integrate it with a comprehensive trustee education policy that implements the Board's onboarding and continuing education obligations under Ohio Revised Code Section 742.031 and identifies topics on which board member skills development would be expected to promote governance effectiveness.**

R1.1.2 **Formalize the Board evaluation process through a policy which includes use of evaluation results to identify potential Board and individual trustee training topics for further consideration.**

R1.1.3 **Explore opportunities to incorporate virtual training programs into the OP&F trustee training process.**

R1.1.4 **Consider further collaboration with other Ohio public pension funds on development of shared trustee educational offerings.**

R1.2.1 **Consider adoption of a formal policy setting forth the Board's powers reserved and parameters for delegated staff authority and lines of reporting, with associated changes in the content and format of related meeting materials to improve Board efficiency and effectiveness. See also Recommendation 1.4.4.**

R1.2.2 **Consider establishing policy guideline parameters for greater delegation of investment authority to the Chief Investment Officer and investment staff, taking into account succession timing considerations.**

R1.2.3 **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.**

R1.2.4 **Revise the Board's current policy that precludes non-elected trustees from being elected as Board chair, so that selection of Board leadership can be made based solely on skills and competencies.**

R1.2.5 **The Board should consider a policy or informal practice that favors re-election of the Board Chair and Chair-Elect for two or three consecutive one-year terms if they have satisfactory performance, in order to provide for greater leadership continuity. Board policy presumes single terms, but permits re-election upon Board action.**

R1.2.6 **The Board Chair's official duties should include coordination, with the Executive Director, of staff information requests made by trustees.**

R1.2.7 **In developing the committee membership roster, the Board Chair should balance maintaining experienced committee membership with some member rotation to foster trustee development and leadership succession planning. See also Recommendation 1.4.8.**

R1.3.1 **OP&F should continue to pursue legislation that provides for fully staggered Board member terms in the case of vacancies in order to avoid unnecessary loss of Board effectiveness due to concurrent expiration of multiple trustee terms. Terms are staggered, but vacancies can cause several elections in a single year.**

R1.3.2 **OP&F should seek legislative authority to select external legal counsel for investment and fund management matters or engage with the Attorney General about a Memorandum of Understanding that formalizes a process for consistency in Attorney General transitions which recognizes the fiduciary duties that OP&F has in selection of and contracting with counsel.**

R1.3.3 **As OP&F develops and revises policies in response to this Report, it should collect all significant policies, statutes, and rules within a single reference document (e.g., the Governance Manual) that is regularly updated and make it available to trustees, staff, and stakeholders, including on the website.**

R1.4.1 **The OP&F Board and its committees should livestream the public sessions of its meetings to allow easy access for stakeholders; we understand the Board and Executive Director intend to do this as soon as pending legislation is finalized.**

R1.4.2 **OP&F 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.**

R1.4.3 **OP&F should expand its one-year Board calendar into a multi-year strategic policy agenda that includes the timing of all key Board decisions expected over the next several years.**

R1.4.4 **The OP&F Board should consider organizing its meeting agendas around the powers reserved.**

R1.4.5 **The OP&F Board should utilize consent agendas for approval of routine items (e.g., minutes, trustee expenses, other routine payments, future agendas) with the understanding that any item can be opened for discussion upon request.**

R1.4.6 **Develop a policy that defines the process for prioritizing and tracking trustee requests for information from staff or consultants/advisors and requires the Board Chair, in consultation with the Executive Director, to prioritize, approve, and follow-up on the requests.**

R1.4.7 **The OP&F Board should consider rebalancing its committee structure by:**

- **Renaming the Compensation Committee, the Board Governance and Compensation Committee.**
- **Renaming the Administration and Audit Committee the Audit Committee.**
- **Assigning responsibility for board governance, including onboarding and continuing education, to the Board Governance and Compensation Committee.**
- **Assigning responsibility for information technology to the Benefits Committee.**

R1.4.8 **Each committee, under the guidance of its chair, should extend its one-year calendar into a long-term calendar in support of the Board's multi-year calendar to ensure committee activities support key board decisions effectively.**

R1.4.9 **The Board chair should propose committee membership each year and make the recommendation to the full Board for a vote on approval.**

R1.4.10 **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 and Compensation Committee if that new committee is implemented.**

R1.4.11 **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.**

R1.4.12 **With assistance from staff, each committee should develop a list of standard questions to ask on each key topic; for example, this is already done in the investment diligence packets and in the memos to the Board.**

R1.5.1 **Formalize development of a three-year Operating Plan from the strategic plan and economic impact analysis to produce a multi-year, forecasted capital and expense plan for the organization. Emphasize external influencers (e.g., projected volume of retirees) to forecasted changes to budget drivers – i.e., vendor costs and staffing. Refresh annually.**

R1.5.2 **Introduce a quantitative methodology to capture costs and projected benefits for large-scale capital improvement initiatives. Present to the board and acquire explicit approval on projects, individually and as part of the overall capital budget.**

R1.5.3 **Augment quarterly budget reports with updates of capital improvement initiatives using stop light style formatting for reporting costs, schedule, and benefit realization.**

R1.6.1 **The Board should require periodic reports to the appropriate Board committees on fraud hotline use and whistleblower complaints.**

R1.6.2 **The Board should consider adopting:**

- **A policy that contains enforcement remedies and a process to guide action by the Board in the event of trustee misconduct.**
- **A policy establishing standard practices to ensure that trustee referrals of investment managers or other vendors are tracked and handled without special treatment.**
- **A policy requiring disclosure and reporting of placement agent fees and implementing SEC regulations on pay-to-play payments relating to public pension funds.**
- **A requirement that trustees, senior and investment staff members, investment managers, advisors, broker-dealers, consultants, outside counsel and other professional service providers provide an annual certification of compliance with OP&F ethical standards. See also Recommendation R3.2.1.4 below.**

R1.7.1 **Develop a standalone stakeholder communications plan that supports the Strategic Plan and involve stakeholder groups in the plan development and rollout.**

R1.7.2 **Board reporting on strategic planning and succession planning should be scheduled annually with clear expectations of when reporting and discussions take place.**

R1.8.1 **OP&F should participate in administrative benchmarking with a third-party firm such as CEM Benchmarking to develop a more granular understanding of how its costs and staffing compare an appropriate peer group.**

R1.9.1 **Expand and develop the current communications plan into a more robust communications plan, and specifically develop a stakeholder communication plan involving engagement and outreach.**

R1.9.2 **Review and develop a clear written Board policy on OP&F communication expectations that outlines the role of the Executive Director and interaction with Board Chairperson.**

R1.9.3 **Clarify in Board Policy the role of the ED in interacting with all stakeholder groups on a regular and consistent basis as a key responsibility as expressed in the ED's job description.**

R1.9.4 **Since Stakeholder expectations increasingly favor full electronic support in accessing and updating or changing member files and in the retirement application process, continue to work toward that goal in developing the new member benefit system and do so with input from stakeholders.**

R1.9.5 **The ED should develop a calendar of annual stakeholder outreach.**

R1.9.6 **The OP&F Board should ensure all its members are consistently utilizing their OP&F email account for system-related messages.**

2. Organizational Structure and Staffing

R2.1.1 **Engage a third-party external consultant specializing in HR to develop tactical and project plans for the attainment of goal #5 and #6 in the OP&F 2022 – 2024 Strategic Plan, including expanding success indicators to include quantitative metrics and expanding the HR organization as needed to support both ongoing responsibilities and the execution of the strategic plan.**

R2.1.2 **Seek to expand recruitment efforts including:**

- **Reestablishing relationships with third party recruiters.**
- **Introducing incentives for onboarding, where appropriate.**
- **Strengthening and expanding internship programs already in place at local colleges and universities in key areas such as member services, finance, and IT.**

R2.1.3 **Separate responsibility for investment accounting and performance reporting from within the investment management organization. Consider opportunities to engage third party, outsourced solutions for investment accounting.**

R2.1.4 **Set specific timeline goals to complete the succession planning effort with a goal of creating bench strength for all supervisory and critical skills-based roles within the organization,**

including identification of broad-based and individually designed skills training to close skill gaps in identified successors.

R2.1.5 **Introduce an OP&F employee culture survey and execute it no less frequently than biennially.**

R2.2.1 **OP&F should move forward with the Lifeworks implementation and focus on member services improvements as well as productivity enhancements.**

R2.2.2 **OP&F should participate in the CEM pension administration benchmarking service and utilize the report to identify areas for member service and productivity improvements.**

R2.2.3 **OP&F should develop a member satisfaction monitoring program to ensure it is identifying any member services issues on a timely basis and effectively addressing them; if necessary, an expert third-party consultant could provide assistance.**

R2.2.4 **The Board, through the Benefits Committee, should receive an annual briefing on the member services program, including progress on the Lifeworks implementation, as well as quarterly reports on member service levels using exception reporting.**

R2.3.1 **Seek to reduce the number of distinct job descriptions and grades across the organization and end any remaining vestiges of practices that establish levels and compensation bands on the basis of employee longevity.**

R 2.3.2 **In consideration of challenges in recruiting, temper the existing practice of compensating new hires into the lowest two bands of the compensation range. Seek to bring in new talent at or near the midpoint level, which is defined as the compensation they could expect to receive on the outside.**

R2.3.3 **Consistent with other public pension plans in the peer group, examine opportunities to enhance compensation opportunities for associates who complete certification or formal education milestones or for special performance recognition.**

R2.3.4 **Include an analysis of performance incentive compensation for investment professionals in CBIZ benchmark review. If adopted by the Board, consider the following structural modifications to the compensation program:**

- **Including variable compensation in the annual operating budget.**
- **Establishing independence in the calculation of performance from investment management (see Section 2.1).**
- **Constructing new procedures and arithmetic formula for variable compensation which should include multiple years of investment performance.**
- **Defining clear roles and responsibilities for the Director of HR, DED, and Head of Finance, the ED, and the board for approving the pool and individual awards.**

R2.4.1 **Cross reference training and development offerings against the strategic plans goals and strategies and fill in gaps where needed. Develop change management competencies across member services, finance, investment accounting, and investment operations.**

R2.4.2 **Informed by the succession plan, strategic planning document, and tactical objectives,**

incorporate at least one development and/or skills acquisition goal into all associate's annual performance management plan.

R2.4.3 **Develop annual development plan across the organization and share with the Personnel Committee annually. Present actual training and development accomplishments against targets at year end.**

R2.4.4 **Analyze existing HR headcount and capacity to broaden training and development recommendations. Increase or augment staff levels as required.**

3. Investment Policy and Oversight

3.1 Investment Policy and Procedures

R3.1.1.1 **The OP&F Board should develop a Statement of Investment Beliefs (SIB).**

R3.1.1.2 **The OP&F investment staff and consultants/managers should provide focused workshop/ education programs for all Trustees on the investment concepts, in particular regarding the benefits and risks of the risk parity approach adopted by OP&F.**

R3.1.2.1 **The IPS should be modified to reflect the unique liability and risk assumptions of the OP&F DB Plan, including a statement of understanding of critical assumption that leads to the overall asset allocation plan.**

R.3.1.2.2 **The IPS should set forth the return and risk expectations for the Total Plan and each underlying asset class, including the logic used to develop each of the assumptions. The active return assumptions for each asset class should also be included and discussed in the IPS, including separating between short and long term expected results given the current economic outlook.**

R3.1.3.1 **A supplemental policy document detailing the OP&F Plan and Asset Class level Benchmarks should be added to the series of Supplemental IPS reports, including transition benchmarks when they apply.**

R3.1.3.2 **A supplemental policy document should be developed supporting the IPS, detailing the liquidity management program in place, the assumptions regarding various investment categories, and best/worst case analyses for liquidity.**

R3.1.3.3 **Establish a Statement of Investment Policy and Guidelines (IPS) and monitoring process for the Post Employment Health Plan reflecting the short- and long-term fiscal outlook for the PEHC Plan.**

R3.1.4.1 **OP&F staff should create a summarized monthly compliance report that includes long-term and interim investment guidelines, asset allocation ranges, and an affirmation of compliance with these ranges over the past monthly period to enhance the level of program understanding among Board members and constituents not closely involved in the investment process.**

R3.1.6.1 **Create a Rebalancing Policies and Procedures document and reference this document in the IPS. In this document define the various roles and responsibilities of the parties involved in all the parties involved with the OP&F rebalancing process.**

R3.1.6.2 **Add a written description to the Monthly Investment Activities report that factually describes the rebalancing decisions that were made as well as the context and outcomes of the decisions made each month.**

R3.1.7.1 **Establish a new uniform template for Board investment approval packets that includes a short cover page summary.**

R3.1.8.1 **Continue to evaluate external systems for monitoring external manager compliance against guidelines.**

R3.1.9.1 **OP&F should collect all significant policies, statutes, and rules within a single reference document (e.g., the Governance Manual) that is regularly updated and make it available to trustees, staff, and stakeholders, including on the website. See also Recommendation 1.3.3.**

R3.1.9.2 **The Board should establish a policy for either internal or external benchmarking of policies on a set periodic or policy by policy basis.**

3.2 Investment oversight and review.

R3.2.1.1 **OP&F should revamp the Board quarterly reporting content to include a qualitative discussion of results versus expectations in Executive Summary form, including a discussion of attribution and performance highlights reviews at the Plan level.**

R3.2.1.2 **Enhance the Board's receipt of Plan level and asset level structure reviews by conducting these reviews at least annually.**

R3.2.1.3 **Enhance quarterly OP&F Board reporting at the asset class level by including risk-based analyses of holdings versus benchmark, including liquidity analyses and forecasts and draw down analyses, at each asset class level and manager level in the review quarterly.**

R3.2.1.4 **Establish an annual ethics confirmation for all investment professionals / organizations responsible for managing OP&F assets that details ethics expectations and requests annual certification of compliance.**

R3.2.2.1 **Amend broker policy and/or introduce external manager semiannual reporting to the board regarding trading and commission history with Ohio-based, and women- and minority-owned brokers.**

R3.2.2.2 **Enhance investment management agreement (IMA) template to explicitly require managers to report on trading and commission activity to OP&F's third-party benchmark provider, and to deliver semiannual list of eligible brokers and selection criteria used at manager and list of soft-dollar trades with accompanying rational.**

R3.2.2.3 **On an annual basis, place results of third-party Zeno trade cost analysis, with accompanying OP&F commentary, into appendix of external manager fee report to the Board.**

R3.2.2.4 **In Zeno trade cost analysis report, segregate trade cost analysis for every instance where the OP&F Board directed the external manager's selection of brokers and compare results against other trading in period to ensure that best execution practices were evidenced.**

R3.2.2.5 **Seek to provide CEM with granular transaction cost data from Zeno for public asset classes for use in future trading cost benchmark analyses.**

R3.2.3.1 **OP&F should consider including a brief overview of the measures of the actuarial health of the Plan in the Wilshire quarterly report by reporting updates common in the corporate world including estimates of funding status, time to close the funding gap, and other relevant top-level measures of actuarial health.**

R3.2.3.2 **Conduct a Plan and asset class level benchmark review in the investment structure reviews provided by Board consultants on an annual cycle.**

R3.2.4.1 **Strengthen the language in the OP&F Investment Manager Monitoring and Evaluation Policy to include specific staff monitoring responsibilities for driving fee transparency and validating external manager fees.**

R3.2.4.2 **Add language to side letter templates encouraging General Partners to adopt ILPA standards for reporting fees. Continue engaging an external consultant to perform quarterly oversight and validation of alternative investments fees while reviewing and approving capital calls.**

R3.2.4.3 **Enhance the annual manager fee report to the board by adding relative and absolute performance information to each row on the table, breaking out management fees from performance fees, and including carried interest costs, where applicable.**

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

R3.2.6.1 **Formalize and document the logic behind portfolio allocation and manager allocation decisions with clearly articulated logic and goals for each portion of the portfolio against structure benchmarks.**

3.3 Investment and fiduciary risk.

R3.3.2.1 **OP&F needs to carefully manage the investment talent acquisition and retention process and work/life balance culture in order to attract and maintain their small but highly effective investment staff.**

3.4 Custodian policy.

R3.4.1.1 **Seek custodial support in expanding oversight on both the quality and timeliness of external manager operational performance. Develop and publish an annual scorecard of operational performance of external managers and the custodians across pertinent categories to the board.**

R3.4.1.2 **Seek to aggregate banking communications and stage functional transition to the Front**

Office Solutions platform. Eliminate dependencies on spreadsheets for oversight.

R3.4.1.3 Monitor and encourage Huntington National Bank's conversion to the SWIFT platform. Work with external managers to transition to SWIFT as functionality becomes available.

R3.4.2.1 Conduct a TCO (total cost of ownership) comparative analysis between the OP&F in-sourced investment accounting and oversight operating model and one that bundles asset safekeeping and other (currently insourced) services at major custodial banks. Include full breadth of operational, technological, and data services costs and considerations of both operational and investment risk. Expand analysis to include other offerings such as compliance monitoring, reconciliation, and external manager oversight.

R3.4.2.2 Include securities lending collateral pool in board quarterly compliance reviews of externally managed funds; NT engages Blackrock Aladdin to ensure that its collateral pool remains within OP&F's investment guidelines, so the output of that can likely be added simply to the existing report.

R3.4.2.3 Ensure that the Amaces consulting / benchmark analysis of FX provides OP&F with an opportunity to compare NT's performance in executing currency trades against external managers who perform it for themselves. Share results with the counterparties and board and make changes to specific authorizations for external managers to continue to execute their own currency trades as required.

R3.4.3.1 OP&F should conduct annual ongoing monitoring of the Northern Trust Collective Government STIF product and Fidelity Government 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 OP&F's percent ownership of the vehicle (as a preventor of adverse selection risk).

R3.4.4.1 The Treasurer of State and OP&F 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.

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

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

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

4. Legal Compliance

R4.1.1 Adopt a policy that establishes standards for periodic receipt of written assurance from tax

counsel of compliance with IRC requirements.

R4.2.1 **OP&F should seek legislative authority to select external legal counsel for investment and fund management matters or engage with the Attorney General about a Memorandum of Understanding that formalizes a process which recognizes the fiduciary duties which OP&F has in selection of and contracting with counsel to serve as precedent in future Attorney General transitions. See also Recommendation 1.3.2.**

R4.4.1 **Legal staff should confer with outside transaction counsel to ensure that standard OP&F provisions are incorporated into transaction documentation to the extent possible and that any departures are explained.**

R4.4.2 **Legal staff should consult with the Attorney General to ensure that satisfactory expertise and processes are in place to enable OP&F recoveries on foreign corporate fraud claims in litigation outside the US.**

R4.4.3 **OP&F should consider establishing an independent compliance function and compile a compliance manual as the centralized repository for compliance policies, processes and assigned responsibilities.**

5. Risk Management and Controls

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 **Require the development of an integrated enterprise performance risk framework for strategy, operations, reporting and compliance. When such a revised risk management policy and process is begun, and through its completion and implementation, all parties should be trained in its purpose, functionality, and benefits.**

R5.1.3 **Ensure performance risk management is built into the way OP&F runs its business.**

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

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

R5.1.6 **Clearly establish and approve the Board's risk appetite for all its strategic goals as it currently does with its asset allocation decisions.**

R5.1.7 **The Board should review the vital functions and vital signs to determine its tolerances and the expectations for the escalation of exceptions. The goal should be to 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.**

R5.1.9 **Conduct an annual internal control environment survey i.e., surveys of staff attitudes toward internal controls.**

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

R5.1.11 **Develop business intelligence tools to provide near-real-time dashboards to monitor key performance indicators.**

R5.1.12 **The Executive Director should designate a 'head' of the enterprise performance risk management process.**

R5.2.1 **Adopt exception-based performance risk reporting more broadly across all business units and vital functions 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" (i.e., links to supporting underlying documents) 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 functions 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 and escalate significant direction and policy implications.**

R5.2.9 **Periodically review all regular reports with staff and the Board 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 to determine their reliability especially regarding reports that indicate "normal" or expected performance.**

R5.2.11 **Require that board members' continuing education topics should include pension system financial requirements, risk management, and the importance of consistent and reliable controls within the system. This education should underscore that all Board members have identical fiduciary responsibilities in understanding and acting on operational, financial and investment information.**

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

R5.3.1 **Key performance indicators (KPIs) should be developed for all vital functions.**

R5.3.2 **OP&F should move the Investment Accounting function from the Investment Office to Finance to improve segregation of duties.**

R5.3.3 **The Procurement Policy may be strengthened by eliminating the provision that allows for verbal bids.**

R5.3.4 **The Procurement Policy may be further strengthened by lowering the threshold for legal review for contracts less than $50,000.**

R5.3.5 **The Procurement process may be further strengthened by requiring prior approval of vendors in a strictly controlled Vendor Master File, a functional contract database and related document managing system, and an accounts payable workflow control system.**

R5.5.1 **The Administration/Audit Committee (A/AC) should develop a monitoring and compliance calendar.**

R5.5.2 **The A/AC should consider retaining its own professional advisor to the A/AC and the CAE 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 A/AC**
- **Provide coaching and guidance to the CAE**
- **Monitor the A/AC's adherence to its Charter**
- **Monitor the IA function's adherence to its Charter**
- **Provide ongoing professional input and advice to the IA function, the Administration/Audit Committee and Board**

R5.5.3 **The Administration/Audit Committee should consider hiring additional internal audit staff, or supplement internal staff with external resources, which are necessary to execute an aggressive internal audit plan with adequate effort assigned to the administrative support of the department and the verification of the reliability of reports received and issued by the Board.**

6. IT Operations

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

R6.1.2 **OP&F needs to develop a multi-year plan for the IT function that identifies all key workstreams to be supported and which internal and external resources will be responsible for them, ensuring that overall planned resourcing is adequate.**

R6.2.1 **OP&F should develop standard business case development practices, including cost/benefit, return on investment or internal rate of return analyses for large, mission critical project initiatives. The results of the business case analyses, and a project risk**

assessment should be presented to the Board for explicit approval prior to commencing a major initiative.

R6.2.2 The Board should be updated on the status of major projects in four dimensions: schedule; budget; benefits; and the project's risk profile. Any requests for additional project funding, over and above the level which has previously been approved, should be formalized.

R6.2.3 OP&F should expand project sponsorship of the Ariel LifeWorks project to include the heads of Finance and Member Services as the primary beneficiary of the project.

R6.2.4 The LifeWorks Ariel implementation team should recruit a pilot set of testers and early adopters from among the population of the OP&F employer, member, and retiree advisory groups. They should be kept current on project status and timeframes for their scheduled participation in the user acceptance testing, training, and workflow development tasks.

R6.2.5 IT should ensure that it is fully capable of maintaining the Ariel system once it goes live or engage external support to do so.

R6.2.6 The PMO should continue to ensure that OP&F's project management standards are adhered to by the consulting firm conducting the pension administration system migration.

R6.3.1 The Database Administrator (DBA) should be familiar with the database and DBMS requirements of the Ariel system.

R6.4.1 OP&F should document the process that will be followed to transition the new Ariel system from development to maintenance status.

R6.7.1 Access privileges should be reviewed and approved on a more frequent and regular basis; once a year seems appropriate.

R6.7.2 OP&F should amend its policy allowing Trustees to manage access rights.

R6.7.3 The system development life cycle should be enhanced to address the inclusion of security, privacy and recoverability of systems and data.

R6.7.4 OP&F should retain a third-party managed security service provider (MSSP) to perform day-to-day information security tasks, especially active monitoring OP&F's information systems and networks for attempted or actual misuse.

R6.8.1 OP&F should develop its own procedures for cloud-based data and software recovery should there be a disruption caused by an event other than a disaster.

R6.8.2 OP&F should update its Business Continuity Plan to incorporate management and staff performing their normal business functions at their homes, accessing information systems remotely and for mass notification through the OpenText system.

R6.9.1 OP&F's incident response plan should be expanded to apply to all attempted or actual misuse of information systems.

R6.10.1 The Board of Trustees should ensure its understanding, if necessary in executive session, of the risks to the System involved in information technology, in particular, cyberattacks including ransomware.

Contents

1. Board Governance and Administration

The Contractor will perform a review of the governance structure of OP&F 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 OP&F 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 OP&F 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 OP&F 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; and
1.9 Communication policies and procedures of OP&F between the board, its members, and its retirees.

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 OP&F, including Attorney General opinions; Chapter 102 of the Ohio Revised Code; and other statutes that address conflicts of interest, including Chapter 2921 and 742 of the Ohio Revised Code and related Administrative Code sections within scope of the review were examined in conjunction with Board policies and practices.
- OP&F'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 OP&F Board education activities with similar peer programs.
- OP&F's Board education and training program and materials;
- OP&F's communications policies and plans;
- Interviews with Board members and OP&F executive staff;
- FAS governance leading policies and practices knowledgebase;
- Most recent three OP&F annual operating budgets and financial and operating reports;
- OP&F's staff development and succession planning documentation; and,
- Most recent CEM pension administration benchmarking report for OP&F.
- We also reviewed the OP&F 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

Although currently functioning well, there should be a formal Board policy that clearly articulates the decisions reserved for the Board and those that are delegated to the Executive Director.

OP&F has not established a formal protocol that governs the powers reserved for the Board and authorities delegated to the Executive Director and staff. OP&F has developed position descriptions that clearly identify staff member lines of reporting, and the Board's Governance Manual establishes expectations that the trustees observe the separate governance roles that the Board and staff play

The OP&F Board has increased investment decision delegation to the Executive Director and CIO and should continue to increase delegation over time.

Although not yet prevailing practice for funds of the scale of OP&F, Board delegation of investment approval authority to the Chief Investment Officer / investment staff under specified guidelines is considered leading practice and would be appropriate. These delegations, within established policy parameters, would reduce the volume of meeting materials and free up Board and committee agenda time to focus on strategic and other high-level issues. The Board may want to consider timing and pacing of any increased delegations within the context of succession plan implementation on the investment program.

The OP&F Board onboarding and continuing program is effective but could be improved.

While OP&F trustee onboarding and continuing education appears to be quite effective in supplementing the joint training program developed with the other Ohio public pension funds, there are opportunities to improve the training process. OP&F could incorporate a skills evaluation component into the annual Board evaluation process to inform development of a training agenda. The process could cover both the aggregate skill levels of the Board as a whole, as well as areas where individual trustees would benefit from training. The Board could also explore opportunities to schedule training to correspond with upcoming Board meeting agenda items. OP&F could also consider additional collaboration with its Ohio peer funds on trustee training and incorporate virtual programs into the OP&F trustee training process.

The Board should repeal its current policy that precludes non-elected trustees from being elected as

Board chair, so that selection of Board leadership can be made based solely on merit.

OP&F has a policy that only elected trustees are eligible to be elected as Board chair. While also in place at other Ohio funds, it is an unusual practice that creates potential for the Board to be forced into making suboptimal leadership choices. If specific participant leadership representation is an important consideration, it could be applied through broader balance across the Board chair, chair-elect and committee chair positions.

The Board should consider policies that would provide for re-election of chairs and vice chairs for improved continuity, as well as a more deliberate process for committee appointments.

The OP&F Board has one-year terms for officers, which is a prevailing practice. Board policy presumes single terms, but permits re-election upon Board action. However, at many peer funds, it is common practice to re-elect officers for two or more terms in order to have better continuity. While many committee appointments are carried over from year to year, there is also a need to balance committee experience continuity with changing committee appointments as a means of trustee development and leadership succession planning. The Board Chair should confer with trustees annually and make good faith attempts to strike this balance when developing committee assignments.

OP&F should continue to pursue legislation that provides for fully staggered Board member terms.

Unlike most peers, the expiration of OP&F board member terms is not fully staggered so that a large percentage of trustees turn over at the same time, which recently occurred. Most peers avoid this problem by statutorily staggering the terms of Board members. We understand that OP&F is pursuing legislation that would adopt this approach.

OP&F should seek legislative authority to select external legal counsel for investment and fund management matters.

Although public pension system representation by the state attorney general is not uncommon, most funds have an agreed policy in place that recognizes the fiduciary obligations present in counsel contracting decisions (e.g., provided by approval of a qualified outside counsel pool approved by the attorney general, with competitive selections between experienced pool firms conducted by the fiduciary). An alternative to legislative relief would be to engage with the Attorney General about a Memorandum of Understanding that formalizes a process which recognizes the fiduciary duties which OP&F has in selection of and contracting with counsel to provide precedent for future Attorney General transitions.

OP&F should improve transparency of decision making for stakeholders by livestreaming meetings and making board materials publicly available.

We understand the General Assembly granted the State Teachers Retirement System the statutory authority to conduct board meeting remotely, under limited circumstances (H.B. 110 of the 134th General Assembly). While the General Assembly has not granted such remote authority to OP&F, OP&F may elect to broadcast board meetings to the public without any statutory action by the General Assembly. The other four statewide retirement systems in Ohio currently broadcast their meetings to the public. Most peer systems also maintain an archive of past meeting agendas and minutes on their web site; OP&F provides them in advance to a mailing list of interested parties but does not make them generally available to the public on the OP&F website. Prior meeting agendas and minutes are available on the website, but not public session materials.

OP&F should develop a multi-year strategic policy agenda that includes the timing of all key Board decisions expected over the next several years.

OP&F maintains an annual Board strategic policy calendar, which is prevailing practice. Leading practice is to have a multi-year calendar that considers four- or five-year cycles of actuarial valuations and asset-liability studies, for example, and is used to ensure that committees are planning for the appropriate due diligence activities and that continuing education is coordinated to prepare trustees for upcoming key discussions and decisions.

The OP&F trustees spend more time in committee meetings than peers, but appear to utilize the committees effectively, resulting in shorter full Board meetings.

OP&F has more standing committees, with eight in total, than most peers, which typically have four to six. With the exception of the Investment Committee and Health Care Committees, which are committees of the whole, all committees have three members each, an appropriate size that makes effective use of trustee and Board time.

The OP&F Board should consider rebalancing its committee structure to better manage workload and improve oversight.

The Administration/Audit Committee has a very broad charter that includes Board Governance and Board Administration. The Compensation Committee could be renamed the Board Governance and Compensation Committee and take on Board Governance responsibilities, and the Administration and Audit Committee could become the Audit Committee. Responsibility for information technology could be reassigned to the Benefits Committee, as they have only met a few hours annually and the new pension administration project should have greater Board oversight, as mentioned in section 6.

The Board should revise its policies regarding selection of committee officers.

According to the committee charters, the Board chair is also automatically designated chair of the Health Care and Investment Committees. Recent practice has been for the Board Vice Chair to be the chair of the Administration/Audit Committee. The Board Chair is currently chair of three committees (Investment, Personnel, and Governmental Affairs & Policy) and the Vice Chair is chair of two committee (Administrative/Audit and Disability). Prevailing practice at other public retirement systems is for the Board Chair to not chair committees, with the exception of the Board Governance Committee. 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.

The chair should annually make committee membership appointments, subject to approval of the full Board.

Committees currently have “slots” for certain members, or groups (e.g., police vs. fire, active vs. retired, elected vs. appointed), and with the recent turnover of elected members, the committee assignments passed from their predecessors who had their board position.

The Board chair should meet with each trustee, particularly new trustees, and discuss their interests in serving on various committees. Each newly constituted committee, in turn, should elect 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.

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

It is a leading practice for each committee to have a standard checklist of questions to ask. The American Institute of Certified Public Accountants (AICPA) has an Audit Committee Toolkit and Checklist, for example, to help Audit Committees know what questions to ask. This could assist the OP&F committees in being more effective and informed in their due diligence.

The annual budget development process at OP&F is considered effective from both a controls and execution perspective; the administrative operating budget could be expanded to three years, similar to the capital outlay budget.

The policies that govern and guide the OP&F budgeting process are laid out in detail in accordance with the Ohio Revised Code. Each year, OP&F develops three distinct budget deliverables – (1) a total plan asset budget; (2) an administrative operating budget; and (3) a capital outlay budget. OP&F publishes an annual Economic Impact Analysis which highlights the change in projected variable values (i.e., membership and retiree levels) that directly impact key operating budget levels, and underscore priorities for capital spend initiatives. At present, only the OP&F capital budget contains a forward-looking, three-year forecast, and quantitative operational targets have yet to be developed in support of the strategies in the strategic plan.

The organization's policies, processes and oversight practices have enabled OP&F to operate within budget for nine years out of the last ten; one key opportunity for improvement is in the justification and reporting of capital initiatives.

OP&F conducts a quarterly budget meeting with the Finance Committee of the Board. Any transfer request that is greater than $50,000 requires board approval. Every operating line item is reviewed by the staff prior to the board quarterly review. However, the Board should increase its focus on the risks and projected cost of the mission-critical, $24.6m pension administration system project. The project represents nearly 90% of the projected capital budget forecast from 2022-2024.

OP&F has appropriate ethics policies and standards of conduct in place that implement Ohio statutory requirements. However, there are several opportunities to improve compliance aspects of those policies.

The Board should require periodic reports to the appropriate Board committees on fraud hotline use and whistleblower complaints. The Board should also consider adopting: a policy that contains enforcement remedies and a process to guide action by the Board in the event of trustee misconduct; a policy establishing standard practices to ensure that trustee referrals of investment managers or other vendors are tracked and handled without special treatment; a policy requiring disclosure and reporting of placement agent fees and implementing SEC regulations on pay-to-play payments relating to public pension funds; and a requirement that trustees, senior and investment staff members, investment managers, advisors, broker-dealers, consultants, outside counsel and other professional service providers provide an annual certification of compliance with OP&F ethical standards.

The OP&F Board has had an effective succession planning process for the Executive Director; it worked well with the recent leadership transition.

The OP&F Board and staff work very harmoniously and have addressed succession planning formally in adopted Board policies, specifically in the adoption of the Leadership Replacement Plan, Key Position Replacement Plan, and the OP&F Succession Plan. Emergency succession needs in the event of immediate vacancies of the ED or other key leader positions is addressed. These plans are reviewed and adopted by the Board, and Trustees have an understanding of their responsibilities to maintain current planning for the future. Plans respect segregation of duties and internal control.

The OP&F Board has adopted a clearly developed and thoughtful strategic plan; OP&F could engage more effectively with key stakeholder groups during development of future plans.

The Strategic Plan is well outlined and easy to read with 5 Strategic Goals. These strategic goals are supported by strategies and success indicators that make the succession plan a useful tool for goal setting and accountability of the ED to the Board and for those accountable to the ED for implementation within departments. It does not appear that input from key stakeholder groups was solicited in the development of this current plan.

OP&F appears to be comparably staffed to other state public safety pension funds after accounting for scale.

There are few statewide public safety public retirement systems in the U.S., so direct staffing and cost comparisons are difficult. OP&F should participate in administrative benchmarking with a third-party firm such as CEM Benchmarking to develop a more granular understanding of how its costs and staffing compare to an appropriate peer group.

OP&F communications and outreach have improved greatly over the past year, and both Trustees and stakeholder groups expressed satisfaction; however, OP&F should develop a more comprehensive stakeholder communications plan.

The Communications Department works with appropriate staff on internal and external communications needs, such as talking points on major issues or on legislation information that can be used throughout the organization and by the Trustees. The current communications plan is directed to members, legislators and employers. The Communications Director and ED work with legislative counsel as well as a general communications consultant. The legislative counsel assists in accessing legislators and monitoring legislative issues, and the communications counsel has been very helpful in developing and using a social media presence.

Some stakeholder groups would like more proactive communication, more outreach, and a clear customer focus in scheduled interactions. Most stakeholder groups have had no regularly scheduled interaction at annual or quarterly member meetings and would look forward to that ED and senior leadership presence to discuss key issues and status of their retirement system.

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 OP&F 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 OP&F 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; major contracts.
- *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. Consistent education and exposure to pension industry practices is an essential part of equipping trustees to fulfill their fiduciary duties, which reference peer practices and require staying current with evolving changes. 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, legal duties of trustees apply from day one. New trustees have immediate, individual learning needs that may require more than traditional onboarding, even if it is supplemented with external conferences. Most trustees describe the process of learning basics of their role as overwhelming and like “drinking from a fire hose.”

The initial onboarding experience should be considered as only part of the first year of a trustee’s continuing education program. That positions training within a paced, targeted, and customized process intended to bring the new trustee “up to speed” as quickly as possible and address each trustee’s unique needs in a more understandable way. 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. Each trustee will bring their own skill sets and not all trustees will always need the same training.

In recognition of the wide range of learning needs that most new trustees will have, the Board might want to consider a more significant number of required hours for training in the initial year, or alternatively the first two years. A longer onboarding process could more easily be tailored to each trustee’s individual needs.

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.

While the core continuing education program should be part of the initial trustee onboarding within the first year, it should also be folded into periodic "refresher" training every several years in full Board training sessions. 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 deliberation topics throughout the year.

Advanced education might be provided as a "menu" of possible training sessions from which a trustee could choose to meet relevant individual interests or address skill gap (for example, perhaps proxy voting, corporate governance or ESG investment practices). Some training might be most efficiently provided through external programs such as 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 changing and increasing complexities of modern institutional portfolios. Trustee education should offer opportunities to enhance understanding of all aspects of the retirement system's governance, policies, and programs. The Board (or one of its committees) should work with staff to develop an education program that fits the needs of trustees and the system.

An effective trustee education program develops individual trustee education plans and tracks trustee participation and completion rates. Compliance with training plans should be reported back to the Board. Education programs should also provide a mechanism for trustees to give feedback to the system based on their perceptions of the effectiveness of attended programs. This would help to inform other trustees and could include recommendations on which programs are worth attending. 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 can include a number of planning elements and other features, including:

1. Individualized learning plans and calendars for each trustee.
2. Mentoring with each new trustee assigned to an experienced trustee as a mentor. An executive staff member could also be assigned.
3. Curriculum identified and organized by subject area, using a variety of programs to ensure exposure to the full range of peer and evolving practices:
    a. Internally delivered education sessions incorporated into meeting agendas
    b. Annual retreats or special meetings that feature education
    c. External, in-person conferences
    d. Staff, service provider and third-party presenters
    e. External virtual conferences
    f. 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 reasonable 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.	Yes
Trustee education covers most key topics: Fiduciary responsibilities; Investments; Ethics; Pensions; Health Care; Actuarial principles.	Yes
Training is linked with Board self-assessment results.	No

Conclusions

The joint educational program established by the five Ohio public pension funds appears to provide an efficient and valuable training events designed to implement the statutory orientation and continuing education requirements, although it is only offered every three years.

The joint training events are regularly supplemented by OP&F training that is included in Board meetings. Topics covered during Board meeting education sessions are designed to address issues that will be coming to the Board for discussion. Over the past two years, COVID has precluded use of retreats, which are typically used for more in-depth discussions.

Prior to COVID, some OP&F trustees participated in conferences offered by the National Conference on Public Employee Retirement Systems (NCPERS) and other providers. This practice has recently resumed. Trustees provide a verbal report to the Board after attending conferences and other external training events to advise on topics covered and effectiveness.

While not inconsistent with peer practice, the trend in training processes for trustees is to have a formal Board education policy. Leading practice is to incorporate a skills evaluation component into the annual Board evaluation process. The process could cover both the aggregate skill levels of the Board as a whole, as well as areas where individual trustees would benefit from training. To focus the process, OP&F might choose to develop a comprehensive list of subject matters for which trustee familiarity would be advantageous.

The COVID crisis has resulted in greater use of virtual education programs throughout the business and investment communities. OP&F should consider whether there are opportunities to efficiently improve trustee development of governance skills by formally incorporating virtual training opportunities into its trustee training program.

Expansion of the joint educational programs developed with the other Ohio public pension funds pursuant to Ohio Revised Code Section 171.50 might also be considered where there are shared training needs.

Recommendations for Improvement

R1.1.1 **Consider development of an aspirational list of Board skills and integrate it with a comprehensive trustee education policy that implements the Board's onboarding and continuing education obligations under Ohio Revised Code Section 742.031 and identifies topics on which board member skills development would be expected to promote governance effectiveness.**

R1.1.2 **Formalize the Board evaluation process through a policy which includes use of evaluation results to identify potential Board and individual trustee training topics for further consideration.**

R1.1.3 **Explore opportunities to incorporate virtual training programs into the OP&F trustee training process.**

R1.1.4 **Consider further collaboration with other Ohio public pension funds on development of shared trustee educational offerings.**

1.2 Lines of Reporting and Responsibility

Whether OP&F 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 OP&F 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 specified powers and responsibilities to external service providers and to staff 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.

For the largest funds, leading practice is for public pension boards to broadly delegate external investment manager selection, as well as authority to manage selected internal investment portfolios, to an appropriately skilled and resourced investment staff. Only 35% of funds with a similar level of Assets Under Management as OP&F delegate manager selection. However, this percentage has been increasing over the past decade as portfolios have gotten more complex and internal staffs have developed more capabilities.

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 identified:

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

Delegation of investment manager selection allows the board, which typically has limited time available for oversight of the retirement system, to spend sufficient time on the oversight of the overall investment strategy and other critical governance 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 (e.g., audit) reassurance that are necessary for the board to exercise its fiduciary responsibilities.

Governance Roles and Responsibilities

Governance duties, roles and responsibilities for a public pension fund can be complex and confusing. Leading practice involves formalization of the Board's powers, with clear delineation of delegated powers and lines of reporting. This involves organization of governance roles and responsibilities into the following categories as described in the overview to this section of the report:

- 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.

Leading practice also includes development of standard due diligence review questions that provide guidance for boards and committees when considering action on key decisions. Recurring Board agenda items are scheduled in a board agenda calendar to ensure items are not overlooked and issues are properly sequenced.

In addition, public retirement system 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 applicable legal standards, established policies and effective governance practices, all of which are usually collected in a Governance Policy Manual.

The Board 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, information requests, and collaboration with the executive director.
4. Ensure the board receives adequate and appropriate materials in a timely fashion.
5. Monitor board performance and counsel board members.
6. Appoint and rotate terms of committee members and oversee board/committee coordination.
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. When serving as chair-elect, the vice-chair prepares to eventually take on the role of chair.
3. The vice-chair can provide balanced leadership representation across participant groups.

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, prevailing practice is for all trustees to be eligible for nomination and election as chair or vice-chair/chair-elect.

Lines of Reporting and Responsibility Standards of Comparison and Findings

Overall Governance Framework

Overall Governance 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.	Partial
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.	Yes
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.	No
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.	Partial

Conclusions

Powers Reserved and Delegated

OP&F has not established a formal protocol that governs the powers reserved for the Board and also specifies authorities delegated to the Executive Director and service providers. While the current Board appears to have a good understanding of the different roles played by trustees and staff and recognizes established lines of reporting, this is an area where Board and staff turnover can introduce confusion. The Board's Governance Manual establishes expectations that the trustees observe the separate governance roles that the Board and staff play. However, it does not clearly articulate the powers that are reserved for the Board and those that are delegated, nor does it organize Board duties, meeting agendas and governance practices accordingly. The Board appears to be well positioned to adopt leading governance practices that apply the powers reserved framework. *See the detailed discussion and recommendations in 1.4.*

Although not yet prevailing practice for funds in the scale cohort of OP&F, Board delegation of investment approval authority to the Chief Investment Officer / investment staff under specified guideline limits would be appropriate. The fiduciary duty of prudence encourages governing boards to consider peer practices, evolving industry trends and best use of available expertise when making decisions on delegation. Although boards can delegate authority, they are still responsible for seeing that delegations are prudently selected, given an appropriate mandate and adequately monitored. The Board has consistently implemented its duties regarding prudent delegation. However, greater attention to Board oversight of delegations relating to critical and costly IT infrastructure changes may be merited. *See sections 6.1 and 6.2 below for detailed discussion and recommendations on this topic.*

These delegations, within established policy parameters, would reduce the volume of meeting materials and free up Board and committee agenda time to focus on strategic and other high-level issues. It would also recognize that the Chief Investment Officer has already been given the authority to commit up to a billion dollars in fund assets without prior Board approval, though it appears that authority has not yet been used. See also the discussion in section 3 of this report.

OP&F does not maintain a complete list that identifies all decisions that require Board approval. Although there are detailed processes and procedures for many decisions that come to the Board, there is not a complete list of decision due diligence standards specifically articulated for each decision that comes to the Board for approval.

Governance Roles and Responsibilities

The OP&F Board has one-year terms for officers, which is a prevailing practice. The Board Vice Chair is considered the Chair-elect for the following year, a practice that allows the Vice Chair to prepare for the role and a leading practice for Board succession planning.

OP&F has a policy that only elected trustees are eligible to be elected as Board chair. While also in place at other Ohio funds, it is an unusual practice that creates potential for the Board to be forced into making suboptimal leadership choices. If specific participant leadership representation is an important consideration, it could be applied through broader balance across the Board chair, chair-elect and committee chair positions.

While many committee appointments are carried over from year to year, there is also a need to balance committee experience continuity with changing committee appointments as a means of trustee development and leadership succession planning. The Board Chair should confer with trustees annually and make good faith attempts to strike this balance when developing committee assignments. Committee governance is discussed in more detail in section 1.4 below.

One of the roles played by the Board chair is to serve as the primary point of communication between the Board and Executive Director. One of the tasks often associated with that role is for the chair to oversee trustee requests of staff (made through and tracked by the Executive Director). This ensures that requests are appropriate to Board business, that information is shared with all trustees, that unnecessary duplication and workload are not generated and, if necessary, that work on requests is prioritized by importance and timeliness. OP&F could formalize that role by including it as one of the chair's duties.

Recommendations for Improvement

R1.2.1 **Consider adoption of a formal policy setting forth the Board's powers reserved and parameters for delegated staff authority and lines of reporting, with associated changes in the content and format of related meeting materials to improve Board efficiency and effectiveness. See also Recommendation 1.4.4.**

R1.2.2 **Consider establishing policy guideline parameters for greater delegation of investment authority to the Chief Investment Officer and investment staff, taking into account retirement and succession timing considerations.**

R1.2.3 **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.**

R1.2.4 **Revise the Board's current policy that precludes non-elected trustees from being elected as Board chair, so that selection of Board leadership can be made based solely on skills and competencies.**

R1.2.5 **The Board should consider a policy or informal practice that favors re-election of the Board Chair and Chair-Elect for two or three consecutive one-year terms if they have satisfactory performance, in order to provide for greater leadership continuity. Board policy presumes single terms, but permits re-election upon Board action.**

R1.2.6 **The Board Chair's official duties should include coordination, with the Executive Director, of staff information requests made by trustees.**

R1.2.7 **In developing the committee membership roster, the Board Chair should balance maintaining experienced committee membership with some member rotation to foster trustee development and leadership succession planning. See also Recommendation 1.4.8.**

1.3 Statutes and Administrative Rules

The statutes and administrative rules under which OP&F 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 OP&F and the Board. In turn, the Board interprets and implements those laws through creation of Administrative Code provisions and policies. OP&F practices were evaluated in the context of those legal obligations.

Conclusions

The primary statutory requirements which relate to governance of OP&F are summarized in the following table. The Sufficiency column contains our conclusions regarding OP&F implementation of these statutory requirements. Overall, OP&F implementation of its statutory obligations appears to be satisfactory.

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
General Governance	The Board shall adopt policies for the operation of the system, investment of funds, reporting and use of Ohio-based, women- and minority-owned firms. RC § 742.11	The Board has adopted a governance manual, investment policy statement and other policies that address these topics.	Satisfactory
Travel Reimbursement Rules	The Board shall adopt rules regarding travel and travel expenses of trustees and employees and submit the proposed policy to the ORSC for review. RC § 742.102	The Board adopted Rule 742-16-01 with respect to Board member travel. In addition, OP&F has included the Board Travel and Expense Policy in the Board Governance Manual and has a staff Business Expense Reimbursement Policy.	Satisfactory
Budget Process	The Board must submit to the ORSC a proposed operating budget for the next immediate fiscal year. RC § 742.11	OP&F has adopted the policies and procedures necessary to comply with this requirement.	Satisfactory
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. OP&F must also provide periodic ethics	The Board has adopted an ethics policy and included it in the Governance Manual). OP&F trustees and staff are provided with onboarding and annual ethics training. Staff is informed of the process for	Satisfactory.

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
	training to trustees and staff, which includes procedures for filing ethics complaints. RC § 742.103	filing ethics complaints as part of training.	
Other Submissions to the ORSC	Other reports that OP&F is required to submit to the ORSC include annual audits, employer disability experience and actuarial and funding reports. RC §§ 742.103, 742.381 and 742.14.	OP&F has been filing these reports.	Satisfactory.
Board Chair Elections and Hiring of Personnel	The Board must elect a chairperson and a vice-chairperson and must employ and pay personnel, including a Chief Financial Officer, to operate the system and to fulfill the Board's duties and responsibilities. RC §§ 742.07, 742.10 and 742.11	The Board elects a chair and vice chair annually and is authorized to employ CIO, Executive Director and other personnel to operate the system. A compensation plan is in place.	Satisfactory.
DROP Plan	OP&F is required to establish a Deferred Retirement Option Plan and do all things necessary to meet IRS tax regulation requirements. RC § 742.43	OP&F has established a DROP and created Admin Code Ch. 742-4 to govern it.	Satisfactory
Board Elections, Campaign Finance Statements, Statutory Prohibitions	Candidates with contributions or expenditures must file itemized campaign finance statements with the secretary of state. The Code establishes the election process and specifies prohibited campaign activities. RC §§ 742.042 – 742.05	OP&F adopted Rule 742-2-01, in consultation with the Secretary of State, to govern elections along with the provisions of ORC §§ 742.042 – 742.05. The rules provide for contracting with an independent elections administrator to run the election and resolve challenges, subject to audit by the Secretary of State.	Satisfactory.
Board Training	Not later than ninety days after commencing service as a board member, new members must complete the orientation program component of the Board member education program. RC § 742.031 Each Board member who has	The Board receives training conducted by OP&F staff and service providers, through the combined education program, and self-guided training, including via industry conference attendance.	Satisfactory but see Section 1 of this Report for improvement recommendations.

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
	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. RC § 171.50		
Audit Committee; Selection of Internal Auditor	The OP&F Board shall appoint a committee to oversee the selection of an internal auditor. The committee shall select one or more persons for employment as an internal auditor. The Board shall employ the person or persons selected by the committee. The committee shall consist of the following board members: one retirant member, one employee member, and one other member. The committee shall annually prepare and submit to the ORSC a report of its actions during the preceding year. RC § 742.105	This is substantially addressed in the Committee Principles Policy and the Audit Committee Charter.	Satisfactory.
Investment Officer	The Board is required to designate a person who is a licensed state retirement system investment officer to establish policies and procedures and otherwise discharge duties of the CIO, as well as supervise, monitor and evaluate implementation. RC § 742.104	The CIO has decades of experience and a successful track record. The various OP&F investment, risk management, due diligence, human resources, budgeting, compensation, procurement, legal, audit and other policies and practices provide a comprehensive structure for implementation of these duties.	Satisfactory.
Misuse of Material Non-Public Information	The CIO's duties include establishment of policies and procedures reasonably designed to prevent Fund employees from misusing material, nonpublic information, and related securities laws. RC § 742.104	OP&F has a separate personnel policy that addresses and prohibits insider trading with material non-public information.	Satisfactory.
Actuarial Valuations	OP&F is required to have the Actuary conduct various	Required OP&F actuarial valuations and studies during	Satisfactory.

Topic	Applicable Statutes and Rules	Compliance	Sufficiency
	valuations and reports. RC § 742.14	the audit period were conducted.	
Group Health Insurance	The Board is authorized to provide group health insurance and enact Rules to govern it. RC § 742.45 OP&F has established an insurance stipend benefit for retirees and disabled members.	The Board established Admin. Code 742-7-11 to govern the insurance program.	Satisfactory.
Prohibited Business Transactions / Restrictions on Fiduciaries	Unless an exception applies, OP&F fiduciaries are prohibited from allowing the Fund to engage in a transaction with a related party. RC § 742.112	This is addressed in the standard transaction legal documents, through representations on compliance with OP&F laws and ethical standards. In addition, annual personal financial transaction reports filed by the Board and investment staff are reviewed by the Internal Audit Executive.	Satisfactory
Disclosures to Ethics Commission	OP&F is required to report annually to the Ethics Commission on any finders or placement agent fee payments made by or to the fund. RC § 742.115	In addition to the explicit statutory provisions, investment transaction documentation contains a certification that no such fees are being paid.	Satisfactory

The expiration of OP&F board member four-year terms are not fully staggered. There has also been unexpected turnover with trustees resigning before the end of their term, which further impacts smooth transitions. For example, on the current nine-person Board, four terms expire in 2023 and the other five in 2024. Some of the trustees presumably will be re-elected or re-appointed, but there has been significant turnover over the past three years, with six new trustees since 2019, including three new trustees in 2021 alone. When a large percentage of trustees turn over at the same time, there can be a major loss of Board experience that reduces governance effectiveness until the next trustees can gain the knowledge base that was lost. Most peers avoid this problem by statutorily staggering the terms of Board members relatively evenly over time. We understand that OP&F is pursuing legislation that would adopt this approach.

Ohio Revised Code Section742.09, the Attorney General has been designated as legal counsel for OP&F. As a result, OP&F does not have authority to select its own outside legal counsel. Although public pension system representation by the state attorney general is not uncommon, most funds have an agreed policy in place that recognizes the fiduciary obligations present in counsel contracting decisions (e.g., provided by approval of a qualified outside counsel pool approved by the attorney general, with competitive selections between experienced pool firms conducted by the fiduciary).

While not a current problem for OP&F, this has potential to result in forced selection of counsel that does not meet fiduciary standards for quality and experience, especially if a prudent balance between fees and expertise is not used in selecting counsel for complex transactions, litigation or other matters involving large sums of participants' monies. To avoid future concerns, either the Legislature should allow OP&F to select and contract with its own counsel on investment and fund management matters, or the Attorney General and OP&F should enter into a Memorandum of Understanding that delegates that authority to OP&F.

In addition, OP&F does not have authority to select its custodial bank and contract for custodial services. That is a serious misalignment of the Board's responsibilities and its authority, which is a lagging practice amongst peers. See section 3.4 below for discussion of and recommendations on this issue.

Recommendations for Improvement

R1.3.1 **OP&F should continue to pursue legislation that provides for fully staggered Board member terms in order to avoid unnecessary loss of Board effectiveness due to concurrent expiration of multiple trustee terms. Terms are staggered, but vacancies can cause several elections in a single year.**

R1.3.2 **OP&F should seek legislative authority to select external legal counsel for investment and fund management matters or engage with the Attorney General about a Memorandum of Understanding that formalizes a process which recognizes the fiduciary duties which OP&F has in selection of and contracting with counsel in order to promote consistency in Attorney General transitions.**

R1.3.3 **As OP&F develops and revises policies in response to this Report, it should collect all significant policies, statutes, and rules within a single reference document (e.g., the Governance Manual) that is regularly updated and make it available to trustees, staff, and stakeholders, including on the website.**

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 Chief Executive Officer 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 an 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 is a standard peer practice that 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. Attention to Open Meetings Act compliance must be included in design and use of consent agendas.

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 many instances of a committee whose focus is on corporate governance or ESG, most funds are moving 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, 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 kind type or medical review or medical advisory board that 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.

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.	No
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.	Yes
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.	Yes
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	No

Board Meetings and Operations Standards of Comparison	Findings
oversight (e.g., monitoring) items last.	
Consent agendas are used effectively to handle routine board approvals.	No
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.	Yes
Committees function as an important oversight mechanism for the board and bring appropriate policy and performance issues for the full board to address.	Yes
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.	Yes
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.	Yes
The board chair, in consultation with each trustee, selects and appoints committee members, with the approval of the entire board.	No
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.	Yes
About half 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.	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

Board Authorities

Conclusions

Compared to other U.S. state integrated retirement systems, the OP&F Board:

- Is typical, with 9 voting trustees compared with a median of 10 members
- Has more elected and fewer appointed members
- Has about the average number of plan members as trustees

The OP&F 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 OP&F 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

OP&F is in a small minority of U.S. states (Iowa, Ohio, Pennsylvania, Tennessee) where, by statute, 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 *3.4 Custodian Policy*.

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

Recommendations for Improvement

See R1.3.2

Board Meetings and Operations

Conclusions

OP&F offered access to an audio feed of the public sessions of its board meetings through their website during the COVID pandemic. During this same period, emergency legislation allowed for remote participation by trustees. The emergency legislation has lapsed, and OP&F has returned to in-person meetings. They concurrently stopped providing the audio feed to the public. We understand the General Assembly granted the State Teachers Retirement System the statutory authority to conduct board meeting remotely, under limited circumstances (H.B. 110 of the 134th General Assembly). While the General Assembly has not granted such remote authority to OP&F, OP&F may elect to broadcast board meetings to the public without any statutory action by the General Assembly. The other four statewide retirement systems in Ohio currently broadcast their meetings to the public.

Most peer systems also maintain an archive of past meeting agendas and minutes on their web site; OP&F provides them in advance to a mailing list of interested parties but does not make them generally available to the public on the OP&F website. Prior meeting agendas and minutes are available on the website, but not public session materials. Prevailing practice is for Board and committee meetings to begin no earlier than at the time stated in the meeting notice.

The number of OP&F Board meetings annually, 10, is the median for the peer group; however, at 1 hour, the meetings are the shortest in the peer group. As indicated below, the OP&F Board spends less than one-third as many hours in full Board meetings annually as compared to the peer group average (10 vs. 30 hours). However, the Health Care and Investment Committees are committees of the whole; if the meeting time from these two committees are included, full OP&F Board meetings would be about 27 hours per year, close to the peer group average.

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
OP&F				
10			1	10

Source: Funston Advisory Service InGov© Research

Ten to twelve meetings per year is typical for peer funds such as OP&F where the Board has retained most authority for investment manager selection and termination, as many manager hires, particularly in private markets, require timely approval. Although OP&F could strive to reduce the number of meetings, it would likely be challenging without more investment decision delegation to staff.

It should be noted that every trustee told us they believe the OP&F Board functions well, and they believe the frequency and duration of meetings is appropriate.

OP&F staff typically provides trustee access to board books (all the materials for committee and full board meetings) one week before meetings through the board portal, which is prevailing practice at peer funds, although some provide materials two weeks in advance. Since OP&F 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.

At 600-800 pages of materials per Board meeting, OP&F has the largest board books among the peer group. However, trustees stated that there are good summaries, especially in the investment and disability sections (the bulk of the board books), and that they had learned where to look to find what they need. Most did not see a need to try to reduce the volume of the board books. It was suggested to include board book navigation in new trustee onboarding.

Nearly all peers in this group only provide materials to trustees digitally and do not offer a hard copy option. OP&F offers hard copy for trustees or interested parties on the distribution list, but the main board book distribution method is through the board portal.

The full Board meetings tend to be brief, as noted earlier, because most work is being done by the committees. This is indicative of a well-functioning board. Since most elected trustees attend most committee meetings, including those where they are not a member, they tend to be well-informed on committee activities.

OP&F maintains an annual Board strategic policy calendar, which is prevailing practice. Leading practice is to have a multi-year calendar that considers four- or five-year cycles of actuarial valuations and asset-liability studies, for example, and is used to ensure that committees are planning for the appropriate due diligence activities and that continuing education is coordinated to prepare trustees for upcoming key discussions and decisions.

The Board and its committees typically set meeting agendas in a traditional order that often discusses oversight issues prior to policy or other Board decisions. Leading practice is to organize agendas according to powers reserved categories, with strategy and policy topics first (after consent agenda approvals of minutes and other perfunctory items), followed by routine approvals (budgets, appeals, etc.), then oversight items, and finally verification and independent reassurance items. OP&F does not currently utilize consent agendas to handle routine approvals and could consider them to improve meeting efficiency.

Trustees at OP&F make formal requests for information at Board meetings, through the Executive Director, who in turn develops or obtains a response and provides the information to the Board. This process works smoothly and does not currently present any issues. However, as board composition changes, a new trustee may be inclined to make requests to the Executive Director outside of Board meetings or directly to a staff member. It can be difficult for the Executive Director or a staff member to refuse a request from a trustee. Therefore, leading practice is to have a policy that requires 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

R1.4.1 **The OP&F Board and its committees should livestream the public sessions of its meetings to allow easy access for stakeholders; we understand the Board and Executive Director intend to do this as soon as pending legislation is finalized.**

R1.4.2 **OP&F 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.**

R1.4.3 **OP&F should expand its one-year Board calendar into a multi-year strategic policy agenda that includes the timing of all key Board decisions expected over the next several years.**

R1.4.4 **The OP&F Board should consider organizing its meeting agendas around the powers reserved.**

R1.4.5 **The OP&F Board should utilize consent agendas for approval of routine items (e.g., minutes, trustee expenses, other routine payments, future agendas) with the understanding that any item can be opened for discussion upon request.**

R1.4.6 **Develop a policy that defines the process for prioritizing and tracking trustee requests for information from staff or consultants/advisors and requires the Board Chair, in consultation with the Executive Director, to prioritize, approve, and follow-up on the requests.**

Committees

Conclusions

OP&F has more standing committees, with eight in total, than most peers, which typically have four to six. With the exception of the Investment Committee and Health Care Committees, which are committees of the whole, all committees have three members each, an appropriate size that makes effective use of trustee and Board time. The six elected members typically attend all committee meetings whether they are on the committee or not, a practice that is also common at other peer funds.

Each committee meets at least three or four times annually, indicating that each has significant assignments and an active schedule. As indicated earlier in this report, the OP&F trustees spend more time in committee meetings than peers, but appear to utilize the committees effectively, resulting in shorter full Board meetings. In addition, the Investment Committee meets as a committee of the whole for over 30 hours annually, and the other committee of the whole, the Health Care Committee, meets for another four hours.

The Administration/Audit Committee has a very broad charter that includes Board Governance and Board Administration; Audit (including Risk); Information Technology; and Operations. This committee has been meeting for about three hours per year, which should not be adequate to effectively oversee all those areas, particularly with a major technology project currently underway.

It may be possible to realign several committees and their charters to better organize and balance the workload. For example, the Personnel Committee is primarily responsible for hiring and overseeing the Board's relationship with the Executive Director, including annual goal setting and evaluation. Responsibility for Board Governance, including onboarding and continuing education, could be reassigned from the Audit Committee to the Compensation Committee, and the Committee could be renamed the Board Governance and Compensation Committee. This would allow a greater focus on Board governance and policy matters as well as further development of continuing education. The Administration/Audit Committee could be renamed the Audit Committee, with a focus on audit, risk, and independent reassurance.

The Benefits Committee has only met for about three hours annually. It is not clear in the committee charters if primary responsibility for the new pension administration is primarily with the Audit Committee, with its IT responsibilities, or the Benefits Committee, with its responsibilities for delivery of member services. The Board may want to assign the new pension administration system oversight to the Benefits Committee over the next few years to maintain a focus on improvements to member services, in keeping with its charter.

Note: OP&F responses highlighted in green

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 (3)	3.5 (3.5)	1.2 (0.8)	2.8 (2.8)
Investment	6	7.2 (9)	8.3 (9.5)	2.8 (2.5)	15.5 (23.8)
Disability/Appeals	4	7.0 (3)	7.1 (9.5)	2.1 (3.5)	6.6 (33.3)
Personnel/Compensation	4	4.8 (3)	3.5 (3.5)	0.8 (0.8)	1.2 (2.8)
Health Insurance/Insurance	3	7.0 (9)	4.5 (5.5)	0.8 (0.8)	1.2 (4.4)
Legislative/Policy	3	4.0 (3)	3.5 (3.5)	1.3 (0.8)	1.5 (2.8)
Benefits	2	4.0 (3)	3.5 (3.5)	1.2 (0.8)	0.9 (2.8)
Finance/Administration/ Budget	2	5.0 (3)	3.5 (5.5)	1.2 (0.8)	0.9 (4.4)
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	3.5	0.8	0.3
Average	4.3				35.0
OP&F	8				77.0

Source: Funston Advisory Service InGov© Research

Although committees appear to be functioning well, the way that committees are formed, as well as the selection of committee chairs, could be improved. We were told that committees have "slots" for certain members, or groups (e.g., police vs. fire, active vs. retired, elected vs. appointed), and that with the recent turnover of elected members, the committee assignments passed from their predecessors who had their board position. According to the committee charters, the Board chair is also automatically designated chair of the Health Care and Investment Committees. We were told that recent practice is for the Board Vice Chair to be the chair of the Administration/Audit Committee.

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.

More concerning, the Board Chair is currently chair of three committees (Investment, Personnel, and Governmental Affairs & Policy) and the Vice Chair is chair of two committee (Administrative/Audit and Disability). Prevailing practice at other public retirement systems is for the Board Chair to not chair committees, with the exception of the Board Governance Committee.

Although one of the appointed members is currently chair of the Finance Committee, the Board could have highly qualified appointed members chairing the Investment and Administration/Audit Committees. 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 experienced trustees to the extent possible.

Finally, it is a leading practice for each committee to have a standard checklist of questions to ask. The AICPA has an Audit Committee Toolkit and Checklist, for example, to help Audit Committees know what questions to ask. This could assist the OP&F committees in being more effective and informed in their due diligence.

Recommendations for Improvement

R1.4.7 The OP&F Board should consider rebalancing its committee structure by:

- **Renaming the Compensation Committee, the Board Governance and Compensation Committee.**
- **Renaming the Administration and Audit Committee the Audit Committee.**
- **Assigning responsibility for board governance, including onboarding and continuing education, to the Board Governance and Compensation Committee.**
- **Assigning responsibility for information technology to the Benefits Committee.**

R1.4.8 Each committee, under the guidance of its chair, should extend its one-year calendar into a long-term calendar in support of the Board's multi-year calendar to ensure committee activities support key board decisions effectively.

R1.4.9 The Board chair should propose committee membership each year and make the recommendation to the full Board for approval.

R1.4.10 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 and Compensation Committee if that new committee is implemented.

R1.4.11 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.

R1.4.12 With assistance from staff, each committee should develop a list of standard questions to ask on each key topic; for example, this is already done in the investment diligence packets and in the memos to the Board.

1.5 Budget Process

OP&F *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." [vii]

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 which 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, 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 which are primarily fixed and not sensitive to changes in activity levels and those costs which are significantly subject to fluctuation. For those costs which are activity-level dependent, the budget assumptions should specifically include the anticipated volumes which 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

Budget Process Standards of Comparison	Findings
The budgeting and budget reporting processes are largely automated and do not rely on manually intensive processes and spreadsheets.	Yes
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 OP&F budgeting process are laid out in detail in accordance with section 742.102 (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 which facilitate standards in budget development and tracking.

Budget Development

On an overarching basis, the annual budget development process at OP&F is considered effective from both a controls and execution perspective. The budget development cycle effectively runs on a nine-month cycle, beginning with the identification of strategic organizational initiatives at the Trustee Retreat in April. In mid-summer, a kick-off meeting is held by the ED and includes Directors and key personnel assistants from departments throughout the organization. The ED sets priorities for directives and spending targets, after which each Director in the organization builds their proposed bottom-up budget for the following year. Headcount projections are coordinated between Finance and Human Resources. The ED, Financial Services Director and Budget Manager review budget presentations in September, and changes are adopted before submitting the draft budget to the ORSC and OP&F Board in October. A fully revised budget is presented to the Board's Finance Committee in November and, following one more round of changes (if applicable), the final budget is approved by the full board in December, prior to the beginning of a new fiscal cycle.

The Finance Department at OP&F publishes and maintains a comprehensive budget manual (approximately 111 pages). Further, the organization's leadership is measured on the timely delivery of both the annual budget and the Annual Consolidated Financial Statement. Each year, OP&F develops three distinct budget deliverables – (1) a total plan asset budget; (2) an administrative operating budget; and (3) a capital outlay budget. The structured methodology and attention to detail in the budget development process was recently recognized by the Public Pension Coordinating Council in 2021, and the Government Finance Officers Association, who awarded OP&F with a Distinguished Budget Presentation Award in 2020.

The OP&F 2022-2024 Strategic Plan prescribes as one of the stated goals, "Grow Organizational Strength and Enhance Efficiency", and defines the supporting strategies to achieve the goal as follows:

- Control Administrative Costs;
- Streamline and Automate Processes;
- Identify Organization Wide Process Gaps; and
- Implement Strategies Designed to Improve Organizational Cost Effectiveness.

The organization also publishes an annual Economic Impact Analysis which highlights the change in projected variable values (i.e., membership and retiree levels) that directly impact key operating budget levels, and underscore priorities for capital spend initiatives. The publication of a three-year operating and capital plan, cascaded from an organization's strategic plan and projected changes in key metrics, is considered leading practice in the industry. These operating plans include aspirational metrics in the form of projected key performance indicator (KPI) levels. At present, only the OP&F capital budget contains a forward-looking, three-year forecast, and quantitative operational targets have yet to be developed in support of the aforementioned strategies in the strategic plan.

Budget Tracking and Reporting

OP&F's attentiveness to detail during the budget development process extends to their tracking and reporting efforts throughout the fiscal year. Once the operating budget book is published, the Controller tracks the details of budget versus actuals on a line-item level. OP&F publishes financial statements monthly and delivers a budget variance report to the ED. The organization conducts a monthly review of variances and may make transfers between line items under the policy delegated threshold of $50,000. The Controller has created alerts and built-in controls when budgets exceed forecasts. The organization has recently moved to the Dynamics AX platform and leverages the cloud-based Dynamics 365 software for OP&F's general ledger. The software conversion has streamlined many budget-related processes.

OP&F conducts a quarterly budget meeting with the Finance Committee of the Board. Any transfer request that is greater than $50,000 requires board approval. Every operating line item is reviewed by the staff prior to the board quarterly review. Due to diligent practices, OP&F does not traditionally reforecast its budget at midyear. According to financial leadership, the organization's policies, processes, and oversight practices have enabled OP&F to operate within budget for nine years out of the last ten.

One key opportunity for improvement is in the justification and reporting of capital initiatives. FAS notes that, in particular, the board should focus on the risks of the mission-critical, $24.6 million pension administration system project. The project represents nearly 90% of the projected capital budget forecast from 2022-2024. Moreover, the system conversion is projected to deliver upon the strategic plan's goal to enhance efficiency; however, despite its significant price tag, was not proposed with the type of quantitative benefits traditionally observed in a cost benefit analysis (CBA) or total cost of ownership (TCO), return on investment (ROI), or an internal rate of return (IRR) calculation. Historically, these types of quantitative analyses were limited to capital expenditures for institutional investment firms in the private sector, but they have more recently become a more common in the public pension plan space as well.

Travel, Expense Management and Reporting

OP&F's travel and expense management is guided effectively by the organization's detailed Business Expense and Reimbursement Policy document. Employees are required to sign the policy as an indication of their understanding and acceptance of it. The policy sets clear guidelines for travel permissions, restrictions, documentation requirements, and procedures for staff to follow. A standard reimbursement form is required to be submitted within 30 days of travel.

Travel expenses may require multiple levels of managerial approval for reimbursement based on spending and budgeting parameters. Specific policies and forms exist for exception processing, as in the case where an associate is unable to produce proper documentation. In these cases, certifications from the associate are captured in lieu of documentation.

Recommendations for Improvement

R1.5.1 **Formalize development of a three-year Operating Plan from the strategic plan and economic impact analysis to produce a multi-year, forecasted capital and expense plan for the organization. Emphasize external influencers (e.g., projected volume of retirees) to forecasted changes to budget drivers – i.e., vendor costs and staffing. Refresh annually.**

R1.5.2 **Introduce a quantitative methodology to capture costs and projected benefits for large-scale capital improvement initiatives. Present to the board and acquire explicit approval on projects, individually and as part of the overall capital budget.**

R1.5.3 **Augment quarterly budget reports with 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	Yes
• 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.	Partial
The Financial Disclosure Statements cover reporting of financial interests that could raise potential conflicts of interest.	Yes
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 are policies regarding the use of placement agents by counterparties and prohibiting "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

OP&F has appropriate ethics policies and standards of conduct in place that implement Ohio statutory requirements that are consistent with prevailing peer practices. However, there are several opportunities to improve compliance aspects of those policies.

Section 742.103 of the Ohio Revised Code (the "Code") requires the OP&F Board, in consultation with the Ohio Ethics Commission, to develop an ethics policy governing the Board and OP&F employees. The Board has accordingly adopted a Board ethics policy, standards of conduct and travel reimbursement policy (Governance Manual and Administrative Code 742-16-01) and employee ethics policy. The Code also requires the Board to periodically provide ethics training to Board members and employees. OP&F provides regular training sessions that satisfactorily implement that requirement.

While the Governance Manual and other provisions cited in it address conflicts of interest, those provisions provide little practical guidance as to likely situations that would pose a potential or actual conflict for public pension fund officials; nor does the policy advise on where to go at OP&F for guidance or specify what actions might be necessary to resolve a conflict. For example, when a conflict has been identified, circumstances may require that the conflicted party be excluded from related Board discussions or screened from information to prevent the receipt of confidential information with respect to the subject. Public disclosure of the conflict and resolution may also be required.

Section 742.103 of the Code requires the Board to ensure that employees are informed regarding procedures for filing complaints alleging violations of ethics laws with the Ohio Ethics Commission or the appropriate prosecuting attorney. OP&F meets this standard by including information in ethics training materials on where to file complaints. There is also a staff Whistleblower (Disclosure of Wrongdoing) Policy that provides for complaints to be filed with the person's Department Director, Chief Audit Officer, Executive Director or General Counsel.

Our review of documentation for a sample of investment transaction documents revealed that OP&F receives certifications from alternative investment counterparties on whether a finder or placement agent fee was paid in connection with the transaction. However, OP&F does not have a stand-alone policy set by the Board regarding counterparty use of placement agents; nor does the Board have a policy that addresses implementation of Federal pay-to-play rules applicable to public pension fund officials.

Nevertheless, the OP&F standard Investment Management Agreement and its standard Side Letter for alternative investments require investment managers to report initially and annually on any gifts, campaign contributions or charitable contributions that were made to a public official with authority to make OP&F Board appointments or made at the request of an OP&F Board member. This is an appropriate way to address pay-to-play concerns. However, a Board policy covering SEC pay-to-play regulatory restrictions on campaign or other payments could confirm establishment of a comprehensive OP&F standard.

In order to address the potential for board members to exert improper influence and in order to protect board members from the appearance of impropriety, the Board should adopt a policy governing trustee referrals of investment opportunities or vendors. The policy could contain a process for tracking such referrals and confirm that normal evaluation standards must be applied and documented. Adoption of trustee referral policies has become a leading practice trend amongst peer public pension funds.

Retirement system board members are required to file annual financial disclosures with the State Ethics Commission. Senior staff are also required to file financial disclosure statements. Compliance is tracked and disclosures reviewed by the Chief Audit Executive for indications of a potential ethics violation. Results are reported to the Executive Director and Audit Committee. This is a leading best practice.

While trustee and staff ethics code compliance is monitored and training is provided, an annual compliance certification is not required of investment and senior staff. There is also no compliance confirmation requirement for advisors and managers. This is an area where procedures could be tightened. Related discussion and recommendations are contained in R3.2.1.4 below.

OP&F does not have a policy that provides for reporting to the Administration / Audit and the Disability Committees on use of the fraud hotline and whistleblower complaint process. To assist the trustees in their oversight of compliance procedures, we recommend that a reporting protocol be formalized.

In addition, we note that OP&F does not have a formal policy to guide the Board in responding to trustee violations of ethical standards of conduct or other legal requirements. While the Board lacks real enforcement authority regarding such violations, there are enforcement steps the Board could take. Some peers have adopted policies that identify enforcement options for Boards to consider in the event of Board member misconduct. For example, while affording the accused appropriate due process rights, the Board could determine that it is appropriate to make a referral to an enforcement agency, issue a reprimand, require additional training, suspend travel privileges, revoke committee assignments, notify appointing authorities, or take some other action.

Investment-Related Conflicts of Interest Standards of Comparison and Findings

Investment-Related Conflicts of Interest Standards for 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 pursuant to the Required Annual Disclosure Form.	Partial
Any conflicts that arise during the course of the relationship are timely disclosed to the system in writing.	Partial
The template side letter requires investment managers to complete a Required Annual Disclosure Form upon execution of the side letter and again annually.	Partial
Contract terms and the Required Annual Disclosure form appear to be effective at identifying conflicts.	Partial
The Required Annual Disclosure forms is submitted annually.	Yes
Investment Compliance is responsible for ensuring that the Required Annual Disclosures are received.	Yes
Investment Compliance verifies that information received is consistent with data reported to the SEC or otherwise available to OP&F.	Partial
Investment Compliance escalates any significant findings.	Yes
External managers and broker/dealers must affirm compliance with system rules annually.	Partial

Conclusions

OP&F has a staff policy in place that prohibits insider trading with material non-public information. Personal use of confidential information for investments or other purposes is also prohibited. Investment staff annual financial reports disclosing their personal investments are reviewed annually by the Internal Audit Executive and compared with OP&F investments for suspicious personal transactions, with results of the review reported to the Executive Director. That process appears to be working effectively, and compliance review results are reported to the Audit Committee and Executive Director.

While the OP&F model contract and side letter forms for external managers require that they comply with Ohio laws applicable to OP&F (including ethics standards) and have the managers make representations and annual certifications regarding compliance with investment guidelines, campaign contributions, gifts and some other fees, there is no comprehensive certification that covers all ethical standards and conflicts of interest. To plugs current gaps, see R3.2.1.4, which recommends that OP&F establish an annual ethics confirmation standard for all investment professionals / organizations responsible for managing OP&F assets that details ethics expectations and requests annual certification of compliance.

With these recommended improvements, current monitoring and compliance review procedures could cover the expanded reporting requirements and achieve best practice status.

Recommendations for Improvement

R1.6.1 The Board should require periodic reports to the appropriate Board committees on fraud hotline use and whistleblower complaints

R1.6.2 The Board should consider adopting:

- **A policy that contains enforcement remedies and a process to guide action by the Board in the event of trustee misconduct.**
- **A policy establishing standard practices to ensure that trustee referrals of investment managers or other vendors are tracked and handled without special treatment.**
- **A policy requiring disclosure and reporting of placement agent fees and implementing SEC regulations on pay-to-play payments relating to public pension funds.**
- **A requirement that trustees, senior and investment staff members, investment managers, advisors, broker-dealers, consultants, outside counsel and other professional service providers provide an annual certification of compliance with OP&F ethical standards. See also Recommendation R3.2.1.4 below.**

1.7 Succession planning

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 executive director 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.	Yes
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.	Partial
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.	Partial
The strategic plan is a useful and valuable tool used at all levels of the organization in goal setting and accountability.	Yes
There is a standard process for engaging the leadership team, the Board, and the ED around the strategic plan.	Yes
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.	Yes

Conclusions

The OP&F Board and staff work very harmoniously and have addressed succession planning formally in adopted Board policies, specifically in the adoption of the Leadership Replacement Plan, Key Position Replacement Plan, and the OP&F Succession Plan. Emergency succession needs in the event of immediate vacancies of the ED or other key leader positions is addressed. These plans are reviewed and adopted by the Board, and Trustees have an understanding of their responsibilities to maintain current planning for the future. Plans respect segregation of duties and internal control.

Trustees and ED have a common understanding of staffing challenges for OP&F in the near future brought on by an aging workforce and the Great Resignation experienced nation-wide. It takes longer to fill positions generally; emergency succession planning is critical in this environment, as well as staff development and attention to bench strength in each department. Leadership is well aware of critical staff needs and planning for future advancements, hires or outsourcing while maintaining an attractive workplace culture, which is key to keeping and attracting staff.

OP&F has wisely developed feeder pools throughout the organization, with a focus on employee education and certification, supported by a tuition reimbursement program. Department Directors are responsible to the ED for developing staff competencies and preparing for upcoming retirements. The ED considers this planning to be an ongoing part of strategic management, with succession planning meetings and discussions at Directors'/ED meetings. Staff needs and succession planning seem to be institutionalized at the direction of the ED and routinely reported to the Board, so the Trustees understand this to be a critical need directly related to OP&F stability and its strategic plan.

The OP&F Board has adopted a clearly developed and thoughtful strategic plan which the ED recently discussed with the Board so that the Board could refresh the plan for 2022 through the end of 2024.

The Strategic Plan is well outlined and easy to read with 5 Strategic Goals:

- Pension Fund is well governed and financially sound.
- Strengthen leading quality of Member Services.
- Preserve and strengthen the consumer driven Health Care model for eligible members.
- Communicate effectively and strengthen partnerships with stakeholders.
- Grow organizational strength and enhance efficiencies.

These strategic goals are supported by strategies and success indicators that make this succession plan a useful tool for goal setting and accountability of the ED to the Board and for those accountable to the ED for implementation within departments.

More tenured trustees, especially, are conversant with this plan, and some recently seated trustees are not. The ED plans to spend time in 2022 discussing this plan in more depth with the Board. It is unclear to what extent the ED included outside stakeholders in the development of this current plan.

The Board develops the ED goals to support the strategic plan such that it is a useful tool for goal setting; the ED and Board discuss progress or issues against the plan quarterly and conduct a formal evaluation annually.

Recommendations for Improvement

R1.7.1 **Develop a standalone stakeholder communications plan that supports the Strategic Plan and involve stakeholder groups in the plan development and rollout.**

R1.7.2 **Board reporting on strategic planning and succession planning should be scheduled annually with clear expectations of when reporting and discussions take place.**

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 data from the InGov peer database, OP&F staffing in member and employer services, information technology, and finance and accounting are relatively high.

Metric	OP&F	Peer Average	Low	High	No. of Peers
Total FTEs per 10,000 DB Plan Members	22.8	11.9	5.2	22.8	7
Retirement + Member Services + Employer Services FTEs per 10,000 DB Plan Members	11.6	4.2	0.6	11.6	9
Information Technology FTEs per 10,000 DB Plan Members	4.6	1.8	0.6	4.6	9
Finance and Accounting FTEs per 10,000 DB Plan Members	3.9	1.2	0.4	3.9	9
Investment Management FTEs per $1 billion AUM	0.9	0.8	0.5	1.1	7
Total Budget (less Health and Insurance Administration) per DB Plan Member	$431	$290	$117	$789	7

However, most of the peers in this group are larger than OP&F and have greater economies of scale. In addition, none are strictly public safety worker pension plans.

Peer System	Type	AUM ($Bils)
State Teachers' Retirement System of Ohio	Integrated	$94.8
Oregon Public Employees Retirement System*	Administration only	$93.5
Pennsylvania Public School Employees' Retirement System	Integrated	$72.5
Utah Retirement Systems	Integrated	$39.0
Indiana Public Retirement System	Integrated	$36.9
Employees' Retirement System of Georgia*	Administration only	$22.8
Employees' Retirement System of Hawaii	Integrated	$21.4
Ohio Police & Fire Pension Fund	Integrated	$19.1
City of Austin Employees Retirement System	Integrated	$3.4

There are few statewide public safety public retirement systems in the U.S., and none besides OP&F is in the InGov database. Based upon analysis of their Annual Comprehensive Financial Report (ACFR), the Fire & Police Pension Association (FPPA) of Colorado has higher cost levels than OP&F but is also about one-third the scale of OP&F.

The Arizona Public Safety Retirement System (PSRS) is another statewide system similar to OP&F and also similar in scale, although slightly smaller. Its overall staffing level relative to the number of members appears to be comparable to OP&F. In FY2020, its total budget per member was also comparable to OP&F. However, in FY2021, the AZ PSRS budget dramatically increased as a new pension administration system was being implemented. We are not aware of any other statewide public safety retirement systems in the U.S., but these two examples would indicate that OP&F is comparably staffed after accounting for scale.

Metric	OP&F	FPPA CO	AZ PSRS FY2020	AZ PSRS FY2021
AUM ($Bils)	$19.1	$6.9	$10.9	$15.9
Total FTEs per 10,000 DB Plan Members	22.8	45.5	18.8	19.6
Total Budget (less Health and Insurance Administration) per DB Plan Member	$431	$760	$380	$648

Recommendations for Improvement

R1.8.1 OP&F should participate in administrative benchmarking with a third-party firm such as CEM Benchmarking to develop a more granular understanding of how its costs and staffing compare an appropriate peer group.

1.9 Communication policies and procedures

Communication policies and procedures of OP&F 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, generally through the ED and senior staff.

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, managing requests for information, social media monitoring and usage, and the content and design of official materials and maintaining 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 that trustee is voicing a personal opinion or speaking for the board.

Peers' policies commonly require trustees to inform the ED if they are contacted by the media, elected officials, vendors, or by other stakeholders. Such a policy enables the board and leadership to have a more complete picture of matters that interest stakeholders and to provide timely and consistent responses 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 also should not have access to individual member information nor divulge information about individual participants in the fund or divulge 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; staff provides aggregated information routinely, however. 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 such discovery requests. For these reasons, the prevailing 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.	Partial
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.	
• 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.	Partial
• Messaging is consistent and clear and is not a recitation of facts. Messaging has heart and is stated in a manner to advocate for the fund and its beliefs and positions.	Yes
Written and oral communications are in plain language and understandable for those outside the pension fund administration or investment field.	Yes
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. Fund has consultants and staff that are capable of monitoring and pushing information via multiple resources.	Yes
Meaningful and impactful messaging is consistent across the system and is always timely, honest and purposeful.	Yes
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

Communication and outreach have improved greatly under this Executive Director, and almost to a person Trustees praise her abilities, her communication style and timeliness. Stakeholders, particularly those with whom she has interacted, find the new ED very engaging and an open communicator.

The ED job description enables the ED to talk for the fund, which she does so capably and in communication with the Board chair and other trustees.

Trustees are disciplined about not speaking for the fund and only communicate Board approved actions to stakeholders. They take issues back to the chair and to the ED and are disciplined about following the chain of command. Trustees stay in regular contact with stakeholders in the field and report that complaints have all but gone away in comparison to the high number of previous complaints concerning health care changes that they feel were not well communicated.

The Communications Director and ED work with legislative counsel as well as a general communications consultant. The legislative counsel assists in accessing legislators and monitoring legislative issues, and the communications counsel has been very helpful in developing and using a social media presence. Crisis Communication skills are also available through the consultant relationships should it be necessary. Working with consultants has been critical since the Communications Department is staffed with three people; consultants have augmented staff skills, and the staff attends to standard communications needs, externally and internally.

The Communications Department works with appropriate staff on internal and external communications needs, such as talking points on major issues or on legislation information that can be used throughout the organization and by the Trustees. Communications also prepares such support as legislative testimony for the ED.

Some stakeholder groups call for more proactive communication, more outreach, and a clear customer focus in scheduled interactions. Most stakeholder groups have had no regularly scheduled interaction at annual or quarterly member meetings and would look forward to that ED and senior leadership presence to discuss key issues and status of their retirement system.

OP&F has a fairly comprehensive Communications Plan that outlines responsibilities of the Department that covers all media relations, including support for Editorial Board visits and requests for information, any Interviews, and the development of Opinion Pieces for publication as well as Letters to the Editor. The department plan is supportive of proactive and timely communications, regardless of the medium. Some stakeholder groups report, however, that they have not received any outreach from OP&F leadership, nor any information such as articles for newsletters on such matters as key legislation, status of pension fund, or on plans for new member benefit system, although they do receive the member newsletter, the employer newsletter, Board Report newsletter and the financial reports. Most stakeholder groups would also like representation on a users' forum as the new member benefit system is developed, for example, and would like regular contact on this major project that impacts all members.

Most stakeholders find the website useful, but some express the desire for an entirely automated system for making member updates and for retirement applications. Most find the website a very good source of information and rather user-friendly. Some stakeholders expressed the desire that more routine information and board information/reporting be routinely posted by OP&F.

OP&F has provided each trustee with their own individual OP&F email account. While trustees generally appear to utilize their OP&F email account for OP&F business, we understand that some trustees occasionally utilize their personal or non OP&F business accounts when it is more convenient. This could result in lack of clarity for when they are sending messages in their role as an OP&F trustee and also expose their personal email account to discovery in the case of litigation.

Recommendations for Improvement

R1.9.1 Expand and develop the current communications plan into a more robust communications plan, and specifically develop a stakeholder communication plan involving engagement and outreach.

R1.9.2 Review and develop a clear written Board policy on OP&F communication expectations that outlines the role of the Executive Director and interaction with Board Chairperson.

R1.9.3 Clarify in Board Policy the role of the ED in interacting with all stakeholder groups on a regular and consistent basis as a key responsibility as expressed in the ED's job description.

R1.9.4 Since Stakeholder expectations increasingly favor full electronic support in accessing and updating or changing member files and in the retirement application process, continue to work toward that goal in developing the new member benefit system and do so with input from stakeholders.

R1.9.5 The ED should develop a calendar of annual stakeholder outreach.

R1.9.6 The OP&F Board should ensure all its members are consistently utilizing their OP&F email account for system-related messages.

2. Organizational Structure and Staffing

The Contractor will perform a review of the overall organizational structure of OP&F and its capacity and effectiveness in implementing the policy and assignments delineated by the OP&F 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 OP&F'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 OP&F as compared to peer retirement systems;
2. Reviewed human resources policies and practices and compared 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.
11. Utilized the FAS public retirement benchmarking knowledgebase to assess compensation policies and structure.

Overview of Organizational Structure and Staffing

Overall, the OP&F organization is consistent with prevailing peer practices in terms of structure and staffing. There should also be separation of responsibilities between investments and investment accounting to ensure independence.

The overall OP&F staffing level appears to be consistent with other state public safety retirement systems. Span of control and lines of authority at OP&F are clearly defined with eight senior positions that report to the Executive Director (ED).

One additional notable difference between OP&F organizational design and other public and private institutional investors is found in the investment accounting function. OP&F currently houses both functions within the Investment division, which removes this widely accepted check-and-balance based organizational construct.

Human Resources is a priority for the Board and staff has strong capabilities, but limited capacities. Staff recruitment is a growing challenge.

The Head of Human Resources makes presentations to the OP&F board twice annually and addresses key issues such as retention and recruitment. There is a robust set of policies and procedures to support key HR. The HR staff is capable but small.

Leadership across the organization cites increasing difficulties in recruiting talent into the organization. Time-to-fill metrics have elongated significantly, and the pipeline of candidates has dwindled from historic norms, especially in key service areas such as technology, member services and finance.

OP&F has a structured, procedures oriented, and uniform approach to position and performance management; however, the number of positions should be streamlined. Supporting HR systems are effective.

The HR function at OP&F, working with management across the organization, has implemented a highly structured, procedures oriented, and uniform approach to position and performance management. The organization maintains approximately 100 position descriptions across all levels within the enterprise, including the Executive Director position.

The responsibilities for both position and performance management are shared between HR and each department. OP&F uses the Taleo talent management system to support performance management for the entire cycle from goal setting to evaluation. The use of Taleo for performance management is supported by standardized definitions of staff and managerial competencies and performance, the sequencing and logging of key performance events, and detailed procedures across the lifecycle of the performance management process.

OP&F has implemented a succession plan and continues to develop its bench strength.

Succession planning was first introduced in 2019, and leadership continues to ramp it up more broadly across the organization. Approximately 30% of the positions will soon have a feeder pool in place, with the goal of including all critical jobs as quickly as is feasible. HR has adopted the practice of grooming internal candidates when they become aware of a pending vacancy.

OP&F has had a reasonable level of voluntary turnover in recent years. However, impending

retirements are a risk; HR has taken steps to mitigate risks from a retirement wave.

Over the past three years, OP&F has averaged a turnover rate of 8%, but potential retirements are a risk to higher future turnover. To mitigate that risk, HR is documenting procedures; implementing a summer college intern program; grooming specific staff when an exit is imminent; using succession planning to prepare or hire multiple qualified staff for future positions; and evaluating work environment factors to attract and retain talent (e.g., hybrid work, flex schedules, dress code, building updates).

HR has not regularly obtained employee feedback on culture and job satisfaction but should do so.

The OP&F HR department does not issue a staff culture survey / opinion survey across the organization or utilize a third party to do so. Given the strategic importance of HR, as designated in the OP&F strategic goals, this valuable feedback tool is notably absent from the OP&F inventory at the present time.

Member services reports to the Board focus on volume of applications, member selections of plans, disability statistics, and payment initiations, but do not address service levels.

Most of the member services reports to the Board, including the Benefits Committee, focus on numbers and volume of applications, member selections of plans, disability statistics, and payment initiations. Over the past year, there have not been any presentations to the Board that focused on member service levels or service cost.

OP&F does not obtain member satisfaction feedback as extensively as most peer systems and does not obtain benchmarking reports on service levels and costs.

OP&F has metrics in place for managing various member services processes such as processing times, pre-retirement interview satisfaction, call center performance, and disability exam satisfaction. The prevailing practice is also to conduct customer satisfaction surveys for essentially all member touch points, at least on a sampling basis.

Prevailing practice at peer funds is to regularly participate in pension administration benchmarking to better understand how their pension administration operations and costs compare to peers and identify opportunities for improvement. This would be particularly helpful for OP&F, not only in evaluating its existing member services, but more importantly, in optimizing the implementation of its new system from Lifeworks over the coming years.

Many of the member services processes are manual, but they function reliably. A new pension administration system is being implemented that will significantly automate many processes and increase the level of member self-service.

OP&F has recognized that its current pension administration benefits payment system is becoming outdated and has begun a major information technology initiative to implement a new replacement system over the next few years, as mentioned elsewhere in this report.

The new system should provide significantly higher levels of member self-service, including, for example: online retirement applications; secure online benefit calculators linked to actual member data; more self-maintenance of member data (address, beneficiary, banking information, tax status); online scheduling of counseling sessions; and document upload and download. These system capabilities, which should significantly reduce member inquiries and data maintenance, combined with integrated workflow that improves both response time and staff productivity, should reduce demands on staff time and allow for a long-term redeployment of portion of member services staff.

Practices for setting and monitoring compensation across the organization are consistent with prevailing practices for public pension plans.

Compensation practices in the Salary Administration Guidelines are considered in line with prevailing practices for public pension plans. They include roles and responsibilities for Human Resources, the Executive Director, Directors, and Managers across the organization. The document also describes the core principles and procedures for setting salary levels based on job grade, job description, and salary structure. Job grades are set against market pricing, established via independent benchmarking on a formal five-year cycle with annual refresh processes.

OP&F typically commissions compensation benchmarking reports every five years; the last report was completed in 2015 by Gallagher Benefit Services, an outside consultant. A new report was completed by CBIZ.

The frequency of compensation benchmarking is set at five-year intervals; however, OP&F postponed the commencement of the 2020 planned benchmark effort due to the pandemic. In between third-party formal benchmarking reviews, the head of HR examines existing salary levels using salary.com data to inform the annual budget and ensure that the most recent information is utilized in comparing compensation.

OP&F responded to some, but not all of the 2015 compensation recommendations.

The 2015 study completed by an outside consultant concluded that OP&F aggregate salary levels fell approximately 6.9% below the peer average, which was considered competitive with the marketplace. Twenty-six jobs were stepped up in grade while only two were reduced. Further, the consultant found that the organization's number of unique job descriptions (and associated levels) was highly elevated when considering the total size of the organization. The number of position descriptions is slightly higher today than it was at the time of the compensation benchmark.

The new compensation benchmark report should be timely and very important to OP&F.

In light of the direct correlation between compensation decisions and the organization's 2022-2024 strategic planning goals in recruitment, retention and efficiency, the actions of the organization based on this benchmark study's conclusions should be a priority. To the extent that the organization opts to introduce an incentive, performance-based component to total compensation for select associates, FAS recommends that the organization includes this within the current benchmarking effort.

OP&F has a strong foundation for staff development; however, several areas could be strengthened.

OP&F has a breadth and depth of training and educational opportunities that the Human Resources team has made available to associates. However, there are still notable opportunities for improvement to raise the overall training and development program within OP&F to maximize the organization's ability to directly influence the overall performance; to attain the priorities of retention and efficiency outlined in the 2022-2024 strategic plan; and to improve the probability of success for existing and future change initiatives to attain a desirable outcome.

HR has also commenced the practice of integrating training and development into the OP&F succession plan.

By mapping the knowledge and competency requirements of each critical position within the organization to an inventory of the skillsets of potential successors, the organization can quickly build customized training and education plans to facilitate the transfer of responsibilities when needed. To evidence the importance of succession, these training and education plans should further be integrated into the annual goal setting process and be evaluated as part of the performance management cycle at the end of each year.

Greater change management skills are needed at OP&F, in particular in support of the transformational new pension administration system being implemented.

Many OP&F leaders have pointed to a deficiency in change management skillsets across the organization as a point of high inherent risk to the success of projects. While IT has taken steps to improve their project management office (PMO), establishing a critical mass set of skills in key project roles traditionally executed by the business – including business requirements development, user acceptance test script development, process mapping and documentation, and training material development and delivery – should be a top near-term priority for the organization. While engagement of third-party consulting firms to assist in these project tasks can facilitate their execution, OP&F should endeavor to self-source these functions over the longer term for economic and strategic reasons.

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.

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 OP&F'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 (if applicable).	NA
The Board, ED, and CIO 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 for each staff member that describes general and position-specific requirements.	Yes
The system periodically conducts or participates in independent compensation studies 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	Partial

Staffing and Compensation Standards of Comparison	Findings
are monitored, and open positions are filled in a timely manner. (See also 2.3)	
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.	No
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 also 2.4).	Yes

Conclusions

Organizational Design

As referenced in Section 1, Board Governance and Administration, OP&F 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 OP&F: defined benefit pensions and health insurance for annuitants. Our assessment in this review is based upon leading and prevailing practices for this type of public retirement system which offers these services.

As noted in section 1.8 Administrative Costs, the overall OP&F staffing level appears to be consistent with other state public safety retirement systems.

Span of control and lines of authority at OP&F are clearly defined. Eight senior positions that report to the Executive Director (ED) include Finance (as DED), Investments, IT, Member Benefits, Communications Investments, Human Resources (HR), Audit and Counsel. Consistent with leading practices, Audit also maintains a direct reporting line to the board. The small HR team is comprised of generalists who also bring with them specialist skills to keep up with changing requirements. Common practice in HR requires that all quantitative data that is created by an HR professional is audited by a second. HR recently was asked by the board to take the lead on the ED search effort, and the head of the department reports to the board periodically on important and topical matters including succession, recruitment, and staffing.

Health care services is housed within Member Benefits and includes enrollment and eligibility, the application of stipends, and monitoring. OP&F has engaged Aon as a broker of health care services. Goal #3 of the OP&F 2022-2024 strategic plan focuses entirely on the strengthening of the healthcare model for eligible participants.

On an annual basis, the Head of Human Resources has two primary interactions with the OP&F board. As described in Section 1.5, HR and Finance jointly present an annual proposed budget to the Personnel Committee for staffing expenses – salaries, wages, taxes, and healthcare. HR also produces a Staffing, Compensation and Benefits Review for the OP&F board. This document contains important demographic and staffing data and trends over a three-year period. The data within it has served to raise awareness of risks associated with retention and recruitment (see below).

The HR department of OP&F has developed (and maintains) a robust set of policies and procedures to support key HR functions including job application, hiring and orientation, pay practices and salary administration guidelines, job postings, personal data changes, and terminations. The details of many of these are housed in the Employee Handbook along with other policies governing ethics, code of conduct, and standards of behavior.

One additional notable difference between OP&F organizational design and other public and private institutional investors is found in the investment accounting function. Standard compliance practices across the buy-side strongly encourage the separation of responsibilities between investments and investment accounting to ensure independence of official books-and-record valuations and reporting performance. OP&F currently houses both functions within the Investment division, which removes this widely accepted check-and-balance based organizational construct.

HR Strategy, Organization and Current Challenges

Imbedded within Goal #5 of the OP&F 2022-2024 strategic plan – Grow Organizational Strength and Increase Efficiency – is a supporting strategy which reads “Analyze existing staffing levels and revise organizational structure to meet current and future needs.” This single statement is testimony to the Trustee’s recognition that the future performance of the organization in serving its mission requires a fresh look at staffing and organizational design with an eye towards the future. Given the small HR team at OP&F, the breadth of services they support, and the high levels of workload found in organizations with a strong culture-based attentiveness to procedural detail, establishing and executing a tactical plan to achieve this important strategy is expected to be daunting.

Leadership across the organization cites increasing difficulties in recruiting talent into the organization. Time-to-fill metrics have elongated significantly, and the pipeline of candidates has dwindled from historic norms, especially in key service areas such as technology, member services and finance. In the immediate term, the implementation of the new mission-critical pension administration platform will depend on HR’s ability to acquire and develop new skillsets (i.e., change management) in these critical areas. As competition for new hires increases, traditional means of talent acquisition will need to be augmented by new methods. On the other end of spectrum, the average age of OP&F staff is 51 years, over a fifth of the staff are currently eligible to retire, and almost half of the organization will be retirement eligible within the next five years. Competing for talent in the near and long term will likely require a fresh examination across numerous disciplines including salary and benefits, incentive compensation opportunities, talent management and succession planning, and recruitment practices.

Position and Performance Management and Linkage to Compensation

The HR function at OP&F, working with management across the organization, has implemented a highly structured, procedures oriented, and uniform approach to position and performance management. The organization maintains approximately 100 position descriptions across all levels within the enterprise, including the Executive Director position. Quantitative data is assigned including job grades, FLSA status, and compensation ranges. Qualitative information on each position description is extensive and includes:

- Mission contribution;
- Position summary;
- Essential duties and responsibilities;
- Supervisory responsibilities; and
- Qualifications for the position, containing education / experience requirements, language skills, math, skills, reasoning ability, certifications, licenses and registrations, physical demands, and work environment.

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. Maintaining job descriptions requires ongoing diligence and attention. It is noted that the existing position descriptions lack important identifying data including a creation date and name(s) of participating authors. Both would facilitate version management and standardize periodic updating, review and approval.

OP&F benefits from the use of Taleo to support performance management. The organization leverages the platform for the entire cycle from goal setting to evaluation. While it is primarily in use for staff below the director level, OP&F should consider adopting the platform consistently across all levels within the organization, including the ED. The use of Taleo for performance management is supported by standardized definitions of staff and managerial competencies and performance, the sequencing and logging of key performance events, and detailed procedures across the lifecycle of the performance management process.

Details on the performance management process and links to compensation are included in Section 2.3. HR publishes a list of competencies based on core values and managers rate employees on each using a five-point performance scale.

Succession Planning, Talent Assessment, and Employee Feedback

Over and above the aforementioned strategy to support Goal #5 of the 2022-2024 OP&F strategic plan, the Board of Trustees has essentially described a goal whose realization will depend on a major concerted effort led by Human Resources. Goal #6 of the OP&F strategic plan reads: “Develop Staff Competencies, Prepare for Upcoming Retirements, and Improve Performance.” Supporting strategies include:

- Reaffirm consistently that the integrity of each employee and the organization as a whole is based on accuracy, credibility and ethical conduct at all times.
- Hire, develop and retain staff to meet the present and future needs of OP&F.

- Continue to ensure diversity, equitable policies and inclusion of all employees in securing our mission.
- Establish collaboration as a key organizational priority.
- Support work/life integration practices for employees at all levels.
- Establish and implement a succession planning strategy to ensure business continuity.
- Maintain active recruiting strategies to attract additional qualified applicants.
- Maintain a competitive compensation and benefits package through routine monitoring and benchmarking.

Supporting (non-quantifiable) success indicators include:

- Staff is well prepared to adapt to changing statutory and business environments.
- Succession planning is responsive to present and future operational needs.

Succession planning was first introduced to the OP&F Board in 2019, and leadership continues to ramp it up more broadly across the organization, most recently publishing a Succession Plan update to the Board in September 2021. Following two feeder-pool based pilots, HR now estimates that approximately 30% of the positions will soon have a feeder pool in place, with the goal to include all critical jobs as quickly as is feasible. At present, there is no specific completion data targeted for the roll out of an organization-wide succession plan, as HR continues to work on critical components of it including an evaluation process. HR has adopted a practice of grooming internal candidates when they become aware of a pending vacancy. The organization identifies high potential staff, an important initial step to establishing a viable succession plan and has begun to identify and integrate training and development into the process as well. Prior to their focus on succession, OP&F had adopted an Emergency Leadership Replacement Plan to ensure business continuity of decision making and leadership. As part of a broader business continuity / disaster recovery plan, this is considered prevailing practice among institutional investors.

Over the past three years, OP&F has averaged a turnover rate of 8%. In its memorandum to the Personnel Committee, entitled Aggregate Staffing Data through 9/1/21, the ED and Head of HR identified the following strategies to address the potential for a sizable number of retirements within the next 5 years:

- Continuing to document procedures so that knowledge is shared broadly and in writing.
- Implementing a summer college intern program to build a feeder pool of college graduates with experience working at OP&F.
- Grooming specific staff when an exit is imminent and a need for knowledge transfer is immediate.
- Utilizing the succession plan to prepare and / or hire multiple qualified staff for future positions.
- Continuing to evaluate work environment factors to attract and retain talent – (e.g., hybrid work, flex schedules, dress code, building updates).

Finally, the OP&F 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 OP&F strategic goals, this valuable feedback tool is notably absent from the OP&F inventory at the present time.

Recommendations for Improvement

R2.1.1 Engage a third-party external consultant specializing in HR to develop tactical and project plans for the attainment of goal #5 and #6 in the OP&F 2022 – 2024 Strategic Plan, including expanding success indicators to include quantitative metrics and expanding the HR organization as needed to support both ongoing responsibilities and the execution of the strategic plan.

R2.1.2 Seek to expand recruitment efforts including:

- **Reestablishing relationships with third party recruiters.**
- **Introducing incentives for onboarding, where appropriate.**
- **Strengthening and expanding internship programs already in place at local colleges and universities in key areas such as member services, finance, and IT.**

R2.1.3 Separate responsibility for investment accounting and performance reporting from within the investment management organization. Consider opportunities to engage third party, outsourced solutions for investment accounting.

R2.1.4 Set specific timeline goals to complete the succession planning effort with a goal of creating bench strength for all supervisory and critical skills-based roles within the organization, including identification of broad-based and individually designed skills training to close skill gaps in identified successors.

R2.1.5 Introduce an OP&F employee culture survey and execute it no less frequently than biennially.

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, or 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.

Standards of Comparison and Findings

Customer/Member Satisfaction Standards of Comparison	Findings
The system has implemented substantial member self-service capabilities on their website.	Partial
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.	No
Employer and member service systems have extensive self-validation and reconciliation capabilities to maintain data integrity without significant manual intervention.	No
Service levels are rated as satisfactory or higher by participants.	Yes
There is regular monitoring and reporting of member services metrics.	Partial

Conclusions

The current member services team at OP&F includes about 55 staff, organized into several sub-teams:

- Operations – 10 staff: new member applications; DROP program; disability, death, and survivor benefits.
- Benefits calculations – 13 staff: computation of benefits; DROP entry and DROP distribution.
- Benefits payments and compliance – 9 staff: review calculations; set up payment process; manage monthly check runs; manage healthcare eligibility and enrollment.
- Customer service and member education – 12 staff: call center; member education; interviews; counseling; retirement seminars; benefit fairs.
- Records and imaging – 10 staff: document imaging; records management; mail service.

We did not hear any complaints regarding pension administration and member services related to the pension plan. There is an acknowledgement that many of the processes are manual, but we were told that they function reliably.

OP&F has metrics in place for managing various member services processes such as:

- Processing times (new member, service retirement, disability retirement, survivor, DROP, benefit processing);
- Pre-retirement interview satisfaction;
- Call center performance (wait times, hang-ups, speed of answer, handling time); and
- Disability exam satisfaction.

Most of the member services reports to the Board, including the Benefits Committee, focus on numbers and volume of applications, member selections of plans, disability statistics, and payment initiations. Over the past year, there have not been any presentations to the Board that focused on member service levels or service cost.

Prevailing practice at peer funds is to regularly participate in pension administration benchmarking to better understand how their pension administration operations and costs compare to peers and identify opportunities for improvement. The leading service is provided by CEM Benchmarking Inc. (CEM), based in Toronto; the CEM pension administration database includes at least 35 U.S. public retirement systems. OP&F utilizes the CEM investment management benchmarking service but has not participated in their pension administration studies. This would be particularly helpful for OP&F, not only in evaluating its existing member services, but more importantly, in optimizing the implementation of its new system from Lifeworks over the coming years.

Prevailing practice is also to conduct customer satisfaction surveys for essentially all member touch points, at least on a sampling basis. While OP&F does survey member satisfaction regarding pre-retirement interviews, there is not an overall member satisfaction survey program as is typically found at peers.

Regarding employer services, OP&F maintains an employer services staff within the Finance department with 11 employees. Employees are assigned to each region of the state and regularly work with employer representatives to assist them and receive regular feedback in this way. OP&F has an employer liaison whose sole job is to train, assist and provide support to OP&F employers. The new benefits payment system being implemented (described below) will include a specific employer outreach component to allow employer feedback on the new system.

OP&F has recognized that its current pension administration benefits payment system is becoming outdated and has begun a major information technology initiative to implement a new replacement system over the next few years, as mentioned elsewhere in this report. The current Vitech system, version 3, was heavily customized when initially implemented in 2005. As a result, the system was not easily upgraded when new releases became available from the vendor and OP&F did not participate in the upgrade process. The current release of the Vitech software is version 10, and the old version 3 will no longer be supported by Vitech.

As described in section *6. Information Technology*, the intent for implementing the new system, from a firm called Lifeworks, is to implement the standard version of the software package in order to take advantage of future upgrades and enhancements as they are released by Lifeworks. This is a sensible strategy that should mitigate the issues that required a replacement for the old Vitech system. For more detail, please refer to section 6.

The new system should provide significantly higher levels of member self-service, including, for example: online retirement applications; secure online benefit calculators linked to actual member data; more self-maintenance of member data (address, beneficiary, banking information, tax status); online scheduling of counseling sessions; and document upload and download. These system capabilities, which should significantly reduce member inquiries and data maintenance, combined with integrated workflow that improves both response time and staff productivity, should reduce demands on staff time and allow for a long-term redeployment of portion of member services staff. For example, STRS of Ohio reduced its member services headcount by over 30% over a 10-year period after it implemented a new pension administration system with similar features.

The Lifeworks system will likely not be available for several years, but OP&F is currently developing website upgrades which should provide more limited short-term improvements.

In 2018, the OP&F Board of Trustees voted to end the OP&F self-insured retiree health care plan and transitioned to a new stipend-based model effective January 1, 2019, for nearly 28,000 retirees. Although this did not impact most Medicare-eligible retirees, it was a significant change for retirees under 65 years old, requiring them each to find a new health care plan during fall 2018. All retirees needed to find a new prescription drug plan also. Aon Retiree Health Exchange was contracted to manage the new program and assist retirees in the transition.

OP&F staff acknowledge that the transition was very challenging and frustrating for many retirees. There was a very high level of expressed retiree dissatisfaction with OP&F entirely due to the new health plan changeover.

Significant changes and improvements were made to the health plan advisory and enrollment processes during 2019 and 2020, and it appears that retirees who have retired over the past year have been much more satisfied. Aon now has an on-site service team in the OP&F offices, and the volume of processing is much lower, mostly just new retirees. In early 2021, the Aon contract was extended for three years with unanimous trustee support. Speaking with representatives of member and retiree groups, as well as several of the elected trustees, members and retirees now seem satisfied with the services and advice available to them for the health care stipend plan.

Recommendations for Improvement

R2.2.1 OP&F should move forward with the Lifeworks implementation and focus on member services improvements as well as productivity enhancements.

R2.2.2 OP&F should participate in the CEM pension administration benchmarking service and utilize the report to identify areas for member service and productivity improvements.

R2.2.3 OP&F should develop a member satisfaction monitoring program to ensure it is identifying any member services issues on a timely basis and effectively addressing them; if necessary, an expert third-party consultant could provide assistance.

R2.2.4 The Board, through the Benefits Committee, should receive an annual briefing on the member services program, including progress on the Lifeworks implementation, as well as quarterly reports on member service levels using exception reporting.

2.3 Compensation

Whether compensation levels are sufficient to facilitate OP&F'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.

Standards of Comparison and Findings

Compensation Standards for 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.	Yes
The Board of Trustees is responsible for approval of annual merit increases and any incentive plans.	Partial
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 driven by real and relative investment results directly attributable to the participating eligible employee.	No
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 for 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

As described in the Ohio Police and Fire Pension Fund Salary Administration Guidelines, the three objectives of the Salary Administration Program in use today include:

- To compensate each employee based on the value of individual contribution to the success of the organization through our goals, and in relation to assigned job responsibilities, and to provide opportunities for advancement without regard to race, sex, creed, color, religion, national origin, age, marital status, sexual preference or physical or mental disabilities.
- To pay salaries that are competitive within defined labor markets to attract qualified and competent applicants.
- To retain the most competent individuals to continually perform at or above a "Meets Expectations" level in OP&F's performance review process and improve OP&F's continuous growth and customer service focus.

These three objectives effectively serve to establish compensation practices as critical success factors to the realization of key goals in the 202-2024 OP&F Strategic Plan. Their direct linkage to recruitment, retention, and performance-based strategies in the strategic plan should be viewed as an opportunity to holistically revisit the organization's current compensation practices.

The Salary Administration Guidelines, last reviewed in September of 2021, provides a detailed approach to setting and monitoring compensation across the organization. The practices, descriptions, and overall governance of the program are considered in line with prevailing practices for public pension plans. It includes roles and responsibilities for Human Resources, the Executive Director, Directors, and Managers across the organization. The key responsibilities of the OP&F Board's Personnel Committee do not explicitly include language to approve the Salary Administration Guidelines, set salary levels across the organization, or determine annual merit increase levels; however, the Board's annual review of headcount and approval of the operating budget serves as a de facto measure in that regard.

The document also describes the core principles and procedures for setting salary levels based on job grade, job description, and salary structure. Job grades are set against market pricing, established via independent benchmarking on a formal five-year cycle with annual refresh processes. The resultant analysis produces salary ranges – min, median, max – for each of the 90+ job descriptions within the organization. The Director of HR reviews salary range information annually with the ED, and the resultant changes inform the development of the annual operating budget and level of merit increases to be distributed to each department. The Salary Administration Guidelines also link compensation directly to performance and recruiting efforts. Guidelines exist that ensure that only those individuals performing at a “Meets Expectation” level or better will be eligible for an annual merit increase. Top of range employees may receive a lump sum merit disbursement in lieu of a merit increase to keep their compensation within range. New hires are customarily offered pay within the lowest two quartiles of the range, but special exceptions may be granted with ED approval.

At present, OP&F does not offer incentive-based compensation to investment personnel. While there are opportunities for special adjustments due to reevaluation, adjustment, and promotion, it is notable that approximately 99% of the compensation budget in this year’s operating plan is set aside for standard merit increases, thereby limiting opportunities for special adjustments. The annual process for setting compensation in the operating budget is well documented. Currently, there is no pre-defined compensation benefit attached to the achievement of certification or degree-based educational advancement; however, service award opportunities are available.

OP&F HR regularly benchmarks the salary structure of its associates through the use of an independent third party. The most recent formal examination was conducted in 2015 by Gallagher Benefit Services, an outside consultant. The frequency of this benchmark is set at five-year intervals; however, OP&F postponed the commencement of the 2020 planned benchmark effort due to the pandemic. In between third-party formal benchmarking reviews, the head of HR will examine existing salary levels using salary.com data to inform the annual budget and ensure that most recent information is utilized in comparing compensation.

A few conclusions and recommendations from the 2015 benchmarking analysis are worthy of reconsideration at this time. At the time of the study by Gallagher Benefit Services, an outside consultant concluded that OP&F aggregate salary levels fell approximately 6.9% below the peer average, which was considered competitive with the marketplace. Twenty-six jobs were stepped up in grade while only two were reduced. Further, the consultant found that the organization’s number of unique job descriptions (and associated levels) was highly elevated when considering the total size of the organization. They attributed this conclusion to an intent to reward long-term employees through the creation of title adjustments as opposed to the practice of establishing new job descriptions and grades as representative of significant and transparent job differences. It is noteworthy that the number of position descriptions is slightly higher today than it was at the time of the compensation benchmark. As a result of the study, OP&F awarded compensation study adjustments in lieu of merit increases to associates whose wages were less than 86% of the median benchmark.

At the time of this fiduciary performance audit, CBIZ, an Ohio-based management consulting company, completed a full benchmarking analysis. In light of the direct correlation between compensation decisions and the organization’s 2022-2024 strategic planning goals in recruitment, retention and efficiency, the timing of subsequent actions of the organization based on its conclusions should carry a high level of importance. To the extent that the organization opts to introduce an incentive, performance-based component to total compensation for select associates, FAS recommends that the organization includes this within the current benchmarking effort.

Recommendations for Improvement

R2.3.1 **Seek to reduce the number of distinct job descriptions and grades across the organization and end any remaining vestiges of practices that establish levels and compensation bands on the basis of employee longevity.**

R 2.3.2 **In consideration of challenges in recruiting, temper the existing practice of compensating new hires into the lowest two bands of the compensation range. Seek to bring in new talent at or near the midpoint level, which is defined as the compensation they could expect to receive on the outside.**

R2.3.3 **Consistent with other public pension plans in the peer group, examine opportunities to enhance compensation opportunities for associates who complete certification or formal education milestones or for special performance recognition.**

R2.3.4 **Consider the following structural modifications to the compensation program:**

- **Including variable compensation in the annual operating budget.**
- **Establishing independence in the calculation of performance from investment management (see Section 2.1).**
- **Constructing new procedures and arithmetic formula for variable compensation which should include multiple years of investment performance.**
- **Defining clear roles and responsibilities for the Director of HR, DED, and Head of Finance, the ED, and the board for approving the pool and individual awards.**

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
    - 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.

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.	Partial
There are effective staff training and continuing education practices, and these are included in formal policy statements.	Partial
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

Achieving success in staff development begins with a culture and mindset that emphasizes training and education to foster continuous improvement and achieve critical organizational goals. A thoroughly integrated and mature program of learning and development includes a holistic approach that considers the essential skills and aptitudes to not only fulfill the mission of the organization, but also to deliver upon its strategic goals and objectives. This construct should be supported by individually tailored development plans that are integrated into both the performance management and succession planning processes for the organization. Evidence of this operating model exists at OP&F beginning with the breadth and depth of training and educational opportunities that the Human Resources team has made available to associates. However, there are still notable opportunities for improvement to raise the overall training and development program within OP&F to maximize the organization's ability to directly influence the overall performance; to attain the priorities of retention and efficiency outlined in the 2022-2024 strategic plan; and to improve the probability of success for existing and future change initiatives to attain a desirable outcome.

There are many positive aspects to the OP&F training and development program. The OP&F Board Governance Policy Document explicitly states within the Personnel Committee Charter that one of the purposes of the Personnel Committee is to "foster and support the education and training of the staff and Executive Director." This raises the importance of the organization's commitment to staff development to the Board and should be considered a best practice. Key operational practices that support this role would include the communication of an annual development plan across the organization and a year-end review of actual participation levels in training and education against that plan. At present, the core strength of the training and development program lies within the internal and external educational offerings that are available to associates.

Training and development opportunities at OP&F are well documented, easily accessible, and tracked. They range from mandatory compliance training up to and including formal degree-based programs at over eleven local accredited colleges and universities in the Columbus area. A synopsis of programs includes:

1. New hire orientation, containing both a core component and material developed departmentally;
2. Biz Library, providing online learning for business skills, HR compliance, IT, and leadership and management skills;
3. Coursework through the Management Advancement for the Public Services (MAPS) through the John Glenn College of Public Affairs at The Ohio State University;
4. The Executive Management Institute (EMI), mandatory for all covered associates (management and lead exempt positions) which contains three aspects –
    a. Certified Manager Program;
    b. Pension System Series including investments, healthcare and actuarial; and
    c. MAPS coursework.
5. Citywide Training and Development in organizational and personal development through the City of Columbus; and
6. Educational Fairs with local institutions of higher education for employees to seek degrees in higher education.

Recently, OP&F raised their education assistance / tuition reimbursement upper limits from $5,000 to

$7,000 and earmarked $45,000 - $50,000 in the Operating Budget. Fewer than a handful of associates have taken advantage of it recently, likely in part due to the pandemic. Actual spending levels have yet to reach tuition reimbursement budgeted forecasts.

HR has also commenced the practice of integrating training and development into the OP&F succession plan. By mapping the knowledge and competency requirements of each critical position within the organization to an inventory of the skillsets of potential successors, the organization can quickly build customized training and education plans to facilitate the transfer of responsibilities when needed. To evidence the importance of succession, these training and education plans should further be integrated into the annual goal setting process and be evaluated as part of the performance management cycle at the end of each year.

Throughout the OP&F 2022-2024 Strategic Plan, there are references to strategies that emphasize improved service, process improvements, cost savings, and efficiency achievement. Goal # 6 contains a strategy to "hire, develop and retain staff to meet the present and future needs of OP&F". In support of these goals and strategies, there are major mission critical business systems initiatives underway within the organization, some of which are designed to replace unsupported technologies and others intended to introduce new ways of doing business within the organization and with critical partners (i.e., self service). In our interview process, many OP&F leaders have pointed to a deficiency in change management skillsets across the organization as a point of high inherent risk to the success of projects. While IT has taken steps to improve their project management office (PMO), establishing a critical mass set of skills in key project roles traditionally executed by the business – including business requirements development, user acceptance test script development, process mapping and documentation, and training material development and delivery – should be a top near-term priority for the organization. While engagement of third-party consulting firms to assist in these project tasks can facilitate their execution, OP&F should endeavor to self-source these functions over the longer term for economic and strategic reasons.

Recommendations for Improvement

R2.4.1 **Cross reference training and development offerings against the strategic plans goals and strategies and fill in gaps where needed. Develop change management competencies across member services, finance, investment accounting, and investment operations.**

R2.4.2 **Informed by the succession plan, strategic planning document, and tactical objectives, incorporate at least one development and/or skills acquisition goal into all associate's annual performance management plan.**

R2.4.3 **Develop annual development plan across the organization and share with the Personnel Committee annually. Present actual training and development accomplishments against targets at year end.**

R2.4.4 **Analyze existing HR headcount and capacity to broaden training and development recommendations. Increase or augment staff levels as required.**

3. Investment Policy and Oversight

Overview of Investment Policy and Oversight

The OP&F Board has chosen to hire a small, but highly qualified in-house investment staff with extensive use of external investment advisors and investment managers to invest the portfolio. No funds are managed directly in-house.

The Ohio Police and Fire Pension Fund Board (OP&F Board) is entrusted with the role of overseeing the investment of the Retirement and HealthCare assets of police and fire officers in Ohio. Today the plan size of $18.5 billion ranks OP&F as the 60st largest public pension fund in the US according to *Pension and Investments* data.

OP&F is among a very small number of major institutional investors to have adopted a risk parity investment approach across the Plan's entire investment structure.

Following the 2008 financial crisis, the Board and Staff, after extensive research and education provided by both consultants and industry practitioners, adopted a highly diversified investment strategy based on an investment concept known as risk parity. The approach has led the OP&F fund to adopt different portfolio structure decisions when compared to peer funds that have taken a more traditional portfolio structuring approach. Examples of how OP&F's investment approach differs include meaningful use of portfolio leverage, especially with fixed income investments, a very significant portfolio position in inflation linked bonds, holding meaningful positions in gold, pipelines (through Master Limited Partnerships (MLPs)), and other real asset portfolios. OP&F has also made extensive use of an alpha seeking investment strategy known as portable alpha.

OP&F 10-year performance is in the top quartile (14th percentile) among peer public pensions, and over 135 basis points annualized performance above the policy benchmark on an after-fee basis.

According to the Wilshire investment report to the OP&F Board from February 2022, the fund's 10-year annual return performance through December 31, 2021, was 10.81%, compared to a peer group (over 400 funds) median of 9.81%. The OP&F policy return of 9.43% for that period was third quartile, indicating that staff and managers added 138 bps of value above benchmark levels.

The OP&F Board, Staff and Consultants are clearly thinking "outside the box" in their search for risk adjusted returns for the OP&F beneficiaries.

The Board and Staff are well informed of the benefits and risks of the risk parity approach and understand that meaningful differences can result with respect to investment performance and fees when compared to peers. Our findings, typically stated as lagging, prevailing and leading policies or practices, are developed for this fiduciary performance audit with the overriding knowledge that the OP&F Board and staff has embraced the risk-parity based investment structure.

3.1 Investment Policy and Procedures

The OP&F Board follows prevailing practices in the development of their IPS. A separate Statement of Investment Beliefs should be developed by the Board.

Input is solicited from multiple sources by the Board and Staff, including input from the actuaries, investment consultants, investment managers, stakeholder input, solicitation (and proactive legislative actions) regarding funding rules established by the Ohio Legislature are all evidenced in the Board materials and minutes. All are acting with a high level of knowledge regarding the key issues impacting the OP&F investment program and liability structure. The Board is acting with diligent interest and knowledge regarding all aspects of the investment structure.

The OP&F Investment Policy and Guidelines Statement (IPS) is at prevailing practice levels in most areas.

The IPS is detailed, yet clear and concise and outlines policies relating to many key asset implementation areas including rebalancing, derivatives, proxy voting, Ohio investments, trading, securities lending, valuations, and performance measurement. The IPS statement is supplemented by more detailed policy and guideline statements that detail many of the policies and procedures followed in the implementation of the IPS. There could be a more explicit link for the investment allocation to the unique liability characteristics and funding policies.

The IPS articulates investment implementation guidelines and guidance regarding implementation policies and procedures well.

There is a well-developed understanding of the liquidity risks inherent in the approach OP&F is taking to implement their investment program. The daily liquidity monitoring in place is at a leading practice level. OP&F should develop a clear articulation of the methodologies used in calculating fund and asset class level benchmarks; this is currently an area with lagging practices.

OP&F should develop a separate IPS for the OP&F Post Employment Healthcare plan (PEHC).

This separate pool of assets overseen by the OP&F Investment Department, currently about $900 million in assets, on behalf of the OP&F Board, does not have its own IPS. The different purposes, different potential investment structures and different cash flows of this plan warrant a separate logic and review process from the defined benefit plan. The actuarial reports suggest, given current spending and contribution rates, this plan will run out of money during the period between 2035 and 2038. The materially different liability position of this plan warrants separate consideration from an investment perspective by the Board.

Staff should create a summarized monthly compliance report that includes long-term and interim investment guidelines, asset allocation ranges, and an affirmation of compliance with these ranges over the past monthly period.

The OP&F system of ensuring the investment portfolio is kept within the approved asset allocation is working well. All necessary information is available on a timely basis to all appropriate decision makers and compliance/monitoring agents. The information to create a new summary report is contained in the reports already delivered and compliance is implied in the approach to reporting being utilized. The monthly compliance report would improve the understanding of the Board and constituents not as familiar with the inner workings of OP&F's investment structure.

The Board is currently conducting a new asset-liability study and recently lowered the expected rate of return from 8% to 7.5%, which is still high relative to peers.

The ALM study currently underway will provide staff and Board a significant opportunity to review the overall health of the OP&F liability and question the underlying assumptions that have been in place since the last full ALM study and experience review was conducted in 2017. During the beginning stages of this review, the Board lowered the discount rate for the plan liability from 8.0% (which was a true outlier among public pensions) to 7.5%, which is still high. The National Association of State Retirement Administrators (NASRA) recently published research that indicated the average expected rate of return assumption among U.S. state retirement systems is now 6.99%.

OP&F has a high degree of cash awareness and attentiveness on their alternative positions.

The interplay between staff and service providers and the technology infrastructure provides a high degree of confidence that the information is available for all involved to make rebalancing decisions in a proactive and timely basis. There appears to be a keen awareness of policy versus actual positioning and the awareness of when the need to rebalance should market positions warrant.

While we found the awareness of the rebalancing process and practices followed to be at standard industry practices, the documentation of the processes followed by the various parties connected to this process is lagging practice. We found little evidence that the roles and responsibilities of the various parties that are being implemented well were documented.

OP&F should establish a new uniform template for Board investment approval packets that includes a short cover page summary.

Documentation of due diligence and fit within investment policy and strategy is consistent with standard industry practices. Nevertheless, approval packets are inconsistent in organization and style. Although a multiple-page summary was usually contained at the beginning of the typically 50 to 100+ page packet, a short summary page covering specified key points that both summarize the transaction, identify primary reasons for its recommendation, and note potential risks, could be included as part of the preferred format.

The external manager compliance monitoring system is prevailing practice level.

There are external compliance monitoring systems that could be employed by OP&F to improve the accuracy and efficiency of this process. We understand that these systems are being actively explored and believe the systems transition that would be required would be positive for OP&F.

OP&F should collect all significant policies, statutes, and rules within a single reference document (e.g., the Governance Manual) that is regularly updated.

The OP&F Governance Manual, together with OP&F's additional policies, cover most of the topics that are usually included in peer governance or policy manuals. Some, but not all, are identified for review and updating after a specific time period. We recommend that OP&F bring all of its substantive policies together in a comprehensive manual. The manual could be provided to trustees, staff, and stakeholders, with a copy posted on the OP&F website. Each policy, or groups of policies, could be assigned a time period for review, with oversight responsibility for the review assigned to a committee or staff position.

The Board should establish a policy for either internal or external benchmarking of policies on a set periodic or policy by policy basis.

OP&F does not have a policy that requires a benchmarking process when policies are updated. In order to ensure that policies remain up to date as circumstances and peer practices change, OP&F could conduct periodic policy benchmarking reviews or engage a consultant to advise on industry changes and trends.

3.2 Investment oversight and review.

OP&F follows prevailing industry practices when generating performance measurement reports and monitoring their external investment managers.

The measurement of after-fee performance benchmarking through CEM is a prevailing practice for large public funds. The past retention by Aksia TorreyCove to perform a review of private equity performance and fees based on OP&F historic cash flow records assures accuracy and transparency of CEM after fee results across the portfolio.

The quality of the regular board reporting should be improved.

The Wilshire reports are the primary source of performance and portfolio information for the Board, and staff provides portfolio valuation summaries. Both provide adequate levels of quantitative information but do not get into the detailed issues generated by the sophisticated strategies being followed by OP&F nor do they provide an interpretive analysis. For both reports, a written top-level Executive Summary discussion and analysis of results versus expectations is missing. This type of Executive Summary analysis from an independent third party such as an investment consultant is a prevailing practice.

The regular asset class reviews provided by Wilshire, Townsend and Aksia/TorreyCove – separate from the quarterly performance reporting process - provide a greater level of detail on the investment structure and philosophy behind the portfolio strategy.

These periodic structure review presentations are essential elements of the OP&F monitoring process and help develop and enhance the Board's understanding of the investment portfolio philosophy. The review of risk, liquidity, interim target allocations and alpha expectations from the structure and individual managers are or should be contained in these review documents and outline the risks and potential rewards of each element of the portfolio structure. These reviews should be presented at least annually for each asset class and the Plan as a whole to assure the Board's understanding of each asset class is current with respect to these important portfolio structure decisions inherent in the OP&F investment program.

More detailed information should be provided to the Board regarding investment performance.

On the quantitative side, plan level attribution and analysis are needed. On the asset class level, security level portfolio structure reviews compared to plan benchmark should demonstrate the active risk of the portfolio. There are only a limited number of portfolio structure reviews comparing performance versus benchmark for the underlying portfolio managers, and none occur at the asset class level. There is also limited analysis and reporting on liquidity estimates and outlook as a regular part of the monitoring effort. Overall, there is significant room for improvement in the quality and quantity of information delivered to the Board in order to aid in their mandated monitoring requirements of the OP&F portfolio.

The due diligence process utilized in the monitoring of external managers is both thorough and thoughtful.

The Investment Manager Monitoring and Evaluation Policy outlines the process and procedures well. Also, the manager review and rating process that takes place at the Board level – supported by external opinions of the general and specialty consultants – can be considered leading practice.

The discipline of having internal investment professionals and external investment providers/employees certify confirmation with CFA Institute standards and applicable ethics laws is a standard practice.

The adoption of a manager reporting requirement detailing the actual standards OP&F expects service providers to comply with and to request each individual or organization involved with the investment process of OP&F funds to annually certify compliance with these standards would provide meaningful reinforcement of expectations that these standards are adhered to when implementing investment decisions on behalf of OP&F members.

Transaction cost management and broker practices are controlled and monitored at OP&F and considered consistent with peer practices.

Externally managed funds are required to transmit all purchase and sales information for publicly traded securities to Zeno for third party trade cost analysis (TCA). The vendor provides TCA reports in aggregate and broken out by individual managers within its domestic and global Sponsor Monitor Report each quarter to OP&F. The Zeno trade cost analysis, with accompanying OP&F commentary, should be included in the external manager fee report to the Board.

There are a number of Board approved transition benchmarks resulting in "policy benchmarks" for both the Plan and Asset Class level that exist in the calculation of results.

These benchmarks are necessary to aid in the understanding of the portfolio given the large number of portfolio structure transitions that have occurred over time. While these transition benchmarks aid in the accurate comparison of performance results during these transition periods, it can be difficult to fully grasp an understanding of top-level structure decisions versus benchmarks that represent possible investable alternatives.

OP&F should conduct a Plan and asset class level benchmark review in the investment structure reviews provided by Board consultants.

Periodic review of Plan and Asset Class level benchmarks by the Board is a leading practice. Ongoing reviews of the Plan Level and individual asset class level benchmarks should be reviewed every 3-5 years. Moving the structure reviews of each asset class to an annual basis would provide an opportunity to include a brief review of benchmarks and periodically include a more thorough review of benchmark possibilities.

On an overall basis, OP&F has leading or prevailing practices for managing external manager fees both in public accounts and alternative based accounts.

Fee schedules and guidelines for externally managed portfolios containing publicly traded securities are codified in Exhibit B to Investment Management Agreements and within Limited Partnership Agreements for privates and alternatives. OP&F policy is supported by regular practices in both the validation and reporting of external manager fees, which are well documented.

The validation and oversight practices for external manager fees at OP&F are considered thorough and well controlled and we understand practices for private assets are being improved.

The investment team manages spreadsheets for all public market funds and prepopulates them with the terms found in Appendix B of the investment management agreement. Management fee risks and controls are included in the enterprise risk framework and control factors are in place that describe OP&F's management of the risks.

Private / alternative asset procedures and practices for external manager fund fee validations have historically been less robust than the procedures covering publicly traded funds. Investment associates manage spreadsheets to oversee fund fees as they ae described in quarterly GP statements. OP&F lags many other public pension plans in their adoption and enforcement of the Institutional Limited Partners Association (ILPA) standards for their GPs to follow. We understand OP&F has entered into a contractual arrangement with a third party for the purpose of consolidating, validating, and reporting of private fund management fees, against both a cost basis of AUM and as a percent of committed capital, similar to some other funds. This should be an improvement.

The annual manager fee report to the board and in the annual comprehensive financial report could be enhanced by adding relative and absolute performance information and breaking out management fees from performance fees, and including carried interest costs, where applicable.

External manager fee reporting is performed by the OP&F investment team on a regular basis. In the spring, OP&F includes an annual fee report in materials provided to the Investment Committee of the Board, although there is not a formal presentation on the subject. The audited Annual Comprehensive Financial Report (ACFR) contains a schedule of external management fees by asset class. In the annual fee reports produced for the Investment Committee of the Board, fees are listed by the manager and aggregated by asset class, with totals shown as basis points against AUM at year end.

OP&F's external manager fees, when adjusted for its investment strategy, are comparable to peers.

OP&F has engaged the benchmarking services of CEM to analyze investment performance and cost. In the most recent CEM report for calendar year 2020, CEM reported that OP&F external manager costs compared favorably to peers, and on an overall basis were 0.8 bps below median external manager costs for their peer group when examined across 19 asset classes and investment styles.

OP&F's manager search process is effective and well documented in the Investment Manager Search Policy document.

A close partnership has developed between the Staff and Consultants, producing a strong investment manager candidate sourcing stream. OP&F appears to be in compliance with the Ohio-Qualified Investment Manager Policy during the manager search processes we observed. The real estate and real asset manager search process is driven more by Townsend – the real asset and real estate consultant – than staff, a typical practice among many OP&F peer organizations for specialty asset classes. Private Equity due diligence is a team effort between staff and Aksia/TorreyCove, with Aksia/TorreyCove leading the operational due diligence effort. Wilshire participates in Private Credit and public market search investment and operational due diligence processes for new managers and investment opportunities.

OP&F external manager monitoring processes are appropriate.

The policies and procedures that OP&F follows when performing ongoing manager due diligence are thorough and well documented and at prevailing practice levels. The quarterly monitoring process and annual deep dive review process staff follows is detailed a policy document and is being executed well.

3.3 Investment and fiduciary risk.

OP&F guidelines for investment risk are appropriate and prevailing practice.

The IPS as well as individual investment guidelines for the managers employed to implement the OP&F investment portfolio contain relevant investment guidelines including Plan, Asset Class and Manager benchmarks. The investment manager compliance and monitoring process followed by staff and consultants appears robust – although we encourage the development of a more systems-based compliance process monitoring which allows a security level look through to portfolio positioning and risk positioning in the future.

The process of defining and understanding soft risks associated with the OP&F investment portfolio is less well developed.

The reliance on risk-parity and portable alpha in the search for risk adjusted returns has implementation risks attached to it that cannot be measured through traditional portfolio management analysis. As mentioned in 3.1.1, a Statement of Investment Beliefs (SIB) covering areas such as the ability to hire/train and develop staff, peer comparison risks from the perspective of the public plan universe, ESG risks, actuarial estimation risks, liquidity risks, etc., should be addressed by the staff and Board to develop a better understanding and appreciation of these very real economic and soft risks associated with the management of the OP&F portfolio. The analysis and reporting on the potential and actual risks of the OP&F Post Employment Health Plan are also lacking.

Developing and maintaining staffing and talent on the OP&F investment team is a key risk.

There is a strong commitment to the cause of supporting the Police and Fire officers of Ohio with OP&F staff. The potential loss of this culture is a key risk to the management of OP&F's investment portfolio. Connected to this issue, inevitable investment officer transition is a key, non-quantitative risk for OP&F to consider. OP&F will need both compensation and non-compensation incentives such as maintenance of a great work environment to attract and retain future investment talent. Sustaining the management skills required to maintain a successful investment culture over time is an extremely important management risk for the OP&F Board and management to consider and monitor.

3.4 Custodian policy.

Custody of public assets at OP&F is contracted with Huntington National Bank for domestic securities, and through Huntington to Northern Trust Bank (as sub-custodian) for international securities, respectively. Northern Trust also provides foreign exchange trading, derivatives servicing and collateral

management, and investment risk and analytic services.

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 offers provided by the banks are contracted directly through the participating agency.

During the most recent selection process, which concluded in 2020, the TOS included OP&F staff in the development of the RFPs and in evaluation of proposals. The selection process resulted in OP&F receiving services from the custodial bank it wanted. However, OP&F 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 OP&F following an in-house strategy, with support from other third-party providers, and minimizing services from the custody banks.

Back-office investment services functions and technology are supported in house at OP&F while fund-based, front-office and middle-office services are included into external manager IMAs. OP&F Investment Management manages the official books-and-records for the pension fund, and accordingly the associated business systems, and all the required interfaces with the custodians and downstream performance and general ledger business systems.

Prevailing practice at peer public funds is to leverage the custodial bank's extensive technology suite, supplemented by other providers as necessary.

The investment application-centric model (as used by OP&F) has been replaced over time by a nimbler, integrated, data-centric approach at most institutional investors of similar scale. Custodians have been at the forefront of this transformation, expanding their service offers beyond recordkeeping, reconciliation, and compliance to include more sophisticated capabilities such as performance attribution and risk analytics. As proliferation of outsourced accounting and reconciliation has grown, internal investment operations and accounting staff have been redeployed to deliver more sophisticated services, such as portfolio modelling, compliance monitoring, performance attribution and risk analytics, external manager operational due diligence, as well as offloading time-consuming components of external manager oversight from the investment professional staff.

Within the narrower scope of external services provided to OP&F, 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 Huntington National Bank and Northern Trust to OP&F are operational sound, form the basis of a highly collaborative relationship, and are supported by an effective scorecard and oversight program. While TOS owns the custodial contracts, OP&F is considered a partner to it, provides significant input to the RFP process and in the review of ongoing monthly and semi-annual scorecards. According to both custodians, OP&F leverages only a small portion of the service offerings of the banks. Detailed operating procedures are in place across all processes for each custodian and kept current through the Treasurer of State.

All parties view the currently defined service levels and scorecard reporting process as effective.

Huntington National Bank is not equipped to support SWIFT at the present time, which lags industry standard practices in the critical area of transactional communications with external managers. While OP&F utilizes its internal PAM system for investment accounting, other oversight functions are primarily supported through spreadsheets. The scorecard processes are considered industry leading insofar as they measure the custodians' performance in support of OP&F against the banks' overall performance across nine key support functions (Huntington National Bank) and twelve distinct support functions (Northern Trust).

The cash management services provided to OP&F by Huntington and Northern Trust are considered robust and well controlled.

The cash management services provided to OP&F by Huntington National Bank 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 is effectively and efficiently invested in either short-term investment funds (NT) or money market funds (HNB).

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 statutory 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 OP&F Board of Trustees to select the custodial banks is a lagging practice, as is the lack of authority for OP&F 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 OP&F 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 OP&F funds, this could be considered to be an effective approach.

TOS and OP&F should take steps to ensure that the current positive custody relationships and processes continue to improve.

We recommend that the Treasurer of State and OP&F 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 OP&F.

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.

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

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 OP&F.

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 OP&F investment policy includes all critical elements, acknowledging an understanding of OP&F'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 OP&F 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 OP&F policy specifies to what extent the basis for particular investment decisions should be articulated in writing by the Board or OP&F staff;
- 3.1.8 Evaluate the extent to which OP&F 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; and
- 3.1.9 Evaluate how often and by what process the board or staff reviews OP&F's written policies, guidelines, and procedures.

Review Activities

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

- OP&F's current Investment Policy and Guidelines Statement (IPS) dated 3/31/21 and prior versions available
- Interviews with OP&F investment staff
- Interview with the OP&F general investment consultant - Wilshire
- Interview with the prior general investment consultant - Russell
- Interview with OP&F specialty investment consultants – Townsend (Real Estate) and Aksia TorreyCove (Private Equity)
- Interviews with Bridgewater Associates and Grosvenor and Russell Investments – current investment managers
- Interviews with OP&F Custodians Northern Trust and Huntington Bank
- Interview with the OP&F actuary – Cavanaugh Macdonald

- Risk reports and analyses provided to the OP&F Board
- Investment compliance reports
- Performance reports and investment structure reports from Wilshire, Townsend and Aksia TorreyCove
- FAS investment policy and operations knowledgebase
- OP&F's annual investment reports since 2018
- OP&F CEM reports
- OP&F's most recent asset-liability study (and discussions regarding the asset-liability study now underway) and annual Actuarial Valuations delivered
- OP&F's most recent five-year experience review
- OP&F's rebalancing reviews and monthly portfolio valuations
- OP&F's Board minutes
- OP&F's Investment Reports delivered to the Board
- OP&F's investment policy documents for each asset class, Proxy Voting, Sudan/Iran, Broker policies
- OP&F's investment files related to specific investments
- Relevant OP&F's internal audit reviews and Staff Investment Committee (SIC) documentation
- Investment Guidelines and fee agreements for OP&F's external asset managers

To develop our assessment, we utilized the knowledge of our team members and the FAS knowledgebase to assess the contents of the IPS. The FAS team reviewed the IPS, the asset-liability study, investment reports and rebalancing reports to evaluate consistency of investment staff actions with policies. Using the information described above, the FAS team:

1. Assessed how the IPS is developed and updated and compared to leading and prevailing practices
2. Reviewed the content of the IPS and compared it to peer leading practices
3. Determined whether OP&F IPS includes an understanding of OP&F financial and actuarial characteristics and is developed in accordance with established investment and funding goals and risk tolerances
4. Assessed consistency between the IPS 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 OP&F's policies and practices for documentation of investment decisions
7. Assessed OP&F's compliance with documented investment policies and procedures and identified any issues
8. Reviewed OP&F Board and staff policies and processes for periodic review and updating or investment policies, guidelines, and procedures
9. Observed how the Board assesses risk during the asset allocation process; and,
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 IPS. 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 IPS. 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.

An Investment Policy and Guidelines Statement (IPS) 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. In situations that a formal SIB does not exist, the IPS establishes - in accordance with appropriate Laws, Rules and Regulations - the desired approach the Board intends to follow to ensure both the payments of benefits and maintenance of fiscal soundness of the Plan.

The IPS 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 OP&F, conduct asset / liability studies as part of the process of establishing a strategic asset allocation plan. The asset side of this study considers 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 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 coming out of the ALM analysis.

When asset allocation changes are suggested that require meaningful changes in the asset allocation targets established previously, 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 IPS.

IPS Development Standards of Comparison and Findings

IPS Development Standards of Comparison	Findings
The IPS 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, which 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 IPS.	Yes

Conclusions

The OP&F Board follows standard practices in the development of their Investment Policy Statement (IPS). Input is solicited from multiple sources by the Board and Staff, including input from the actuaries, investment consultants, investment managers, stakeholder input, solicitation (and proactive legislative actions) regarding funding rules established by the Ohio Legislature are all evidenced in the Board materials and minutes. Our interviews with the Staff suggest all are acting with a high level of knowledge regarding the key issues impacting the OP&F investment program and liability structure. Our interviews with Trustees suggest the Board is acting with diligent interest and knowledge regarding all aspects of the investment structure. We found the level of discussion surrounding the development of the investment policy to be at the prevailing practice level compared to peer organizations. We were particularly impressed by the level of respect and caring both the Board and Staff pay to the Plan beneficiaries – the police and fire officers of Ohio.

There are many points typically brought up in a Statement of Investment Beliefs (SIB) contained throughout the OP&F investment documentation. OP&F's Board should consolidate these thoughts and include in a separate SIB. This document would provide the philosophical foundation for the approach that OP&F is using to manage and administer the retirement plans for the organization. In particular, this could include: the reasoning behind the adoption of risk parity as the overriding investment structure; the acknowledgement of the ability to garner the tools and resources required to implement this approach on a plan-wide level; the utilization of active and passive strategies; the reasoning behind the use of portable alpha strategies; the use of diversifying investments; and the philosophical approach to topical areas such as ESG.

The gradual transition of Board membership over time and the reliance on investment strategies that many would consider non-traditional suggest that investment education is particularly important for the OP&F Board. We observed evidence of two in-house investment trainings conducted during COVID and three since January during the investment committee on portfolio construction. During our interviews we observed strong interest among Board members in becoming integrally involved in overseeing the investment portfolio – including interviewing all new managers employed by OP&F. We see a continuation of the recent trend of almost monthly educational sessions during investment meetings would be viewed positively by the Board. While ongoing education is part of the process of getting Board members up to speed on the overall workings of OP&F, staff should provide regular focused workshops with the assistance of consultants and managers on the concepts involved with overseeing institutional investment portfolios and the benefits and risks of risk parity as an overriding structural strategy used when implementing the OP&F portfolio. Creation of content for these workshops by staff could be an undue burden; we strongly suggest the consultants and investment managers provide most of the content for this investment workshop/ education program, with oversight and agenda-based leadership from staff. For example, Wilshire – supplemented by Bridgewater - should continue providing training on the risks and benefits of the risk parity approach including liquidity management under stress scenarios even in non-ALM related periods. Russell should present and provide education on their liquidity management role.

Recommendations for Improvement

R3.1.1.1 The OP&F Board should develop a Statement of Investment Beliefs (SIB).

R3.1.1.2 The OP&F investment staff and consultants/managers should provide focused workshop/ education programs for all Trustees on the investment concepts, in particular regarding the benefits and risks of the risk parity approach adopted by OP&F.

3.1.2 The Investment Policy Statement

Review the investment policy statement and compare it to industry best practices.

Expectations

The IPS serves as a strategic guide in the planning and implementation of an investment program. The IPS 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, and establishes the approaches and frequency of monitoring results and risks. The IPS also establishes accountability for the various entities that may work on behalf of an asset owner. Most importantly, the IPS 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 IPS 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 (IPS) 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 IPS 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 IPS should focus on investment portfolio structures and policies that govern investment functions and practices.	Yes

Conclusions

The OP&F Investment Policy and Guidelines Statement (IPS) is at prevailing practice levels in most areas.

It is detailed, yet clear and concise. It outlines policies relating to many key asset implementation areas including rebalancing, derivatives, proxy voting, Ohio Investments, Trading, Securities Lending, Valuations and Performance Measurement. The IPS statement is supplemented by more detailed policy and guideline statements that detail many of the policies and procedures followed in the implementation of the IPS. These supplemental statements include the OP&F Proxy Voting Policies (separate US and international policies), Securities Lending policies, Manager Search, Investment Manager Evaluation and Monitoring policies, Private Credit Policies, Private Markets Investment Policies, Real Asset Policies, Real Estate Policies, Securities Litigation policies, Iran/Sudan (and presumably Russian) investment policies and reports, Derivatives Policy, and the Broker Selection policies.

We observed an acknowledgement of the linkage between the investment objectives and the Plan liability in the language of the IPS. The desire to maintain 30-year funding and achieving full funding on an actuarial accrued liability is stated, but there does not appear to be an understanding of the explicit linkage and a sensitivity analysis regarding these key assumptions. Leading practice organizations link the investment allocation detailed in the IPS to the unique liability characteristics and funding policies of that specific plan. Absent this analysis, the logic for how the IPS's target allocation supports OP&F's specific actuarial goals is missing. The IPS can be improved by incorporating a Board approved understanding of the key actuarial assumptions utilized when developing the IPS. This is timely, as discussions of the key actuarial goals and risks is taking place during the ALM study currently underway. For instance, a synopsis of the February 2022 Wilshire presentation on upcoming capital market return expectations and active return assumptions should be included in the IPS as a basis for the support for OP&F's 7.5% discount rate assumption.

Similar to prevailing practice in the corporate pension sector, a more fully developed discussion of the impact changes in the plan liability such as salaries, contribution rates, mortality assumptions could provide additional insights for the Board. We suggest Wilshire and Cavanaugh MacDonald could work together to identify key liability-related variables that could impact funding levels and develop enhanced quarterly reporting to be included in Wilshire's quarterly performance summary on the expected vs actual outcome of these various factors going forward. While we recognize this type of reporting is more commonly adopted in the corporate world than in the public plan world, we feel this could be particularly instructive for OP&F Trustees given the size and complexity of liability and many areas of potential change. Estimates of changes in the time to close the funding gap and estimated funded status at the end of each quarter are an example of the type of reporting that could be developed that are typical with corporate plans. The expectations/understanding of these factors could be included as a new section in the IPS – similar to the way capital market assumptions are outlined in the IPS today – to emphasize the importance of expected actuarial outcomes. The goal would be to develop an enhanced appreciation by all regarding the importance of expected actuarial outcomes to the funded health of the plan and the fact that investment outcomes, while vitally important, are not the only factor that impact the health of the DB plan.

Additionally, articulating a Statement of Investment Beliefs (SIB) (see above) by the Board would 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 leverage required from the risk parity 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. The SIB could also set forth OP&F's approach to Environmental, Social and Governance (ESG) issues including Responsible Investment issues. 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 IPS should be modified to reflect the unique liability and risk assumptions of the OP&F DB Plan, including a statement of understanding of critical assumption that leads to the overall asset allocation plan.

R.3.1.2.2 The IPS should set forth the return and risk expectations for the Total Plan and each underlying asset class, including the logic used to develop each of the assumptions. The active return assumptions for each asset class should also be included and discussed in the IPS, including separating between short and long term expected results given the current economic outlook.

3.1.3 IPS Completeness

Determine whether OP&F's investment policy includes all critical elements, acknowledging an understanding of OP&F's financial and actuarial characteristics, and in accordance with established investment and funding goals, and risk tolerances.

Expectations

The IPS should define all key policy issues, including actuarial assumptions, and articulate responsibilities and accountabilities for them.

IPS Completeness Standards of Comparison and Findings

IPS Completeness Standards of Comparison	Findings
Overall structure for setting and reviewing the asset allocation is provided in the IPS, including the risk profile and return targets.	Partial
Documents the policies, processes, and responsibilities for:	
• Selection and use of benchmarks	No
• Rebalancing for both asset classes and sub-asset classes or styles, including levels of tactical over/under weights	Yes
• Liquidity	Partial
• 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.	N/A
If there are other retirement plans, for example DC or hybrid plans or healthcare plan, they have their own separate IPS document.	No

Conclusions

The IPS articulates investment implementation guidelines and guidance regarding implementation policies and procedures well. As described earlier, the IPS omits an explanation of the origin of these policies sourcing from the actuarial assumptions and plan characteristics. It also omits a discussion of the investment return target and an explanation of how the capital market returns and active management returns are developed. Our analysis and recommendation regarding this omission is contained above in Section 3.1.2.

Our interviews with staff, external advisors and managers suggested a well-developed understanding of the liquidity risks inherent in the approach OP&F is taking to implement their investment program. The daily liquidity monitoring in place is comprehensive and at a leading practice level. We did not find documentation of the sophisticated liquidity monitoring process included in the IPS. Liquidity planning, monitoring and a full exploration of the liquidity assumptions are particularly important to document for the Board and external stakeholder understanding given the risk parity approach in place.

One additional area of the OP&F IPS we found missing was a clear articulation of the methodologies used in calculating Plan and asset class level benchmarks. We find this a lagging practice. Given the use of leverage required in the implementation of the risk-parity based investment structure, clear understanding of the OP&F Plan level and asset class level benchmarks is particularly important. We would expect to see detailed documentation of the historical benchmarks in the IPS – as well as expectations for future benchmarks including any transition benchmarks that are in place given meaningful asset class transitions in illiquid investments that may be underway.

While Wilshire reports frequently detailed aspects of the required information – we expect this information to be contained in the IPS. For example, the January 2019 Wilshire presentation on the possible choices for the MidStream Energy Infrastructure was well documented. This omission can be easily rectified by developing a separate Statement of Historic and Prospective Plan and Asset Class Benchmarks. Consultant educational input in developing this document would be helpful in assisting the Board's understanding of what benchmark choices are available and what peer organizations do when faced with similar benchmarking issues.

A separate IPS should be developed for the OP&F Post Employment Healthcare plan (PEHC). This separate pool of assets overseen by the OP&F Investment Department on behalf of the OP&F Board is missing an IPS from our review of the documents. The different purposes, different potential investment structures and different cash flows of this plan warrants a separate logic and review process from the DB plan. The actuarial reports suggest, given current spending and contribution rates, this plan will run out of money during the period between 2035 and 2038. The materially different liability position of this plan warrants separate consideration from an investment perspective by the Board. The Board took action to improve the fiscal viability of the PEHC fund in 2019 when the future viability was in serious question. The low level of contributions into the fund versus the revised benefit structure places the long-term viability of this fund in question.

Recommendations for Improvement

R3.1.3.1 **A supplemental policy document detailing the OP&F Plan and Asset Class level Benchmarks should be added to the series of Supplemental IPS reports, including transition benchmarks when they apply.**

R3.1.3.2 **A supplemental policy document should be developed supporting the IPS, detailing the liquidity management program in place, the assumptions regarding various investment categories, and best/worst case analyses for liquidity.**

R3.1.3.3 **Establish a Statement of Investment Policy and Guidelines (IPS) and monitoring process for the Post Employment Health Plan reflecting the short- and long-term fiscal outlook for the PEHC Plan.**

3.1.4 Linkage of Asset Allocation to the IPS

Evaluate whether the asset allocation is tied to the investment policy statement.

Expectations

Real time asset allocation is kept within the standards set by the IPS.

Linkage of Asset Allocation to the IPS Standards of Comparison and Findings

Linkage of Asset Allocation to the IPS Standards of Comparison	Findings
Investment Beliefs, IPS and asset allocation are consistent.	Yes
Processes in the IPS 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 IPS (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

The OP&F system of ensuring the investment portfolio is kept within the approved asset allocation is working well. All necessary information is available on a timely basis to all appropriate decision makers and compliance/monitoring agents. Discussions with the Investment Operations officer regarding the checks and balances of cash management operations as well as discussions with the Russell PM were particularly enlightening and provided strong evidence this area is being managed with care. The dual and complementary approach of documenting daily investment positions and cash flows between Russell and OP&F's Investment Operations staff appeared particularly appropriate given the importance of this area to the OP&F investment approach. It was beyond the scope of this review to evaluate the efficiency of the in-house developed accounting system of linking multiple service providers and understanding reviews of alternative accounting systems may be in place. The chart below from the IPS dated March 2021 is indicative of the IPS documentation. Monitoring based on the guidelines detailed in this chart is available in the regular monthly reporting that the Board receives from the monthly portfolio valuation reports delivered to the Board report. This monthly report includes details of the interim targets (that may be different from the long-term notional target), rebalancing activities that took place during the prior month, and estimated returns. The quarterly Wilshire reports, independently produced, show actual versus long-term target allocations at the end of each quarter and separately calculated performance results.

We recommend an abbreviated compliance report be produced and delivered to the Board that provides assurance of compliance with the short- and long-term policy guidelines as part of the monthly portfolio valuation reports delivered to the Board. The information to create this summary report is contained in the reports already delivered and compliance is, we believe, implied in the approach to reporting being utilized. This added level of documentation would be additive to the understanding of the Board and constituents not as familiar with the inner workings of OP&F's investment structure.

Asset Class	Notional Exposure Target	Range
Growth Assets		
Equity – Dom	21%	+/- 6.3%
Equity-Int'l	14%	+/- 4.2%
Private Markets	8%	+/- 2.4%
High Yield	7%	+/- 2.1%
Private Credit	5%	6%-13%
Total Growth	**55%**	**+/- 9.5%**
Safety-Oriented		
Core Fixed	23%	+/- 4.6%
Cash	0%	+/- 3.0%
Total Safety-Oriented Assets	**23%**	**-4.6% / + 7.6%**
Inflation Linked		
US IL Bonds	17%	+/- 3.4%
Real Estate	12%	+/- 3.6%
Real Assets	8%	+/- 2.4%
Midstream Energy	5%	+/- 1.5%
Gold	5%	+/- 1.5%
Total Inflation	**47%**	**+/- 9.4%**
Total	**125%**	**+/- 5%**

Recommendations for Improvement

R3.1.4.1 OP&F staff should create a summarized monthly compliance report that includes long-term and interim investment guidelines, asset allocation ranges, and an affirmation of compliance with these ranges over the past monthly period to enhance the level of program understanding among Board members and constituents not closely involved in the investment process.

3.1.5 IPS Compatibility with Asset/Liability Study and Experience Review

Evaluate whether OP&F investment policy is compatible with the most recent asset/liability study and five-year experience review.

Expectations

These overarching governance documents (e.g., SIB and the IPS) 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 IPS and asset allocation should be noted and explained.

IPS 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 IPS is compatible with the most recent asset/liability study and five-year experience review.	Yes
Should there be 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 ALM study currently underway will provide staff and Board a significant opportunity to review the overall health of the OP&F liability and question the underlying assumptions that have been in place since the last full ALM study and experience review was conducted in 2017. During the beginning stages of this review, during their February 2022 meeting, the Board decided to lower the discount rate for the plan liability from 8.0% (which was a true outlier among public pensions) to 7.5%. The National Association of State Retirement Administrators (NASRA) recently published research that indicated the average expected rate of return assumption among U.S. state retirement systems is now 6.99%, indicating the OP&F is still a full 50 bps above the average. The assumptions for after-fee active returns imbedded in the Wilshire presentation are high for the public asset categories but in keeping with the risk parity-based investment approach adopted by OP&F.

The ALM process undertaken during 2017 by Wilshire was consistent with prevailing practices among peer organizations. The reporting and processes used by Buck/Conduent and Cavanaugh McDonald during the prior 5- year period ending December 2021, including the annual actuarial updates, were in keeping with standard industry reporting practices. We have confidence in the content of these reports. We encourage the Board to make use of the 2022 ALM study being performed by Wilshire and the 2022 actuarial experience study to deepen their understanding of the key assumptions included in these analyses as well as the sensitivities surrounding the actuarial and planning process.

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.	No
The actual process of rebalancing is risk-based, sophisticated, and consistent with the investment philosophy of the fund overall.	Yes

Conclusions

As was referenced in Section 3.1.4, OP&F has set up a dual and complementary monitoring system for public market investments between the OP&F Investment Operations staff and Russell Investments – the manager of derivatives positions for OP&F. We observed a high degree of cash awareness and attentiveness on the alternative positions during our interviews with the Alternatives Consultants Townsend and Aksia / TorreyCove and the staff overseeing these positions – the Deputy Chief Investment Officer and the investment officer overseeing Private Equity investments. The interplay between these individuals and service providers and the technology infrastructure in place provided a high degree of confidence that information is available for all involved to make rebalancing decisions in a proactive and timely basis. Our interview with the Chief Investment Officer suggests a keen awareness of policy versus actual positioning and the awareness of when the need to rebalance should market positions warrant. Our multiple interviews with Russell Investments suggest the process of rebalancing is thoughtful and efficient among the various derivative and physical markets and in keeping with the overall philosophy of the fund and leading practices among public pensions.

While we found awareness of the rebalancing process and practices followed to be at prevailing industry practices, the documentation of the processes followed by the various parties connected to this process are a lagging practice. While the retention of a derivatives manager to assist in rebalancing was mentioned in section 3 of the IPS, we found little evidence that the roles and responsibilities of the various parties that are being implemented well were documented. This lack of documentation is a lagging practice by OP&F. Without this documentation slippage is possible and lack of accountability could result over time. The rebalancing decisions that result from this process are reported factually in the Monthly Activity report. Listening to the OP&F Board meetings we observed the Chief Investment Officer giving thorough explanations for the logic behind the rebalancing decisions that were made. We did not observe the same level of written documentation for these decisions compared to the verbal explanation. We believe this lagging practice should be remedied with a more thorough written explanation of all investment decisions connected with the rebalancing process.

Recommendations for Improvement

R3.1.6.1 **Create a Rebalancing Policies and Procedures document and reference this document in the IPS. In this document define the various roles and responsibilities of the parties involved in all the parties involved with the OP&F rebalancing process.**

R3.1.6.2 **Add a written description to the Monthly Investment Activities report that factually describes the rebalancing decisions that were made as well as the context and outcomes of the decisions made each month.**

3.1.7 Due Diligence Documentation

Evaluate whether OP&F policy specifies to what extent the basis for particular investment decisions should be articulated in writing by the Board or OP&F 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 from time-to-time to enable assessment/ suggestions as to their fiduciary/communication effectiveness.	No

Conclusions

We reviewed a sample of eight Board investment approval files and found documentation of due diligence and fit within investment policy and strategy to be consistent with standard industry practices. Board approval packets described the investments in detail and included staff and adviser analyses of strategy, performance, staffing, risk exposures, operational capacity, market context, fees, portfolio fit and deal terms, as well as due diligence, reporting practices, reference checks and recommendations from the CIO and the Board's independent adviser. The files are retained electronically at OP&F and were made available to us electronically. No indication of adviser dissent or adviser / staff disagreement was evident in the documentation.

Nevertheless, while basically covering the same ground, approval packets were inconsistent in organization and style. Although a multiple-page summary was usually contained at the beginning of the typically 50 to 100+ page packet, we did not see any concise front-page summaries of key points. Use of a more user-friendly, uniform format for investment approval submissions might make the Board's job easier. A short summary page covering specified key points that both summarize the transaction, identify primary reasons for its recommendation and note potential risks, could be included as part of the preferred format.

Recommendations for Improvement

R3.1.7.1 Establish a new uniform template for Board investment approval packets that includes a short cover page summary.

3.1.8 Implementation Compliance

Evaluate the extent to which OP&F 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.	Partial
The Compliance function is independent of the Investment function.	Partial
Compliance has the access needed 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 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 was referred to in section 3.1.4, OP&F has set up an effective reporting system to provide appropriate real time investment position monitoring to the Investment Office to be used when making asset allocation and rebalancing decisions. As the OP&F investment portfolio is entirely externally managed, a "second level" of compliance monitoring is required to assure each of the investment managers employed remain in compliance with the investment guidelines established for their individual portfolios. This system should incorporate pre- and post-trade compliance reporting against investment guidelines at the manager level We found an external manager compliance monitoring system in place and believe OP&F is acting at prevailing practice levels with this manager compliance monitoring effort. Over time – as is described in Section 3.4 below – we believe there are external compliance monitoring systems that could be employed by OP&F to improve the accuracy and efficiency of this process. We understand from our interviews with staff that these systems are being actively explored and believe the systems transition that would be required would be positive for OP&F over time.

At the manager level, compliance efforts are summarized in the quarterly compliance reports to the Board. We found this report structure complete and in keeping with prevailing industry standards. The report summarizes reports required from each of the active managers that require written certification on a monthly basis that their portfolios were in compliance with their investment guidelines. As is detailed in the Investment Manager Policy and Procedure document, each "Investment Manager is responsible for self-monitoring of the portfolio and notifying the Staff when there are any deviations from the guidelines and when modifications to the guidelines may be appropriate." We noted a similar self-reliance reporting to the ORSC for compliance with Sudan/Iran and potentially Russian investments. While FAS industry knowledge suggests this "self-monitoring" approach to be at prevailing practice level, leading practice is to establish a real time, systems-based compliance monitoring system – typically through a custodian or similar service provider. The OP&F reliance on many collective trusts to implement their portfolio approach in public markets – such as the Bridgewater Pure Alpha relationship and the Grosvenor Flight Fund – suggest such an external compliance monitoring system could be more difficult to implement for OP&F versus other peer organizations. The use of "self-monitoring" a portion of the portfolio may still be required. Over time, we believe consideration of a real time monitoring effort would be appropriate for OP&F but recognize the investment approach could make implementation more difficult than with peer organizations that do not follow a risk-parity based approach for plan level asset allocation and extensive use of portable alpha-based strategies.

The fact that all funds are managed externally suggests independence in the compliance reporting process against guidelines. Other aspects of this fiduciary performance audit report raise the issue of whether the Investment Operations area – currently reporting to the Office of the Chief Investment Officer – should report separately to the Finance Department to assure independence. We acknowledge that this move could be particularly relevant should an incentive compensation program be considered or adopted for OP&F investment staff as a hiring and retention effort.

Recommendations for Improvement

R3.1.8.1 Continue to evaluate external systems for monitoring external manager compliance against guidelines.

3.1.9 Policy Review

Evaluate how often and by what process the board or staff reviews OP&F'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.	Partial
The Board obtains peer policy comparisons when reviewing each policy.	Partial
Policy review responsibilities are clearly assigned to the appropriate Board committees.	Partial

Conclusions

The OP&F Governance Manual, together with OP&F's additional policies, cover most of the topics that are usually included in peer governance or policy manuals. Some, but not all, are identified for review and updating after a specific time period. OP&F does not have a policy that requires a benchmarking process when policies are updated. There are also a number of additional policy recommendations contained in this report and which are summarized in Exhibit B.

We recommend that OP&F bring all of its substantive policies together in a comprehensive manual. That would be a valuable trustee training tool and provide easier access to governing policies for users. The manual could be provided to trustees, staff, and stakeholders, with a copy posted on the OP&F website.

Each policy, or groups of policies, could be assigned a time period for review, with oversight responsibility for the review assigned to a committee or staff position. In order to ensure that policies remain up to date as circumstances and peer practices change, OP&F could conduct periodic policy benchmarking reviews or engage a consultant to advise on industry changes and trends.

Recommendations for Improvement

R3.1.9.1 **OP&F should collect all significant policies, statutes, and rules within a single reference document (e.g., the Governance Manual) that is regularly updated and make it available to trustees, staff, and stakeholders, including on the website. See also Recommendation 1.3.3.**

R3.1.9.2 **The Board should establish a policy for either internal or external benchmarking of policies on a set periodic or policy by policy basis.**

3.2 Investment oversight and review.

Scope of 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 OP&F'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.

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; and

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 Guidelines Statement we utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices:

OP&F's current Investment Policy and Guidelines Statement (IPS) dated 3/31/21 and prior versions available

- Interviews with OP&F investment staff
- Interview with the OP&F general investment consultant - Wilshire
- Interview with the prior general investment consultant - Russell
- Interview with OP&F specialty investment consultants – Townsend (Real Estate) and Aksia TorreyCove (Private Equity)
- Interviews with Bridgewater Associates and Grosvenor and Russell Investments – current investment managers
- Interviews with OP&F Custodians Northern Trust and Huntington Bank
- Interview with the OP&F actuary – Cavanaugh Macdonald

- Risk reports and analyses provided to the OP&F Board
- Investment compliance reports
- Performance reports and investment structure reports from Wilshire, Townsend and Aksia TorreyCove
- FAS investment policy and operations knowledgebase
- OP&F's annual investment reports since 2018
- OP&F CEM reports
- OP&F's most recent asset-liability study (and discussions regarding the asset-liability study now underway) and annual Actuarial Valuations delivered
- OP&F's most recent five-year experience review
- OP&F's rebalancing reviews and monthly portfolio valuations
- OP&F's Board minutes
- OP&F's Investment Reports delivered to the Board
- OP&F's investment policy documents for each asset class, Proxy Voting, Sudan/Iran, Broker policies
- OP&F's investment files related to specific investments
- Relevant OP&F's internal audit reviews and Staff Investment Committee (SIC) documentation
- Investment Guidelines and fee agreements for OP&F's external asset managers

To develop our assessment, we utilized the knowledge of our team members and the FAS knowledgebase to assess the contents of the reporting and compliance function at OP&F. The FAS team reviewed the IPS, the board reports, consultant reports, monthly investment summaries, structure analyses received by the board, actuarial studies including prior experience studies, ORSC reports, manager due diligence reports provided by staff and consultants, interviews with staff, consultants and trustees and other materials relevant to the oversight and control of the investment program.

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 IPS 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 part of an investment 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 for 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.	Partial
Monitoring policy and practice include benchmark comparisons, personnel and other organizational change notices, regulatory notices, etc.	Partial
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
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 opines on investment staff decisions. The consultant reviews both internal and external management.	Yes

Conclusions

OP&F appears to follow prevailing industry practices when generating performance measurement reports and monitoring their external investment managers. The measurement of after-fee performance benchmarking through CEM is a prevailing practice for large public funds. The past retention of Aksia / TorreyCove to perform a review of private equity performance and fees based on OP&F historic cash flow records assured accuracy and transparency of CEM after-fee results across the portfolio. However, given the sophistication level of the OP&F portfolio we view the quality of the regular board reporting as lagging expectations.

The Wilshire reports are the primary source of performance and portfolio information for the Board. The monthly Portfolio Valuation summaries provided by staff are timely and can be considered a flash reporting estimate of results and an assurance of compliance with overall guidelines. Both provide adequate levels of quantitative information for the Board to generate a general level of understanding of the investment program, but do not get into the detailed issues generated by the sophisticated strategies being followed by OP&F, nor do they provide an interpretive analysis. For both reports, a written top-level Executive Summary discussion and analysis of results versus expectations is missing. The provision of this type of Executive Summary analysis from an independent third party such as an investment consultant is a prevailing practice for Board reporting of investment results. This type of interpretive top-level analysis should be added going forward to aid the Board in understanding and interpreting the results of the investment program.

The regular asset class reviews provided by Wilshire, Townsend and Aksia/TorreyCove – separate from the quarterly performance reporting process – provide a greater level of detail on the investment structure and philosophy behind the portfolio strategy. These periodic structure review presentations are essential elements of the OP&F monitoring process and help develop and enhance the Board's understanding of the investment portfolio philosophy. The review of risk, liquidity, interim target allocations and alpha expectations from the structure and individual managers, in a build-up approach, are or should be contained in these review documents and outline the risks and potential rewards of each element of the portfolio structure. As an example, the beta and correlation assumption process for Bridgewater Global Macro strategy and the Grosvenor Flight Fund inherent in the domestic equity portable alpha program should be detailed in a structure review document for the domestic equity program. Alpha assumptions from the portable alpha program described above should tie to the overall alpha assumption for domestic equity detailed in the ALM analysis. While we observed these reviews were periodically presented, they should be presented at least annually for each asset class and the Plan as a whole to assure the Board's understanding of each asset class is current with respect to these important portfolio structure decisions inherent in the OP&F investment program.

While the performance monitoring received by the OP&F Board at the asset class level is summarized logically and is inclusive in the Wilshire quarterly reports, due to the level of investment sophistication being utilized by OP&F staff, consultants, and managers, more detailed information should be provided. On the quantitative side, as mentioned, we did not observe a plan level attribution and analysis in the quarterly Wilshire monitoring reports and found only limited asset class level attribution and limited analysis. On the asset class level, we would expect to find point in time security level portfolio structure reviews compared to plan benchmark to demonstrate the active risk of the portfolio. We observed a limited number of points in time portfolio structure reviews versus benchmark for the underlying portfolio managers and none at the asset class level. There is also a lack of analysis and reporting on liquidity estimates and outlook as a regular part of the monitoring effort. Given potential liquidity stresses due to the risk parity and portable alpha approaches followed, better historic and prospective reporting on liquidity is required. Draw down analyses highlighting the potential liquidity requirements from each manager, strategy, and the total portfolio should become a regular component of the overall quarterly report. Overall, there is significant room for improvement in the quality and quantity of information delivered to the Board in order to aid in their mandated monitoring requirements of the OP&F portfolio. Potential systems enhancements through the custodian or other service provider(s) could be required to deliver what is necessary to report the level of portfolio risk and position reporting and analysis for the OP&F Board. We consider the quality and depth of reporting being delivered today lagging at OP&F – especially given the level of sophistication evident in the investment program.

We found the due diligence process utilized in the monitoring of external managers both thorough and thoughtful. The Investment Manager Monitoring and Evaluation Policy outlines the process and procedures well. Also, the manager review and rating process that takes place at the Board level – supported by external opinions of the general and specialty consultants – can be considered leading practice. While OP&F appears to be at a lagging industry practice with respect to consolidated performance attribution, performance, and risk reporting and analysis, we believe OP&F excels at Board transparency at the manager level review process. We believe that over time, the OP&F Board should become more focused on top level oversight and the Board's emphasis on manager level reviews reduced. We view this delegation of investment manager decisions to staff a leading practice among peer organizations.

Finally, the discipline of having internal investment professionals and external investment providers/employees certify confirmation with CFA Institute standards and applicable ethics laws is a prevailing practice among OP&F peers. The adoption of a manager reporting requirement detailing the actual standards OP&F expects service providers to comply with would provide meaningful reinforcement of expectations that these standards are adhered to when implementing investment decisions on behalf of OP&F members. This should also include a request to each individual or organization involved with the investment process of OP&F funds to annually certify compliance with these standards.

Recommendations for Improvement

R3.2.1.1 OP&F should revamp the Board quarterly reporting content to include a qualitative discussion of results versus expectations in Executive Summary form, including a discussion of attribution and performance highlights reviews at the Plan level.

R3.2.1.2 Enhance the Board's receipt of Plan level and asset level structure reviews by conducting these reviews at least annually.

R3.2.1.3 Enhance quarterly OP&F Board reporting at the asset class level by including risk-based analyses of holdings versus benchmark, including liquidity analyses and forecasts and draw down analyses, at each asset class level and manager level in the review quarterly.

R3.2.1.4 Establish an annual ethics confirmation for all investment professionals / organizations responsible for managing OP&F assets that details ethics expectations and requests annual certification of compliance.

3.2.2 Transaction Costs

Evaluate OP&F'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 or board 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 investment management agreement (IMA). Many funds of the scale of OP&F 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 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 for Comparison	Findings
There is a program to evaluate 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.	Partial
There is a policy for oversight of foreign exchange by staff. (See Section 3.4.2)	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.	N/A

Conclusions

Transaction cost management and broker practices are controlled and monitored at OP&F and considered on par with standard practices across the public pension plan space. The overarching policy that governs the program is the Ohio Police and Fire Pension Fund Broker Policy (last updated 1/24/08). Within the document, a number of key aspects of the policy are detailed including:

- The delegation of discretion from the board to external managers for placement and execution of trades;
- The establishment of objectives that the practice of selected trading counterparties must be to the benefit of OP&F members and consider the standard of best execution above all others;
- The utilization of third-party transaction measurement service reports as an evaluation of trade efficiency and the sharing of results with external managers;
- The rules regarding soft dollar transactions;
- Conditions under which the board may direct external managers to use their best efforts to execute a certain percentage of their commission business with designated brokerage firms;
- The limitations and process for commission recapture and the reporting of it;
- The reference of Ohio statutes governing the use of Ohio domiciled brokers and the objectives

for consideration of women- and minority-owned brokers; and

- The criteria to be considered by external managers when determining their pool of eligible broker-dealers with whom to conduct trading on OP&F's behalf.

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. In essence, 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 OP&F members takes overarching priority in the selection of brokers to support OP&F public securities trading. As further evidence of this important prioritization, language in the template of the investment management agreement reads *"OP&F can direct any transaction that gives rise to a broker commission, provided that such direction is not contrary to the Investment Manager's obligation to provide best execution."*

The above policy is backed up by a plethora of reporting requirements. Requests by the board to the external manager to direct broker commissions must be provided in writing. On a semiannual basis, external managers are required to submit both the current list of approved brokers along with additions and deletions. Managers must also document all soft dollar trade activity during the same six-month period. OP&F provided examples of documentation that evidenced adherence to this policy. Historic annual reporting of women, minority and Ohio-based broker activity was provided to ORSC only. There was no corresponding required reporting regimen on this topic to the board. ORSC terminated the reporting requirement several years ago; however, since the language remains on the broker policy in place, the absence of reporting has inadvertently created a cap in OP&F's ability to evidence adherence to the policy. Managers are required to submit trade activity to Zeno for inclusion in the trade cost analysis reports. Finally, the Annual Comprehensive Financial Report contains a schedule of broker fees paid over the fiscal year, illustrating both total fees paid and average cost per unit traded.

Trade Cost Analysis and Benchmarking

Externally managed funds are required to transmit all purchase and sales information for publicly traded securities to Zeno for third party trade cost analysis. The vendor provides TCA reports in aggregate and broken out by individual managers within its domestic and global Sponsor Monitor Report each quarter to OP&F. The report benchmarks the performance of external manager trading effectiveness on a quarterly and rolling four-quarter basis against execution efficiency, use of brokers, commissions, and traded returns, and provides specific recommendations for follow up where needed.

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 lacked enough plans that were able to provide this data consistently. In the report received by OP&F, 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. OP&F transaction cost data is not included in the paper.

Recommendations for Improvement

R3.2.2.1 **Amend broker policy and/or introduce external manager semiannual reporting to the board regarding trading and commission history with Ohio-based, and women- and minority-owned brokers**.

R3.2.2.2 **Enhance investment management agreement (IMA) template to explicitly require managers to report on trading and commission activity to OP&F's third-party benchmark provider, and to deliver semiannual list of eligible brokers and selection criteria used at manager and list of soft-dollar trades with accompanying rational.**

R3.2.2.3 **On an annual basis, place results of third-party Zeno trade cost analysis, with accompanying OP&F commentary, into appendix of external manager fee report to the Board.**

R3.2.2.4 **In Zeno trade cost analysis report, segregate trade cost analysis for every instance where the OP&F Board directed the external manager's selection of brokers and compare results against other trading in period to ensure that best execution practices were evidenced.**

R3.2.2.5 **Seek to provide CEM with granular transaction cost data from Zeno for public asset classes for use in future trading cost benchmark analyses.**

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 and investment strategy. The Total Fund benchmark should allow for a build up from the asset classes – which should incorporate the weighting scheme for the underlying strategies and managers. Performance should be monitored regularly at the strategy, asset class 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 for 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 benchmarks 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.	Partial

Conclusions

The benchmark process at OP&F is complete, but complicated. There are a number of Board approved transition benchmarks resulting in "policy benchmarks" for both the Plan and Asset Class level that exist in the calculation of results. These benchmarks are necessary to aid in the understanding of the portfolio given the large number of portfolio structure transitions that have occurred over time. While these transition benchmarks aid in the accurate comparison of performance results during these transition periods, we found it difficult to fully grasp an understanding of top-level structure decisions versus benchmarks that represent possible investable alternatives. The benchmark development process for individual portfolio managers appears to be based on the preference of the individual managers. Weighting analyses of individual portfolio managers given the segment benchmark are prevailing practice among OP&F peers. We believe from our discussions with OP&F staff and consultants that the weighting scheme is thoughtfully produced, but we did not find documentation of how the weighting targets for individual managers results from either Board analyses or for process retention files. Overall, there is, at the very least, documentation work to be done on the Plan and Asset class level benchmarks and manager weighting schemes in place at OP&F.

Periodic review of Plan and Asset Class level benchmarks by the Board is a leading practice. We recommend ongoing reviews of the Plan Level and individual asset class level benchmarks, with a thorough review every 3-5 years at a minimum. The Wilshire / Townsend / Aksia-TorreyCove structure reviews of each asset class, which we recommend should be moved to an annual cycle, would provide an opportunity to include a brief review of benchmarks and periodically include a more thorough review of benchmark possibilities. FAS experience is the private equity and real asset areas can be particularly difficult to benchmark. The use of the actual plan results in the Wilshire report is an example of a prevailing industry solution to this taxing issue. Given the significant industry attention to private equity by the press and other industry constituents, the Board should be provided with a good roadmap for the decision for this and other benchmark possibilities. A historic analysis among possible choices and the decision logic for the choice that is ultimately made is a leading practice. This analysis trail at the Plan and Asset Class level is missing.

Consistent with our comments in the IPS review section of this report, we did not find ongoing reporting on the progress OP&F is making against liability measures in the performance reporting process. 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 OP&F should consider including a brief overview of the measures of the actuarial health of the Plan in the Wilshire quarterly report by reporting updates common in the corporate world, including estimates of funding status, time to close the funding gap, and other relevant top-level measures of actuarial health.

R3.2.3.2 Conduct a Plan and asset class level benchmark review in the investment structure reviews provided by Board consultants on an annual cycle.

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.

Review Activities

Much of the information for the FAS analysis of external investment manager fees was collected directly from internal interviews with Investments, the review of policy and risk documentation containing language about external manager fees, and examination of the fund fee worksheets used by OP&F to validate fee invoices. FAS examined additional documentation including operating budgets, the Annual Consolidated Financial Review, the Annual Manager Fee Report presentation to the board, and the 2020 CEM benchmark report information comparing OP&F's performance in managing external to a peer group and of similar sized plans in the US public pension plan space.

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 the Institutional Limited Partners 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 for 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.	Partial
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.	Partial
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
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.	Partial
The system works with ILPA and peers in support of the Transparency Initiative.	Partial

Conclusions

As an asset owner, Ohio Police & Fire engages outside investment advisors to manage the suite of funds across all public and private asset classes. The costs associated with these services are among the highest expenses in the overall annual budget, significantly exceeding internal staffing costs, which is common for asset owners such as OP&F. The staff and the board share in the responsibilities to ensure that the highest levels of diligence are applied to establishing and overseeing external manager fees. In the charter of the Investment Committee of the OP&F Board, it states that "the board reviews the proposed department budget for the investment department", which serves as evidence of the importance of overseeing external investment management expenses by the Board. Further in the OP&F Investment Manager Monitoring and Evaluation Policy (March 29, 2017), it states that "Investment Management Fees shall be competitive and of an appropriate structure for the product type and assets under management."

Fee schedules and guidelines for externally managed portfolios containing publicly traded securities are codified in Exhibit B to Investment Management Agreements and within Limited Partnership Agreements for privates and alternatives. OP&F policy is supported by regular practices in both the validation and reporting of external manager fees, which are well documented. 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

Ohio Police & Fire 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 OP&F 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

Monitoring, Processing and Validation

The validation and oversight practices for external manager fees at OP&F are considered thorough and well controlled. The investment team manages spreadsheets for all (public) funds and prepopulates them with the terms found in Appendix B of the investment management agreement. Upon receipt of the manager invoices and verification of market values and returns, OP&F investments compares the amounts due against an internal calculation as a point of validation prior to remitting payments. Wilshire reports fees by asset class in their expansive quarterly investment performance book, and the OP&F staff prepares and submits an annual manager fee report to the board.

The OP&F Risk Management Policy (presented to the Board in February 2021) devotes a section in their Operational Risks and Controls to Investment Management Fees. Inclusion of management fee risks and controls within an organization's enterprise risk framework is an example of a leading practice for public pension plans. Within the policy document, the organization identifies five inherent risks, including:

- Payments are made that are inappropriate, unauthorized, or lacking adequate support
- Manager invoices are not paid timely
- Affected general ledger accounts are not reviewed on a routine basis
- Management fees and profit sharing deducted from portfolio holdings are not verified
- Management fees and profit sharing are unreasonably high

The control factors in place that describe OP&F's management of the risks include:

- For the managers whose fees are invoiced on a quarterly basis, OP&F makes payment electronically via ACH.
- Spreadsheets containing criteria for calculating the management fee are maintained for each manager and the invoice/deduction amount is verified by matching the amount calculated in the spreadsheet to the amount invoiced.
- Audited financial statements are received for private asset managers to verify the accuracy of fees deducted.
- When possible, OP&F requires verification through third party audits that fees and profit sharing are paid in accordance with the terms of the agreements.
- Consultants with knowledge of competitive fees for strategy are utilized to assist with fee negotiation.
- The accuracy of historical fees for private equity and private credit managers were verified by a private market consultant.

Private / alternative asset procedures and practices for external manager fund fee validations are less robust than the procedures covering publicly traded funds. Investment associates manage spreadsheets to oversee fund fees as they ae described in quarterly GP statements. Despite additional challenges in transparency across the industry, OP&F lags many other public pension plans in their adoption and enforcement of ILPA standards for their GPs to follow. In response to the recent cost benchmark analysis, OP&F hired Aksia to consolidate and validate historical private fund fee information captured on spreadsheets and to submit it to CEM on their behalf. It is noted here that other Ohio public pension funds have entered into contractual arrangements with other third parties for the purpose of consolidating, validating, remitting, and reporting of private fund management fees, against both a cost basis of AUM and as a percent of committed capital. Because of the persistence of significant variability across GP practices, this effort can be quite burdensome and frustrating for LPs to perform on their own. With a small investment, these contracted services efforts can remove the historical obfuscation that has accompanied this space and put the pension plan in a more advantageous position to improve transparency to their board and their constituencies.

Reporting and Benchmarking

External manager fee reporting is performed by the OP&F investment team on a regular basis. In the spring, OP&F includes an annual fee report in materials provided to the Investment Committee of the Board, although there is not a formal presentation on the subject. The audited Annual Comprehensive Financial Report contains a schedule of external management fees by asset class. Fees are also included in the Popular Annual Financial Report for additional transparency. Annual fee reports for externally managed public funds are produced for the Investment Committee of the Board. Within the report, fees are listed by the manager and aggregated by asset class, with totals shown as basis points against AUM at year end.

OP&F has engaged the benchmarking services of CEM to analyze investment performance and cost. In the CEM Final Report – Cost Effectiveness Analysis, dated 12/31/2020, CEM analyzed fee data for OP&F against a peer group of 19 US public pension plan funds of similar size over a five-year period. In aggregate, while OP&F's total investment costs appeared higher than the peer group benchmark, CEM reported that OP&F external manager costs compared favorably and on an overall basis were 0.8 bps below median external manager costs for their peer group when examined across 19 asset classes and investment styles.

Recommendations for Improvement

R3.2.4.1 Strengthen the language in the OP&F Investment Manager Monitoring and Evaluation Policy to include specific staff monitoring responsibilities for driving fee transparency and validating external manager fees.

R3.2.4.2 Add language to side letter templates encouraging General Partners to adopt ILPA standards for reporting fees. Continue engaging an external consultant to perform quarterly oversight and validation of alternative investments fees while reviewing and approving capital calls.

R3.2.4.3 Enhance the annual manager fee report to the board by adding relative and absolute performance information to each row on the table, breaking out management fees from performance fees, and including carried interest costs, where applicable.

R3.2.4.4 Provide public support to the recent SEC proposal to standardize and improve fee transparency for private equity and alternative investments. Monitor progress and prepare infrastructure to adopt changes as they are codified into law.

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, 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.	Partial
Investment staff has a long-term perspective on investment sourcing.	Yes
Portfolio fit assessment is both qualitative and quantitative.	Partial
Policies clearly define operational due diligence requirements and responsibilities vis-à-vis staff and consultants.	Yes
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. The above processes apply 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
A staff investment committee is the focal point for cross-asset information class sharing.	Partial

Investment Manager Selection Standards of Comparison	Findings
Actual due diligence procedures match the written policies in the IPS and in other relevant documentation. Deviations are documented and escalation procedures in place for approvals or rejections.	Yes

Conclusions

OP&F's manager search process is effective and well documented in the Investment Manager Search Policy document. Discussion with the staff and consultants suggest a close partnership has developed between these organizations and the process to source high performing investment manager candidates for review. The process appears to be working well. We observed compliance with the Ohio-Qualified Investment Manager Policy during our review of the search process. The real estate and real asset manager search process is driven more by Townsend, the real asset and real estate consultant, than staff. This process with specialty areas is a prevailing practice among many OP&F peer organizations for specialty asset classes. Both investment and operational due diligence are led by this organization.

Private equity due diligence is a team effort between staff and Aksia/TorreyCove, although Aksia/TorreyCove appears to lead the operational due diligence effort. Wilshire participates extensively in private credit and public market search investment and operational due diligence process for new managers and investment opportunities.

The policies and procedures that OP&F follows when performing ongoing manager due diligence are thorough and well documented in the Investment Manager Monitoring and Documentation policy document. Based on this document, the OP&F monitoring process is at prevailing industry practice. Our discussions with two external managers suggest the quarterly monitoring process and annual deep dive review process follows the Manager Monitoring and Documentation policy document and is being executed well. The annual reviews as delivered to the Board by OP&F staff were, we believe, appropriate. The manager ranking and review process undertaken by staff is leading practice among OP&F peers. The personnel charged with executing this monitoring process are well qualified and have strong industry experience.

OP&F's investment process uses many of their external service providers more extensively than most peer organizations. Peers often treat investment service providers as investment product providers and maintain a higher degree of control in-house. The OP&F governance approach hinges on the development of long-term "strategic partnerships" with select asset managers and consultants. In addition to the OP&F plan consultants – Wilshire, Townsend and Aksia-TorreyCove – Russell, Grosvenor and Bridgewater are also playing a strategic partner role. This can be an effective governance model for resource constrained organizations, assuming the right cultural fit and staff implementation. However, there is a risk following this investment approach. The Board must recognize the close partnership that exists and take a long-term approach when reviewing staff and managers. It is difficult to implement this approach, as OP&F has done, with a high level of active management and potential for performance dispersion against benchmarks and peers. Performance shortfalls can lead to external pressures to change the investment strategy, frequently at exactly the wrong time given market momentum swings. OP&F's investment approach reinforces the need for close collaboration between the staff and Board and a meaningful Board education and engagement effort by the strategic partner organizations.

Our interviews with OP&F staff and consultants suggest historically the investment office at OP&F has operated fairly independently from the rest of the OP&F organization. This appears to have worked well for OP&F. Typically, we encourage non-investment personnel participation in the investment process given the opportunity for groupthink to occur. As a compensation for this possibility – we observed unusually strong collaboration among OP&F and their outside service providers. In particular, the consultants and strategic partners were universally complementary about the team culture OP&F engenders with their service providers. These partnership relationships, we believe, compensate for the possibility of "group think" that can occur in much more regimented organizations.

The long-term performance success, as demonstrated by the OP&F investment performance as of December 2021 being in the top quartile of performance among peer public pensions, and over 135 basis points annualized performance above the policy benchmark on an after-fee basis, is based on the talents of the long-standing Chief Investment Officer and his long-term investment associates. The CIO's longevity in his stewardship and leadership role and the confidence both staff and Board exhibit in the investment staff's skills are a striking finding from our review of OP&F. The introduction of a more formal process to determine portfolio structure requirements by comparing to benchmark objectives – even if the decision is to create meaningful variability against benchmark – is warranted. Providing investment staff flexibility to respond quickly to investment opportunities and risks while maintaining the long-term strategic partnerships and investment philosophy should be encouraged. Our overall finding is that better documentation for the logic for investment structure decisions would be beneficial to the OP&F organization over time.

Recommendations for Improvement

R3.2.6.1 Formalize and document the logic behind portfolio allocation and manager allocation decisions with clearly articulated logic and goals for each portion of the portfolio against structure benchmarks.

3.3 Investment and fiduciary risk.

Scope of Review

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 OP&F 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:

- OP&F's Investment Policy Statement and Guidelines and related Policy Statements associated with Broker Policies, Derivatives Policies, Proxy Voting, Divestiture Policies, Litigation Policies, Real Estate Policies, Private Credit Policies and Private Equity Policies.
- Periodic asset structure reviews performed by Wilshire, Townsend and Aksia/TorreyCove for all the ALM specified asset classes.
- Interviews and follow-up discussions with OP&F Staff, Trustees, Consultants, Asset Managers and Custodians. Monthly Investment Monitoring Reports and Quarterly Investment Performance reports.
- OP&F Board minutes. OP&F Staff Job descriptions.
- Actuarial valuation reports and updates and experience review reports provided by Cavanaugh McDonald and prior actuaries – Buck/Conduent.
- Investment guidelines for OP&F External Investment Managers and Compliance reports compiled by OP&F staff.

To develop our assessment, we assessed the reporting function that exists between staff and board based on our knowledge of the OP&F investment program and standard reporting templates used by asset owners. The FAS team:

1. Assessed the flow of risk monitoring actions among staff, consultant and board and reports from staff and consultants to the 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 OP&F 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 OP&F Benchmark development process and performance benchmarks in place – paying particular attention to the Wilshire quarterly report.

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. There should be some expertise on staff. Risk analyses should be inputs into investment decisions. 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 external managers and the oversight of that implementation by staff.

The Board should have a periodic opportunity (at least annually) to discuss investment risks other than volatility, such as liquidity, leverage, conflicts of interest, geographic concentration, transparency, ESG factors, etc. Any consensus or determination by the Board with respect to those risks should be respected by the investment staff.

Risk Appetite Standards of Comparison and Findings

Risk Appetite Standards for Comparison	Findings
The IPS includes a risk tolerance framework that prioritizes the Board's perceptions of the largest risks to the system.	Partial
The IPS 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 IPS.	No
Periodic risk and return reports, as well as operational reviews of internal and external managers summarize new and continuing risks, 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

As has been discussed in Section 3.1, OP&F follows prevailing practices when developing its asset allocation program and in the implementation of its investment monitoring program. During 2022 we anticipate the Wilshire-led ALM study and the Cavanaugh MacDonald-led actuarial review – including the experience review – will be quite educational for the Board and provide an opportunity to develop a much deeper understanding of the overall risks from an actuarial and investment perspective. The investment analyses and update process performed over time on each of the various asset classes identified by the asset allocation plan, led by Wilshire, Townsend and Aksia/TorreyCove., provide an opportunity for ongoing education of the Board and the opportunity to understand the inherent risks and expected benefits of the investment structure. All the above appear to be conducted with prevailing industry practices. Wilshire's recent Capital Market review (presented Feb 2022) lays out expectations for each asset class well, as well as the basis for development of individual asset class assumptions for return and volatility (standard deviation).

This important review was done at prevailing industry standards. Upon completion of the ALM and experience review studies, the IPS should be updated to include the Board's understanding of the key assumptions made in this asset allocation process. This recommendation was explained further in section R.3.1.2.2. We view enhanced quarterly reporting of the key actuarial assumptions and expectations that liability outcomes will perform in line with expectations would be a positive for enhancing Board understanding of the plan liability.

It is appropriate, in light of the evidence presented by the Wilshire report, that the actuarially assumed long term return assumption for the Plan was reduced to 7.5% in February 2022. The Wilshire analysis points out the achievement of this return is dependent on the achievement of 70-90 bps of active returns (alpha) above benchmark (beta) returns. Although OP&F has achieved this alpha result over the longer term, this level of alpha should be considered a stretch goal for the investment program. OP&F's willingness and ability to consider diversifying investments such as: gold and pipeline investments; the significant allocation to inflation sensitive assets such as inflation-linked bonds; implementation of the portable alpha approach in the US equity area; and the risk parity based portfolio allocation approach; are all evidence that OP&F is willing to explore and implement measured risks based on their convictions in their search for the required alpha premium required to achieve OP&F return goals.

The IPS, as well as individual investment guidelines for the managers employed to implement the OP&F investment portfolio, contain relevant investment guidelines including plan, asset class and manager benchmarks. The investment manager compliance and monitoring process followed by staff and consultants appears robust, although we encourage the development of a more systems-based compliance process monitoring which allows a security level look through to portfolio positioning and risk positioning in the future.

The process of defining and understanding soft risks associated with OP&F investment portfolio is less well developed. For example, the reliance on risk-parity and portable alpha in the search for risk adjusted returns has implementation risks attached to it that cannot be measured through traditional portfolio management analysis. As mentioned in 3.1.1, a Statement of Investment Beliefs (SIB) covering areas such as: the ability to hire/train and develop staff; peer comparison risks from the perspective of the public plan universe; ESG risks; actuarial estimation risks; liquidity risks; etc.; should be addressed by the staff and Board to develop a better understanding and appreciation of these very real economic and soft risks associated with the management of the OP&F portfolio. Our recommendations regarding process enhancements by developing a Statement of Investment Beliefs (SIB) are outlined earlier in this document in **R3.1.1.1**

We also found the analysis and reporting on the potential and actual risks of the OP&F Post Employment Health Plan lacking. Our recommendation for improvement in this area is also outlined earlier in this document in R3.1.3.3.

Recommendations for Improvement

Recommendations related to this area are contained in other parts of this report and copied here for reference.

R3.1.1.1 The OP&F Board should develop a Statement of Investment Beliefs (SIB).

R3.1.2.2 The IPS should set forth the return and risk expectations for the Total Plan and each underlying asset class, including the logic used to develop each of the assumptions. The active return assumptions for each asset class should also be included and discussed in the IPS, including separating between short and long term expected results given the current economic outlook.

R3.1.3.3 Establish a Statement of Investment Policy and Guidelines (IPS) and monitoring process for the Post Employment Health Plan reflecting the short- and long-term fiscal outlook for the PEHC Plan.

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 OP&F 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. There should be periodic (at least quarterly) reports on investment risk to the Board.

Investment Risk Factors Standards of Comparison and Findings

Investment Risk Factors Standards for Comparison	Findings
There are periodic risk reports to the Board which provide appropriate risk contextualization and rationale. Out of tolerance risks are highlighted and action plans noted.	Partial
There is a dedicated investment analytical system that models risk.	No
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.	Partial
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

Much of the risk discussion implied in questions from section 3.3 was included in the discussion and recommendations contained throughout sections 3.1 and 3.2. In general, we believe the concept of investment risk analysis, benchmark development, and risk reporting should be expanded at OP&F along with the Board education effort connected with this expansion. We encourage the consideration of adopting a portfolio-based risk model system, perhaps through the OP&F custodial network, for use by OP&F staff and the Board with the output available for OP&F consulting resources to utilize.

The material from OP&F Staff, supported by Wilshire, presented to the Board on December 1, 2021, with respect to the private markets pacing plan, and similar portfolio structure work developed by Townsend with respect to a real asset and real estate portfolio analysis presented on December 1, 2021, were very well done. These are examples of the investment structure work on the OP&F portfolio being performed by staff and consultants. We observed similarly effective presentations on the public market portfolio by OP&F staff and Russell. Our review of process, procedures and monitoring on the OP&F portfolio suggest prevailing practices, at the very least, in terms of portfolio structure development, implementation, and monitoring. Our primary recommendations relate to the reporting and risk monitoring of the actual portfolio.

One non-quantitative, but important risk to highlight is the area of ongoing staffing of the OP&F investment team. We observed a strong commitment to the cause of supporting the Police and Fire officers of Ohio during all our interviews with OP&F staff and Trustees, and a deep respect for the manner by which OP&F is fulfilling its obligations managing the plan among OP&F Investment service providers. Maintaining this respect driven culture is important going forward. The potential loss of this culture is a key risk to the management of OP&F's investment portfolio. Connected to this issue, we see the inevitable investment officer transition as a key, non-quantitative risk for OP&F to consider. While historically OP&F has been able to sustain senior level talent and attract additional talent when required, there is the potential for a "retirement cliff" for senior investment professionals at OP&F. The OP&F investment staff is small relative to the level of sophistication of the investment program. OP&F will need both compensation and non-compensation incentives such as a great work environment to attract and retain future investment talent. The management skills required to maintain a successful investment culture over time is an extremely important management risk for OP&F Board and Management to consider and monitor.

Recommendations for Improvement

R3.3.2.1 OP&F needs to carefully manage the investment talent acquisition and retention process and work/life balance culture in order to attract and maintain their small but highly effective investment staff.

3.4 Custodian policy.

The Contractor will evaluate OP&F'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 OP&F'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 OP&F 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 OP&F 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 settling 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. Several 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 a 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, 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. It is important to note that primary custody banks that were not selected to perform lending services commonly sought to recoup lost revenues by enacting new fees for the movement of securities to support lending, while obfuscating those costs to the end client in out-of-pocket or other existing invoices. In fact, the model has been considered more advantageous for primary banks as it preserved revenue streams while removing considerable inherent financial risks associated with securities lending.

3.4.1 Breadth of Services

The custodial bank's breadth of services and technological capabilities to address OP&F'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 Huntington National Bank (HNB), the Treasurer of State and OP&F; international operating procedures between Northern Trust, TOS and OP&F; existing services contracts with Huntington National Bank for domestic securities and through HNB with Northern Trust as sub custodian for international securities services; interviews with OP&F 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 OP&F's 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 the Fiduciary Audit, FAS was limited to assessing only the basic asset safekeeping services provided to OP&F by HNB and Northern Trust. Endeavoring to compare the breadth of custodial services for OP&F against other peer public funds is elusive due to the uniqueness of the bifurcated custodial model and the limitations that it creates to enable OP&F to leverage a more common, holistic-based service offer more broadly from either bank.

More specifically, because of the Treasury of State guidelines for custodial selection, OP&F and other Ohio public pension plans are constrained from establishing 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. The number is typically even higher for asset owners, such as OP&F. Moreover, an increasing number of investment managers 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 for economic reasons.

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), compliance 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, back-office investment services functions and technology are supported in house at OP&F while fund-based, front-office and middle-office services are included into external manager IMAs. OP&F Investment Management manages the official books-and-records for the pension fund, and accordingly the associated business systems, and all the required interfaces with the custodians and downstream performance and G/L business systems. This infrastructure model has largely been replaced across the asset ownership landscape by an outsourced ABOR design which leverages economies-of-scale at large custodians and establishes a best-in-class separation of responsibilities between investments and investment accounting. In turn, custodians have become much more adept at offering investment owners bundled pricing and taking on additional responsibilities for reconciliation of market value and performance between accounting, custody, and external manager books. In select cases, custodians have extended their services to daily compliance oversight monitoring. More sophisticated asset managers constructed or purchased data hub and data warehouse capabilities to create 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 investment application-centric model (as used by OP&F) 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 beyond recordkeeping, reconciliation, and compliance to include more sophisticated capabilities such as performance attribution and risk analytics at economies-of-scale price points that would be advantageous for all but the largest asset managers. As proliferation of outsourced accounting and reconciliation has grown, internal investment operations and accounting staff have been redeployed to deliver more sophisticated services, such as portfolio modelling, compliance monitoring, performance attribution and risk analytics, external manager operational due diligence, as well as offloading time-consuming components of external manager oversight from the investment professional staff.

Within the narrower scope of custodial services provided to OP&F, the relationship and operating environment between the agency and its two custodial banks can effectively be summarized as an "optimization of the suboptimal". 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. Internal investment management staff at OP&F perform custodial and external manager oversight roles, which is highly dependent on the use of spreadsheets. The system is exploring the implementation of Front Office Solutions from Northern Trust, which would serve to eliminate dependency on spreadsheets, streamline custody reporting and introduce daily accounting and performance.

The OP&F sub-custodial contract with Northern Trust provides opportunities for the pension plan to extend their utilization of the bank beyond traditional asset safekeeping services. The sub custodial agreement contains provisions and fees to support foreign exchange trading, derivatives servicing and collateral management, and investment risk and analytic services which may include market data (benchmark), performance measurement, post-trade compliance, and private asset monitoring services. Securities lending is contracted under separate cover. In the case of Huntington National Bank, some of these services are offered but typically through third party affiliates.

In summary, our analysis concludes that existing (limited) services offered by Huntington National Bank and Northern Trust to OP&F are operational sound, form the basis of a highly collaborative relationship, and are supported by an effective scorecard and oversight program. While TOS owns the custodial contracts, OP&F is considered a partner to it, provides significant input to the RFP process and in the review of ongoing monthly and semi-annual scorecards. According to both custodians, OP&F leverages only a small portion of the service offerings of the banks. Detailed operating procedures are in place across all processes for each custodian and kept current through the Treasurer of State.

All parties view the currently defined service levels and scorecard reporting process as effective. It is noteworthy that Huntington National Bank is not equipped to support SWIFT at the present time, which lags industry standard practices in the critical area of transactional communications with external managers. While OP&F utilizes PAM for investment accounting, other oversight functions are primarily supported through spreadsheets. The TOS, custodians, and OP&F meet on a regular basis and the banks provide written monthly updates and update official scorecards semi-annually. The scorecard processes are considered industry leading insofar as they measure the custodians' performance in support of OP&F against the banks' overall performance across nine key support functions (Huntington National Bank) and twelve distinct support functions (Northern Trust). Both custodians are required to submit SOC reports to the Treasurer of State / Auditor of State. The Ohio Police & Fire 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 Seek custodial support in expanding oversight on both the quality and timeliness of external manager operational performance. Develop and publish an annual scorecard of operational performance of external managers and the custodians across pertinent categories to the board.

R3.4.1.2 Seek to aggregate banking communications and stage functional transition to the Front Office Solutions platform. Eliminate dependencies on spreadsheets for oversight.

R3.4.1.3 Monitor and encourage Huntington National Bank's conversion to the SWIFT platform. Work with external managers to transition to SWIFT as functionality becomes available.

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 contracts with Huntington National Bank (HNB) as custodian, and the HNB sub-custodian contract with Northern Trust for international securities services. We also reviewed contract addenda developed to support ancillary functions (i.e., FX) and separate agreements with Northern Trust for securities lending. Finally, we reviewed the CEM Cost Effective Analysis final reports from 12/31/2018 and 12/31/2020.

Structure and Fees Standards of Comparison and Findings

Structure and Fees Standards for 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 economic comparative analysis of services received. This is attributable to the fact that the bifurcated custodial support model essentially precludes OP&F from leveraging a broader and cost-effective, custodial relationship that can more efficiently combine multiple operational 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 previously described inherent limitations in outsourcing, the use of two custodian banks introduces additional levels of workload and associated costs on the part of the OP&F internal operations / accounting teams and OP&F IT. Examples include the necessity for an extra reconciliation between custodian books, internal accounting records and external manager records (where applicable) for externally managed public 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 custodial out-of-pocket fees and errors, especially when asset and cash movements are required between the two banks.

In the CEM Investment Cost Effective Analysis benchmark report for the five-year period ending on 12/31/2018, OP&F custodial costs were bundled with trustee fees, oversight costs, consulting and performance management costs and audit fees as part of a broader category referred to as Governance, Operations, and Support. In looking more holistically at the costs of custody, oversight, and performance – as these would represent both internal and external costs to maintain the current two-bank operating model and would traditionally comprise a bundled custodial outsource offer – it is noted that OP&F costs were almost double (3.0 bp versus 1.6 bp) the peer group. Further, the annual costs of these services rose approximately 25% between 2014 and 2018, representing the five-year period of the study. In a refreshed CEM study for the period ending December 31, 2020, the total costs of Governance, Operations and Support functions rose to 3.8bp or 2.2bp above the peer average. The subset of custodial costs, oversight costs and consulting and performance measurement costs rose an additional 6.7% over 2018 figures.

Unfortunately, as custodians have become more adept at blending and allocating their charges to asset managers across the multiple services and line items contained within them, it has become more challenging on the part of institutional investors (and their consultants) to gauge their comparative costs against peers. Despite the limited services that OP&F contracts from Huntington National Bank and Northern Trust, an example of this type of obfuscation is observable in how much the banks charge OP&F for transactional fees. According to Exhibit 3 – Fee Agreement – of the custodial contract, HNB, the custodian of the domestic publicly traded securities portfolio charges OP&F $6.00 for processing each depository eligible purchase or sale. (DTCC fee schedule charges are a fraction of that cost). In the sub-custodial agreement with Northern Trust, the bank charges OP&F $2.00 for depository eligible transactions and $6.00 for international purchases and sales. The comparative costs to settling international trades is widely accepted to be more expensive than the cost of settling domestic trades. In the case above, Northern Trust can offer this one specific custodial service at a lower price point than HNB, likely because of the bundled relationship (i.e., securities lending, F/X, valuations) that exists between the bank and OP&F.

TOS is commended for their use of third-party professional consulting support in both the development of RFPs and the custodial contract. The contract that TOS executed with HNB includes not only OP&F but also the Petroleum Underground Storage Tank Board and State Treasury Asset Reserve Separately Managed Account. The combining of legal entities within a custodial contract for the purpose of achieving more advantageous pricing based on a higher (aggregated) AUA basis is common; however, the arrangement with HNB is unusual in that there lacks a standard pricing model across all agencies participating under the contract. While difficult to confirm, the pricing model variability between the three entities hopefully delivers the most advantageous economic outcome for each participating agency.

With respect to custodial extended services, OP&F utilizes a contract addendum for foreign exchange and a separate agreement for securities lending with Northern Trust. OP&F use Amaces Consulting to benchmark their FX. NT provides monthly reporting to Amaces. NT also provides daily reporting of FX trades executed directly to OP&F. OP&F monitors FX conversions each day to ensure that all currency transactions fell within the contracted range. NT does not provide FX services for all external managers; some advisors perform the function on their own.

The securities lending agreement is effective in its requirements for collateralization, allowable percentage of securities to loan, revenue splits, and collateral pool characteristics. There is also an accompanying document that specifies investment guidelines for securities lending collateral. OP&F receives detailed reports from Northern Trust on a semi-annual basis and the investment staff prepares a detailed securities lending report for the Board. The contract and oversight processes are considered on a par with industry standards; however, a detailed review of the collateral pool should be conducted at the same frequency as other externally managed funds for compliance purposes.

OP&F no longer lends domestic securities held in separate accounts at the Huntington Bank, as its third-party lending agent, Key Bank, informed the pension plan of their intention to exit the securities lending business. With help from HNB, the domestic lending program was unwound in 2021. At the time of this fiduciary performance audit, OP&F has conducted some preliminary exploratory activities for lending domestic securities, but no decision has been made regarding contracting with a new third party agent.

Recommendations for Improvement

R3.4.2.1 Conduct a TCO (total cost of ownership) comparative analysis between the OP&F in-sourced investment accounting and oversight operating model and one that bundles asset safekeeping and other (currently insourced) services at major custodial banks. Include full breadth of operational, technological, and data services costs and considerations of both operational and investment risk. Expand analysis to include other offerings such as compliance monitoring, reconciliation, and external manager oversight.

R3.4.2.2 Include securities lending collateral pool in board quarterly compliance reviews of externally managed funds; NT engages Blackrock Aladdin to ensure that its collateral pool remains within OP&F's investment guidelines, so the output of that can likely be added simply to the existing report.

R3.4.2.3 Ensure that the Amaces consulting / benchmark analysis of FX provides OP&F with an opportunity to compare NT's performance in executing currency trades against external managers who perform it for themselves. Share results with the counterparties and board and make changes to specific authorizations for external managers to continue to execute their own currency trades as required.

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 OP&F and at Huntington National Bank and Northern Trust. Documentation reviews included banking contracts and investment management agreements, sweep account and DDA statements, Northern Trust Government STIF and Fidelity Government Money Market Fund 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 performance 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).[viii] 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 managing adverse selection impact risk.	Yes
The public pension plan conducts a periodic review of the sweep account	Yes

Cash Management Standards of Comparison	Findings
performance and overall STIF or money market fund statistics against other custodial and third-party comparative offers.	
Procedures are documented clearly describing both the operational and reporting aspects of the custodian in managing the sweep account and within 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	N/A

Conclusions

OP&F contracts cash management services from both Huntington National Bank and Northern Trust for domestic and international accounts, respectively. The services cover externally managed separate accounts. Northern Trust offers its clients multiple types of internally managed STIF accounts while Huntington does not have an internal STIF product. Instead, HNB offers clients an arrangement with third party asset manager money market products.

The cash management services provided to OP&F by Huntington National Bank 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 (NT) or money market funds (HNB).

On the domestic side, Huntington National Bank does not offer a commingled STIF investment product to OP&F and other institutional investment clientele. Through HNB, OP&F utilizes a third-party registered money market fund, Fidelity Government 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 Collective Gov't STIF and the Fidelity Government Money Market Fund, both Northern Trust and Huntington provide OP&F with cash balance information for their externally managed accounts, which enables the System to monitor the funds against maximum allowable cash levels as documented in investment management agreements. In the quarterly compliance summary documentation provided for this fiduciary performance audit, it did not appear that any of OP&F's external managers had violated cash limitations. Lastly, since both investment products are commingled, there is always a possibility that some securities contained within them would not be in strict adherence with the restrictions and investment policies set forth in the OP&F Investment Policy Statement.

The daily process between OP&F and Huntington National Bank is largely manual in nature. Each day by 2PM, OP&F issues a letter of direction to HNB. Approximately 90 minutes later, HNB conducts an end-of-day sweep of cash to the Fidelity Government Money Market Fund. The fund is extremely large (>

$100b AUM) and highly liquid. Therefore, the risk of adverse selection for OP&F and any single investor would be considered de minimus at best.

Recommendations for Improvement

R3.4.3.1 OP&F should conduct annual ongoing monitoring of the Northern Trust Collective Government STIF product and Fidelity Government 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 OP&F's percent ownership of the vehicle (as a preventor of adverse selection risk).

3.4.4 Custodial Oversight

Evaluate the ability of OP&F 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, OP&F staff who interact with the custody bank, including in the Investment Department, Finance, and Investment Accounting, and all OP&F 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 for 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 OP&F funds with the authority to hire the custodial banks for OP&F. The OP&F 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, OP&F must get the TOS staff to agree to address them.

Similarly, OP&F 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*, OP&F 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 OP&F staff in the development of the RFPs and in evaluation of proposals. The selection process resulted in OP&F receiving services from the custodial bank it wanted. However, OP&F 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, which produces a performance scorecard with ratings provided by each custodial bank, by OP&F, 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 statutory authority for the OP&F Board of Trustees to select the custodial banks is a lagging practice, as is the lack of authority for OP&F 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 OP&F 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 OP&F 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 OP&F 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 OP&F 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 OP&F 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 OP&F under the Ohio Revised Code and compared it with practices at peer state retirement systems in the U.S. We interviewed OP&F 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 OP&F's 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, by statute, 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
OP&F 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 OP&F.

Conclusions

Custodial Bank Selection

Ohio Revised Code Section 742.61 states that "The treasurer of state shall be the custodian of all funds under the control and management of the board of trustees of the Ohio police and fire pension fund, and all disbursements of such funds shall be paid by the treasurer of state only upon instruments duly authorized by the board and bearing the signatures of the chairperson and secretary of the board. The signatures of the chairperson and secretary may be facsimile signatures."

As a result of this statute, the contracting of custodial bank services is conducted on OP&F's' behalf by the Treasurer of State (TOS), who also oversees the ongoing relationship between OP&F and its custodial banks.

The most recent search was conducted by the TOS in a very collaborative and timely manner, and OP&F was satisfied with both the selection process and the outcome. However, this level of collaboration has not always been the case and OP&F 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*, OP&F 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 OP&F. 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 OP&F.

Recommendations

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

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

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

4. Legal Compliance

The Contractor will evaluate the adequacy of OP&F's 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; and
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);
- Reports on fees and legal services obtained over the past three years;
- Ethics training materials used by system;
- Compliance reports on ethics training for Board members and staff;
- Interviews with legal, compliance and investment staffs; and,
- FAS project team experience and the FAS knowledge base.

The FAS team utilized interviews with internal counsel and the investment staff and peer information on level of legal staffing and external fees. 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; and,
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

OP&F legal staff appear to be well qualified; outside counsel firms are also experienced legal advisors to public pension funds in their respective areas of expertise.

OP&F has a General Counsel and a roster of two staff attorneys with relevant functional expertise, two paralegals and two legal secretaries. This is consistent with peer staffing levels. Outside counsel has been retained for matters where internal counsel does not have the necessary bandwidth or expertise. Fiduciary counsel is in place to be used when its services are needed. Overall legal fee levels appear to be reasonable and in line with peer expenditures.

OP&F should adopt a policy that provides for a formal tax compliance program that establishes OP&F standards for receipt of periodic assurance from outside tax counsel with respect to IRS compliance.

Due to the IRS' termination of its 5-year remedial amendment cycle, the last OP&F determination letter expired in 2019. OP&F does have tax counsel monitor compliance issues. However, it does not appear that OP&F has engaged outside counsel to provide written assurance with respect to its compliance status since expiration of the determination letter. While OP&F has obtained annual Certificates of Residency from the IRS for foreign tax withholding and reclaim purposes, those Certificates do not provide IRS confirmation of current qualification as a tax-exempt public pension fund under current IRC provisions.

Legal staff should consult with the Attorney General to ensure that satisfactory expertise and processes are in place to enable OP&F recoveries on foreign corporate fraud claims in litigation outside the US.

We were unable to confirm that the necessary expertise and processes are in place to implement provisions of the Securities Litigation Policy regarding recovery of OP&F legal claims in foreign litigation. Because evaluation of foreign claims and participation in foreign litigation is often necessary to recover on foreign corporate fraud claims, a different set of legal expertise and processes is needed. OP&F and the Attorney General should reach out to other public pension funds to identify best practices for evaluation and potential consideration by the Board.

OP&F should consider establishing an independent compliance function and compile a compliance manual as the repository for compliance policies, processes and assigned responsibilities.

There are many compliance functions that reside outside of the remit of the legal department. OP&F does not have a centralized and independent compliance function, with an organization-wide view of the various compliance functions. While many compliance functions outside of transaction documentation are performed by the Chief Audit Executive and there is a comprehensive set of policies and contractual requirements, OP&F compliance functions have not been organized into a cohesive framework. While it is not uncommon amongst peers to combine compliance and internal audit functions, leading practice is to separate the two functions in order to maintain independence of the internal audit function. OP&F should consider establishing a compliance function separate from internal audit and create a compliance manual that is the repository for compliance policies, compliance processes and ownership of related responsibilities.

OP&F should seek legislative authority to select external legal counsel for investment and fund management matters or engage with the Attorney General about a Memorandum of Understanding that establishes a process which recognizes the fiduciary duties which OP&F has in selection of and

contracting with counsel.

Section 742.09 of the Ohio Revised Code provides that the attorney general shall be the legal counsel to the Board. The attorney general's office has assumed responsibility for selecting outside counsel and approving billing rates, in its sole discretion. OP&F does not have the authority to control engagement its own counsel.

Although OP&F does not see the current process as presenting any problems, it is a lagging practice amongst peer funds and could become problematic if personnel or practices change. Selection and contracting with external counsel are typically seen as fiduciary functions. This mismatch between OP&F's responsibilities as a fiduciary and its authority presents a significant governance risk.

4.1 System Legal Compliance

Evaluate legal compliance and adherence to IRS regulations.

Expectations

Public pension plans like OP&F are typically considered governmental plans under Section 414(d) of the Code and receive favorable tax treatment as a qualified employee retirement plan under Section 401(a) of the Code. Other laws may also confer tax exemption, such as IRC section 501(a) or implied statutory immunity. It is important for OP&F to ensure it meets the applicable tax qualification requirements.

Public pension plans that obtain periodic confirmation of compliance with tax qualification requirements from either the IRS or outside tax counsel minimize the risk that the IRS will disqualify the plan on audit because the plan document does not satisfy the applicable tax-qualification requirements. Peers typically have a policy and process in place to address this. We note that in 2016 the IRS limited its determination letter process, except in certain limited circumstances.

Employee retirement plans qualified under section 401(a) of the Code must satisfy the Code's requirements both in form and operation. Plans would previously request determination letters from the IRS to confirm that the form of the plan satisfies the Code's requirements. OP&F 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 plans like OP&F now typically rely on outside legal counsel to advise on changes to federal tax law, which is consistent with OP&F' practices. However, receipt of periodic written assurance of compliance from tax counsel should be explicitly included.

Public pension plans like OP&F may also have tax reporting obligations with respect to any entities wholly owned by the pension plan, such as real estate title holding companies.

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, OP&F applied for and received a favorable determinations letter from the IRS with respect to the defined benefit plan. The determination letter confirmed that the plan met the requirements of section 401(h) of the Internal Revenue Code as a tax-exempt public pension plan under section 401(a). However, due to the IRS' 5-year remedial amendment cycle, the determination letter expired in 2019. OP&F has engaged tax counsel to monitor compliance and obtained annual Certificates of Residency from the IRS for foreign tax withholding and reclaim purposes. However, those Certificates do not provide IRS confirmation of current qualification as a tax-exempt public pension fund under current IRC provisions.

To our knowledge, OP&F does not use title holding companies that might present added tax treatment issues.

While we have no reason to believe that OP&F does not still qualify as tax exempt under the IRC, this FAS review is not a tax audit. Federal laws and regulations, as well as OP&F legislation and practices, regularly change. The consequences of losing tax exempt status could be severe for both employers and plan participants. OP&F should establish a policy regarding periodic receipt of written tax compliance assurances from tax counsel.

Recommendations for Improvement

R4.1.1 Adopt a policy that establishes standards for periodic receipt of written assurance of compliance with IRC requirements.

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 of and internal expertise within legal departments at retirement systems vary greatly depending on the size of the system, the complexity of its operations, and whether or not investments are managed internally. Similar size public retirement systems without significant internal management typically have a General Counsel (GC) and a few staff counsel, each with specific legal subject matter expertise on areas relevant to the systems operations (e.g., benefits, investments, litigation, etc.). At some funds, the compliance function is also located in the legal office. The GC 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 GC was appointed by and reported to the executive director. Nevertheless, the position nearly always has "dotted line" reporting obligations to the board whenever legal compliance, Executive Director conflicts or fiduciary obligations to the fund and its beneficiaries are involved. The GC usually attends all board and most committee meetings as the board's advisor and primary counsel on state and local pension laws.

It is a prevailing practice for public pension funds to engage outside litigation, tax, and investment counsel, as well as other outside legal experts when circumstances require specific legal expertise. It is also 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. Fiduciary counsel can often provide counsel to the board on matters when the General Counsel has a conflict. In addition, outside fiduciary counsel typically advises the boards of multiple systems and has a broad understanding of peer practices. Fiduciary counsel will often also assist with fiduciary and governance training.

Legal Counsel Standards of Comparison and Findings

Legal Counsel Standards of Comparison	Findings
The legal function is staffed appropriately.	Yes
The Board has access to its own independent counsel, as necessary.	Partial
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.	Partial
Legal fees appear to be reasonable in comparison to peers.	Yes

Conclusions

OP&F has a General Counsel and a roster of two staff attorneys with relevant functional expertise, two paralegals and two legal secretaries. This is consistent with peer staffing levels.

OP&F legal staff appear to be well qualified. Outside counsel firms are also experienced legal advisors to public pension funds in their respective areas of expertise. They have been retained for matters where internal counsel does not have the necessary bandwidth or expertise. Fiduciary counsel is in place to be used when its services are needed. Although this FAS review was not a fee audit, overall legal fee levels appear to be reasonable and in line with peer expenditures.

However, section 742.09 of the Ohio Revised Code provides that the attorney general shall be the legal counsel to the Board. The attorney general's office has assumed responsibility for selecting outside counsel and approving billing rates, in its sole discretion. OP&F does not have the authority to control engagement its own counsel.

Although OP&F does not see the current process as presenting any problems, it is a lagging practice amongst peer funds and could become problematic if personnel or practices change. Selection and contracting with external counsel are typically seen as fiduciary functions. This mismatch between OP&F's responsibilities as a fiduciary and its authority presents a significant governance risk. We recommend that the Board either seek a statutory change or engage with the Attorney General over negotiation of an acceptable Memorandum of Understanding that better aligns fiduciary responsibilities with delegated authority. See also the analysis for Recommendation 1.3.2.

Recommendations for Improvement

R4.2.1 **OP&F should seek legislative authority to select external legal counsel for investment and fund management matters or engage with the Attorney General about a Memorandum of Understanding that formalizes a process which recognizes the fiduciary duties which OP&F has in selection of and contracting with counsel to serve as precedent in future Attorney General transitions. See also Recommendation 1.3.2.**

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 742.103 of the Ohio Revised Code (the "Code") requires the OP&F Board, in consultation with the Ohio Ethics Commission, to develop an ethics policy governing the Board and OP&F employees. The Board has accordingly adopted a Board ethics policy, standards of conduct and travel reimbursement policy (Governance Manual and Admin. Code 742-16-01) and employee ethics policy. The Code also requires the Board to periodically provide ethics training to Board members and employees. OP&F provides regular training sessions that satisfactorily implement that requirement.

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.	Yes

Conclusions

The Board has adopted a Board ethics policy, standards of conduct and travel reimbursement policy (Governance Manual and Admin. Code 742-16-01) and an employee business ethics policy. The Board is provided with onboarding and annual ethics training and receives additional training through the combined education program with other Ohio public pension funds. Board member compliance with the statutory and policy requirements is tracked. OP&F employees are also provided with new hire and annual ethics training and attendance is documented by Audit Executive Officer, with results reported to the Executive Director. The FAS review did not identify any material noncompliance issues. See also the Conclusions and Recommendations in sections 1.6 and 4.4.3.

Recommendations for Improvement

No recommendations at this time.

4.4 Board and staff compliance

Evaluate Board and staff compliance with legal requirements.

Expectations

As noted elsewhere, the OP&F Board has retained certain investment authority (as set forth in the Investment Policy and Guidelines), including selection and termination of external investment managers and general partners. Many other public pension plans have delegated almost all investment authority to staff. 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.

Compliance tasks also extend beyond investments to include assurance on compliance with standards relating to ethics, conflicts, reporting, cost reimbursement, statutory mandates and other matters. While many peers combine compliance with internal audit, leading practice is to keep them separate in order to preserve the independence of the internal auditor, who may also be responsible for auditing compliance. When not combined with internal audit, peers vary on where the compliance function reports, with some reporting to the executive director, general counsel, audit committee or elsewhere. In any event, compliance responsibilities should be delineated and assigned.

FAS reviewed a sample of the transaction files to identify compliance with the following legal requirements and policies, though some requirements and policies were not applicable to all investments:

- Fully executed documents in transaction file;
- Conflicts of Interest language;
- Fiduciary duties;
- 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.

Summary of Transaction Reviews										
Transaction Name	**Barings International Small Cap**	**Brookfield Infrastructure IV**	**Clearlake Capital Partners VII**	**Crayhill Principal Strategies Fund II**	**Harding Loevner**	**KKR Diversified Core Infra**	**Prologis**	**Raven Asset-Based Credit Fund II**	**TA XIV**	**VLSHRE OP**
Asset Class/ Investment Strategy	**International Equity**	**Infrastructure**	**Private Equity - Buyout**	**Private Credit**	**International Equity**	**Infrastructure**	**Real Estate**	**Private Credit**	**Private Equity - Buyout**	**Real Estate**
Due Diligence Memorandum	X	X	X	X	X	X	X	X	X	X
Consultant Recommendation	X	X	X	X	X	X	X	X	X	X
Signed Documents (LPA, Subscription Agreement, Side Letter, IMA (as applicable)	X	X	X	X	X	X	X	X	X	X
Conflicts of Interest	X	X	X	X	X	X	X	X	X	X
Fiduciary Duties	X	X	X	X	X	X	X	X	X	X
Bonding/Insurance	X	X	X	X	X	X	X	X	X	X
Ethics Laws	X	X	X	X	X	X	X	X	X	X
Iran/Sudan Policy	X	X	X	X	X		X	X	X	X
Notice of Change in Strategy or Staffing		X	X	X		X	X	X	X	
Annual Audited Financials	X	X	X	X	X	X	X	X	X	X
Reporting at least quarterly	X	X	X	X	X	X	X	X	X	X
ILPA Reporting [1]	X	N/A	X	N/A	X	N/A	X	X		X
No Contingency Payments/Placement Agent Fees	X	X	X	X	X	X	X	X	X	X

[1] ILPA reporting may not be obtained in negotiations or required in all circumstances, due to the manager's internal reporting practices or fund strategy.

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.	Yes
A Chief Compliance Officer leads efforts to monitor compliance and has ready access to the Board, as necessary.	Partial
The compliance function is adequately staffed or is supplemented by external resources to meet requirements or obtain specialized capabilities.	Partial

Conclusions

No systemic weaknesses were found in implementation of legal compliance responsibilities in the FAS review of transaction documents. However, there were several instances where standard OP&F contract provisions were not found in transaction documentation. That does not appear to require any policy changes, as transactions often vary in regard to the relevance or importance of specific clauses and negotiation of contracts can involve trade-offs. Nevertheless, legal staff should confer with outside transaction counsel to ensure that standard OP&F provisions are incorporated into transaction documentation to the extent possible and that any departures are explained.

In addition, we were unable to confirm that the necessary expertise and processes are in place to implement provisions of the Securities Litigation Policy regarding recovery of OP&F legal claims in foreign litigation. Because evaluation of foreign claims and participation in foreign litigation is often necessary to recover on foreign corporate fraud claims, a different set of legal expertise and processes is needed. OP&F and the Attorney General should reach out to other public pension funds to identify best practices for evaluation and potential consideration by the Board.

Also, there are many compliance functions that reside outside of the remit of the legal department. OP&F does not have a centralized and independent compliance function, with a Compliance Officer that has an organization-wide view of the various compliance functions. While many compliance functions outside of transaction documentation are performed by the Chief Audit Executive and there is a comprehensive set of policies and contractual requirements, OP&F compliance functions have not been organized into a cohesive framework. Assignment of compliance duties to internal audit is not uncommon amongst peers but is a disfavored practice because it presents the appearance of a conflict for internal audits of the compliance function. OP&F is now large and complex enough to consider establishing a compliance function that is independent of internal audit and create a compliance manual that is the repository for compliance policies, compliance processes and ownership of related responsibilities.

Recommendations for Improvement

R4.4.1 **Legal staff should confer with outside transaction counsel to ensure that standard OP&F provisions are incorporated into transaction documentation to the extent possible and that any departures are explained.**

R4.4.2 **Legal staff should consult with the Attorney General to ensure that satisfactory expertise and processes are in place to enable OP&F recoveries on foreign corporate fraud claims in litigation outside the US.**

R4.4.3 **OP&F should consider establishing an independent compliance function and compile a compliance manual as the centralized repository for compliance policies, processes and assigned responsibilities.**

5. Risk Management and Controls

The Contractor will evaluate the risk review and control procedures of OP&F. The Contractor will also evaluate the OP&F 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 system 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; and
- 5.6 The adequacy of the record-keeping system.

Risk Management and Control Review Activities

We reviewed OP&F's approach to enterprise risk management and, 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 Administration/Audit Committee Chair, Executive Director, Chief Audit Executive, Deputy Executive Director, Chief Investment Officer, Controller, Procurement Manager, IT Director, 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 (CAFR or ACFR) which was audited by the System's external CPA firm, RSM US 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 (IA) Manual, and a sample of Internal Audit reports. Our activities do not replace a formal external quality assurance review (QAR) performed in conformance with the 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 contracts covered in another section of this report) for compliance with policy and leading practices.

Sources of Information

We utilized the following sources of information to complete our assessment and comparison to leading, prevailing and lagging practices:

- System risk policies and procedures;
- Procurement policy and procedures and process map;
- Description of financial reporting and monthly closing processes;
- External audit reports for prior three years, including standard auditor communications;
- Operational risk reports;
- Internal audit charter, manual, plans and reports;
- Internal Audit Independent Validation Report
- Record-keeping policies, procedures, and training documentation;
- Interviews with Administration/Audit Committee Chair, Executive Director, Chief Audit Executive, Deputy Executive Director, Chief Investment Officer, Controller, Procurement Manager, IT Director, 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

OP&F has implemented a conventional approach to enterprise risk management.

OP&F's enterprise-wide risk management framework is embodied in its Risk Management Policy (RMP) revised Feb 2021. The process is facilitated by the Chief Audit Executive (CAE). The operational risk assessment process is consistent with prevailing practices in that it uses subjective assessments of inherent risk (impact and probability), the effectiveness of controls and residual risk. However, subjective assessments have proven to be unreliable and inevitably biased.

OP&F would benefit from a simpler approach built upon an enterprise performance and risk management approach.

The current process should be replaced by a much more efficient, dynamic, and objective reporting process that builds on the excellent operational performance reporting already done by OP&F. The process should be built-in to the way OP&F runs its business while leveraging the attention given to performance that already exists throughout the organization.

A more effective and simpler approach would be to build on the exception-based performance reporting already used by OP&F in much of its operations.

This would require the adoption of a clear definition of risk as the potential for an unacceptable difference between actual and expected performance regardless of cause. This definition would be more consistent with OP&F's existing definitions of investment and actuarial risk and would harmonize the understanding and approach to risk across the enterprise i.e., holistically.

Reporting to the Board could also be streamlined through the use of exception reporting based upon tolerances approved by the Board.

The Board should approve acceptable ranges of variation of key performance indicators from expected. These would form tangible risk tolerances. Exceptions with variance analysis should be escalated to the Board. This would significantly improve both Board and Executive oversight of performance and risk.

Oversight by Board committees could be improved with an enterprise performance and risk approach.

Like many systems, much of the time spent by OP&F's committees is with regard to oversight responsibilities. If adopted, the above recommendation for enterprise-wide use of exception-based key performance / risk indicator reporting could help streamline reports to committees and thus the OP&F Board.

The ability of trustees to navigate board books for executive summaries to the detail behind the analysis could be greatly enhanced.

Combined with links to supporting documents, high level views could be "drilled down" to greater detail if, and when, needed. The verification function of Internal Audit could and should be more closely aligned to verify the reliability of such reports. Standing reports to the Board should also be regularly reviewed to assess their continuing utility and revised or terminated.

The essential components of the OP&F financial control structure are consistent with prevailing peer pension and benefit systems, with one exception.

The essential components of the control structure are appropriate to the organization's purposes. We found that OP&F has prevailing financial accounting and reporting policies and procedures in place.

OP&F should move the Investment Accounting function from the Investment Office to Finance to improve segregation of duties.

The exception to prevailing peer practice control framework at OP&F is the reporting relationship of the Investment Accounting function. Because Investment Accounting is reporting on the performance of the fund, and by extension the performance of the CIO and his staff, segregation of duties would require that the Investment Accounting function report independently of the CIO and the Investment function. OP&F is aware of this concern and has assessed it but concluded that there is no inherent conflict because the calculations of Investment Accounting do not impact compensation. We nonetheless recommend that Investment Accounting report to the CFO to eliminate the appearance of conflict.

OP&F financial reporting and financial statements are sound and consistent with prevailing practices.

The audited financial statements appear to present an accurate financial picture of the organization at a point in time and for the most recent fiscal year. Nothing came to our attention that would cause us to question the integrity of OP&F's audited financial statements and the process used to report them. Its annual financials are audited in accordance with generally accepted auditing standards by a qualified firm in whose unmodified opinion the statements were presented fairly in all material respects.

OP&F procurement policies and processes are fundamentally sound.

The purchasing/procurement activities of OP&F are governed primarily under its Procurement Policy, which provides for written acknowledgment to the Procurement Manager by all employees and provides a summary description of the roles of the (eight listed) various parties who may be involved in the procurement process. There are numerous implementation controls and operational procedures to ensure compliance. Procurement cards are used to provide for the rapid acquisition of primarily low dollar value items and/or services, a prevailing peer practice.

The OP&F Finance and Accounting function is capable, and the accounting systems appear to be effective.

The OP&F Finance and Accounting function is comprised of 24 staff, with the Controller as supervisor and reporting to the Deputy Director. There are several staff who hold the Certified Public Accountant license. OP&F has recently upgraded IT administrative systems to Microsoft Dynamics 365, allowing improved integration of financial workflows and accounting.

Internal Audit appears to function well, although we are concerned it may be under-resourced.

The Administration/Audit Committee and the CAE should discuss the ideal scope and frequency of internal audits, independent of auditing capacity, and determine if additional resources are warranted. This should consider the administrative responsibilities cited above. Alternatives to hiring additional internal audit staff could include: 1) hiring an experienced internal audit consulting firm to conduct specific audits on a project basis under contract; or 2) defining specific Agreed Upon Procedures with the external audit firm.

OP&F has a substantive policy for keeping, retaining, and destroying important records and preserving a trail when records are moved to storage, scanned or destroyed.

OP&F provides mandatory annual training in its Records Management Program. The training requires all staff to attend and complete a certification after the training. There are 11 Department Coordinators who are responsible for leading, planning and managing the program.

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 risk 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.

Current State

According to OP&F's Risk Management Policy (RMP), risk is overseen by the Executive Director reporting to the Administration/Audit Committee (A/AC). For example, the RMP states the Executive Director is to "Ensure that the appropriate structure, processes and competencies are in place across OP&F in order to address the requirements set out in this policy" and "Report[s] to the Board of Trustees and the Administration Audit Committee on material risks."

The RMP states further that the A/AC is to "Monitor and ensure the appropriate application of the risk management framework within the business units." Appropriately, the Executive Director is responsible for managing enterprise risks through the Business Units. The Business Units are also responsible for risk assessment and risk management throughout the organization. As the agent of the full Board, the A/AC "Monitor[s] and ensure[s] the appropriate application of the risk management framework within the business units."

Each category in the Risk Management Policy also lists many controls that comprise the system's processes for managing the potential risks (causes.) These controls are tested by Internal Audit if needed based on IA's judgment as it implements its annual audit plan.

Management's Role in the Risk Management Process

The RMP describes "potential operational risks and OP&F's management of the risks". As part of its risk management process, OP&F maintains a risk register starting on page 14 of the Risk Policy that identifies quite literally several hundreds of "potential risks" across 15 broad categories of Operational Risks and Controls. The list comprises 49 pages in the RMP.

At the core of OP&F's risk management process is the requirement to identify and assess risks across the enterprise. The task of risk assessment is delegated to management with help from the CAE who facilitates the assessment.

The business units revisit potential causes of risk and related controls each year with the CAE, and the Executive Director reports to the Board and A/AC on material risks.

Management uses Internal Audit's (IA) risk assessment (see next section) to continue their risk discussions with staff members. Annually, Internal Audit requests management complete the document to review the audit universe and rate the risks.

IA's risk assessment process provides an additional opportunity to continue risk discussions with their team. Management's review of the IA Risk Assessment provides an opportunity to make sure the audit universe is complete and to determine if they are considering all material risks during their assessment.

In addition to their role on the IA audit Risk Assessment, management considers operational and performance risk.

1.) Management meets with their staff weekly, monthly (or more frequently when needed) to discuss and prioritize risk. Departmental risk discussions roll up into the risk discussions that take place during the weekly Directors Meeting with the Executive Director.

2.) Risk scenarios are performed and tested to determine readiness.

3.) Quarterly 'All Staff' meetings are held to communicate strategic goals, expectations and progress with team members.

4.) Additional on-going risk evaluations are performed in the investments area.

Internal Audit's Role in the Risk Management Process

The role of Internal Audit is to independently review the implementation of the Risk Management Policy with the primary purpose of identifying audits to be performed each year and to provide assurance on the framework. As part of the process, the risk register is subjectively assessed periodically by each Business Unit and also by the CAE regarding estimates of the likelihood of occurrence and consequence, or impact (including velocity – defined several ways in terms of speed of reaction and speed of recovery), vulnerability, volatility, and correlation in the event of occurrence." The OP&F Risk Management Policy states, "The Internal Audit risk assessment optimizes the assignment of audit resources through a comprehensive understanding of the audit universe and the risks and impact associated with each item within the universe."

The CAE also participates in the weekly director's meetings. Operational activities, status of projects and risks are discussed during the meetings. The CAE performs additional research on any issues or requests a meeting with the department director to gather background information. This may result in adjustments to the risk assessment and audit plan. The audit plan is updated throughout the year to address emerging risk or new items that need to be addressed. For example, if the CAE becomes aware of an operational deficiency that needs attention, it may be added to the audit plan and delay a "lower risk" process to a later time. The Administration/Audit Committee may want a specific area reviewed (based on stakeholder feedback) and the plan will be adjusted to include the project.

The Executive Director (ED) participates in the Risk Assessment process from beginning to end. The CAE meets with the ED to discuss the strategic objectives and any concerns or potential projects that should be considered in the upcoming year. The ED completes a questionnaire and meets again with the CAE to discuss the results. During the final phase, the CAE meets with the ED to review the full risk assessment results, and to discuss the heat map and proposed audit plan.

The CAE facilitates changes to the RMP document and presents the revised document to the Board of Trustees. Based on the roles defined in the RMP, the Executive Director should make the report to the Board and A/AC on material risks. Internal Audit needs to be independent of the organizational enterprise risk management policy. Presenting the revised RMP to the Board gives the appearance of internal audit ownership and approval, and this raises the appearance of conflict and a false sense of reliability that the CAE 'owns' the RMP and has approved management's risk assessment.

Holistic Risk Standards of Comparison and Findings

A holistic approach to risk management in operations, reporting and compliance includes:

- Performance and risk are inseparable.
- Performance risk is built into the way the enterprise runs its business (strategic performance and risk is addressed by effective implementation of the Strategic Plan; reputational risk is addressed by effective management of strategic and operational risks);
- There is high situational awareness of what is vitally important (identification of vital functions and related 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 through near-real-time dashboards);
- Exception-based reporting for timely escalation as required, together with root cause analysis of significant variations;
- Appetites / tolerances for risk are clearly established and approved by the Board;
- Preparedness for inevitable uncertainties / disruptions includes the use of Failure Modes and Effects Analysis (FMEA) to identify and prevent potential causes of future failure; and
- Reliability of performance risk reports is independently verified by Internal Audit and third parties.

Holistic Risk Standards for Comparison	Findings
Risk is clearly defined.	Partial
Performance and risk are inseparable	No
The use of subjective estimates of impact and probability (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 in the way the system runs its business (strategic performance and risk is addressed by the strategic plan).	Partial
There is high situational awareness of what is 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 and risk reporting process is timely, dynamic and consistent.	No
Exception-based reporting provides timely escalation as required.	No
Performance 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 FMEA.	See Section 6.8
Cyber-security is robust.	See Section 6.7
The reliability of performance and risk reports is independently verified by Internal Audit and/or third parties.	Partial See Section 3
Responsibility for oversight of performance and risk has been clearly assigned to a committee within the board.	Yes
Responsibilities for assurance and reassurance are clear.	Yes
Underlying assumptions are systematically identified and challenged as part of the strategic planning process.	Partial
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, is part of the strategic planning process.	Partial
• Vital functions performed by the system	Yes
• Vital signs for measuring the state of health of those functions.	Partial
• Expected performance and tolerances for actual variation from expected (upper and lower control limits) (i.e., risk tolerances).	Partial
• The escalation criteria and process for alerting the board when actual performance begins to approach or exceed established tolerances.	Partial
There is effective oversight of holistic performance and risk.	Partial
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.	Partial

Conclusions

There are three principal sources for risk management frameworks that provide standards for comparison. These are the Committee of Sponsoring Organizations of the Treadway Commission ("COSO")[ix], the International Standards Organization ("ISO")[x], and the Basel Committee on Banking Supervision ("Basel").[xi] The approach currently used by OP&F most closely resembles the COSO model, which views risks as events that affect the achievement of objectives; uses risk universes, assesses individual risks in isolation and are therefore uncorrelated; uses subjective assessments of impact, probability and velocity; and, performs risk assessments annually.

OP&F has adopted a conventional COSO-based risk management framework. However, like many organizations in both the public and private sectors, OP&F appears to have struggled to effectively utilize that framework to create, maintain and present an effective holistic view of risk.

OP&F takes a prevailing view of enterprise risk management in that risks are managed across the organization by OP&F's Business Units as they should be. While terms that are *related* to risk are defined in the OP&F Risk Management Policy (RMP), the meaning of risk itself is not defined. Unfortunately, the conventional view of risk and the one adopted by OP&F inadvertently separate risk from performance. This is embodied in OP&F's use of risk universes and risk register which are more accurately described as potential causes rather than risks per se.

Despite its prevalence, the method of risk assessment employed by OP&F has several downsides and flaws, including the inherent subjectivity of the estimates and inevitable individual biases.

The prioritization of risk for internal audit is apparently the primary purpose of the risk assessment. Otherwise, the risk assessment is time consuming, static, and subjective and appears to have little practical purpose for daily management (decision-making) of the organization. It is unclear what other management or Board actions (if any) are taken as a result. Management and staff already manage risk every day in everything they do. The current enterprise risk management process (although prevalent) does not appear to add value to that process.

Current risk reporting has limited visibility beyond the A/AC and thus does not appear to contribute to organizational learning given the delays in feedback on organizational performance (annual) and its narrow distribution. With the exception of the asset allocation process, we are not aware of any systematic process to challenge underlying assumptions as part of the strategic planning process, e.g., people will come to work; the workforce will be stable; inflation will remain low.

Assurance of the reliability of performance reporting is conducted independently in some areas, e.g., by third party reviews but this should be a mandate for all key performance metrics. Please see Section 3 for additional discussion and recommendations.

Our Standards for Comparison represent practices that provide the necessary foundation for OP&F to move from the prevailing ERM (COSO) framework toward leading practices. Therefore, the significant number of "No" or "Partial" conclusions is not necessarily a reflection of poor performance on OP&F's part but is indicative of the proposed direction and recommendations to develop a more holistic and practical view of risk.

The current risk identification and assessment process should be replaced by a more efficient, dynamic, and objective reporting process that builds on the excellent operational performance reporting already done by OP&F. The process should be built-in to the way OP&F runs its business while leveraging the attention given to performance that already exists throughout the organization.

While much of the COSO Framework is applicable to public retirement systems, Basel offers a more practical definition and approach to operational risk and avoids some of the pitfalls inherent in COSO which relies heavily on subjective estimates of impact and likelihood. Pension systems should still prepare for unlikely risks that have potentially high impact and are relevant to the business. Using a Basel-based definition for operational risk would offer an approach better suited to a public retirement system such as OP&F:

> 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."[xii]

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, operational risk is the potential for an unacceptable difference between actual and expected performance regardless of cause (internal or external). Operational performance and risk should be understood as inseparable.

Cheiron Inc (actuaries), for example, identify that some of the "primary risks to pension plans include:

- Investment risk;
- Longevity and other demographic risks;
- Benefit change risk;
- Contribution risk, (e.g., due to declining workforce numbers); and
- Assumption change risk."[xiii]

For example, *Investment Risk* is the potential for investment returns to deviate from what is expected, thus producing negative returns. Inflation risk is the potential for actual inflation to be significantly different from the expected rate of inflation.

There is much to be leveraged from existing Investment, Member Services and Operations reporting compared to the use of subjective guesstimates. Currently, Manager Compliance Reports and Operating Budgets vs. Actual list but do not highlight exceptions or provide variance analyses. However, the basic ingredients to transform current performance reporting into a leading practice are present. This is discussed this in greater detail below.

The basics of OP&F's ERM approach are prevalent in the industry and public companies but are insufficient for on-going effective holistic risk management. Likewise, an anonymous survey of OP&F personnel management is not conducted periodically to gauge their perspective of the *control* environment, e.g.,

- integrity and ethical values,
- competence of OP&F''s management and staff,
- management's philosophy and operating style,
- authority, responsibility, and accountability, and
- direction provided by the board.

OP&F's subjective assessment of risk results in ratings scored to two decimal points. This level of "precision" can lead to a false sense of accuracy and over-confidence in the results. OP&F uses a model of inherent risk, less the effectiveness of controls, resulting in residual risk. This model is patterned on one developed by the insurance industry where the value of assets, less the cost of insurance equals the residual risk, i.e., the deductible. Premiums are calculated based on loss experience and actuarial calculations are based on a large body of cause-effect relationships. However, the non-insurable risks of the "future" have none of these characteristics. The related subjective "guestimates" of inherent risk, the effectiveness of controls, and of residual risk are inevitably biased and should be avoided. They are, by their very nature, unreliable and typically result in misleading estimates (over / under exposure).

Overall, OP&F could benefit from a more systematic, comprehensive and coherent and yet simpler approach. OP&F 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.

OP&F has many of the building blocks in place to transform its existing enterprise risk management (ERM) policy and process into a practical enterprise performance risk management system. See the example OP&F Member Services Vitrax dashboard below. This is an example of leading practice, which if applied more broadly and consistently to all vital functions, would address the majority of our conclusions and recommendations and significantly improve board and executive oversight.

Future State

The understanding of risk begins with the definition of risk, i.e., "the potential for an unacceptable difference between actual and expected performance regardless of cause." For example, funding risk is the potential that assets are insufficient to cover liabilities in the long-term regardless of cause. Investment risk is the risk that actual performance will be unacceptably less than expected performance regardless of cause. A similar approach should be taken across all of the system's Operational Categories. Strategic risks should be addressed in the System's Strategic Plan and subsequent monitoring should focus on performance against the Strategic Plan goals with the risk being that the goals are not achieved.

Since many of OP&F's reports already compare actual to expected performance, an exception-based approach can eliminate potential confusion without much additional work. The key is to adopt a definition of risk that maintains a clear and inseparable relationship between performance and risk (setting strategic risk aside for the moment).

As noted above, this transition should not require a significant amount of extra work and, in fact, should reduce workload while improving focus. An example is shown below using the existing RMP framework that utilizes a performance and exception-based view of risk by a reorganization into vital functions with corresponding vital signs and objective key performance indicators to the extent practical. In some cases, qualitative measures may be necessary while more quantitative approaches are developed.

Reputational risk should be addressed adequately through effective strategic and operational risk management. The proper framing of risk is helpful to identify key performance indicators necessary for effective risk management.

Example Vital Functions / Vital Signs

The example chart shown below could be used to develop an enterprise-wide performance dashboard.

Vital Functions (Alpha Order)	Vital Signs	Example Key Performance Indicators and Tolerances (TBD)
Actuary	Assumptions Assets/Liabilities Computer Algorithm Data	Testing and validation Experience reviews
Board of Trustees	Board Governance Administration/Audit Committee	Self-evaluation Third party reviews
Business & Continuity Planning	Information Security Data Integrity Data Center Software Management Systems Acquisition/Development Mobile Devices Phone & E-mail Systems Records Management Imaging Mail	Operational metrics
Communications	Planning Publications Website	Communications Surveys
Consultants	TBD	Performance evaluations
External Audit	TBD	Performance evaluations
Finance	Accounting and Reporting Budgeting Accounts Payable Check Processing Unclaimed Funds Petty Cash Fixed Assets Insurance Cash Receipts Accounts Receivable Payroll Employer Billing/ Accrued Liability Employer Penalty Processing Employer Education IRS Compliance Reporting (1099s) Purchasing Practices	Operational reports

Vital Functions (Alpha Order)	Vital Signs	Example Key Performance Indicators and Tolerances (TBD)
	Purchasing Contracts/POs	
Human Resources	Recruiting, Development, Retention Payroll	Operational reports
Internal Audit	No sub-category listed	
Investments	Bank Custody Investment Accounting Investment Management Fees Investment Manager Hiring/Review Investment Performance Securities Lending Cash Management/Forecasting Investment Holdings	See Investment reports
Legal	TBD	Evaluations
Legislative	TBD	Evaluations
Management	Executive Management Managing Employees Segregation of Duties Strategic Planning	Operational metrics / reports
Member Services	Call Center Member Education Enrollment of Members Enrollment Data Maintenance of Member/Retiree Data Defined Benefit Programs DROP Death/Survivor Benefits Disability Benefits Member Statements Service Credit Purchases/Transfers Refunds/Withdrawals Retirement Estimates Benefit Payments Pre-employment Physicals Health Care Stabilization Fund Health Care Stipend	See Vitrax Report

Source: OP&F Risk Management Policy February 2021

The Board should review OP&F's vital functions and vital signs to determine its tolerances for variability between actual and expected performance and its expectations for the escalation of exceptions. The goal is to ensure the OP&F Board and Executive are situationally aware of what is vitally important, what is changed or changing and the implications for direction and policy. When such a revised risk management policy and process is begun, and through its completion and implementation, all parties should be trained in its purpose, functionality, and benefits.

Please refer to Section 6 for discussion of business continuity planning and cyber-risks.

Example pro forma excerpt from OP&F Vitrax Report

Member Services Operational Stats								
Title	**Measurement Name**	**Measurement Calculation**				**Target**	**Collection Data Frequency**	**Measurement Owner**
New Member			**Range**					
			< 9 days	≥ 9 days but < 15 days	≥ 15 days			
Personal History Record (PHR)	New Member Enrollment	Measures time between PHR rcvd and when entered into the system				< 9 Days	Quarterly	
Service Retirement				**Range**				
			< 1 week	≥ 1 week but < 2 weeks	≥ 2 weeks			
Service Retirement Application (SRA)	SRA Acknowledged	Measures time between SRA rcvd and when acknowledgement letter is generated				< 1 week	Quarterly	
SRA Interim	SRA Interim Calculated	Measures time between IP cert rcvd and when interim calculation is completed				< 1 week	Quarterly	
Disability Retirement				**Range**				
			< 15 days	≥ 15 days				
Disability Retirement Application (DRA)	DRA Acknowledged	Measures time between DRA rcvd and when acknowledgement letter is generated				< 15 days	Quarterly	
			< 1 week	≥ 1 week but < 2 weeks	≥ 2 weeks			
Disability Retirement Benefit	DRA Interim Calculated	Measures time between IP cert rcvd and when interim calculation is completed				< 1 week	Quarterly	
Survivor				**Range**				
			< 2 days	≥ 2 days				
Report of Death (ROD)	Report of Death (ROD)	Measures time between when ROD was reported and paperwork is mailed out				< 2 days	Quarterly	
DROP				**Range**				
			< 5 days	≥ 5 days				
DROP Election	DROP Election Acknowledged	Measures time between DROP election rcvd and when acknowledgement letter is generated				< 5 days	Quarterly	
DROP				**Range**				
			< 1 week	≥ 1 week but < 2 weeks	≥ 2 weeks			
DROP Entry	DROP Entry Date Determined	Measures time between DROP election acknowledgment letter and when DROP entry date is determined				< 1 week	Quarterly	

Recommendations for Improving Holistic Risk Management

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 Require the development of an integrated enterprise performance risk framework for strategy, operations, reporting and compliance. When such a revised risk management policy and process is begun, and through its completion and implementation, all parties should be trained in its purpose, functionality, and benefits.

R5.1.3 Ensure performance risk management is built into the way OP&F runs its business.

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

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

R5.1.6 Clearly establish and approve the Board's risk appetite for all its strategic goals as it currently does with its asset allocation decisions.

R5.1.7 The Board should review the vital functions and vital signs to determine its tolerances and the expectations for the escalation of exceptions. The goal should be to 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.

R5.1.9 Conduct an annual internal control assessment survey, i.e., surveys of staff attitudes towards internal controls and the control framework.

R5.1.10 Continue to conduct at least annual risk awareness training for all staff and the Board.

R5.1.11 Develop business intelligence tools to provide near-real-time dashboards to monitor key performance indicators.

R5.1.12 The Executive Director should designate a 'head'' of the enterprise performance risk management process.

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

Although OP&F is smaller in almost all characteristics relative to the large state-wide public pension systems, we expect nonetheless to find that the Board is financially literate and that it understands the reporting structure, the content of reports, and the importance of such things as actuarial and 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 staff and third-party reporting and 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 levels of assurances and accountability and reporting. The purpose of Board education is to support public pension system trustees in meeting their fiduciary duties and public accountability. Trustees do not need to be experts, but they should understand the fundamentals and purpose of reporting and 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 reporting structure, should have a culture of accountability and reporting so that it is safe for staff or leadership to acknowledge any mistakes and the manner in which mistakes are corrected without consequence to the system. 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. Reports should be discussed in a manner that is comfortable for Trustees to ask fundamental questions to support Board understanding. 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 reviews. 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.	Partial
Reports to the Board are consistently relevant, accurate, and reliable.	Partial
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.	Partial
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

The OP&F Board utilizes a Board portal primarily for transmission of the Board agenda and accompanying board books containing reports for the upcoming board and committee meetings. The portal is not utilized for including access to supplemental information nor for what is called drill-down capacity where Board members can research or review supporting or related information on a particular agenda topic or board report.

Many of the Board reports are used and understood by Board members as being appropriate and relevant. Board members state they trust and place reliance on the reporting from staff. However, there are opportunities to provide additional oversight information to the Board through exception reporting.

Member Services, for example, prepares operational reports in the form of a holistic dashboard (see earlier Vitrax example). It describes measurements, the method for calculation, the tolerance bands, or limits (color-coded green, yellow, and red), the target, Data Collection frequency, and the Owner. This is a leading practice, and this is a practice that, when expanded across all operational areas, would give a clearer picture of risk and tolerances to the Board, and provide a very useful and organized tool for the ED and executive leadership team to use on a consistent basis. Much of each committee's time is spent on oversight. If the oversight role can be made more effective and efficient, this will free up time for the board to spend on setting direction and policy and verification.

OP&F does not routinely link reporting and performance to the system's strategic plan. The Vitrax-type reporting used by Member Services could provide a tool to monitor performance efficiently and could easily link to the strategic plan on an ongoing basis (see the Example Holistic Dashboard report below).

Example Holistic Dashboard

Vital Functions	Direction, Oversight and Control					Independent Verification		
	Performance Risk Appetite	Vital Signs	Reasonable Assurance					
	Strategic Goals	Measures (Leading / Lagging)	Actual & Escalation Status	Compliance	Risk	Internal Audit	External Audit	Third Parties
Asset Management	Achieve the Defined Benefit (DB) target rate of return within accepted risk, cash flow and cost constraints.	Actuarial Determined Contributions (ADC) (lag)	112.40%					
		Defined Benefit Rate of Return Since 2012 (lag)	80.28%					
		Percent of DB Market Value with Fees at or Below Median Peer Fee (lag)	55.00%					
		Minimum FY Investments Return	13.70%					
	Provide competitive Defined Contribution (DC) investment options and services	DC Investment Options (Five Year Performance Relative to benchmark)	94.00%					

All performance is relevant to the strategic plan if that plan is used as a tool for the system to not just meet short-term performance measurements but to move the system and its leadership toward longer-term objectives and outcomes.

Investment information for the Board, as an example, is typically a 50-100 page memo, rather than a concise review of the investment decision or recommendation, and a summary that includes a concise discussion of issues, strategies, and an analysis of results and expectations consistent with the dashboard reporting above.

The Board needs a summary for each recommendation that clearly articulates the importance and result if the recommendation is accepted and what performance would trigger action or additional analysis for the staff to bring back to the Board. The Board does not have access to discussion documents that expand beyond quantitative information and includes an analysis of expected results.

This applies as well to Investment Consultant reports. The Board does not appear to have access to brief qualitative discussion and analysis documents, not just quantitative performance reports that are presented in Board meetings. All of this information could be made available in electronic form and accessible to Board members as they want it, and not all included in a 600-800 page board book but referenced for accessibility. The size of the Board book could decrease significantly with drill-down or linkage to supporting documents capability.

Some Board members commented that they need more education concerning financial and actuarial principles so that they would have better understanding of the reports and the basic requirements and principles. Repeated educational sessions on a rotating basis would be seen as helpful as part of a Board's calendar.

It does not appear that the Board and ED have an annual conversation on education needs or an annual survey the Board to help in calendar development. It should be comfortable for Board members to speak up about education needs and the types of sessions or seminars that are best for them. Multiple sessions on one topic, particularly actuarial principles, or risk intelligence, are not an uncommon need.

It does not appear that the ED and OP&F Board discuss reporting needs at least annually if not more often, to ascertain if the reports are useful, easy to understand, and contain the right amount of information. Each time a new report or new format is presented to the OP&F Board, this discussion should take place and, as part of that discussion, the ED, or the CIO, for example, should highlight the purpose of the report and the important information for the Board.

During Board member interviews, some Board members noted that they selectively read information, while others tried to read everything in certain sections only. A discussion about how to streamline while highlighting important information would help reduce the number of pages and thereby make all important Board material more accessible to all Board members.

Timelines for Board reporting should be standardized and part of the Board calendar so that, for example, the Board would expect a quarterly report in certain areas on vital functions and see that vital signs in operational areas are consistently monitored. This gives the Board insight into performance and the ability to discuss and question performance.

It does not appear that Board reporting functions are routinely verified by the Internal Auditor who is hampered, no doubt, because this function is a department of one person at this time. Even with maintaining a calendar of internal audits on a rolling basis, one person is not adequate to address Board verification needs on an annual basis for adequate validation and reassurance.

Like many investment organizations, OP&F makes good use of risk tolerances. The Asset Allocation and Rebalancing report, for example, establishes the target allocation and describes the range of tolerances for actual allocation by asset class. Likewise benchmarking reports show actual compared to benchmarks and highlight areas of variance. Reports for Administration, IT, Finance, and Investment also show budget vs actual. Similar use of exception-based reporting with established tolerances can and should be applied more broadly across all operations not just investments.

Recommendations for Improvement

R5.2.1 Adopt exception-based performance risk reporting more broadly across all business units and vital functions 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" (i.e., links to supporting underlying documents) 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 functions 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 and escalate significant direction and policy implications.

R5.2.9 Periodically review all regular reports with staff and the Board 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 to determine their reliability especially regarding reports that indicate "normal" or expected performance.

R5.2.11 Require that board members' continuing education topics should include pension system financial requirements, risk management, and the importance of consistent and reliable controls within the system. This education should underscore that all Board members have identical fiduciary responsibilities in understanding and acting on operational, financial and investment information.

R5.2.12 Develop a list of "standing" questions that should be regularly asked of all vital functions and advisors by each respective committee, 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 Administration/Audit Committee and management in writing.

These communications must be made every year in which the 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 Administration/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.	Partially
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 of the individual staff members and Board trustees we interviewed demonstrated a keen desire for the highest leadership values and a commitment to ethics and integrity at all levels of the system. This attitude, or "tone at the top" helps reinforce appropriate decision-making and the ability of all personnel to "do the right thing.

One significant way the tone at the top is reinforced at OP&F is through several policy-level documents that lay out its expectations and requirements for ethical conduct, avoidance, and disclosure of conflicts of interest, disclosure of known wrongful acts (whistleblower policy), and its requirements for financial disclosures.

Other important ways OP&F reinforces a positive tone at the top and ethical conduct is through new Board member orientation, mandatory attendance at state ethics courses, and internal ethics training.

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 independent 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.)

Similarly, the Internal Audit function should include regular testing and reassurance on the accuracy and reliability of the reported status of performance, (e.g., red, green, or yellow or blue for exceptionally good), the trend/direction, and the suitability or appropriateness of the KPI.

There is not an entity wide process to establish expected performance and tolerances for variation (upper and lower control limits) (i.e., risk tolerances). If such a process was in place, as we recommend below, then there would be an accompanying set of escalation criteria and process for alerting the board when actual performance begins to approach or exceed established tolerances and thus allow reasonable time for the Board and management to take remedial action.

The essential components of the OP&F financial control structure are consistent with prevailing peer pension and benefit systems and the essential components of the remainder of the control structure are appropriate to the organization's purposes with one exception. We found that OP&F has prevailing financial accounting and reporting policies and procedures in place. OP&F 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, OP&F is consistent with prevailing practice.

The exception to prevailing peer practice control framework at OP&F is the reporting relationship of the Investment Accounting function, as referenced earlier in this report in section 3.4.2. Because Investment Accounting is reporting on the performance of the fund, and by extension the performance of the CIO and his staff, segregation of duties would require that the Investment Accounting function report independently of the CIO and the Investment function. With most funds, Investment Accounting reports to the Chief Financial Officer (CFO) for this reason.

OP&F is aware of this concern and has assessed it. Because there is not a performance-based compensation system for investment staff, OP&F concluded that there is no inherent conflict because the calculations of Investment Accounting do not impact compensation. Further, management believes there are efficiency advantages to having Investment Accounting more integrated with the Investment Office.

While we agree that segregation of duties concerns are lessened because there is no direct pecuniary influence from Investment Accounting performance reporting, that is not the only reason for separation. Investment Accounting should report to the CFO to eliminate the appearance of conflict. This would also allow the OP&F Board to consider adopting an incentive compensation program for the Investment Office in the future without needing to make the organizational change first.

The annual audit examination performed by the external CPA firm, RSM, requires a look at the controls over financial reporting and limited work on potential for fraud. Based on that work, the CPA 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 that come to its attention. 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 system's entire internal control structure is the focus of the Internal Audit (IA) function. The IA function audits approximately fifteen functional categories within the System on a 2 to 3-year cycle based on the assessed risk of the function. The internal auditor is free to modify the plan based on application of professional judgement of the need for the audit outside the approved audit plan.

A process is in place, including a Whistleblower Policy, under which all claims or allegations of wrongdoing are to be reported to the employee's department director, or in case of the director's involvement, to General Counsel, the Chief Audit Executive, or the Executive Director. The process allows for the reporting, evaluation, and disposition of alleged wrongdoing.

Recommendations for Improvement

R5.3.1 Key performance indicators (KPIs) should be developed for all vital functions.

R5.3.2 OP&F should move the Investment Accounting function from the Investment Office to Finance to improve segregation of duties.

Note: Please see Section 5.5 below for a more detailed discussion of internal and external audit and our additional recommendations.

Financial Statements

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 Governmental Accounting Standards Board (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 Comprehensive Annual Financial Report of the Ohio Police & Fire Retirement System (CAFR). Ultimately, financial reporting should possess these basic characteristics: understandability, reliability, relevance, timeliness, consistency and comparability.

Financial Statement Standards of Comparison and Findings

Financial Statements Standards of Comparison	Findings
Financial statements and reports are provided to senior leadership frequently and the Board periodically.	Yes
The OP&F Comprehensive Annual Financial Report is issued within 6 months of their December 31, 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 annual audited financial statements, 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
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

OP&F 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 unmodified opinion the statements were presented fairly in all material respects. In that regard, OP&F 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. 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.

OP&F procedure for vetting the draft financial statements include circulation of the draft among relevant parties within the organization and also with the external auditors. The process collects input from the various parties. We believe this to be 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 appear to present an accurate financial picture of the organization at a point in time and for the most recent fiscal year. Nothing came to our attention that would cause us to question the integrity of OP&F's 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 development of new contracts and allow electronic approvals according to delegated authorities.	Yes
Automated support for development of Requests for Proposal (RFPs).	Yes
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 OP&F 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

OP&F procurement policies and processes are fundamentally sound. The purchasing/procurement activities of OP&F are governed primarily under its Procurement Policy (PP), dated December 2019. The PP provides for written acknowledgment to the Procurement Manager by all employees. The PP also provides a summary description of the roles of the (eight listed) various parties who may be involved in the procurement process.

The PP further provides that any purchase of goods or services for $50,000 or greater may be approved by the Executive Director. Purchases less than $50,000 may be approved by the Procurement Manager. Finally, purchases within the limits of the Approved Budget may be approved by the Department Director.

Procurements of $10,000 or more will obtain at least three (3) verbal or written bids. Exceptions to this requirement include, but are not limited to, participation in cooperative purchasing programs, goods and/or services under contract, audit, banking, investment, and legal services. Upon review of the bids, the awarding of the project will be determined by quality, price, delivery time, and service, unless a waiver of competitive bidding or sole source justification is completed and approved by the Executive Director or his/her designee.

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. In addition to the Executive Director, the Procurement Manager is also authorized to delegate purchasing approval for purchases with external suppliers.

Additionally, the PP prohibits personal use of the purchasing or payment process. The Procurement staff work with the various department staff to complete a Contract Information Sheet in instances where a signed contract is required.

With this overarching policy in place, OP&F has developed numerous implementation controls and operational procedures to ensure compliance. These include a comprehensive legal review process for procurements >= $50,000, clear written delegations of authority and approval amounts, comprehensive budgetary controls, proper accounting procedures, and proper handling of invoices and validation 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. Further to the discussion of general procurements above, the System also provides Procurement Cards to certain staff. The use of the Procurement Cards is covered by the Fund Guidelines for Procurement Card (the Guidelines), dated November 2017. As stated in the Guidelines, procurement cards are used to provide for the rapid acquisition of primarily low dollar value items and/or services. Usage of the procurement card is governed by the overall Purchasing/Business Expense Reimbursement Policies.

The Procurement Card program is administered by the Procurement Manager, who is responsible for the overall compliance of the program and who is the (Card) Program Administrator. Under the Guidelines, a spending limit is assigned to each card based upon expected expenditures. Purchases are limited to a maximum of $5,000 per transaction, with a maximum monthly limit of $20,000 - $25,000 for the Purchasing Agents/Executive Assistant and maximum of $10,000 per transaction, with a monthly limit of $50,000 for the Procurement Manager.

The Procurement Card program has several controls with the strongest being the requirement that transactions purchased with the procurement card are required to be entered as purchase orders into the A/P workflow control system. This would ensure that they are analyzed and approved according to the workflow requirements. In addition, the Internal Auditor performed a review of the program in 2022.

Recommendations for Improvement

R5.3.3 **The Procurement Policy may be strengthened by eliminating the provision that allows for verbal bids.**

R5.3.4 **The Procurement Policy may be further strengthened by lowering the threshold for legal review for contracts less than $50,000.**

R5.3.5 **The Procurement process may be further strengthened by requiring prior approval of vendors in a strictly controlled Vendor Master File, a functional contract database and related document managing system, and an accounts payable workflow control system.**

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[xiv] financial accounting information and values pertaining to the financial position of a business must be disclosed in the records.

Accounting Processes Standards of Comparison and Findings

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; and	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 OP&F Finance and Accounting function is capable, and the accounting systems are effective. As mentioned in 6.1, OP&F has recently upgraded it administrative systems to Microsoft Dynamics 365, allowing improved integration of financial workflows and accounting. The OP&F Finance and Accounting function is comprised of 24 staff, with the Controller as supervisor and reporting to the Deputy Director. There are several staff who hold the Certified Public Accountant license. The highest levels of staff within the System's finance department have many years 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).

As evidence of the OP&F Ohio staff competence at performing the accounting function, 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.

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 Findings

Internal and External Audit Standards of Comparison	Findings
The Administration/Audit Committee of the Board has a committee charter (AC Charter).	Yes
The Board or Administration/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.	Yes
The CAE has implemented a risk-based approach to audit planning.	Yes
A quality assurance review (QAR) is conducted on a regular basis	Yes
Tools used by the CAE appear to be appropriate.	Yes

Conclusions

The OP&F Internal Audit function (IA) consists of one staff member – the Chief Audit Executive (CAE) who performs all of the internal audit functions. This is a lagging practice. Often the one-person staff must review their own work. This is something the A/AC Committee should consider as a potential detriment.

Although the position is filled by a very accomplished and seasoned professional internal auditor, the CAE is stretched to perform all of the typical audit work and functions, especially the administrative workload. See below.

The IA function's required external independent Quality Assessment Review (QAR) was performed recently, and the report of the independent reviewer was issued in December 2021. 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 IA function manual of operating policies and procedures. We reviewed the QAR report and found that the IA function was reported to be in compliance with the Standards. The basis of the report was a self-assessment prepared by the CAE and reviewed by an auditor from another public pension system.

Tools used by the CAE appear to be appropriate, but it should implement continuous auditing for efficiency gains. However, with a staff of one person, it is difficult for the CAE, who is needed to perform audits, to also perform administrative tasks such as the QAIP, the QAR or to implement new tools such as continuous auditing and data mining for Business Intelligence. 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 Administration/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

Administrative Functions of an Internal Auditing Department
• Minutes
Working paper management
Departmental Staff Function Coordination

The Administration/Audit Committee and the CAE should discuss the ideal scope and frequency of internal audits, independent of auditing capacity, and determine if additional resources are warranted. This should consider the administrative responsibilities cited above. Alternatives to hiring additional internal audit staff could include: 1) hiring an experienced internal audit consulting firm to conduct specific audits on a project basis under contract; or 2) defining specific Agreed Upon Procedures with the external audit firm.

Lastly, as a lay board with a small internal audit organization, OP&F could benefit from ongoing independent professional advice related to internal and external audit requirements and responsibilities such as how to establish and maintain professional internal auditing functions that are up to standards, and how to interact with external accounting firms to get the best services for the System. Such professional advice under contract has utility like that gained by the System in other areas where consultants are used.

Recommendations for Improvement

R5.5.1 The Administration/Audit Committee (A/AC) should develop a monitoring and compliance calendar.

R5.5.2 The A/AC should consider retaining its own professional advisor to the A/AC and the CAE 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 A/AC**
- **Provide coaching and guidance to the CAE**
- **Monitor the A/AC's adherence to its Charter**
- **Monitor the IA function's adherence to its Charter**
- **Provide ongoing professional input and advice to the IA function, the Administration/Audit Committee and Board**

R5.5.3 The Administration/Audit Committee should consider hiring additional internal audit staff, or supplement internal staff with external resources, which are necessary to execute an aggressive internal audit plan with adequate effort assigned to the administrative support of the department and the verification of the reliability of reports received and issued by the Board.

External Audit

Expectations

The United States Government's Department of Labor developed guidance on selecting external auditing firms for the purposes of auditing employee benefits. 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

Standards of Comparison	Findings
The independent external auditor firm is selected and approved by the Board or its Administration/Audit Committee	Yes
The external auditors meet with the Administration/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 Administration/Audit Committee in executive session, without system staff present, at least once annually.	Yes
Audits are completed on a timely basis.	Yes
Annual audit opinions are clean and not modified.	Yes

Conclusions

We found no exceptions to the standards of comparison listed above for external audit.

Recommendations for Improvement

No recommendations at this time.

5.6 Record-keeping system

Evaluate the adequacy of record-keeping system

Expectations

OP&F 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 OP&F 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.	Yes
• Retention schedule based upon record classification and format (paper and digital).	Yes
A disciplined approach to the management of the retirement system's records to include:	

Record Keeping Standards of Comparison	Findings
• 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 OP&F 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.	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.	Yes
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

The Ohio Police and Fire Pension Fund takes its recordkeeping and management responsibilities seriously. In so doing, it provides mandatory annual training in its Records Management Program (the Program). The training requires all staff to attend and complete a certification after the training.

The major objectives of the program are:

- **Regulatory Compliance** - provide management controls to properly identify, retain or access records for business and compliance requirements.
- **Data Protection** - safeguarding confidential, privileged, sensitive, historical, and vital records.
- **Governance Transparency** - to create and enforce policy and procedures that follow best practices.
- **Cost Reduction** - minimal storage and overhead cost.
- **To provide training and support** -ensuring that policies and procedures are understood and implemented.
- **Minimize litigation risk-** providing consistent and systematic destruction of records once retention periods have expired.

The Program identifies 11 Department Coordinators who are responsible for leading, planning and managing the Program. Training is also provided in support of the System's detailed Record Retention Schedules (RRS) which identify documents, descriptions, and periods to be retained by Department, Staff Responsible, Type and Title of Record, and Required Retention Period. The RRS also determines final disposition to permanent storage, archival preservation or destruction.

There is also a database record created when documents are transferred for storage. The record includes the Date of Transfer, the details about the type of records, Record ID, and other pieces of information that enable the System to retain the custody and authorization trail after destruction of the record. OP&F policy stipulates those records that must be destroyed in accordance with the approved OP&F Records Retention Schedules and should be retained no longer than the total retention period unless their preservation is required pursuant to a Records Preservation/Hold Order, or the record is determined to be permanent or historically significant.

The System also provides for strategically placed record trash bins (Security Receptacles) around its offices for bulk shredding and recycling. The Program also addresses handling and retention of e-mails. Notably, the policy stipulates that employees shall be responsible for classifying messages they send or receive according to content and determining the retention requirement for an e-mail and provides guidelines for these purposes.

Document scanning requirements are addressed.

Lastly, we discussed the reliability and completeness of member records for the purpose of estimating benefit liabilities with CMC, the System's consulting actuarial firm. CMC reported that they have confidence in the records.

In conclusion, OP&F has a substantive policy for keeping, retaining, and destroying important records and preserving a trail when records are move to storage, scanned or destroyed.

Recommendations for Improvement

No recommendations at this time.

6. IT Operations

The Contractor will evaluate the control, accuracy, and integrity of the OP&F information technology system. This should include a review of OP&F 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 OP&F 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 OP&F's mitigating controls for those defined high-risk areas. The analysis will compare the OP&F's 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. IT governance processes;
2. IT strategy and delivery framework;
3. IT planning documents (strategic, operational, network, data security, use of third-party IT services, etc.);
4. Applications systems portfolio;
5. Technology platforms;
6. Descriptions of program management functions;
7. IT risk assessment;
8. IT disaster recovery and business continuity plans;

9. IT and security incident and outage procedures;
10. Interviews with the Chief Information Officer and staff, the Executive Director, Deputy Executive Director, and the Director of Member Services;
11. FAS project team experience and the FAS IT knowledgebase; and
12. Sources of reassurance, if any (e.g., penetration testing).

Overview of IT Operations

There are a number of opportunities for improvement in IT.

IT management, even with the absence of several key roles, is conscious of the need for security, recoverability, and control over IT operations. Nonetheless, some of the controls we generally expect to find in place are completely or partially undocumented. Overall, there are strengths in many of the ways that IT is managed and controlled, but there are also areas for improvement.

The IT function at OP&F is in a period of significant change, with a recent upgrade to its financial systems and a pension system replacement currently underway.

The System's key financial system has recently been upgraded and migrated to operate at a cloud service provider. OP&F is in the midst of a major upgrade to their pension administration system to LifeWorks Ariel, which will also run in the cloud. The latter in particular will transform not only the software but will also lead to changes in the way OP&F does business. Moreover, since it will also run in the cloud, it will eliminate most of the System's on-premises data center operations.

The Board should review the Ariel implementation progress at least quarterly and be appraised of any budget or timing issues encountered.

One year into the project, there is some concern about a potential budget overrun and delay in completing the implementation of the Ariel system. While this is not unheard of for a project of this magnitude, it does indicate that the Board of Trustees needs to be kept informed of progress and to exercise a degree of oversight.

OP&F needs to evaluate its IT resource needs, considering the balance of internal IT staff vis-à-vis its use of external resources.

Several key positions (e.g., the Information Security and Software Development managers) are unfilled and a significant proportion of the IT staff will soon be eligible to retire. It is timely for OP&F to consider whether certain IT functions should be external or if additional internal skilled resources be recruited. In either case, strong management over the IT function is and will be critical to the System's success.

With a transformative software implementation now underway (with significant external support), it is timely that the System's medium- to long-term strategy for acquiring IT talent be determined.

The IT organization has made an investment in acquiring internal project management skills, supplemented by project management consultants contracted to support the implementation of Ariel.

There is a Project Management Office (PMO) that oversees IT projects. Recognizing that OP&F staff did not have the requisite skills to manage the Ariel migration project, OP&F retained professional consultants to execute project management. The project management consultants are contracted through the implementation and through the warranty period; they work closely with OP&F's project manager.

OP&F should expand project sponsorship of the Ariel LifeWorks project to include the heads of Finance and Member Services.

OP&F has formed a Steering Committee comprised of the Executive Director and senior leaders from the Finance, Member Services and IT organizations and has developed a schedule for their project tracking activities, but the IT Director was named as the sole project executive sponsor. OP&F should expand project sponsorship to include the heads of Finance and Member Services as the primary beneficiary of the project. As a project sponsor, they would be accountable for key project tasks such as user acceptance testing, training, documentation, and procedures development. Updates to the Steering Committee and Board should be performed jointly by both business and IT project sponsors. This is prevailing practice, particularly for implementation of commercial software packages.

IT should update its disaster recovery and business continuity plans.

OP&F should develop its own procedures for cloud-based data and software recovery should there be a disruption caused by an event other than a disaster. The Business Continuity Plan should also incorporate management and staff performing their normal business functions at their homes, accessing information systems remotely.

OP&F should contract with a third-party managed security service provider (MSSP) to perform day-to-day information security tasks.

Many studies have shown that the misuse of information systems, including cyberattacks, go unnoticed for lengthy periods of time. An effective MSSP uses a variety of automated tools to enforce the security of information. The MSSP should be incorporated into the expanded Incident Response procedure. Access privileges should also be reviewed and approved on an annual basis.

The Board of Trustees should ensure its understanding of the risks to the System involved in information technology, in particular, cyberattacks including ransomware.

The Board should be aware of the measures in place to prevent and detect cyberattacks, including ransomware, how systems and data would be recovered should an attack occur and how the System would operate if its key systems were unavailable for an extended period of time.

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 (ESBA) 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.

The FAS team:

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 OP&F's 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.

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 for Comparison	Findings
A governance framework is in place.	Partial
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 IT function at OP&F has 29 positions, with four currently unfilled. Under the IT Director, who reports to the Executive Director and is assisted by an IT Support Specialist, the Information Technology function is organized into five groups, each led by a manager:

- Business Systems (5 staff)
- Networks (10 staff plus an open staff position)
- Information Security (1 position currently unstaffed)
- Project Management (2 staff)
- Software Development (6 staff plus an open manager and an open staff position)

We understand that the two open manager positions (the Information Security Manager and the Software Development Manager) will not be filled in the near term. We understand the intention is to fill these roles with external resources.

OP&F needs to evaluate its IT resource needs, considering the balance of internal IT staff vis-à-vis its use of external resources. One of the strategies in the new OP&F strategic plan states, "Align IT resources with organizational strategic goals and strategies." While this is a sensible strategy, there is not a clearly documented plan to fulfill it. With a transformative software implementation now underway (with significant external support), it is timely that the System's medium- to long-term strategy for acquiring IT talent be determined.

OP&F has recently completed a migration to Microsoft Dynamics 365 to the cloud for internal administration, including general ledger and related financial functions. We were told that this was completed smoothly and is currently functioning well.

As noted elsewhere in this report (section 2.2), OP&F is in the process of migrating its pension administration system from Vitech V3 to LifeWorks Ariel. Understandably, this is a strategic initiative. OP&F has partnered with a third-party consulting firm to manage the project and with the software vendor to carry out this migration and implement necessary functionality in the software.

The transition to Ariel is a significant challenge for the OP&F organization. The existing pension administration system, V3, must be maintained during the migration to Ariel, and we understand that maintaining V3 is complex, due to the amount of customization OP&F has made over the years it has been in use. Over the past year, IT has stopped making any discretionary changes in the V3 system unless they impact core functionality.

OP&F plans to use as much standard system functionality as possible with Lifeworks Ariel. However, there is not currently a capability in Ariel to support the Deferred Retirement Option Plan (DROP). As a result, there will be a custom solution for DROP. LifeWorks has committed to develop this as a new standard capability in Ariel. LifeWorks needs to agree on the new functionality and will do the programming.

As with any change to a new pension administration system, a large amount of prior member information must be migrated from the old system to the new system. The current Vitech V3 system utilizes the Oracle database, and the new LifeWorks Ariel system will be built on the Microsoft SQL database. This will be the first time there has been this specific conversion, which adds to potential implementation risk. Moreover, we were told that this will be the first LifeWorks Ariel implementation in the Microsoft Azure environment, and that there have been unexpected challenges encountered.

Once the LifeWorks Ariel implementation is complete and Vitech V3 is retired, almost all OP&F applications will be operating in the cloud and only a few minor applications will remain in the OP&F data center. This is consistent with industry practices, but also requires a transition plan to optimize resource utilization.

The IT Director briefs the Board of Trustees about IT matters several times annually. In particular, the Board is consulted on major IT budget issues, but is not actively involved in the strategic direction of IT nor of oversight of the management of IT-related risks and opportunities. As the Board of Trustees does not have significant information technology expertise, the Board relies primarily on staff to make recommendations.

Recommendations for Improvement

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

R6.1.2 **OP&F needs to develop a multi-year plan for the IT function that identifies all key workstreams to be supported and which internal and external resources will be responsible for them, ensuring that overall planned resourcing is adequate.**

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.	Partial
Budgets and costs are tracked.	Yes
Deployment of personnel is well managed.	Partial
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.	Partial

Conclusions

OP&F does not have a large portfolio of applications to manage. The primary applications are:

- Pension administration, currently Vitech V3 being migrated to LifeWorks Ariel;
- Microsoft Dynamics 365 business management; and
- PAM investment accounting.

We understand that key decisions regarding the portfolio of applications are made at the executive level.

There is a Project Management Office (PMO) that oversees IT projects. The IT organization has made an investment in acquiring project management skills, which brings with it an important discipline to record and track the tasks and budget of a project and make adjustments as and when needed. Currently, discretionary changes to existing applications are limited, due to the importance of the migration to Ariel.

Recognizing that OP&F staff did not have the requisite skills to manage the migration project, OP&F retained professional consultants to execute project management. The project management consultants are contracted through the implementation and through the warranty period; they work closely with OP&F's project manager.

The decision to migrate from Vitech V3 to LifeWorks Ariel was forced by Vitech's removal of support for the version of V3 in use at OP&F. However, the shortcomings of the OP&F customized version of V3 were apparent for some time before that. Senior management presented a budget of $24.6 million for this project to the Board as part of the capital budget, which was approved on that basis. Despite the cost (approximately 15 basis points of total assets under management), benefits of the initiative were summarized primarily on a qualitative basis. There was no baseline cost calculated since it was considered that status quo was not a viable option, and no cost/benefit, return on investment or internal rate of return analyses were presented.

OP&F has formed a Steering Committee comprised of the Executive Director and senior leaders from the Finance, Member Services and IT organizations and has developed a schedule for their project tracking activities. The IT Director was named as the sole project executive sponsor and primary point of oversight of the external consultant and the software vendor. Among his responsibilities is to keep the Board apprised of project status and budget utilization against the plan. The heads of Finance and Member Services, whose organizations will be the primary business areas affected from an operational and functional perspective, are represented on the Steering Committee but do not share executive sponsorship of the initiative.

OP&F should expand project sponsorship of the Ariel LifeWorks project to include the heads of Finance and Member Services as the primary beneficiary of the project. As a project sponsor, they would be accountable for key project tasks such as user acceptance testing, training, documentation, and procedures development. Updates to the Steering Committee and Board should be performed jointly by both business and IT project sponsors. This is prevailing practice, particularly for implementation of commercial software packages.

There is a project management dashboard, updated weekly, that monitors data and system quality and overall project risk. At the time of our review, one year into the project, we were told that there is some concern about a potential budget overrun and delay in completing the implementation of the Ariel system.

In our experience, these circumstances are not unusual for a project of this magnitude.

Key business implementation risks have been identified in the areas of data conversion and workflow development. Concerns have been raised about the absence of change management skills and availability within the Member Services organization to effectively deliver key project tasks such as user acceptance testing, training, employer orientation and communications and new workflows and procedures. Moreover, there is not yet a formal process for skills transfer from the external consultant to OP&F staff.

The new Pension Administration System is scheduled to go live in 2024. All the current application expertise in IT is focused on the Vitech V3 system, which will be replaced. Many of the staff with seniority will soon be able to retire. We have not learned of any training program to make the staff self-sufficient once the system goes live. The absence of a Systems Development Manager is also a potential risk. In the same manner, the absence of an Information Security Manager complicates the tasks of assuring that the system and its data are implemented securely.

IT should ensure that it is fully capable of maintaining the Ariel system once it goes live or engage external support to do so. It should assign staff or third-party support to assure that the Ariel system is implemented and operated securely, with adequate recoverability (on both OP&F's and the software vendor's parts) and that members' privacy is appropriately protected.

Recommendations for Improvement

R6.2.1 **OP&F should develop standard business case development practices, including cost/benefit, return on investment or internal rate of return analyses for large, mission critical project initiatives. The results of the business case analyses, and a project risk assessment should be presented to the Board for explicit approval prior to commencing a major initiative.**

R6.2.2 **The Board should be updated on the status of major projects in four dimensions: schedule; budget; benefits; and the project's risk profile. Any requests for additional project funding, over and above the level which has previously been approved, should be formalized.**

R6.2.3 **OP&F should expand project sponsorship of the Ariel LifeWorks project to include the heads of Finance and Member Services as the primary beneficiary of the project.**

R6.2.4 **The LifeWorks Ariel implementation team should recruit a pilot set of testers and early adopters from among the population of the OP&F employer, member, and retiree advisory groups. They should be kept current on project status and timeframes for their scheduled participation in the user acceptance testing, training, and workflow development tasks.**

R6.2.5 **IT should ensure that it is fully capable of maintaining the Ariel system once it goes live or engage external support to do so.**

R6.2.6 **The PMO should continue to ensure that OP&F's project management standards are adhered to by the consulting firm conducting the pension administration system migration.**

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.	Partial

Conclusions

There is no Data Management function at OP&F, nor is it common to find one in an organization of OP&F's size. There is one Database Administrator (DBA) who works with the Oracle and SQL/Server database management systems (DBMS).

Recommendations for Improvement

R6.3.1 The Database Administrator (DBA) should be familiar with the database and DBMS requirements of the Ariel system.

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.	Partial
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

OP&F has a documented, high-level systems development life cycle (SDLC). Its primary focus is project intake. It contains nine phases of system development, including three phases of testing, one of which is user acceptance testing. Given the dearth of applications at OP&F and the freeze on discretionary changes, the importance of the SDLC is diminished at this time.

The consultant engaged to implement the Ariel system has its own SDLC. Based on the project plan which we have reviewed, it appears to be more thorough than OP&F's.

The project plan for the implementation of the system is not detailed regarding the transition to the new Ariel system.

Recommendations for Improvement

R6.4.1 OP&F should document the process that will be followed to transition the new Ariel system from development to maintenance status.

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 OP&F's needs and consistent with widely accepted practices.

Recommendations for Improvement

We have no recommendation 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

OP&F's IT function does not have a role in performing data reconciliations, which is handled by the user functions. Reliability of the applications for accuracy of member data relies on Internal Audit's testing of processes.

Recommendations for Improvement

We have no recommendation 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

Security Standards of Comparison	Findings
There is a formal, well documented cybersecurity program.	Partial
Prudent annual risk assessments are conducted.	Yes
Reliable third-party firms conduct an audit of security controls annually.	No
Information security roles and responsibilities are clearly defined and assigned.	Partial
Access control procedures are strong.	Partial
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.	Partial
Cybersecurity awareness training is conducted periodically.	Partial
The system development life cycle (SDLC) program addresses information security adequately.	No
There is a business resiliency program addressing business continuity, disaster recovery, and incident response.	Yes
Sensitive data, both stored and in transit, is encrypted.	Partial
Strong technical controls are implemented in accordance with best security practices.	Yes
Any past cybersecurity incidents had received appropriate responses.	N/A

Conclusions

The position of Information Security Manager at OP&F is well documented but has not been filled for a year and half. At the same time, it should be noted that the IT Director had extensive background in information security prior to joining OP&F.

Access privileges for OP&F staff are granted on an approval basis with regard to job roles and responsibilities. These are reviewed irregularly. There was a review under way while we conducted our audit, but the previous one occurred two years ago.

Notably, the document "Managing Access to Internal Systems and Data" states that "At their discretion, OP&F's Executive Director, Deputy Executive Director, *or Trustees* shall have the right to approve, change, or terminate an employee's or contractor's access rights." [Our emphasis added.] We find it unusual, and inappropriate, that an individual Trustee would be involved in the execution of internal controls, especially those involving the security of access to information resources.

OP&F uses the technique known as multifactor authentication (two or more means of identification of authorized users) for remote access and is moving towards using this technique for all access. The System does not use automated tools for monitoring for invalid access attempts nor other potential security violations.

Many studies have shown that the misuse of information systems, including cyberattacks, go unnoticed for lengthy periods of time. Leading practice is to retain a third-party managed security service provider (MSSP) to perform day-to-day information security tasks. An effective MSSP also uses a variety of automated tools to enforce the security of information. We urge OP&F to take this step in the near term.

The OP&F Information Technology Policy and Operations Manual is limited to access control and security; prevailing practice among public pension funds is to also include IT general and application controls, change management, and cyber security. We understand that additional policies are in process; OP&F is planning a Cybersecurity Operational Needs Assessment.

OP&F attempts to create information security awareness through posters and reminders, but there is no formal security training program.

Recommendations for Improvement

R6.7.1 **Access privileges should be reviewed and approved on a more frequent and regular basis; once a year seems appropriate.**

R6.7.2 **OP&F should amend its policy allowing Trustees to manage access rights.**

R6.7.3 **The system development life cycle should be enhanced to address the inclusion of security, privacy and recoverability of systems and data.**

R6.7.4 **OP&F should retain a third-party managed security service provider (MSSP) to perform day-to-day information security tasks, especially active monitoring OP&F's information systems and networks for attempted or actual misuse.**

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.	Partial
The information security program is regularly updated.	Partial
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

OP&F uses a commercial recovery center as a location to recover information systems if there were to be a disaster affecting its data center. This will no longer be required once applications are migrated to the cloud. Despite the fact that cloud services provide inherent backup, leading practice is to develop procedures for data and software recovery should there be a disruption caused by an event other than a disaster. Such events might include software failure, loss of data integrity and, in some cases, cyberattacks.

OP&F has a Disaster Recovery and Business Continuity Plan. It is outdated in several ways. For one, it calls for the use of System-acquired alternate sites. The response to the pandemic has shown the success of staff and management working remotely in their own homes. It also calls for communication through a "chain-calling notification procedure" rather than the use of far more effective OpenText system available through Human Resources

Recommendations for Improvement

R6.8.1 **OP&F should develop its own procedures for cloud-based data and software recovery should there be a disruption caused by an event other than a disaster.**

R6.8.2 **OP&F should update its Business Continuity Plan to incorporate management and staff performing their normal business functions at their homes, accessing information systems remotely and for mass notification through the OpenText system.**

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.	Partial
There are incident logs that document any system incidents.	No
Procedures for mitigating the effects of incidents are included in incident planning and control procedures.	Yes
Incident plans have been tested.	No

Conclusions

OP&F has a documented plan for "Incident Response for Access to Personal Health Information (PHI) and/or Personally Identifiable Information (PII) for an Invalid Reason". It deals with privacy violations rather than all potential misuses of System, member, or employee information. The plan does not address a technical response, nor has it been tested. At the same time, there is no evidence that OP&F's systems have been penetrated.

The referenced procedure can and should be easily expanded to apply to all attempted or actual misuse of information systems. Assuming that OP&F adopts our recommendation that it engage a managed security service provider (see 6.7 above), the MSSP should be incorporated into the expanded Incident Response procedure.

Recommendations for Improvement

R6.9.1 OP&F's incident response plan should be expanded to apply to all attempted or actual misuse of information systems.

6.10 Areas of High Risk and Mitigating Controls

Assess areas of high risk and OP&F's mitigating controls for those defined high-risk areas. The analysis will compare the OP&F's 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.	Yes
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

The IT Director completes an annual Risk Assessment and Control matrix, sponsored by Internal Audit. In this assessment, risks are specified along with the controls in place. A number of factors are evaluated, including:

- Control design and effectiveness.
- Velocity of impact on members, retirees, employers, the Board, and staff.
- Changes in the organization, programs, and operations.
- Complexity of operations.
- Materiality and operational impact.
- Potential for fraud.

This assessment constitutes Key Risk Indicators for the IT function. The ratings generated by this assessment are included in an annual Internal Audit Plan report that details the audit universe and risk rating for all divisions in the System. This report is presented to the Board.

In addition, as noted above, the IT Director briefs the Board several times a year. However, the Board does not usually inquire into the risks involved in information technology.

The Board should be aware of the measures in place to prevent and detect cyberattacks, including ransomware, how systems and data would be recovered should an attack occur and how the System would operate if its key systems were unavailable for an extended period of time.

Recommendations for Improvement

R6.10.1 The Board of Trustees should ensure its understanding, if necessary in executive session, of the risks to the System involved in information technology, in particular, cyberattacks including ransomware.

Exhibits to the 2022 OP&F 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 OP&F, 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	• Dissemination of Information to the Public
• System Budgets	• Ethics Policy
• Annual Iran/Sudan Divestiture Report	• 5-Year Mitigating Rate Analysis
• Annual Internal Auditor Report	• Periodic Investment Reports (twice per year)
• 30-Year Funding Plan (90 days after valuation indicates that it exceeds 30 years)	

Exhibit B – Policy Topic Recommendations

The following list is a summary of policy recommendations contained in the Report, organized into the Board powers reserved framework. The framework is intended to bring greater clarity to the different roles played by the Board. The policy topic recommendations may contemplate creation of a new policy or modification of an existing one. They are categorized by whether they primarily relate to:

- Conducting business of the Board and its committees
- Setting standards to provide direction; then delegating implementation
- Approving delegated matters
- Overseeing and monitoring implementation of delegated authority
- Verifying that data, reports and information are reliable

Conduct the business of the Board and its committees.

- Adoption of Powers Reserved Framework. Consider adoption of the Powers Reserved Governance Framework to clarify lines of reporting, improve governance effectiveness and provide more efficient use of Board and meeting time.

- Remove Limits on Eligibility to become Board Chair. Modify Board policy to make appointed Board members eligible to be elected as Chair.

- Referral of Investment Opportunities and Service Provider Candidates. Adopt a policy that sets the procedure and standards for handling trustee referrals of investment and vendor candidates.

- Integrate Comprehensive Board Education and Self-Assessment Policies. Revise the Board education policy to establish core Board skill set competencies and training requirements; establish a process to use Board self-assessment results for identification of skill gaps; provide for development of annual education plans (covering individual trustees and the Board as a whole); make use of in-house, online and external education opportunities; and provide for tracking and reporting of implementation.

- Conflicts of Interest/Recusal Policy. Supplement current policy to include practical examples, cover actions used to cure conflicts and identify where to seek advice.

- Guidance for Board Responses to Trustee Misconduct. Establish a policy and process with potential Board responses in the event of Trustee misconduct.

- Board Chair Oversight of Trustee Information Requests. Make oversight and coordination with the Executive Director of staff responses to individual trustee requests for information a job duty of the Board Chair.

- Board Chair and Chair-Elect Term Extensions. Adopt a policy to implement the statutorily required annual Board Chair election with the presumption that, barring unsatisfactory performance, the Chair may be re-elected for two or three consecutive one-year terms.

Set policy and delegate implementation.

- Delegation of Investment Approval Authority. Consider a phased increase in delegation of investment approval authority combined within specified parameters, while providing for periodic Board presentations by managers as educational and performance monitoring functions.
- Investment Policy Statement—Post-Employment Health Plan. The Board should adopt a separate IPS for the plan.
- Investment Beliefs. Consider development of OP&F investment beliefs to guide investment strategy development and implementation.
- Authority for OP&F to Select Outside Legal Counsel on Investment Matters. Seek alignment of OP&F fiduciary responsibilities and authority through legislation or negotiation of a Memorandum of Understanding with the Attorney General granting OP&F authority to select and manage external legal counsel engaged on investment-related matters.
- Authority for OP&F to Select its Custodian. Seek alignment of OP&F fiduciary responsibilities and authority through legislation or negotiation of a Memorandum of Understanding with the Treasurer of State granting OP&F greater authority in selection, contracting and management of its custodian.
- Establish a Uniform Format for Investment Approval Board Packets. Develop a consistent format for investment approval recommendation board materials to convey key information in a more concise and organized manner that improves understanding and makes more efficient use of trustee time.

Approve delegated matters.

- IPS Modifications. Add provisions to the IPS which (a) specify the plan and asset class level benchmarks; (b) provide details regarding the assumptions and analyses used for the liquidity management program; and (c) formalize rebalancing policies and procedures.
- Broker and Manager Reporting. Provide for semiannual reporting to the board regarding trading and commission expenditures with Ohio-based, and women- and minority-owned brokers.
- Stakeholder Communications Policy. Revise OP&F policy to establish additional responsibilities and goals to foster improved stakeholder relations.
- Fee Management Responsibilities. Adopt specific monitoring responsibilities for staff to drive fee transparency and validate manager fees.
- Confirmation of Tax-Exempt Status. Establish a policy on use of outside tax counsel for written IRS compliance assurance reviews.
- Use of a Comprehensive Policy Manual with Scheduled Policy Updates. Collect all substantive OP&F policies in a policy manual, with scheduled review periods and responsible committees and/or staff members designated to oversee each specific policy review in conjunction with any

planned benchmarking against current peer policies.

Oversee and monitor implementation.

- Policy on Placement Agent Disclosures. Formalize existing contractual provision as a Board policy and provide for reporting to the appropriate Board committee.
- SEC "Pay-to-Play" Rule Compliance and Reporting Policy. Establish a policy that formalizes the process for implementing SEC and State pay-to-play restrictions.
- Whistleblower and Ethics Complaints Reporting Policy. Create a requirement for periodic reporting to the appropriate Board committee(s) on use of OP&F processes for reporting wrongdoing.
- Procurement Policy Changes. Eliminate use of verbal bids and lower the $50,000 threshold for required legal review.
- Information Technology Policy. Modify the policy on Access to Internal Systems and Data to eliminate trustees' authority to approve, change or terminate any employee's or contractor's access to the system.

Verify Reliability; Then Trust.

- Compliance with Ethics Policies. Require that reports on reviews of trustee, staff and external service provider compliance with financial statement filing and other ethics policy standards be periodically provided to the Administration and Audit Committee.

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Endnotes

[i] National Institute on Retirement Security March 3, 2022

[ii] National Institute on Retirement Security March 3, 2022

[iii]http://www.acgactuary.com/faq.html#:~:text=The%20main%20tasks%20of%20pension,be%20paid%20to%20its%20retirees.

[iv] Co-fiduciary liability is explicitly established under ORC 742.112 (D).

[v] 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.

[vii] The Budgeting Process, Elizabeth Hamilton Foley, Greater Washington Society of CPAs Educational Foundation

[viii] 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.

[ix] http://www.coso.org/documents/coso_erm_executivesummary.pdf

[x] http://www.iso.org/iso/home/standards/iso31000.htm

[xi] Basel Committee on Banking Supervision, Revisions to the Principles for the Sound Management of Operational Risk, March 2021

[xii] Basel, ibid.

[xiv] 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.