

Wyoming Retirement System
Independent Governance and Operations Review
Final Report

Submitted: April 30, 2019



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Executive Summary

Funston Advisory Services LLC was selected by the Wyoming Retirement System (WRS) to conduct a governance and operational review. The purpose of the review was to ensure WRS' practices meet its fiduciary duties and to obtain an independent evaluation of six areas: legal and regulatory framework; governance framework; enterprise strategies and risks; investment operations; pension administration operations; and administrative operations. The review focused on potential improvements regarding: 1) governance, investment and administrative policies and procedures; 2) resources associated with managing the system; and 3) functions, roles and responsibilities of the staff, investment managers and consultants. In most cases, we compared WRS' policies and practices to leading, prevailing and lagging practices at peer public retirement systems. The Board made it very clear that they wanted a constructive but critical review to identify practical improvement opportunities.

This executive summary presents an overview of our findings and recommendations. The main body of this report contains a detailed assessment and recommendations for each of the six areas.

Overall Assessment

The WRS Board functions very well and its trustees are committed to its success. The WRS Board is a fiduciary board with specific statutory and other legal mandates that require it to make decisions only to the exclusive benefit of the members and beneficiaries of the system. The Board has been delegated full authority by the Legislature to invest \$8 billion, yet lacks the administrative authority to allocate resources and approve staffing, select the custodial bank, or disburse payments. For example, it cannot hire a clerk or move approved budget across line items without legislative approval. These restrictions potentially impede the Board from fulfilling its fiduciary duties. As a fiduciary board responsible for a pension trust fund, WRS should have more autonomy than other state agency boards.

As a result, compared to peers, the overall WRS level of staffing is thin and compensation levels are significantly lower. This also increases operational risk. For example, lack of segregation of duties due to combining positions can lead to an erosion of internal control while lack of back-up, cross-training and succession plans can lead to key person risk. The incentive compensation plan recently passed by the state legislature should reduce some risk in the investment office by reducing turnover and reducing recruitment challenges. However, it will only partially address the broader issues of lack of appropriate staffing across the agency, lack of budgetary discretion, choice of custodian, and handling of disbursements.

Similar to most other peer public retirement systems, WRS has in recent years significantly increased the complexity of its trust fund assets through diversification into new asset classes and derivatives. At the same time, the Board has not had the authority to authorize hiring of additional staff to ensure adequate resources to manage this more complex portfolio of investments. The legislature has authorized growing the investment

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“front office,” those investment professionals who research, select and oversee the external managers who invest WRS assets on a day-to-day basis. However, growth in key middle- and back-office capabilities, for example, investment accounting, valuation, risk management, and liquidity management, has been much more limited and not kept up with portfolio complexity. As a result, the ability of the Board to provide effective oversight of the fund is not as developed as it should be; providing more middle- and back-office support should be a Board priority.

WRS needs to improve its performance measurement and reporting in virtually all departments. Key performance indicators in the vital functions of investments and pension operations are needed to provide insights to effectively oversee the system. Although operations appear to function smoothly, there are limited metrics which track and monitor performance and enable the quick identification of problems or improvement opportunities. The Board should have access to more operational performance intelligence to improve its oversight of WRS’ vital functions (e.g., for investments, attribution analysis, and for pension administration, % of new retiree checks within 30 days, average call wait time and hang-ups, etc.)

Operationally, WRS should develop a multi-channel customer service plan which identifies how a member, retiree, or employer communicates with the retirement system. It should consider developing a “contact center” approach to improve handling of telephone inquiries. WRS also needs a succession plan which identifies key person risk and short- and long-term solutions for filling any gaps.

Legal and Regulatory Framework

WRS has a strong, effective legal framework. This framework is supported by provisions of the Wyoming Retirement Act that assign sole and exclusive responsibility for the administration and operation of the retirement system to the Board, as well as the Uniform Management of Public Employee Retirement Systems Act (UMPERSA), enacted by the Wyoming legislature in 2005. UMPERSA was a Model Act developed by legal experts from all 50 states in the 1990s and was designed to clearly define the roles and responsibilities of the trustees and other fiduciaries of a retirement system. However, in drafting the Wyoming legislation, one critical change was inserted which requires approval by the state legislature annually for the system’s administrative budget. This one added phrase in the statute is a major deficiency which has wide-ranging implications for WRS, including chronic understaffing. It should be removed to provide the fiduciary Board with authority commensurate with its responsibilities.

The size and composition of the Board is typical among peer retirement systems. While the Governor is responsible for appointing trustees, recent practice is for the Governor to consider a pre-qualified list of potential candidates provided by WRS, which can be considered a leading practice. The Board appears to function effectively and in a collegial manner. Although the statute requiring WRS to have at least one appointed trustee with “professional experience in investments and finance” was recently amended to require at least two experienced trustees, there are currently three trustees who have finance experience.

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The Governor can appoint as many as five at-large trustees with specific experience of some type, including in investments and finance. The legislature could consider revising the statutory experience requirement to include a broader range of retirement matters, for example, actuarial, insurance, and/or pension administration.

The inclusion, in Board meetings, of four legislative liaisons is somewhat unique to Wyoming. This appears to provide an effective link to the state legislature and also to enhance legislative oversight of the retirement system. WRS and the legislative liaisons should collaborate on developing more structured and extensive onboarding materials in consideration of the election cycle which causes recurring turnover among the legislative liaisons.

An implication of the aforementioned requirement for the state legislature to approve the annual WRS budget is that the Board does not have the final authority to approve hiring of staff or set compensation levels. Although WRS is governed by a fiduciary board with specific statutory and other legal mandates to make decisions only to the exclusive benefit of the members and beneficiaries of the system, it remains subject to the same limitations of authority with respect to budgets and staffing as all other state agencies that do not have the same fiduciary responsibilities.

Similarly, the Board does not have authority to hire the custodial bank, an integral part of investment operations, as the State Treasurer has final approval authority. Although this has not created any problems in recent years, it is a lagging practice which has created added cost and complexity in some other states. In the few remaining states with this arrangement, the recent trend has been for the state legislature to delegate selection of the custodial bank to the retirement system board (e.g., South Carolina, New Mexico). The final area where WRS' authority is limited by statute relates to the requirement for all disbursements to flow through the State Auditor's Office. This is a highly unusual requirement which imposes added costs onto WRS and its beneficiaries.

Governance Framework

Overall, the governance framework at WRS is sound and includes several leading practices. For example, all delegations from the Board are through the Executive Director, including investment manager hiring and firing. This is a leading practice. The Board is effective and committed to the well-being of WRS and its constituents. There is an effective, comprehensive Board Policy Manual in place which includes all key policies. The WRS communications plan, as well as WRS trustee outreach to stakeholder groups and the Legislature, can also be considered leading practice.

Despite the strong governance framework, there are opportunities for improvement. The Board should update the asset-liability study and strategic asset allocation every three to five years, not annually as is the current practice with the asset allocation. The annual review should be limited to a review of adherence and validity of underlying assumptions. The Board should also update its investment beliefs prior to the next asset allocation study. The Board Policy Manual could be reorganized to better balance investment and other policy areas. The current Executive Director is planning on retiring shortly so this job description should be updated and with a greater level of detail.

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The WRS Board committee structure appears to function effectively. However, the Board could consider adding a Human Resources/Compensation Committee to address oversight of staffing and compensation matters, especially as the new incentive compensation plan for investment staff is implemented. In addition, organization-wide succession planning will become critical in the next five years.

The work of the Board and its committees should be structured around a multi-year strategic agenda which focuses on the major recurring decisions which the Board must make. The committee charters should then be updated consistent with the work assigned.

As part of trustee development, Board chair, vice chair, and committee chair leadership positions should be rotated periodically, for example, every two years. In addition, more individualized trustee onboarding and continuing education should be developed which is tailored to the needs of each individual and is linked to the key decisions anticipated in the Board strategic agenda and calendar.

Enterprise Strategies and Risks

WRS has developed and maintains a strategic plan for the organization. The strategic plan identifies critical activities and appears to be comprehensive. However, the strategic plan could be more effective if it was linked to outcomes and key performance indicators. These could be used to monitor progress and success. It would also be helpful if WRS considered the impacts of strategic and operational risk and their relationship to performance in development of the strategic plan.

WRS reporting of investment manager fees is consistent with prevailing practice among peers, but should consider developing a fee disclosure policy which includes breaking out management fees, performance and incentive fees, and carried interest by asset class to improve transparency. The Board should also develop an investment manager fee policy to provide guidance to staff and external managers.

As mentioned earlier, all delegations from the Board are through the Executive Director, which is a leading practice. In addition, the Internal Auditor reports to the Audit Committee, a prevailing practice. However, in several areas WRS has evolved the organization structure to accommodate the capabilities and, in some cases, limitations, of its staff, and in other cases to provide career path opportunities. In addition, as an organization with a small staff, there are certain areas where lack of segregation of duties limits effective internal controls and also areas where backup is limited, resulting in operational risk.

WRS should design an ideal target organization structure to which it can evolve as current incumbents retire and new staff are hired. Aspects of the new organization would include a more robust finance function, improved internal controls and segregation of duties, more backup and opportunities for cross-training, and more formalized functions for human resources, procurement and investment accounting. An example target organization is provided in Appendix C.

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Although WRS staff turnover has not been abnormally high in recent years, the current level of staffing with a number of key employees without backup, combined with a high percentage of retirement-eligible staff and significantly below-peer compensation levels, results in a high level of operational risk due to potential staff departures. In addition to continuing to pursue staffing and compensation authority for the Board, WRS should increase and formalize cross-training to mitigate operational risk and potentially improve career development opportunities. Succession planning is critical for the entire staff, not just the Executive Director. Almost 44% of WRS staff are eligible to retire in the next five years (versus about 30% state-wide in other agencies). This impending retirement cliff will pose challenges for the State as well as WRS.

WRS appears to have an effective legislative advocacy program. The trustees are effectively engaged with all key stakeholders and work cooperatively with WRS staff to advocate for key legislative positions. The Board should continue these efforts and pursue additional autonomy in order to better allocate WRS resources to continue to build organizational capabilities. This could include identifying opportunities to better leverage the influence of the one in six Wyoming residents affected by WRS.

Investment Operations

The Board delegation of manager selection to the Executive Director and the investment staff is a leading practice. The Board has put in place leading practice policies in most areas for oversight of investment processes and performance. However, the general investment consultant, which is the Board's consultant, should be more involved in decision-making. The general investment consultant should provide an independent assessment and resources for each potential manager selection, as well as the development or delivery of more comprehensive risk and attribution reports. The investment risk policy and investment risk reporting can be improved with the assistance of the general consultant and the internal investment staff. The Board should also revisit and update their investment beliefs and ensure that the overall investment program is consistent with those beliefs. Some Board members are not satisfied with the reporting of overall risk and reward profile of the fund and whether or not the fund has sufficient "downside protection". The Board would also like to have a better benchmarks of performance against peer funds. WRS could benefit from investment cost, performance and risk benchmarking through an independent third party. It may also be necessary to contract with an outside firm to obtain the necessary internal audit skills required to review investment controls and processes. The Board should revisit its policy limiting any investment in a manager fund to no more than 10 percent of a fund's assets under management and consider if this is necessary.

The current practice of the Board is to revise the asset allocation (and a resultant custom benchmark) very frequently, often annually. In our opinion, this is a lagging practice. We consider the resulting blurring of responsibilities and measurement to be detrimental to effective accountability under WRS's delegated investment management model. This will become especially problematic when incentive compensation is introduced.

Current practices will not align effectively with the accountability and measurement of performance that must be quantified for the incentive compensation pool. Accordingly, we recommend separating the processes and accountability for: 1) the strategic asset allocation (with its targets,

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ranges and Policy Benchmark); and, 2) the tactical portfolio structures and strategies (and their custom benchmark) which are adjusted more frequently within the parameters and ranges set by the Investment Policy Statement. The Board should remain responsible for the former, and the staff for the latter, as we explain in the Investment section of this report. Appendix E presents a tabular summary of our recommended re-alignment.

Overall, the WRS investment operations function effectively, with competent leadership and staff. While due diligence appears to be adequate, formal, written due diligence standards and processes should be developed and adopted and travel budgets should be developed accordingly. Investment staff currently leverage external resources effectively, although it may be possible to better leverage the general consultant's capabilities. Investment operations could benefit from improved back- (e.g., investment accounting, valuation) and middle-office (e.g., capital calls, liquidity management, counterparty risk) capabilities. This would also reduce operational risk and improve internal controls.

The low level of investment staff compensation relative to peers is an issue with respect to recruiting and retention of qualified investment officers. The recently-approved incentive compensation plan includes additional compensation based upon fund performance compared to benchmarks. This will be a significant improvement.

Investment performance measurement lacks clarity and creates dissatisfaction among Board members. Fund performance is measured against a custom benchmark approved by the Board to match the asset allocation, and also against peer public retirement systems, which does not consider the impact of the asset allocation. According to both sets of benchmarks, WRS fund performance has been in the third quartile for the 3-, 5-, 7-year periods, and at the very low end (49th) of the second quartile for the 10-year period, although the shorter 1-year period improved, showing the fund ranked at the 41st percentile. The Board should direct its general consultant to work with the Chief Investment Officer (CIO) and his staff to develop recommendations for improving overall performance reporting, risk reporting, and use of benchmarks.

WRS leaders aspire to be a top-performing public pension fund; however, top performance is not likely to be achieved with the current resources and investment program. The WRS Board should study and evaluate the alignment of its strategies with current resources and capabilities. They should then compare WRS' approach to the strategies and practices of several peer plans that have consistently achieved superior returns (see Appendix D for a high-level example comparison). Fundamental assumptions regarding WRS's strategic advantages, capabilities, opportunities and limitations should be revisited.

Although investment accounting for the WRS financial statements is adequate, there has been significant operational risk due to insufficient backup resources and succession planning. Until recently, an investment analyst in the investment office performed investment accounting tasks due to the lack of resources. An investment accountant was recently hired (February 2019) using one of the investment analyst positions. This should help alleviate the staffing issue. In the future, the investment accounting leadership position should be elevated and be filled with a person with a CPA or similar certification.

Benefit Operations

The WRS website is typically the first contact channel. It offers a high level of self-service functionality to allow members and annuitants to calculate future benefits and service purchase options, file for retirement online, update records online, and access most forms which might be needed. The website has separate portals for members and employers, as well as for WRS employees. The member portal is linked to member and annuitant accounts in the RAIN system, providing access to annual statements and other information. Since going live in 2014, WRS has continued to enhance the RAIN system and its capabilities.

Unlike most peer retirement systems, WRS does not operate a formal contact center to handle calls from members and retirees when they have questions which cannot be answered through the website. Calls are answered by a receptionist who transfers calls to the appropriate counselor or other WRS staff member. The telephone system, referred to as the “hunt system,” lacks many of the capabilities typically found in a contact center telecommunications system. This would include, for example, self-service and menu options, links to member records and prior calls, help system with scripts for counselors, recording all calls for training purposes, integration with email response capabilities, and tracking call volumes and projecting future volumes to assist in setting staffing levels.

Although there do not appear to be customer service issues with the current WRS handling of member and retiree inquiries, there is no defined quality control and monitoring process nor are there defined metrics or performance standards. WRS should develop and implement performance metrics and standards for incoming calls as part of a broader refinement of measuring and monitoring customer service levels. An overall customer service plan should be developed which includes a multi-channel approach for interacting with members, retirees, and employers (i.e., website self-service, email, normal mail, face-to-face, and telephone calls) and consider how to best structure a contact center approach to be effective. Once the customer service plan is completed, a contact center could be developed consistent with the overall strategy and plan. A business case with costs/benefits should be included to justify the investment required.

With new retirees, most peer retirement systems strive to make an initial payment within 30 days and utilize estimated payments in order to achieve this. WRS does not utilize estimated payments and, consequently, some payments require several months to be finalized and paid. WRS should evaluate the cost/benefit of using estimates for initial payments and determine if it is a practical solution to achieving near-100% initial payment within 30 days of retirement, which is now the standard.

While WRS does record enrollment data, there are not specific performance metrics and standards with associated monitoring and reporting. Since the go-live of the RAIN system in 2014, old (pre-2000) employee records with inconsistent data have been a major barrier to timely processing of retirements. However, the backlog of records to be cleaned up appears to be dwindling and this is no longer a major barrier. In general, the WRS infrastructure for processing new enrollments and retirees is prevailing practice. As part of a broader customer service planning initiative identified above, WRS should also develop and implement performance metrics and standards for initial payment processing.

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WRS information technology (IT) services are provided by sister agencies, particularly the Enterprise Technology Services (ETS) group, through a state mandate. This is similar to some peer state retirement systems but is not optimal as the Board may not have the authority to invest in IT or outside services as it sees fit. Having said that, WRS management reports that it is comfortable with the current situation and its reliance on state government for IT support. WRS believes it has been able to effectively leverage the resources of ETS. The RAIN/OnBase system appears to provide integrated member and employer services comparable to peer funds in other states.

WRS should seek approval for additional programming resources to make more timely system modifications to the RAIN/OnBase system required as a result of Board and legislative policy changes. Although WRS IT is somewhat constrained by the state's oversight and control, WRS should nonetheless plan for IT to support its overall strategic plan. The Business Integration Manager should undertake with management to create a 5-year strategic IT plan that complements the WRS strategic plan. WRS should also consider if an intranet could be an effective tool to improve the availability and timeliness of policies and procedures for staff on a day-to-day basis.

Administrative Operations

The WRS' actuarial and member benefits policies are consistent with leading or prevailing practice. Based upon our discussions with trustees and the consulting actuary, the Board appears to give careful consideration to actuarial calculations and plan funding and receives competent external advice. The five-year smoothing assumption is prevailing practice for state public funds and the thirty-year closed amortization schedule used by WRS for its unfunded actuarial accrued liability (UAAL) is commonly used by peer funds. However, the trend is to reduce the UAAL amortization period to reduce intergenerational wealth transfer. For example, pension funds participating in the 2018 NCPERS Public Retirement Systems Study shortened their amortization periods to an average of 22.4 years in 2018, down from 23.8 years in 2017. The WRS Board should ask its consulting actuary to provide an analysis and make a recommendation regarding WRS' UAAL amortization period to consider if a closed period shorter than 30 years would be more appropriate.

At an average age of 47.8 years old (as of June 30, 2018), the WRS workforce is slightly older than the Wyoming state agency average of 44.9 years old. WRS also has a higher average level of staff eligible for retirement than other state agencies. For example, 23.1% are currently eligible to retire (versus state average of 15.6%) and 43.6% are eligible to retire within the next five years (versus state average of 29.8%). Although the Board has a leading practice succession planning policy with respect to the Executive Director position, WRS does not have a formal succession planning policy or process for staff. There are ad hoc efforts at cross-training in some departments, and the current executive development program is well considered and should be helpful to long-term professional growth.

The WRS Board should update the Executive Director job description and add considerable detail regarding requirements, consistent with delegated responsibilities. Similarly, staff job descriptions should be consistently updated and linked to the annual review process. Finally, WRS should develop and implement a staff succession planning policy and process to complement the leadership development program already in

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place. The program should include identification of critical positions and potential vacancies, identification of key competencies and skills necessary for business continuity, safeguarding the departure of critical institutional knowledge, and a replacement planning process that concentrates on immediate needs and a “snapshot” assessment of the availability of qualified backup for critical positions.

Scope

The firm shall objectively and systematically conduct a governance and operational review of the defined benefit plan administration, investment operations and sponsorship of the 457 Plan. The review should focus on enhancing the Plan's practices in these areas so as to move it closer to leading practices for operations and risk management. The review should include the various task areas listed below:

1. Legal and regulatory framework
 - Oversight authorities
 - Board statutory authority/limitations (Budgets, Staffing, Compensation, Procurement)
2. Governance framework
 - Powers reserved for the Board
 - Delegations to staff and third parties
 - Board committee structure
 - Board committee charters
 - Trustee time commitments
3. Enterprise strategies and risks
 - Manager fee reporting policies and practices
 - Staff organization structure
 - Staff compensation policies and retention
 - Legislative positioning (reactive and proactive)
4. Investment operations
 - Role and authorities of internal investment staff
 - Incentive compensation plans
 - Measuring effectiveness
 - Investment accounting, performance reporting and fund valuation
5. Benefit operations
 - Member contact center
 - New member enrollment
 - Technology and record keeping information systems
6. Administrative operations
 - Actuarial Valuation and Plan Funding decision-making
 - Succession planning

Funston Advisory Services LLC is not an investment advisor, and no recommendations contained in this report should be construed as investment advice.

Process

This review was conducted through the following process steps:

1. Document review
2. Self-Assessment Survey
3. InGov™ Profile
4. Staff Interviews
5. Follow-up with individuals for further information
6. Interviews with the Board and external service providers
7. Draft report for Executive review and incorporate feedback
8. Submit report for Board review and incorporate feedback from WRS Board – Mar. 27 - April 24, 2019
9. Finalize report and present to WRS Board – April 24 - May 15, 2019

Background and Impact of the System

The Wyoming Retirement System (“WRS”, “the System”) is comprised of eight public employee retirement plans, the largest of which is the Public Employee Pension Plan (“PEPP”). WRS was established in 1953 by the Wyoming Legislature through the Wyoming Retirement Act (“WRA”). Prior to that separate plans for paid firemen, teachers, and state employees were created in the 1930s and 40s. In the decades following, other plans were created for the State Highway Patrol, Game Wardens, law enforcement, criminal investigators and judges. The WRA grants authority to the WRS Board of Trustees (“Board”) to administer the System. The Board hired Funston Advisory Service LLC (“FAS”) to perform this governance and operations review.

PEPP comprises approximately 86% of all actively employed members in WRS, approximately 86% of net pension assets and about 90% of pensions in force as of December 31, 2017. For the year then ended, WRS paid more than \$584,000,000 in pension benefits to approximately 30,000

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retirees and beneficiaries for an annual average of approximately \$19,500 each. About 78% of these payments, roughly \$456 million, are estimated to remain in Wyoming, helping to stimulate and stabilize the state and local economies.¹ This is the rough equivalent of approximately 9,600 average wage jobs or 3.6% of the state's total employment.² To get an idea of the impact, the City of Cheyenne's top 20 employers³ (non -state, non-federal) combined have approximately the same number of employees.

Table 1. Active Members and Pensions in Force, December 31, 2017

Plans	Active Members †	Percent of Total State Employment ‡	Pensions in Force ‡‡
Public Employees	35,013	13.066%	26,808
Game & Fish Warden, Highway Patrol, and Criminal Investigator	304	0.113%	330
Volunteer Firefighter & EMT	2,318	0.865%	1,183
Paid Firefighter A	2	0.001%	281
Paid Firefighter B	363	0.135%	128
Law Enforcement	2,661	0.993%	1,202
Air Guard Firefighter	38	0.014%	1
Judicial	47	0.018%	4
Total	40,746	15.2%	29,937

† WRS 2017 Comprehensive Annual Financial Report | Statistical Section | pg. 189

‡ Bureau of Labor Statistics. Employment – All Occupations. May 2017 State Occupational Employment and Wage Estimates - Wyoming

‡‡ WRS 2017 Comprehensive Annual Financial Report | Statistical Section | pgs. 185 - 188

In 2017, the State of Wyoming and more than 700 other participating employers contributed approximately \$168.2 million to the various plans while the employees contributed approximately \$165.6 million for a combined total of about \$333.8 million. The portfolio of investments that provided support in part for these benefit payments was valued at more than \$7.9 billion as of December 31, 2018. WRS also sponsors a Deferred Compensation (457) Plan to provide additional income in retirement for more than 21,000 members who collectively held more than \$689 million in assets in their accounts on December 31, 2017. Members contributed \$78.4 million to the 457 plan.

¹ WRS Web site, accessed January 2, 2019

² Bureau of Labor Statistics. May 2017 State Occupational Employment and Wage Estimates - Wyoming

³ <http://cheyenneleads.org/doing-business-here/top-employers/>. Accessed January 5, 2019

1. Legal and Regulatory Framework

A. Board Composition/Qualifications

Peer Comparison

- The WRS Board is a lay board, i.e., comprised of members of the general public. With few exceptions, this is characteristic of U.S. public pension boards.
 - The WRS Board is comprised of eleven voting members, including ten members appointed by the Governor and approved by the Senate, plus the State Treasurer ex officio.
 - Not more than 75% of the eleven trustees can be from the same political party.
 - Five represent different constituencies (one retired member of the system, two members of the public-school system, the community colleges or the University of Wyoming; and two members, exclusive of the public-school system, the community colleges and the University of Wyoming, one of which is a participant in the Wyoming deferred compensation program).
 - Five are qualified electors from Wyoming who are known for their public spirit and business or professional ability, none of whom are members and at least two of whom have professional expertise in investments and finance.
 - Six-year terms, but any appointee can be removed by the Governor at his pleasure.
 - The governor may fill any vacancy occurring between sessions of the legislature by temporary appointment to be effective until March 1 of the ensuing calendar year.
 - The Chair is elected annually by board members.
 - The WRS Board has no members elected from the various constituent groups.
- With 11 Board members, the size of the WRS Board is typical compared to peers.
- Most peer funds have a requirement that one or more appointed trustees have expertise in investment, financial management, actuarial or insurance matters.
- With ten appointed trustees, WRS is on the low end with a requirement for just one trustee with expertise. Such expertise should apply to an understanding of the retirement system as a whole and not only investment expertise although that is clearly important.
- The six-year trustee terms at WRS are longer than the typical 3-4 year terms at peers. There is a practice in Wyoming of rotating off boards and commissions after two terms.
- The WRS Board has fewer Board meetings than most peer funds.

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Current State

- Trustees report the WRS Board functions well; a number have commented that it is one of the highest functioning boards they have sat on. They cite:
 - Collegiality;
 - Professionalism; and,
 - Respect.
- Four legislative liaisons who attend WRS Board meetings are appointed by legislative leadership
 - Two representatives; and,
 - Two senators.
- Current qualification requirement is that one member of the WRS Board must have “professional expertise in investments and finance;” House Bill 301, recently passed by the legislature, increases this requirement to two trustees.
- The current Board of WRS already has three trustees who can be considered to have some level financial/investment expertise.

FAS Assessment

- An uneven number of board members is appropriate to avoid tie votes.
- Although the requirement for one trustee to have financial expertise is fewer than many peers, with most lay boards, obtaining investment expertise is typically addressed by:
 - Full-time retirement system professional staff; and,
 - Use of independent investment consultants and advisors.
- WRS could benefit from trustees with experience with broader range of retirement matters (including investment).
- The Governor has made appointments from a list of candidates recommended by WRS; this is a leading appointment practice.
- The State’s interests are very well represented through the appointment process and by the involvement of the legislative liaisons; however, there is no documented role identified for the legislative liaisons and there is typically some turnover every two years.

Recommendations

- Increase trustee expertise or access to expertise:
 - Improve on-boarding and continuing education for trustees to accelerate their learning curve;

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- Consider amending trustee requirements and appointment considerations to place greater emphasis on investment, financial, pension and/or actuarial experience and expertise (apply this requirement on the next rotation); or,
 - Add expert, non-voting advisory members to serve on existing WRS committees (similar to the Washington State Investment Board or Massachusetts PRIM).
- The Board should more systematically exercise its responsibilities to advocate on behalf of WRS leveraging the influence of its participants and beneficiaries.
- The WRS Board, in cooperation with the legislative liaisons, should consider developing a description of the respective roles and responsibilities of the legislative liaisons and the WRS Board and staff, along with an onboarding package, to provide guidance to new legislative liaisons and facilitate the most effective working relationship.

B. Board Fiduciary Duties and Authorities

Budgets

Staffing

Compensation

Procurement

Peer Comparison

- While budgetary and staffing autonomy is growing among peers, WRS's budgeting authority limitations are not unusual despite being a lagging practice.
- Peer funds typically have additional staff compensation authority for investment professionals.
- Leading practice is for the Board to have budgetary autonomy, consistent with UMPERSA, which aligns responsibility and authority.

Current State

- The Wyoming Retirement Act (WRA) vests the responsibility for the administration and operation of the system solely and exclusively in the Board.
- WRA sections 9-3-433 through 9-3-452, incorporated in 2005, are patterned on the Uniform Management of Public Employee Retirement Systems Act (UMPERSA) but incorporate one important limitation not intended in the full UMPERSA template:

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- In Powers of a Trustee, the WRA states, “Establish an administrative budget sufficient, *subject to legislative approval*, to perform the trustee's duties and, as appropriate and reasonable, draw upon assets of the retirement system to fund the budget”; the phrase in italics was added and is not in UMPERSA and is contrary to the intent of UMPERSA and good governance.
- Although the WRA states that, “The board has the control and management of the retirement account which shall contain all the assets of the retirement system”:
 - Any master custodial bank selected by the Board must be approved by the state treasurer; and,
 - Disbursements from the retirement account shall be made only upon warrants drawn by the state auditor upon certification by authorized system employees.
- One of the WRS Board’s several fiduciary duties is to incur only costs for the exclusive purpose of providing benefits to participants and beneficiaries and paying reasonable expenses of administering the system; the administrative costs of the System are paid from the System’s funds and not the State’s general fund.

FAS Assessment

- UMPERSA is leading practice in the public sector for defining the fiduciary responsibilities of trustees, investment rules, trustee liability, disclosures, and enforcement; however, the one unique modifying phrase inserted by the legislature impairs WRS Board authority and contributes to a growing level of operational risk (see Appendix B for examples of operational risk in public retirement systems).
 - The longer the lack of WRS budgetary autonomy goes unaddressed, the greater the operational risk becomes; for example, some investment professionals are being asked to perform back and mid-office functions and we were told that this has recently resulted in an investment staff departure.
 - Professional management is extremely important, as is support for those investment professionals; the potential failure of the back- and middle-offices to keep pace with investment management poses increasing operational risk.
 - WRS has expanded its professional investment staff in order to diversity its portfolio to achieve expected rates of return; however, its back-office functions have not kept pace with the growth in investment staff and the complexity of its portfolio.
- WRS is the only fiduciary board responsible for managing a public trust fund in the State of Wyoming; however, the WRS Board has no authority to hire a clerk, move approved resources across budget line items or within a range, despite its sole discretionary authority over the investment of \$8 billion.
- As noted above, despite the fact that the administrative budget is paid from the system’s own funds, the WRS budget and staffing are managed by the Legislature on a line by line basis.
- The 2017 administrative budget for WRS was less than 1/10 of 1% (0.094%) of the average 2017 Net Assets Under Management or 9.4 basis points.

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- Overall WRS administrative expenses, at 7 basis points of the fund assets, are below the median and well under the average for its peer group.
- While there been some gains, WRS is still constrained by lack of budgetary autonomy and by conformance to civil service requirements and compensation as well as a reliance on sister agencies such as ETS.
- Although in recent years it has not created any issues, requiring the State Treasurer's approval of the master custodial bank is a lagging practice which has, in other states, sometimes created operational risk and inefficiency and potential for conflict of interest, such as pay-to-play.
- The requirement for all WRS disbursements to flow through the State Auditor's Office is highly unusual and limits WRS' ability to optimize its day-to-day financial operations.
- The current legislated budget, staffing, compensation, disbursement and custodial bank approval constraints are lagging practice.

Recommendations

- Consistent with the authority granted by the WRA, the Board of WRS should have the authority for prudently determining its administrative budget (including staffing and compensation) given that these costs are paid from the system's funds and not the State's general fund.
- The legislature should provide budgetary capabilities for the WRS Board to be more responsive to rapidly changing circumstances through:
 - Elimination of the requirement for legislative approval of the WRS budget and either:
 - Alternative 1: Allow the Board to set staffing and compensation levels; or,
 - Alternative 2: Establish an administrative budgetary cap (for example, based on some % of the accrued actuarial liability or assets under management) that would require legislative approval to exceed.
 - Allow the Board to select the master custodial bank without seeking approval from the State Treasurer.
 - Allow WRS to fully manage its financial accounts, as stated in the WRA, without requiring all disbursements flow through the State Auditor's Office

2. Governance Framework

A. Powers Reserved and Delegations to Staff and Third Parties

Peer Comparison

- The content of the WRS Board Policy Manual is generally consistent with prevailing practice at peer funds but is organized differently and integrated with the Investment Policy Statements.
- WRS utilizes prevailing practice with formal delegations of authority and Executive Director annual performance evaluations; the Executive Director also obtains informal feedback through regular meetings with the Board Chair.
- The areas where the Board seeks independent third-party advice (investments, actuarial, governance/ leadership) is typical.
- Delegation of portfolio allocations and risk management to staff is consistent with delegation of manager selection, with Board oversight.
- The WRS Board appears to be more involved in the development of the Investment Policy Statement than peer funds.
- WRS' documented communications plan, with extensive coverage of various stakeholder groups, is leading practice, although meetings with employers appear to be less frequent for WRS than peers.
- WRS trustees appear to have a more formal communications role with constituent groups than most peer funds.
- Leading peer practice is to have a multi-year calendar that guides the activities required to support the longer-term strategic decisions of the Board (e.g., asset-liability management), the supporting work of the committees, and ongoing Board education.

Current State

- The Board Policy Manual clearly articulates all delegations through the Executive Director, including:
 - All organizational performance accountability; and,
 - Responsibility for management of the investment program.
- The Board policy clearly states that the Board's responsibility is to establish policy and that implementation of the Board's policies is delegated to the Executive Director.
- The Board does not have an explicit policy regarding rotation of leadership positions (e.g., Board chair, committee chairs).
- The WRS Board Policy Manual is unusual in that it begins with the defined benefit plan Investment Policy Statement, then the 457 deferred compensation plan Investment Policy Statement, and then addresses non-investment policies and procedures in the second half of the policy document.

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- The Board Policy Manual includes a section on “Governing Approach” that articulates the Board’s emphasis on outward vision, diversity of viewpoints, strategic leadership, distinction of Board and Executive Director roles and responsibilities, collective decisions, adherence to policies, and being proactive.
- Trustees generally participate in the work of the Board.
- Many WRS trustees have active relationships with member and retiree groups, legislators, and other key stakeholders and communicate regularly with them; this is coordinated with the efforts of WRS senior staff.
- The Board Chair meets frequently with the Executive Director, typically weekly.
- The Investment Committee Chair speaks with the CIO frequently, typically twice per week.
- The Executive Director’s job description was last revised in 2010 and is very broadly defined; this is currently being revised prior to posting the position upon the impending retirement of the Executive Director.
- Board policy under Investment Limitations requires that the Executive Director, “Have the CIO perform an asset allocation/liability study at least every 5 years and to report the results of that study to the Board”.
- The Board approves changes to the asset allocation, as proposed by the Investment Committee, with input from the CIO and staff, typically on an annual basis.
- The Board has a succession planning policy for the Executive Director that is prevailing practice.
- A checklist of recurring tasks is included in Board packages that lists key annual activities and five-year cycle activities (experience study, asset/liability study, independent actuarial review).

FAS Assessment

- The WRS Board is effective and committed to the well-being of WRS and its constituents.
- The Board Policy Manual, based upon its organization, appears to emphasize investment-related policies over all other policies.
- The current chairs of the full Board and the Investment Committee have been in their positions for 4 years; some rotation for development purposes should be considered.
- WRS Board delegation of investment manager hiring/firing and evaluation to internal investment staff, with the concurrence of the Executive Director, is considered leading practice.
- The WRS practice of revising the asset allocation annually (as distinguished from portfolio structure) is a lagging practice and inconsistent with the intent of the Board’s policy.
 - Tends to cause investment decisions to be reactive to recent market conditions and inconsistent with long-term investing;
 - At other funds, simulations have shown historical annual adjustments by the Board consistently reduced performance; and,
 - Typically, changes in the asset allocation require multiple years to implement.

Final Report

- WRS' communications plan, with extensive coverage of various stakeholder groups, could be considered a leading practice.
- The active involvement of WRS trustees with member and retiree groups, legislators, and other key stakeholders appears to be effective.
- WRS Board advocacy is very important and appears to be effective; however, there may be opportunities for further structured engagement:
 - Further leveraging the large group of members and retirees throughout the state; and,
 - Continuing to broaden trustee involvement beyond the Board chair and several other trustees.
- Although delegations are clear and comprehensive, the Executive Director's job description is vague and should be updated.
- The Executive Director succession planning process addresses development of backup capabilities, the potential for a national search, and emergency procedures for an Interim Executive Director, but it does not identify who on the Board is responsible or if a Board search committee will be formed when needed.
- Although there is a list of recurring activities and decisions, it is not explicitly used to develop committee agendas and plan Board education activities.

Recommendations

- Re-organize the Board Policy Manual to provide easier reference to non-investment Board policies and consider creating separate Investment Policy Statement documents for the defined benefit and 457 deferred compensation plans; see Appendix 1 for an example of a typical Board Policy Manual table of contents.
- The Board should increase the rotation of trustees through the vice chair and various committee chair positions to improve development of future Board leadership.
- The Board should follow the recommendation of its general consultant to establish "broad band" ranges for larger, flexible asset classes in its Investment Policy Statement, and leave tactical management to the professional staff; as noted below, this becomes increasingly important as WRS enters a new era of performance-based incentive compensation.
- The Board should follow its policy of having the CIO perform an asset allocation study at least every five years, and not more frequently than three years, rather than modifying the asset allocation annually.
- In conjunction with conducting the asset allocation study every three to five years, include a review of the Board's investment beliefs, with an annual review to check adherence and underlying assumptions.
- The Board should review the role and interaction of the CIO and the investment consultant in development of the strategic asset allocation, and the benchmarks used to calibrate effectiveness of the plan vs. peers as distinguished from internal performance attribution.

Final Report

- The Board should continue to formalize its efforts to focus trustees on stakeholder engagement and develop a more explicit plan for all trustees.
- As part of the upcoming Executive Director search process, develop a more comprehensive Executive Director job description.
- Develop a multi-year calendar of key policy and direction decisions required for both the Board and its Committees.

B. Oversight of the 457 Deferred Compensation Plan

Peer Comparison

- Most retirement systems with deferred compensation plans have a Board committee with oversight responsibility, similar to WRS.
- Organizationally, most deferred compensation plans report through the chief administrator of the retirement system, i.e., with responsibility for both defined benefit and deferred compensation plans.
- Similar to WRS, prevailing practice is to utilize an external third-party administrator to administer the deferred compensation plan.
- Similar to WRS, leading practice is to have a comprehensive 457 plan document that is reviewed and updated annually.

Current State

- The WRS 457 plan has been consistently growing and recently reached \$750 million in assets.
- The 457 Deferred Compensation Plan Investment Policy Statement delegates fund selection to the Executive Director and Chief Investment Officer, with the Board retaining determination of asset classes.
- The Board Deferred Compensation Plan Committee actively works with the WRS leader of the 457 plan and the investment consultant.
- WRS has a charter for its 457 deferred compensation plan with clearly-defined responsibilities.
- As part of ongoing oversight, WRS surveyed their participating 457 plan members to obtain feedback and, through their investment consultant, researched and benchmarked other 457 plans.
- The WRS Board has recently streamlined the 457 plan fund offerings:
 - The number of funds offered was reduced from 15 to 6; and,
 - “White label” funds were created with reduced fees.
- WRS offers a family of target date funds.
- With the assistance of its investment consultant, WRS conducts fee benchmarking of the 457 plan overall and each fund offered.
- WRS is currently planning implementation of a “deemed IRA” program to provide an additional option for participants.

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- WRS handles employer enrollment, member enrollment, and member eligibility activities with in-house staff.
- The WRS 457 plan document is maintained by in-house staff, with assistance from outside legal counsel.
- WRS recently signed a new contract with its administrator; under the new contract, the administrator will provide one on-site employee in Cheyenne to support WRS.
- With its investment consultant, WRS is currently reviewing its 457 plan and considering potential improvements such as:
 - The managed accounts program, its advisor fees, and overall effectiveness for participants;
 - Enrollment of other non-state agencies; and,
 - Income-oriented options for retirees.

FAS Assessment

- The WRS Board Deferred Compensation Plan Committee is actively engaged and provides effective oversight of the 457 plan.
- For a 457 plan of its scale, WRS' use of white label funds is leading practice.
- The WRS 457 plan administrative fees are typical in terms of cost as a percentage of assets under management.

Recommendations

- WRS should revisit the value of index products to provide participant access to broad asset class exposure at lowest possible cost with no performance risk.

C. Board Committee Structure

Peer Comparison

- The WRS Board has most of the typical committees found at peer integrated funds, although a committee focused on personnel and compensation is also usually found.
- The WRS Board spends proportionally more time in committee meetings and less in full Board meetings than most peer funds.

Final Report

Current State

- There are Audit, Investment, Governance and Strategic Planning, Deferred Compensation, and Legislative and Benefits Committees.
- Peer funds typically have a Human Resources/Compensation Committee; this topic appears to be handled primarily by the Chair and Vice Chair, with input from other trustees.
- Committees appear to be working well in most respects.
- We were told that there were some instances where the Committee process and structure may have been by-passed (e.g., legislative advocacy, succession planning).
- Most committees typically meet between Board meetings, often these meetings are telephonic; however, the trustee invitation process is not clear and seems to be up to the individual chair.
- During full Board meetings, each Committee meets as a committee of the whole, with the Chair of each respective Committee leading the discussion; the Committee formulates its recommendations and the full Board then votes on the recommendations.

FAS Assessment

- Trustees stated that the process of committee meetings rotating through the full Board meetings generally seems to work well; this practice is unique in our experience but the trustees seem to appreciate it.
- Although the charters appear to be clear, several trustees expressed some overlap in activities between the Governance and Strategic Planning Committee and the Legislative and Benefits Committee with respect to advocating with the legislature.
- There are several Board responsibilities for personnel-related activities (ED job description, succession planning) which have increased priority; with the new incentive compensation program for investment staff approved, the Board will have additional responsibilities.

Recommendations

- Add a Human Resources/Compensation Committee given the strategic importance of attracting and retaining needed talent, especially given the impending retirement cliff and the potential need to approve annual incentive compensation.
- Committees should work with their assigned staff and recommend to the Board the priority strategic agenda items they should respectively focus on for the next one, two, three, four and five years.
- The Board should approve the strategic agenda and delegate strategic agenda items to its committees.
- The committee meeting invitation process should be clarified: who gets invited and by whom?

D. Committee Charters

Peer Comparison

- Prevailing practice is to have a formal charter for each committee of the Board that includes purpose; authorities; committee composition; meeting frequency and attendees; responsibilities; reporting; and, self-evaluation.

Current State

- Formal charters exist for each committee and are included in the Board Policy Manual.
- Investment Committee, Deferred Compensation, Governance and Strategic Planning Committee charters were last updated in 2010.
- Based upon trustee feedback, there appears to be perceived overlap between the duties of the Legislative and Benefits Committee and the Governance Committee.

FAS Assessment

- In general, the WRS Board committee charters are brief and well-articulated; however, improvements could be considered in several areas:
 - Most of the charters describe high-level purpose statements that are not linked to explicit Board powers and are often subject to interpretation.
 - The Audit Committee charter does not include a requirement for periodic independent reviews of the Internal Audit function.
 - The Investment Committee charter describes the committee's responsibilities but does not indicate the frequency with which they should occur, for example, in particular:
 - Review of investment policies and procedures; and,
 - Review of the target asset allocation.
 - Most of the charters have not been updated for eight years.
- WRS Governance Policy states that, "All members of the Retirement Board shall be notified as to the time and place of all committee meetings;" based upon comments from several trustees it does not appear this is being consistently followed.

Recommendations

- Update the Committee charters and clarify responsibilities of each committee in greater detail.

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- In so doing, consider reorganizing the Charters to explicitly reflect the four powers reserved:
 1. Set strategic direction and policy;
 2. Approve certain decisions;
 3. Conduct selected activities (e.g., hire, evaluate and compensate the Executive Director);
 4. Oversee prudently delegated authority to the Executive Director and external service providers.
- Consider reorganizing Board and Committee meetings and key decision calendars to explicitly reflect the powers reserved.
- In the Audit Committee charter, consider adding a requirement for periodically (e.g., every five years) commissioning an External Quality Assessment of the Internal Audit Activity by the Institute of Internal Auditors.
- In the Investment Committee charter, consider adopting a stated frequency for review of investment policy (e.g., every 2 years or as needed) and asset allocation (e.g., every 4 years), or provide a broad time range, such as 3-5 years for the strategic asset allocation.
- Ensure that the policy for notifying each trustee of the timing and location of each committee meeting is followed.

E. Trustee Time Commitments

Peer Comparison

- The WRS Board has fewer Board meetings than most peer funds.
- Although WRS has fewer Board meetings, the trustees spend at least as much time as trustees at peer funds as a result of committee meetings, legislative advocacy, member and retiree stakeholder outreach, and interactions with staff.
- The amount of time spent by WRS staff supporting the Board is typical.
- Similarly, the number of pages supplied to board members for each meeting is also typical.

Current State

- Most trustees estimate they spend at least 1-2 days per month on WRS Board related matters.
- The Board chair and committee chairs spend more time:
 - The Board chair and the Investment Committee chair spend up to 25% of their time, with a significant effort on advocating for WRS with the legislature.
 - Several trustees spend time regularly speaking with senior WRS staff.

Final Report

- Several trustees stated that some Board members tend to dig down into greater detail, depending on their individual interests, which is time consuming for the Board and inefficient.
- Although the typical amount of material provided to the Board for each meeting is typical for peer funds, several trustees stated that it is too much to effectively digest before each meeting.
- Several trustees stated that they would be willing to spend more time on WRS activities, but felt excluded from some discussions and activities which were being driven by the chair (e.g., succession planning, legislative outreach).

FAS Assessment

- WRS trustees appear to be committed to fulfilling their duties, being well prepared for meetings, and maintaining relationships with key stakeholder groups.
- A number of trustees, while appreciative of the Chair's efforts and commitment, feel left out of some decisions; this appears to result from the Board Chair taking action in between the quarterly Board meetings without consistent and effective communications to all the other Board members.

Recommendations

- The Board chair should ensure that:
 - All relevant topics are included on the Board agenda;
 - All trustees feel informed and have an opportunity to participate in board discussions without getting into unnecessary details; and,
 - When important activities occur in between Board meetings there is clear authority to act when necessary, coupled with effective communications to all trustees.
- The WRS Board should consider developing guidelines for rotating leadership positions every 2-3 years to encourage broader trustee involvement.

F. Trustee On-Boarding and Continuing Education

Peer Comparison

- Leading peer practice for public retirement system boards includes:
 - A description of the experiences and/or expertise required for trustees to fulfill their duties;
 - An inventory of experience and expertise of current trustees;
 - Mandated education for trustees in areas which include: fiduciary responsibilities; investments; ethics; pensions; and governance;
 - Board training plan for the full board, individual members, and new board members (onboarding); and,
 - An onboarding process which extends throughout at least the first year of a new trustee's tenure and is tailored to address the needs of the individual trustee.

Current State

- Trustees are encouraged to attend one external conference per year and are provided with a list of upcoming conferences at each Board meeting.
- The annual WRS budget includes a provision for each trustee to travel to attend one conference per year.
- Onboarding is typically a one-time, half-day event for most new trustees.
- There is an onboarding topic list included in the Board Policy Manual.

FAS Assessment

- Most trustees attend one conference per year; these appear to heavily focused on investments although some are more broadly-based.
- Onboarding is typical but not very effective; trustees state that they were still getting up to speed after a year on the Board.
- Providing recommendations to the governor for new trustee appointments is leading practice; however, this could be more effective if candidates were identified to fit specific experience and/or expertise needs identified through an inventory of Board experience.

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Recommendations

- Develop a more formal process for matching the onboarding educational needs of the individual trustee (up to two years) to accelerate the learning curve.
- Utilize the strategic board calendar to anticipate the need for refresher training on key topics (actuarial, pension benefits, investments) prior to Board deliberations.
 - Develop individualized training programs for each trustee to meet specific needs; this may include specialized investment training for some or most, and possibly a free-standing investment orientation session during the on-boarding process.
 - Several specific topics that would be well suited for on-site board education sessions in the near term include: Investment Beliefs, comparative investment program strategies and practices (e.g., Idaho, South Dakota and San Bernardino Co CA, as noted below in section 4.B.), benchmarking and performance attribution.

3. Enterprise Strategies and Risks

A. Overall

Peer Comparison

- Working with the Board, the Executive Director leads strategic planning efforts and obtains input from both the Board and the executive team.
- An enterprise strategic plan is fully developed every three to five years and reviewed annually for progress.
- The Board oversees a structured framework, such as an enterprise risk management program, for management assessing, responding to and reporting on risks.

Current State

- There is a three-year strategic plan for WRS that identifies critical activities and appears to be comprehensive; however, the plan does not explicitly address key risks.
- The plan describes goals and activities but does not consistently identify measurable outcomes.
- WRS does not utilize an enterprise risk management framework.

FAS Assessment

- The strategic plan appears to be effective and in most cases the goals are being actively pursued.
- However, there are not generally metrics identified to monitor progress against the strategies and activities.
- WRS has not explicitly linked its strategies and business plans to risk management.
- There is no common understanding of the relationship between performance and risk, either strategically or operationally.
- WRS is increasingly exposed to operational risk due to resource and compensation constraints that result in reliance on key individuals in multiple areas.

Recommendations

- Develop key performance indicators (KPIs) that reflect intended outcomes of the strategies, e.g., planned vs. unplanned turnover, retention rates, etc.
- Include a long-term, strategic assessment of resource priorities to guide legislative requests (if autonomy is not granted) and/or recruitment efforts.
- Consider a definition of risk as the potential for an unacceptable difference between actual and expected performance.

B. Manager fee reporting policies and practices

Peer Comparison

- All external investment manager fees are reported by asset class, including base management fees, performance or incentive fees, and carried interest.
- Leading practice is to have a fee policy that provides guidance from the Board to the investment staff and external managers on performance fees and carried interest and alignment of interests, the framework for fee reporting, and the process for fee reviews.
- 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.

Current State

- WRS reports investment managers base fees and their basis point cost by asset class annually in its CAFR, including invoiced and non-invoiced (netted) management fees.
- A total cost of all performance and incentive fees and carried interest across asset classes is included in a footnote.

FAS Assessment

- WRS currently collects and reports all public and private investment management fees, including performance and incentive fees and carried interest.

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- However, the performance and incentive fees and carried interest, which total more than 75% of total base management fees, are not reported by asset class and are shown as an aggregate amount in a footnote.

Recommendations

- In the CAFR or a separate fee report, consider breaking out management fees and performance/incentive fees and carried interest in the fee schedule by asset class to improve transparency and include trends, as well as contextual commentary.
- The Board should adopt a fee policy (or include a section in the IPS) that provides general principles-based guidance to staff and money managers on how performance fees and carried interest are viewed, reported and evaluated in the context of performance and the alignment of interests between the fund and its investment managers.
- Provide accounting support for the Investment Department to monitor fees as directed by the CIO.

C. Staff organization structure

Peer Comparison

- An agency Executive Director is the sole direct operating report to the Board of Trustees, similar to WRS.
- An executive position responsible for internal audit has a direct reporting relationship to the Board of Trustees, typically through the Audit Committee, similar to WRS.
- One executive position is responsible for all retirement programs, similar to WRS.
- There are clear lines of authority and each department has clearly defined responsibilities.
- The organization structure effectively supports segregation of duties to enhance internal controls.

Current State

- The Executive Director is clearly the overall leader of the system.
- Internal Audit reports to the Audit Committee, with administrative support from the Executive Director.
- The Deputy Executive Director functions as the head of pension administration and the Chief Financial Officer.
- Several staff responsible for answering member calls report through the General Counsel.
- There is no defined department or position responsible for Procurement.

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FAS Assessment

- There is no formal CIO charter or job description, but key CIO responsibilities are identified in the IPS and policy manual.
- The organization structure is idiosyncratic in several areas and designed to:
 - Accommodate the expertise, skill sets and limitations of certain incumbents; and,
 - Provide career path and compensation opportunities for high potential staff.
- There are areas where backup is severely limited and represents operational risk.
- The investment back- and middle-office functions are severely understaffed, resulting in portions of those functions being performed by front office investment staff; this creates challenges that include:
 - Reducing segregation of duties and degrading internal controls;
 - Reducing the capacity and effectiveness of investment staff; and,
 - Insufficient middle- and back-office support capabilities.

Recommendations

- WRS should develop a target organizational approach and structure that:
 - Creates a more robust financial function with investment middle (e.g., capital calls, liquidity management, counterparty risk) and back office (e.g., investment accounting, valuation, performance reporting) capabilities;
 - Reinforces internal controls and segregation of duties;
 - Creates more opportunities for key person backup, cross training and career development;
 - Includes a “contact center” approach for handling member and retiree calls and inquiries (see 5. Pension Administration Operations);
 - Recognizes that the member communications and education function now serves both the defined benefit and the deferred compensation plans; and,
 - Includes more formalized responsibilities for:
 - Human Resources;
 - Procurement; and,
 - Investment Accounting.
- We recommend organizing CIO responsibilities currently contained in the IPS into a formal CIO charter, especially given the strong level of delegation through the Executive Director; this will be important in succession planning for both positions.
- See Appendix C – Potential Organization Structure.

D. Staffing and Resource Deployment

Peer Comparison

- 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 if they are internally-staffed or from a third-party provider.
- Staffing and cost levels are independently benchmarked with peers periodically through a process which includes:
 - Detailed operational performance comparisons based upon standard metrics used in pension administration; and,
 - Investment staffing and cost comparisons which are normalized for significant differences in asset allocation, investment styles, and use of internal vs. external resources.

Current State

- The functional staffing deployment (as of 3/1/2019) at WRS, including summer interns (AWEC), IT employees from ETS, temporary employees, and a seconded employee from the deferred compensation plan administrator, is:

Functional Deployment	Full-Time	AWEC	ETS	Temp.	457 Prov.	Total
Investment management	8	2				10
Retirement administration	6			2	1	9
Member services	9					9
Employer services	4					4
Information technology	1		2			3
Legal	2					2
Finance and accounting	2					2
Public information / government liaison	5					5
Senior management / other	5					5
Total	42	2	2	2		49

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- Key external provider costs, in basis points of asset under management (AUM), were:
 - Custody 1.0 bps
 - Investment consultants (two) 0.9 bps

FAS Assessment

- WRS administrative expenses are below the peer median and peer average based upon FAS analysis of the most recent CAFRs of ten peer integrated state retirement systems:

Peer Integrated Retirement System	AUM (\$Bils)	Admin. Exp.		Peer Rank
		\$Mils	bps	
Louisiana SERS (LASERS) (6/30/18)	\$ 12.3	\$ 14.7	12.0	5
Kentucky Retirement Systems (6/30/18)	\$ 11.9	\$ 33.1	27.8	1
Michigan Municipal (12/31/17)	\$ 11.4	\$ 6.0	5.3	11
Delaware Public Employees' (6/30/18)	\$ 10.1	\$ 6.2	6.2	9
Oklahoma PERS (6/30/18)	\$ 9.7	\$ 5.3	5.5	10
Wyoming Retirement System (12/31/17)	\$ 9.2	\$ 6.4	7.0	7
Missouri State Employees (MOSERS) (6/30/18)	\$ 8.2	\$ 10.2	12.5	4
Arkansas Employees (APERS) (6/30/18)	\$ 8.0	\$ 11.4	14.2	2
New Hampshire Retirement (6/30/18)	\$ 8.9	\$ 7.8	8.8	6
Missouri Local Government (LAGERS) (6/30/18)	\$ 8.2	\$ 5.6	6.8	8
North Dakota PERS (6/30/18)	\$ 3.4	\$ 4.6	13.5	3
Average			10.8	
All figures based upon most recent CAFR available				

- Based upon a prior FAS benchmarking study of public retirement administration systems in the U.S. (these organizations did not have responsibility for investment management) conducted in 2014:
 - Overall, staffing in the non-investment areas is among the lowest of this peer group of seven state and local systems⁴ and below the median in nearly every functional area.

⁴ Los Angeles County Employee Retirement Association (LACERA), Minnesota State Retirement System, North Carolina Retirement Systems, Oregon Public Employee Retirement System (PERS), Employees' Retirement System of Rhode Island, South Carolina Public Employee Benefit Authority (PEBA), Wisconsin Department of Employee Trust Funds (ETF)

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- In particular, Finance and Accounting was about half the level of the lowest level in the peer group and about one quarter the median level.

Function	Number of Employees			
	Low	High	Median	WRS
Retirement Administration FTEs per 100,000 DB Members	2.7	122.2	17.5	12.7
Member Services FTEs per 100,000 DB Members	10.8	48.9	20.2	12.7
Employer Services FTEs per 1,000 Employers	0	48.6	6.2	5.7
IT FTEs per 100,000 DB Members	3.4	32.3	9.3	4.2
Legal FTEs per 100,000 DB Members	0.3	11.2	1.7	2.8
Finance and Accounting FTEs per 100,000 DB Members	4.8	36.9	11.1	2.8
Total FTEs per 100,000 DB Members	49.1	265	66.5	55.0

- The fee level for contracted custody services, at 1.0 basis point, is reasonable in consideration of the broad range of services WRS receives.
- Similarly, the fees paid to the two consulting firms (general consulting and private markets consulting), at 0.9 bps in aggregate, is reasonable.
- The level of staffing in the investment department front office appears to be adequate to manage the existing portfolio constructed as it is today, with funds-of-one for private equity and real assets, for example; however, middle- and back-office functions are understaffed, creating operational risk and degrading internal controls.

Recommendations

- WRS should continue to evaluate its capabilities and staffing levels and ensure that each function is adequately staffed and does not pose undue operational risk based upon either understaffing or lack of backup or controls in the event of an unexpected staff departure.
- In the case of the Executive Director's important role in oversight of the investment function, a backup program should include formalized training in investments for a surrogate.
- The board's succession plan for the ED should specifically identify and address investment training where needed and budgetary provisions to assure a quick learning curve, given the superior level of knowledgeability required of this position at WRS.
- The Finance and Accounting function should be assessed:
 - Determine if there are any immediate-term risks or gaps which must be addressed.

- Develop a longer-term Finance and Accounting capability development plan.
- Also see recommendations under Investment Accounting in Section 5.

E. Staff compensation policies and retention

Peer Comparison

- Leading practice is for a public retirement systems board to determine the overall compensation framework for staff independent of the state civil service system, assisted by recurring (e.g., at least every five years) independent peer compensation benchmarking.
- For retirement systems with authority for overall investment staff compensation, leading practice is for the board to establish a compensation framework based on long-term fund performance with:
 - Multiple-year performance periods;
 - Compensation performance metrics based upon overall fund performance, asset class performance, and individual performance; and,
 - Links to periodic independent peer compensation benchmarking.
- Leading peer fund retention practices include staff development and succession planning programs that consider retirement eligibility and areas of potential turnover.

Current State

- Based upon third-party peer compensation benchmarking reports, most WRS positions are in the bottom quartile of their peer group.
- Turnover has been generally moderate over the past five years, ranging from 3% to 19% annually.
- A significant number of WRS staff are or will be eligible for retirement in the near future:
 - 23% currently eligible to retire;
 - 33% eligible within the next three years; and,
 - 44% eligible within the next five years.
- WRS has experienced an average of 80 days to fill a position, second only to the Department of Environmental Quality among Wyoming state agencies.
- The small size of the organization and the civil service position structure result in limited career path options for staff who choose to stay at WRS; we were told that some leave for other agencies in order to advance.

Final Report

- WRS has requested and received authorization to implement an incentive compensation program for its internal investment staff; the new statute:
 - Authorizes the Board to award incentive compensation based upon three-year net fund returns in excess of the benchmark target; and,
 - Assigns responsibility to an Investment Funds Committee, with members appointed by the Governor or the Management Council, to approve investment benchmarks and determine whether or not the benchmarks have been exceeded.

FAS Assessment

- Although WRS turnover generally has not been abnormal, the current level of staffing, which is thin, the high percentage of retirement-eligible staff, and a significantly below-peer compensation structure combine to result in a high level of operational risk due to:
 - Potential for key personnel to retire or leave unexpectedly without an experienced replacement; and,
 - Challenges in recruiting qualified replacement staff.
- The recently-approved incentive compensation authority for investment staff should be an improvement and should help mitigate risks related to retention of the front-office investment staff.
- However, there will be continued operational risk in other areas of WRS due to current compensation levels.

Recommendations

- Develop a proactive strategy to continue to work with the State Legislature to gain budgetary authority for the WRS Board similar to, for example, Massachusetts PRIM, all three Missouri statewide funds, New York State Teachers', all five Ohio statewide funds, Texas Teachers, Washington State Investment Board, West Virginia Investment Management Board, and State of Wisconsin Investment Board.
- Increase efforts to cross-train staff in key positions to mitigate operational risk and potentially improve career development opportunities.
- Develop a stakeholder and media communication strategy to explain the rationale for investment team incentive compensation.

F. Legislative positioning (reactive and proactive)

Peer Comparison

- With most state retirement systems, the Executive Director and staff take the primary role in developing and advocating for proposed legislative positions.
- The involvement of the board of trustees in developing and advocating for legislative positions varies and many boards only review or provide input on staff-developed positions and do not engage with the legislature.

Current State

- The WRS Executive Director and the Board of Trustees, particularly the Board Committee Chairs, are actively involved in developing legislative positions and advocating for the Retirement System.
- Most trustees meet periodically with various stakeholder groups, including legislators, employee associations, and retiree associations.
- One in six Wyoming residents is an active or retired member of the retirement system, constituting a significant stakeholder group.
- The WRS Executive Director is well-known and well-regarded by legislative leaders and advocates effectively for WRS.
- WRS has been effective in recent years with educating legislators regarding WRS needs.

FAS Assessment

- WRS appears to have an effective legislative advocacy program that works well for them.
- Trustees are constructively and actively engaged with all key stakeholders.
- The WRS Board and staff work cooperatively together to advocate key legislative positions.
- It will continue to be very important for WRS to advocate for greater independence and autonomy for its fiduciary board.

Recommendations

- Continue to pursue additional autonomy for the WRS Board in terms of staffing, compensation, budgeting and procurement consistent with leading practices for state retirement systems.

Final Report

- Trustees should consider how to better leverage the one in six Wyomingites affected by WRS to address the potential risks to the members and beneficiaries.
- Continue to anticipate any new measures being considered by the State Legislature which could potentially reduce WRS Board authority (e.g., an investment oversight board) and build the business case for a better alternative.

4. Investment Operations

A. Overall investment governance

Peer Comparison

Leading governance practices for a public retirement system with a fiduciary board and investment manager selection delegated to the Executive Director and/or Chief Investment Officer include:

- A clearly-articulated investment policy statement (IPS) that identifies the board's investment beliefs and risk tolerance, investment allocation decisions, and related policies to be implemented;
- Well-documented transparency to the board of decision rationale for investments made by investment staff;
- An internal investment decision-making committee or group that provides a peer review of each investment opportunity and includes other key staff such as general counsel, compliance, and operational due diligence;
- Organizational checks and balances that provide effective controls and minimize the potential for single point of failure decision making;
- Effective investment risk management policies, procedures and reporting;
- An effective internal audit capability and process that monitors investment processes and controls;
- An effective investment compliance function that ensures investments remain within policy guidelines;
- 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; and,
- Other external sources of independent reassurance to the board, for example, an investment consultant independent of staff, peer investment performance benchmarking, or fiduciary reviews.

Current State

- The WRS Board of Trustees has delegated investment manager selection to its Chief Investment Officer, subject to approval by the Executive Director, as it has built up the capabilities of the internal investment staff.
- The IPS includes the board's investment beliefs and risk tolerance, investment allocation decisions, and related policies to be implemented.
- The Board Investment Committee receives Investment Team Weekly Meeting reports that provide significant detail.

Final Report

- Weekly investment staff meetings function similar to an internal investment committee, with Accounting and Legal typically represented in each meeting; the general investment consultant, which consults to the Board, receives a copy of the weekly minutes with the names of managers under consideration occasionally redacted to protect trade secrets.
- The Executive Director has final consent or sign-off for each investment including manager selection and tactical investment actions, as a check and balance.
- High-level risk objectives are outlined in the IPS, the Board's general investment consultant tests the portfolio annually for risk exposures, and staff utilize external managers and other resources (e.g., FactSet, Bloomberg) to model the portfolio risk.
- Internal audit has conducted audits of fund performance and management fees but has not yet audited investment processes
- The custodial bank is used to monitor investment compliance with the following process:
 - Notifications are sent by email to the Deputy Director and to one of the Senior Investment Officers; and,
 - The SIO then addresses the notice to determine the extent of the possible compliance matter and the proper resolution and informs the Deputy Director.
- The Board's general investment consultant provides an independent source of reassurance to the Board.
- The Board has chartered this governance and operations review as one example of additional independent reassurance.

FAS Assessment

- Delegation of manager selection to the CIO, through the Executive Director, could be considered a leading practice, as it:
 - Allows the Board, which has limited time available for oversight of the retirement system, to spend sufficient time on the oversight of the overall investment strategy and other important matters; and,
 - 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 most areas, WRS has leading practice investment oversight governance policies and practices in place.
- Communication of the CIO recommendations to the Executive Director includes meeting participation/briefings as well as formal memos; the general consultant is sometimes not as well briefed or involved in this process as we would expect.
- The comparatively low level of involvement of the general investment consultant in day-to-day manager selection activities, particularly the unique practice of occasionally redacting the names of investment managers under consideration, is somewhat idiosyncratic and arguably limits the consultant's ability to fulfill their role as consultant to the Board:
 - The CIO is strategically and proactively building out a staff capability to source smaller, newer/emerging and boutique investment managers and private funds "below the radar" to access and garner active returns inaccessible by larger plans or funds, which aligns logically with the size of the WRS portfolio.

Final Report

- Concern was expressed that the general consultant could recommend some limited access funds to other fund clients, damaging WRS' opportunities; hence, the deletion of manager names in reports to the consultant.
- Internal Audit may not have the appropriate expertise for auditing investment processes and controls.
- Several trustees stated that they would like to have improved and decision-useful investment performance measurement, attribution and peer comparisons.

Recommendations

- The Board, with the assistance of their general consultant and staff, could further define the investment risk policy and risk reporting could be more formalized; risk-identifying performance attribution analyses should be undertaken periodically as part of a formalized performance attribution regime that will become even more important as part of the incentive compensation program.
- The Board should periodically review their investment beliefs, with assistance from investment staff and the general investment consultant, and ensure the overall investment program strategy is consistent, e.g.:
 - Areas where active is beneficial vs. passive investments;
 - Long-term strategy for each asset class:
 - Degree of diversification;
 - Directional number of managers; and,
 - Access to market, e.g., commingled funds, separate accounts, funds of one, direct investments;
 - Appropriate uses of overlays and derivatives;
 - Overall fund complexity vs. ability to analyze and understand performance; and,
 - Support capabilities and systems required, both internal and external, to effectively manage and report risk.
- We recommend that WRS trustees study statements of investment beliefs from other public pension systems, especially those with strong performance records (see Appendix D).
- To address potential staff concerns regarding proprietary WRS work in sourcing boutique investment managers and funds with limited or scarce capacity, we recommend that WRS:
 - Revisit/amend the fiduciary provisions of the general consultant engagement agreement (including paragraphs # 8: E,G and K);
 - Include a specific and enforceable provision to preclude misappropriation, "front running", broadcasting or monetization of WRS's internal manager sourcing; and/or,
 - Augment existing protections as well as the professional sanctions provided through the CFA Code of Ethics which is already cross-referenced in the existing agreement.

Final Report

- As part of the final approval package for making a new investment, the Executive Director should receive written input from the general investment consultant or the private markets consultant as a check and balance; this would require and foster sharing of relevant manager-screening strategies and information.
- Internal Audit should consider outsourcing assistance for specific expertise required for auditing of investment processes and controls.
- Investment cost management and performance benchmarking through an independent third party should be considered, e.g., CEM.
- In consideration of trustees' and staff's concerns regarding lagging investment performance versus peers, despite higher measures of relative portfolio risk, the WRS Board should commission a special performance attribution study to help provide insights into the root causes of peer group underperformance as compared to relative performance on a portfolio benchmark basis.
- The WRS Board should regularly review drawdown risk and equity beta risk analyses that should be included in the periodic performance and risk reporting it receives:
 - Where possible, peer comparisons should incorporate this information, even if this can only be accomplished on a selective sample or through case studies.
 - The general consultant could be asked to assemble a client peer group to provide comparable performance/risk data using similar/common measures, which would benefit both WRS and their other clients.
- At least annually, the Investment Committee should conduct an executive session with the general consultant, with periodic (perhaps biennial) formal reviews of the consultant's performance, for the purpose of continuously enhancing interactions, oversight and decision-making processes.
- In consideration of the time which will be required to implement these recommended improvements, we encourage the CIO and the Executive Director to develop an implementation workplan for trustees to prioritize and approve; the general consultant's resources, industry and peer-plan experience, and independent perspectives can be leveraged in this endeavor also.

B. Role and authorities of internal investment staff

Peer Comparison

- As mentioned above, leading practice is for the Board of Trustees to delegate investment manager selection to a qualified, full-time investment staff; for peers of WRS' scale this is still atypical but increasingly the trend.
- Delegation of rebalancing and exposure management authority to the CIO, similar to WRS, could also be considered leading practice.
- A staff investment committee which meets monthly or more frequently to improve communications, risk management, transparency, and knowledge sharing is a leading practice.

Final Report

- Prevailing practice is to have a unique investment manager procurement process (as distinct from standard government procurement processes) with expedited search processes and use of external databases.
- Prevailing practice for plans with staff this size is to leverage the deeper research resources of the general consultant as an “extension of staff” in developing portfolio structure and identifying/screening prospective managers.
- Leading practice is to conduct manager monitoring at least annually on average, but variable depending upon asset class and external manager risk assessment.
- Back office (investment accounting, valuation) and middle office (capital calls, liquidity management, counterparty risk) are appropriately staffed and report independently of the CIO.

Current State

- The Chief Investment Officer, with consent of the Executive Director, has full authority to make investment manager selections subject to limitations defined in the IPS.
- WRS investment processes are highly staff-driven and the general investment consultant role on a day-to-day basis is limited to performance reporting and occasional requests for research support.
- At the manager level, the WRS Board has set a maximum exposure allocation limit of 10 percent of market value to a single active strategy at a manager or general partner without Board approval.
- The CIO is responsible for rebalancing and determining portfolio structure and allocations within asset classes, including a complex array of portfolio overlays (strategic, tactical, currency) for which accountability should properly reside with the CIO.
- Weekly investment staff meetings function similar to an internal investment committee, with representation from Accounting and Legal typically in each meeting, and the investment consultant receives redacted investment team weekly notes.
- The Executive Director has final authority for changes in target exposures and for investment manager hires and signs off on the final hiring package.
- WRS is exempt from standard state procurement requirements when hiring investment managers or general partners.
- For certain alternative investments, WRS utilizes outsourcing strategies to leverage their internal capabilities:
 - The private markets consultant, Albourne, provides operational due diligence for hedge funds.
 - The “fund of one” approach for private equity allows WRS to effectively participate in the direct private equity market with limited internal resources.
- WRS staff monitor external managers regularly and leverage their consultants, particularly for operational due diligence.
- WRS utilizes checklists for initial due diligence but does not have formal, written due diligence and monitoring standards and procedures.

Final Report

- It can be difficult to get prospective managers to visit Cheyenne due to travel times; often investment staff meet with managers in Denver or while at conferences or on other occasions for travel.
- Investment staff must obtain Governor's Office approval for international travel.
- Two of the eight investment staff spend significant time performing middle and back office functions.

FAS Assessment

- Overall, the WRS investment operations function effectively, with competent leadership and staff.
- The independent consultant is not as well briefed by staff of their portfolio-structure strategies as most peer plans; the consultant should be more involved or at least informed of work plans and status in order to be a source of independent reassurance to the Board.
- Few plans of this size have a multiple-overlay program with the level of complexity that WRS staff undertakes:
 - The portfolio overlays, and particularly their impact on portfolio performance, do not appear to be fully contextualized and understood by the consultants or the entire board;
 - Although we were advised that the vast majority of overlay activity is essentially rebalancing to policy, some of the overlay strategies have been quite esoteric; it would be helpful to categorize those which are predominantly rebalancing vs. tactical and opportunistic, with greater clarity and sharper focus on return-seeking strategies that introduce, rather than reduce, risk;
 - There is a sophisticated, but complex, aspect to the overlays that is relatively unique to WRS and potentially hinders performance attribution/evaluation and meaningful trustee comprehension thereof; and,
 - Combined with annual revisions to the strategic asset allocation, the overlay program's complexity inhibits portfolio analytics, accountability for performance, and independent oversight.
- The maximum allocation to a single active management product of 10 percent of the manager's AUM may limit investments in emerging managers and/or contribute to overdiversification or manager proliferation; in light of staff's interest in smaller and niche managers, this restriction could be counterproductive.
- WRS investment staff have generally been able to obtain Governor's Office approval for international travel, although there have been denials; in addition, because of the approval requirement there is a reluctance to make a request.
- WRS utilizes external resources effectively in investments to leverage limited internal resources, but there is the potential to obtain more assistance under existing contracts.
- Lack of a robust financial function within WRS has resulted in investment staff performing inappropriate back- and middle-office functions:
 - Investment staff reconciling valuations and performing other investment accounting functions compromises internal controls; and,

Final Report

- With limited investment staff resources, these activities detract from performing more front-office activities such as manager research, due diligence and monitoring.

Recommendations

- The investment staff should better leverage the capabilities and resources of the investment consultants, particularly the general consultant, utilizing all the capabilities being paid for in their contracts, and provide access to manager due diligence and hiring information so that the consultants can provide an independent perspective to the Board.
- WRS should develop formal, written due diligence standards and procedures which include when investment staff site visits are appropriate and develop travel budgets accordingly.
- Given the primacy of the Executive Director as a delegated generalist overseer in the portfolio manager approval process, the position description and budgets should include expectation of ongoing relevant investment education and conference attendance in support of that role.
- The governance of the CIO approval process, including risk management, communication and reporting formats, should be reviewed as it pertains to the oversight responsibilities of the Executive Director, internal audit, and the general consultant.
- The WRS approach to the setting and revising the Strategic Asset Allocation should be adjusted (see Appendix E):
 - The Board should set the Strategic Asset Allocation (SAA), with ranges for each asset class, every three to five years, preferably every five years; we encourage broad asset categories with ranges wide enough for staff to make market-responsive portfolio adjustments over most market cycles.
 - Instead of staff recommending annual revisions to the SAA, changes in the staff's design of portfolio structure (subsets of asset classes, active/passive, number of managers, etc.) should take place within the ranges established in the SAA, and should be reported regularly to the Investment Committee, especially when manager changes are underway or implemented as a result.
 - The CIO should periodically (at least annually, and each time the custom benchmark is revised) present a free-standing *informational* update to the full board on portfolio structure and strategies then under forward consideration.
- The board's (primary) Policy Benchmark (PB) should only be updated when the strategic asset allocation is changed, barring unusual circumstances:
 - Proper accountability requires trustee oversight through "Nose In, Fingers Out" of the staff's portfolio structure: Input is desirable, but responsibility and accountability for *portfolio structure and tactical management* should reside with the CIO;
 - In this context, occasional corresponding revisions of a dynamic "Custom Benchmark" (CB) based on material changes in the portfolio structure (as distinguished from the primary PB derived from the Board's SAA) could help clarify accountability and the performance attribution process;

Final Report

- Because of incentive compensation implications, the CB should be developed by the general consultant to fairly mimic/represent the portfolio structure, and the Investment Committee could, if desired (but need not necessarily), approve those CB changes as an instrument used *in performance attribution*.
- If WRS continues to utilize its extensive use of overlays, reporting should be enhanced to clearly indicate the effect of the overlays on performance:
 - Where risk mitigation has been achieved through the overlay strategies and portfolio structure, this should be highlighted in CIO and consultant reports, as should the obverse;
 - The general consultant should regularly evaluate and report/comment on the effectiveness of the tactical overlay program and specific strategies in the context of fund performance; and,
 - If possible, Russell (preferably) or staff should separate the overlay results from strategic/neutral rebalancing vs. tactical tilts vs. currency balancing vs. transition overlay actions.
- Trustees should consider hosting an education session with informational presentations from other public pension systems and comparable asset allocators with successful relevant overlay, options management, rebalancing and similar risk-management features, including their approaches to governance, accountability and reporting; the CIO and consultants can identify potential speakers. (San Bernardino County CA (\$10 billion with comparably limited staff size) would be one potential example.)
- The WRS Board should consider if a maximum exposure limit for a single manager/mandate is necessary and appropriate; a higher ratio or exception guidelines could be considered in light of WRS' typical "middle market" mandate sizes and staff's interest in smaller funds with scarce capacity.
- WRS should continue to advocate with the state legislature for:
 - Additional staffing to build a capable back- and middle-office function to reduce operational risk and improve internal controls; and,
 - Removal of the requirement for Governor's Office approval of all international travel, with oversight provided by the WRS Board.

C. Incentive compensation plan

Peer Comparison

- Leading practice for a public fund is to have a performance-based compensation system for investment staff which reflects the contributions made by each individual, supported by a documented and disciplined performance management and evaluation system, as well as the performance of the fund.

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- Fund and asset class performance benchmarks are established by the Board in consultation with its consultant and the investment staff and are reviewed annually, and updated as appropriate and necessary, to reflect changed market conditions.
- While there is not a standard structure for public fund incentive compensation programs, it is important that performance bonuses are based upon long-term performance and do not bias behavior to favor short-term gains at the potential expense of long-term objectives:
 - The State of Wisconsin Investment Board (SWIB) has stated: “Eighty five percent of awards are based on five-year performance to avoid excess short-term focus and risk taking and to align with WRS [Wisconsin Retirement System] adjustments”; and,
 - The TRS of Texas incentive compensation plan measures investment performance for both benchmark and peer group categories on both a 1-year (33 percent) and 3-year (67 percent) basis; if investment performance exceeds the benchmarks or the peer group performance, that triggers the awarding of incentive compensation.
- Overall compensation ranges are monitored annually and benchmarked against an appropriate peer group of other public funds and financial institutions periodically (e.g., at least every five years) to ensure that compensation is competitive.

Current State

- Current base compensation for WRS investment staff is in the 3rd or 4th quartile compared to other public pension systems.
- However, a new statute which authorizes an incentive compensation plan for the WRS investment staff was recently passed by State Legislature and includes:
 - Fixed base salary limits for each investment staff position at current levels;
 - Performance compensation plan for those investment staff positions based “solely on investment performance exceeding investment benchmarks as established by the investment funds committee”:
 - “No performance compensation shall be paid under the plan unless the investment funds committee determines that the established benchmarks have been exceeded”; and,
 - “Measure investment performance during an investment period based one hundred percent (100%) on total fund performance”;
 - Proscribed payment formula and payout schedule:
 - On an ongoing basis, the incentive compensation is based upon “the arithmetic average of the annual investment performance beginning that fiscal year and the two (2) immediately preceding fiscal years”;
 - “Include a limit for total payments to all participating employees for performance compensation earned in any one (1) investment period in an amount not to exceed two percent (2%) of net investment returns above the established benchmark of the total fund for that investment period”;

Final Report

- Limits on total incentive compensation in a year to 100% of base salary for the CIO, 75% for SIOs, 50% for IOs, and 25% for senior analysts or analysts; and,
- Payout schedule over three years, with 25% during year one, 25% during year two, and 50% during year three.
- Requirement for the board to report annually to the Joint Appropriations Committee (JAC) and the Select Committee on Capital Financing and Investments regarding payments and methodology, fund risk, and an estimate of future payment to be made.
- Assigns responsibility to an Investment Funds Committee, with members appointed by the Governor or the Management Council, for approving investment benchmarks and reviewing whether or not the benchmarks have been exceeded.

FAS Assessment

- The low level of WRS investment staff compensation relative to peers is an issue with respect to recruiting and retention of qualified investment officers.
- The recently-approved incentive compensation plan should be a significant improvement and allow the investment function to continue to develop positively:
 - The bill appropriately includes a three-year performance measurement period; and,
 - The individual incentive compensation maximum ranges are meaningful and should be attractive.
- The bill does not include two potential components of performance more oriented towards individual performance typically utilized by peer funds:
 - Asset class performance versus benchmark; and,
 - Individual contributions based upon a performance management and evaluation system.
- The duties of the Investment Funds Committee appear to be duplicative with the duties of the current fiduciary Board of Trustees.

Recommendations

- In the future, consider incorporating the following concepts within the Plan's implementation, or else seek revisions to the statute to incorporate:
 - Asset class, sub-class and/or individual contribution components to the award formula, especially at the employee level reporting to the CIO;

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- Allow the WRS Board of Trustees, or one of its committees, to oversee setting of benchmarks and the incentive compensation performance calculation within the statutory limits (it is appropriate that only the fund fiduciaries or their delegates have authority to expend monies of the fund);
- Allow the Board to set base salary levels, with the assistance of an independent compensation consultant;
- Include a feature for deferring/postponing some or all earned compensation in years when returns are negative;
- Include performance attribution and risk-adjusted returns in the WRS plan design, or at least consideration of both these aspects of investment returns relative to market and portfolio benchmarks; and,
- To be effective and defensible in the public arena, the compensation plan should first separate out and distinguish the (a) portfolio-level returns from the Strategic Asset Allocation, which is measured through a mostly passive composite portfolio-level Policy Benchmark (this being the board's prerogative and central responsibility), from (b) the variances that result from delegated portfolio management, including:
 - Market-responsive portfolio structure designed predominantly by staff for which the CIO is accountable and measured by a custom benchmark;
 - Tactical overlay transactions, tilts and other portfolio level actions;
 - Manager selection/termination; and,
 - Managers' collective individual performances ("alpha") relative to their benchmarks.
- Include a component in the compensation plan which reflects the contributions made by each individual, supported by a documented and disciplined performance management and evaluation system.
- We recommend engagement of an independent compensation plan design consultant, with specific experience in public pension plan compensation design and pay levels for investment professionals, to help WRS and the Board properly calibrate the performance incentives and total compensation and optimize the recruitment and retention benefits of the new plan.

D. Measuring effectiveness

Peer Comparison

- Funds such as WRS which manage complex, multi-asset class investment programs with both public and private asset classes:
 - Establish appropriate performance benchmarks consistent with risk/reward expectations;
 - Utilize reporting tools to analyze and attribute performance and risk; and,
 - Have analytical tools with position-level look-through capabilities to generate risk analyses and scenarios.

Final Report

- For mid-sized public peer plans such as WRS, leading practice is to have Board-level performance attribution and risk reporting that is aligned with the complexity of the fund.
- All return performance is assessed net of fees; this is prevailing practice.
- Performance benchmarks are established by the Board and reviewed when the Strategic Asset Allocation is revised, but modified infrequently to maintain long-term accountability and consistency:
 - Industry-recognized benchmarks for each asset class; and,
 - An overall composite Policy Benchmark for the total fund.
- Leading practice is to use carefully selected benchmarks fit for specific purpose so as to allow analysis from different perspectives:
 - How did we perform against market opportunities?
 - How did we perform against our objective?
 - On a risk-adjusted basis, how did we perform against peers?

Current State

- As of December 31, 2018, the investment performance reported to the Board for the Total Fund is benchmarked against three indexes:
 - A custom blended benchmark called the *Strategic Blended Benchmark Short-Term*, comprised of:
 - 49% Total Equity Blended Index;
 - 20% Wyoming Custom Total Fixed Income Benchmark;
 - 19% HFRI Fund of Funds Composite Index; and,
 - 12% Vintage Year Blended Benchmark.
 - Two market composite indexes:
 - A market composite index defined as: 60% MSCI ACWI Net and 40% BC Multiverse; and,
 - A second market composite index is defined as: 60% S&P 500 and 40% BBgBarc US Aggregate.

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TABLE 1: STRATEGIC BLENDED BENCHMARK SHORT-TERM BENCHMARK – TOTAL FUND RETURNS VS. BENCHMARK FOR DECEMBER 31, 2018

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Total Fund with Overlay and FX	7,903,023,163	100.00	-2.30	-5.28	-3.52	5.81	4.32	8.19
<i>Strategic Blended Benchmark Short-Term</i>			<u>-3.17</u>	<u>-6.55</u>	<u>-4.05</u>	<u>5.65</u>	<u>4.37</u>	<u>7.65</u>
Over/Under			0.87	1.27	0.53	0.16	-0.05	0.54
Total Fund with Overlay	7,897,811,302	99.93	-2.29	-5.28	-3.59	5.89	4.36	8.21
<i>Strategic Blended Benchmark Short-Term</i>			<u>-3.17</u>	<u>-6.55</u>	<u>-4.05</u>	<u>5.65</u>	<u>4.37</u>	<u>7.65</u>
Over/Under			0.88	1.27	0.46	0.24	-0.01	0.56
Total Fund ex Overlay	7,719,267,788	97.67	-2.44	-5.80	-3.41	6.11	4.20	8.13
<i>Strategic Blended Benchmark Short-Term</i>			<u>-3.17</u>	<u>-6.55</u>	<u>-4.05</u>	<u>5.65</u>	<u>4.37</u>	<u>7.65</u>
Over/Under			0.73	0.75	0.64	0.46	-0.17	0.48

Source: Meketa Investment Group

The performance report excerpt above from page 4 of the December 31, 2018 Meketa Quarterly Review highlights positive performance against the *Strategic Blended Benchmark Short-Term* for the 1-, 3-, and 10-year periods. For the 10-year period the Total Fund outperformed the fund's overall performance target (7.00%) by 1.19%.

Notably, in the 4th quarter of 2018, while markets suffered their worst fourth quarter performance in many decades, the fund's strategy produced significant outperformance against the strategic blended benchmark and the market index composite benchmarks, albeit all were negative.

Performance of the Total Fund against the other benchmarks (variance added) is reported on page 13 of the December 2018 report:

TABLE 2: MARKET COMPOSITE BENCHMARKS – TOTAL FUND RETURNS VS. BENCHMARK FOR DECEMBER 31, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Total Fund with Overlay and FX	7,903,383,448	100.00	-5.28	-3.52	5.81	4.32	8.19
<i>Strategic Blended Benchmark Short-Term</i>			<u>-6.57</u>	<u>-4.07</u>	<u>5.65</u>	<u>4.37</u>	<u>7.65</u>
Over/Under			1.29	0.55	0.16	-0.05	0.54
60 MSCI ACWI Net/40 BC Multiverse			-7.34	-6.07	5.28	3.16	6.95
60/40 S&P 500/BBgBarc US Aggregate			-7.56	-2.35	6.50	6.24	9.42

Source: Meketa Investment Group

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Comparisons to Peer Funds

- The Investment Consultant also benchmarks the Fund's performance against a group of 52 to 65 portfolios⁵ in the InvestorForce Public Defined Benefit Net Return Composite for funds greater than \$1B in assets; this comparison is on page 6 of the December 31, 2018 report and shows that:
 - The Total Fund significantly lagged this group and ranked at the 73rd, 73rd, 63rd and 49th percentiles for the corresponding 3-, 5-, 7-, and 10-year periods, respectively.
 - The shorter 1-year period improved significantly, showing the Total Fund ranked at the 41st percentile.
 - The Fund's *Strategic Blended Benchmark Short-Term* significantly lags the InvestorForce database returns over all periods.
- Over the past six years, there have been nine changes to the fund strategic benchmark as indicated in the chart below:

TABLE 3: BENCHMARK HISTORY AS OF JUNE 30, 2018

Benchmark History As of June 30, 2018		
Total Fund with Overlay and FX		
3/1/2018	Present	49% Total Equity Blended Index / 20% Wyoming Custom Total Fixed Income Benchmark / 19% HFRI Fund of Funds Composite Index / 12% Vintage Year Blended Benchmark
2/1/2017	2/28/2018	49% Total Equity Blended Index / 20% Wyoming Custom Total Fixed Income Benchmark / 17.5% HFRI Fund of Funds Composite Index / 13.5% Vintage Year Blended Benchmark
5/1/2016	1/31/2017	55.5% Total Equity Blended Index / 15.0% BBgBarc Multiverse Hedged TR / 15.5% HFRI Fund of Funds Composite Index / 2.0% BBgBarc US Treasury 1-3 Yr TR / 12.0% Vintage Year Blended Benchmark
1/1/2015	4/30/2016	59.0% Total Equity Blended Index / 15.0% BBgBarc Multiverse Hedged TR / 15.5% HFRI Fund of Funds Composite Index / 2.5% BBgBarc US Treasury 1-3 Yr TR / 8% Vintage Year Blended Benchmark
7/1/2014	12/31/2014	57.0% MSCI ACWI / 15.0% BBgBarc Multiverse Hedged TR / 15.5% HFRI Fund of Funds Composite Index / 2.5% BBgBarc US Treasury 1-3 Yr TR / 10% Vintage Year Blended Benchmark
4/1/2014	6/30/2014	57.0% MSCI ACWI / 15.0% BBgBarc Multiverse TR / 15.5% HFRI Fund of Funds Composite Index / 2.5% BBgBarc US Treasury 1-3 Yr TR / 10% Vintage Year Blended Benchmark
4/1/2013	3/31/2014	55.0% MSCI ACWI / 25.0% BBgBarc Multiverse TR / 10.0% 60 MSCI ACWI Net/40 BC Multiverse / 10.0% 50% CPI +5% / 50% LIBOR +4%
6/1/2012	3/31/2013	50.0% MSCI ACWI / 30.0% BBgBarc Multiverse TR / 10.0% 60 MSCI ACWI Net/40 BC Multiverse / 10.0% 50% CPI +5% / 50% LIBOR +4%
2/1/1983	5/31/2012	50.0% MSCI ACWI / 30.0% BBgBarc US Aggregate TR / 10.0% 60 MSCI ACWI Net/40 BC Multiverse / 10.0% 50% CPI +5% / 50% LIBOR +4%

Source: Meketa Investment Group

⁵ The number of peer portfolios varies slightly depending on the period.

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FAS Assessment

- WRS did not change its fund benchmarks for nearly 30 years, then has made changes, on average, more than once per year.
- Frequent tweaking of the strategic asset allocation and benchmarks makes performance reporting more complex and less comparable, and arguably reduces accountability and oversight. See our recommendations below.
- While the Board still uses the market-based indexes, they have added the custom index, which has been changed frequently.
- It appears that the portfolio performance impact of the sophisticated but complex array of internally-driven portfolio overlays (strategic, tactical, currency) is not fully understood beyond the staff level and a few trustees.
- The consultant's overlay performance report section is very granular and visually complex; it does not appear to enable trustees to "see the forest for the trees;" we encourage addition of a one-page graphic presentation of overlay impact (plus or minus) by key categories that make it clear what worked and what did not, at a level material to the total portfolio.
- The WRS Total Fund performance has been effective in meeting or exceeding its targeted rate of return (7.00%) over the past ten years (2009-2018). In more recent periods, e.g., 1-, 3-, and 5-year, the fund has been below what is needed to meet this important objective.

Recommendations

- WRS should generally maintain a consistent Policy Benchmark at the Strategic Asset Allocation level in order to facilitate peer comparisons and actuarial discussions where the SAA is the primary focus, with a review whenever there is a full SAA study (e.g., every 3-5 years); changes in the Policy Benchmark should be very infrequent.
- A consultant-designed Custom Benchmark that broadly and fairly reflects the staff's current or planned Portfolio Structure has a legitimate place in the performance reporting regime and the incentive compensation plan analytics, as explained further in Section E below; an important policy and administrative question going forward is who "owns" this benchmark (vs. the portfolio structure itself) and how it is used, as explained in Section C above and cross-referenced in Section E.
- Consider participating in an independent, third-party benchmarking of the asset allocation strategy and performance which attributes performance separately to the asset allocation, risk factors, portfolio structure and manager contributions.
- Conduct a staff-led trustee workshop to explain the various aspects of the portfolio overlay programs, processes and results, followed by periodic reviews of portfolio performance impact of each major category of the overlays (strategic, tactical and opportunistic); this can then be coordinated with the reports prepared by the general consultant, which will help improve understanding of the overlay programs/ strategies and their contribution (positive or negative) to risk management and total fund performance.

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- We recommend a “family discussion” among the board, consultants and staff as to how best to systematically incorporate and highlight investment risk assessment reporting and performance attribution into regular reports and peer comparisons, followed by an annual review of these processes by the Investment Committee.

E. Investment accounting, performance reporting and fund valuation

Peer Comparison

- Leading practice for investment accounting includes:
 - An effective system of internal control which helps protect the organization by:
 - Minimizing opportunities for unintentional errors or intentional fraud through preventive controls (e.g., separation of duties); and,
 - Using detective controls to discover small errors before they become big problems (e.g., reconciliation processes).
 - Clearly-articulated responsibilities among all parties (e.g., internal accounting staff, custodian bank, investment staff); these responsibilities should also include documented desk procedures.
 - Accounting staff qualified in investments who receive ongoing technical training for accounting staff to stay current with changing standards and regulations.
 - The investment accounting group should be able to download the general ledger accounting data from the custodian each month after the data has been finalized and audited.
- Leading practice for performance reporting includes:
 - Regular monitoring at the asset class, strategy and total fund level by both the Board and the staff;
 - Performance data is presented to trustees and committees that begin with summary formats that facilitate policy oversight of key results and actionable issues; and,
 - Staff regularly monitor performance at the individual manager level as well.
- Leading practice for fund valuation includes:
 - Accounting for each private market account should be current with the year-end date (many report a quarter in arrears) and documents from the manager, international accounting standard differences, as well as due-diligence reports be reviewed for discrepancies before the value for the financial statements is finalized; and,
 - Final year-end statements for investments can be prepared, depending upon the assets held by the entity, by the second month after year end or shortly thereafter.

Current State

Investment Accounting

- Investment transactions are entered at the time of execution in order to create records in accordance with GAAP and industry standards which mandate trade date accounting.
- The transactional accounting is recorded by the respective investment manager and the accounting system for securities and cash and parallel records are maintained by the custody bank, Northern Trust.
- Northern Trust maintains the following records for each trade: trade date, settlement date, cost, market value, price per share or unit, fair market value, market value adjustments and realized and unrealized gains and losses by account.
- The transactional accounting processes are prevailing practice for funds with similar investment and staffing structures.
- The Investment Department recently reclassified an Investment Analyst position to one for an Investment Accountant, reflecting the actual work performed by the Investment Analyst who recently left; this position was recently filled.
- The System's CAFR is over 200 pages.

Performance Reporting

- Investment performance reporting is done primarily by the investment consultant, Meketa Investment Group; performance is based on the records maintained by Northern Trust and on values furnished by managers (see Valuation next section).
- Performance is also checked by the WRS investment team.
- The performance reports to the Board are presented net of fees unless otherwise noted; this is prevailing practice for public pension funds, but many funds also report gross.
- The performance reports we reviewed contain great detail, with few observed summaries and graphic highlights.
- At its quarterly meeting, the Investment Committee, Executive Director, and CIO monitor the investment program and review performance.
- In accordance with the IPS, Total Fund performance is evaluated over rolling time periods relative to a "custom benchmark" in order to assess the implementation of the WRS investment program; this is prevailing practice for public pension funds.

Fund Valuation

- Securities positions are reconciled as of valuation date by the custodian and the respective investment managers.
- In the majority of instances, assets are valued based on closing prices available in public securities markets for assets held on the valuation date; in some instances, values are based on Net Asset Value per unit as reported by the fund managers.

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- Assets not valued by either of these methods are valued by the respective fund managers and are estimates of fair value based on other means and methods such as discounted cash flows, matrix pricing, consensus pricing and other commonly accepted methods where there is no active securities market; this is prevailing practice for public pension funds.
- Financial statements and investment returns are based on fair values in accordance with GAAP and industry standards.

FAS Assessment

Investment Accounting

- Investment accounting for the System's financial statements is adequate and in conformity with GAAP according to the System's independent auditors.
- With eight separate Defined Benefit pension plans and a separate Deferred Compensation (457) Plan, the System's accounting records are complex but are handled systematically by the Finance Supervisor and one staff accountant.
- The accounting department has primary control over the accounting records kept in-house; each month standard journal entries are made to record investment activity and create a monthly set of financial statements.
- At year end, a similar process is followed to prepare the System's GAAP financial statements.
- The System is under significant operational risk due to an insufficient number of accountants to provide needed back-up and succession in the case of an unplanned departure.
- We reviewed the System's CAFR for 2017 and found several clerical and typographical errors; while this is not unusual, we found two errors that provide further support for our recommendations below:
 - The first notable error is an understatement of \$156,753,981 in the footnote on securities lending (CAFR pg.48), which should show that the fair value of securities on loan at December 31, 2017 was \$705,039,645:
 - The footnote shows the fair value as \$548,285,664;
 - The error carries through the footnote in a parallel manner such that the gross value of the collateral for these loans of \$723,392,813 is not disclosed;
 - Fortunately, while the footnote is in error, the amount reported on the Statement of Net Position is correct; generally accepted accounting principles require in most cases that loans of securities that are collateralized by securities (non-cash loans) are not reported on the statement of net position but should be disclosed in the footnotes;
 - Nonetheless, as part of the basic financial statements, the auditors should have pointed out the error.
 - The second error has to do with the supporting schedules on pages 185-188 that show the membership figures for the various plans; these numbers are not consistent with other numbers in the schedules, e.g., on page 189

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- Investment accounting for internal management and decision making is lagging and could be improved; currently, an investment accountant in the Investment Department performs investment accounting tasks as assigned, which is inappropriate and should be corrected.

Performance Reporting

- The Consultant prepares comprehensive quarterly investment performance reports in accordance with the System's investment policy; the reports are intended to give the Trustees the data and analysis they need to monitor management of the Fund's assets.
- The performance reports provide detail on the Fund's:
 - Total allocation (\$ and %) to different asset classes;
 - Allocation (\$ and %) to the individual investment managers;
 - Total Fund rates of return, comparison to a policy benchmark and two blended market benchmarks, and over-/ under-performance;
 - Asset class segment rates of returns within the Fund's total portfolio;
 - Individual manager rates of return:
 - Comparisons of these returns, for the most part, to appropriate capital market indices (with the exception of individual private market portfolios for Private Debt, Infrastructure, Natural Resources, Diversified Real Assets, and Private Equity; and,
 - These are categorized in the Total Private Markets categories (to now include Private Debt, Private Equity, and Real Assets), which are benchmarked against the *Vintage Year Blended Benchmark*;
 - Total net return and allocation compared to the InvestorForce Public Fund >\$1 Billion Universe of other plans;
 - An account synopsis, strategy and performance summary for each manager;
 - Benchmark change history; and,
 - Manager fee schedules.
- There is limited equity manager style and attribution analysis reported to the Board; however, this level of detail is provided to the investment staff and discussed during Investment Committee meetings.
- While returns against peers are reported, the corresponding risk (volatility) is not reported to the Board.

Fund Valuation

- Fund valuation is appropriate and in accordance with prevailing practice.

Recommendations

Investment Accounting

- The investment analyst position should be located in the Investment Accounting Department; the investment analyst position in the Investment Department should be restored.
- The elevated operational risk due to lack of accounting personnel depth should be addressed.
- The accounting supervisor position and job requirements should be elevated to reflect planning for future succession; a person with the CPA certification is needed to perform the job.

Performance Reporting

- Each manager should have a benchmark that is useful for the Board and staff to compare performance in addition to being compared in the Private Market total.
- Peer comparisons of risk (volatility) should be reported along with total return which is already reported.
- Especially in the context of the newly authorized staff incentive compensation plan, we recommend a more robust, rigorous, formalized and carefully designed performance attribution reporting system:
 - For effective attribution, investment results must first isolate the component of investment returns that are primarily or solely attributable to the Board's Strategic Asset Allocation, which will be measured through the Policy Benchmark; the Policy Benchmark will enable the Board to compare the performance of their long-term SAA with pension peers and the actuarial assumptions, without conflating those returns with staff's investment performance – If peer comparisons are important to trustees, legislators and stakeholders, this is where that discussion should begin (see Appendix E for context.)
 - Staff-level performance reporting should include attribution analyses that clearly identify what contributions to investment returns come from:
 - Portfolio structure designed and managed tactically by senior staff;
 - Manager selection/termination (including transition cost analysis); and,
 - Managers' aggregate individual performance relative to their benchmarks.
 - Considering staff's sensitivity to legislative and stakeholder concerns about "tracking error," we suggest that a custom benchmark for the CIO's portfolio structure become the yardstick against which variance in returns derived from active management (the combination of tactical and opportunistic overlays, portfolio tilts, manager selections and composite manager performance against their unique bogeys) is measured.

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- We would not consider variances attributable to portfolio structure to be “tracking error,” but would rather categorize it as “portfolio structure contribution”(“PSC”) for which senior investment management would be deemed primarily accountable and rewarded when successful (see Appendix E).
- “Tracking error” should relate only to active overlay outcomes, manager selection/termination, and managers’ aggregate performance relative to their benchmarks.
- Staff and consultants should confer with the Investment Committee for input on how data could be better summarized and displayed visually/graphically.

See our companion observations and recommendations regarding the custom benchmark’s role in the incentive compensation plan.

Fund Valuation

- No recommendations.

5. Benefit Operations

A. Member contact center

Peer Comparison

- It is typical for state plans to perform the defined benefit member communications functions in-house and to outsource the deferred compensation functions to an administrator.
- A member contact center is typically the primary customer service resource for retirement members, retirees and employers when the website is insufficient to accommodate their needs.
- Contact centers handle calls on a tiered basis, depending upon the nature of the member need and level of complexity:
 - A high percentage of calls with basic questions can be handled with automated responses without the assistance of a contact center representative;
 - Remaining calls are fielded by first level counselors with standard scripts for answering questions; and,
 - More complex calls are referred to second level counselors with more experience and advanced training.
- Typical contact center support includes retirement counseling and assistance in making calculations; often there is a busy period for retirements which requires anticipating additional staffing requirements.
- Leading practice performance is to average 20 seconds or less for a member to reach a knowledgeable person.
- Cross-training of contact center counselors is ongoing and provides staffing flexibility and career advancement opportunities.
- Contact center counselors have access to a variety of information systems including imaging and an automated retirement system.
- Contact center metrics are tracked and monitored and typically include:
 - Wait times;
 - Call length;
 - Abandoned calls;
 - Hold time;
 - Availability; and,
 - Calls per representative.
- Contact centers utilize a call management system with capabilities and features which include:
 - Capability to record all calls for training purposes;
 - Integrated email response capabilities; and,
 - Tracking of call volumes and projections of future volumes.
- Customer service satisfaction surveys are conducted on an ongoing basis and provide feedback for improvement.

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Current State

- The WRS Operations group consists of 13 full-time staff:
 - Distribution and Disability – Supervisor and one Specialist;
 - Member Benefits – Supervisor and six Specialists; and,
 - Employee Relations/Financial – Supervisor and three Accountants.
- The WRS website includes a significant number of self-service functions for members and retirees, including:
 - Forms are available online;
 - Members have online access to:
 - Benefit calculator;
 - Service purchase calculator; and,
 - Annual member statements.
 - Members can file for retirement online; and,
 - Member records can be updated online.
- Member calls are initially handled by reception and, if necessary, routed to the appropriate department in Operations.
- Reception is staffed by a contract employee (a “permanent temporary”).
- Although each department in Operations tracks call volume, length of calls, and number of unanswered calls, performance metrics are not used and there are no performance reports which monitor performance over time and versus goals.
- The WRS “Hunt System,” which is provided through the state telecom system, is used to route calls to an available counselor in the appropriate group but has limited contact center capabilities; automated answering with menu options could be available through the Hunt System but is not currently utilized due to a preference for personal contact.
- A new telecommunications system was evaluated 5-6 years ago but was not approved due to its cost.
- Overall, WRS customer service receives high ratings from active members and retirees:
 - In 2017, 71% of active members rated customer services Excellent/Good; and,
 - Also in 2017, 88% of retirees rated customer service Excellent/Good.
- However, customer service levels on call effectiveness specifically have not been surveyed.

FAS Assessment

- The WRS website has prevailing practice self-service functionality which helps mitigate the need for phone calls to WRS staff.
- WRS does not currently utilize a formal contact center approach for handling member and retiree inquiries.

Final Report

- Although there do not appear to be customer service issues with the current WRS handling of member and retiree inquiries, there is no defined quality control and monitoring process nor defined metrics or performance standards.
- The current “Hunt System” does not have many of the functions required for an efficient, effective contact center, e.g.:
 - Self-service and menu options (with minimal layers);
 - Identification of incoming member through his/her phone number;
 - Automated link to member records, including prior calls and correspondence;
 - Help system with scripts for counselors;
 - Wait time tracking;
 - Integration with email for follow-up; and,
 - Integration with workflow system to track follow-up status.
- While WRS could benefit from a contact center approach for handling member, retiree and employer inquiries, some investment would likely be required to procure a new telecommunications system that would be integrated into the RAIN/OnBase system.

Recommendations

- WRS should develop and implement performance metrics and standards for incoming calls as part of a broader refinement of measuring and monitoring customer service levels.
- An overall customer service plan should include a multi-channel approach for interacting with members, retirees, and employers (i.e., website self-service, email, normal mail, face-to-face, and telephone calls) and consider how to best structure a contact center approach to be effective.
- Once the customer service plan is completed, a contact center could be developed consistent with the overall strategy and plan; a business case with costs/benefits should be included to justify the investment required.

B. New member enrollment

Peer Comparison

- For new retirees, annuity pension inception payments are paid without an interruption of cash flow greater than one month between the final pay check and the first pension check for normal retirements is a leading practice:
 - Typically, the initial payments are based upon estimates in order to not miss a payment; and,

Final Report

- Finalized payment calculations are generally completed within 2-3 months.
- Leading practice is for a majority of annuity pension inception to be initiated online.
- To ensure the integrity of member data, members are required to submit proof of birth and driver's license with a retirement application.

Current State

- WRS currently requires 30-120 days to process new retirees:
 - The limiting factor is typically receipt of final salaries from the employer, which can be delayed; and,
 - WRS does not make initial payments based upon estimates.
- The RAIN and OnBase system captures a significant amount of information on new member enrollment and other member services, but performance metrics have not been defined and are not regularly monitored and reported versus objectives.
- Employee records from pre-2000 are subject to audit by WRS staff due to lack of clean-up in a prior data conversion.
- Retirement estimates are available 'live' on the WRS website to eligible participants.
- Retirement applications can be prepared and submitted on the WRS website.

FAS Assessment

- Most peers strive to make an initial payment within 30 days and utilize estimated payments in order to achieve this; WRS does not and, consequently, some payments require several months to be finalized and paid.
- While WRS records enrollment data, there are not specific performance metrics and standards with associated monitoring and reporting.
- Since the go-live of the RAIN system in 2014, old (pre-2000) employee records with inconsistent data have been a major barrier to timely processing of retirements; however, the backlog of records to be scrubbed appears to be dwindling.
- In general, the WRS infrastructure for processing new enrollments and retirees is prevailing practice.

Recommendations

- WRS should evaluate the cost/benefit of using estimates for initial payments and determine if it is a practical solution for achieving near-100% initial payment within 30 days of retirement.
- As part of a broader customer service planning initiative identified in 5.1. *Member Contact Center*, WRS should also develop and implement performance metrics and standards for initial payment processing.

C. Technology and record keeping information systems

Peer Comparison

- Leading practice includes developing and maintaining an information technology plan which supports the long-term business strategy; the plan would typically include:
 - An IT governance model that identifies who is responsible for developing IT plans and setting priorities;
 - An application and project plan and roadmap that includes portfolio management;
 - An infrastructure roadmap based upon the organizational strategy and constraining application choices to those supported by the planned infrastructure; and,
 - An IT operations and security plan that addresses management of service requests and incidents, problems, continuity, security systems, and business process controls.
- Internal controls are integrated into the procedures based upon recognition of the elements of the process that are vulnerable to error or fraud.
- Data integrity begins with employer data submittals from employers submitted with certified data directly via electronic forms.
- The Internal Audit function reviews internal control procedures and conducts audits of critical processes.
- Network and security vulnerability tests are conducted annually to ensure networks and other infrastructural processes are working as intended.

Current State

- Information technology systems, hardware, software, security and support are:
 - Led by the WRS Business Integration Manager;

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- Supported by internal staff of two full-time IT professionals who are technically employees of the State Department of Enterprise Technology Services (ETS); and,
 - The Business Integration Manager oversees all IT contracts for services.
- The State of Wyoming provides all infrastructure and data security services through ETS.
- Key systems in use are:
 - Retirement Administration Information Network (RAIN), a benefits administration system developed and supported by Catapult Systems:
 - Has three portals, one each for: WRS employees; members and retirees; and employers; and,
 - Is the core benefits administration processing system.
 - OnBase is an enterprise content management and process management system which contains all member documentation:
 - Includes a front-end imaging system; and,
 - Is linked directly to RAIN.
 - Empower, the vendor for the WRS 457 Deferred Compensation Plan, provides turnkey systems for management of the 457 Plan.
 - Accounting uses Cougar Mountain for fund accounting.
 - The investment department utilizes several outsourced, hosted systems (Tamale, Bloomberg, FactSet).
 - The WOLF system (Wyoming On-line Financial system) is the State's procurement/ accounts payable/ payments accounting and processing system, maintained by the State Auditor, which handles payment processing.
- WRS spends slightly over \$1 million annually on information technology; this equates to about 11% of the administrative expense budget.
- Every WRS operations position has a desk manual that includes relevant policies and procedures.
- Internal Audit utilizes a risk-based approach to selecting functions and systems for review, including, e.g., new employer enrollments, distributions, etc.
- There is no service level agreement or memorandum that describes the understanding of roles between WRS and ETS.
- WRS has a shared drive but does not utilize an intranet for internal employee information.
- The operations team meets weekly with the Deputy Director and other staff as needed to discuss changes, requests, etc.
- Recent projects include an IT request tracking system, combining two plans, a Board action and a legislative change affecting how refunds are handled.
- RAIN system changes are provided by Catapult, the third party IT provider:
 - A Change Advisory Board (CAB) prioritizes and manages enhancements, maintenance items, and bugs;
 - The CAB has a weekly call with Catapult to monitor progress and review priorities; and,

Final Report

- RAIN enhancements are complex because the system does all the calculations and factors and tables must be kept current; staff reports changes take too long to implement due to only one programmer assigned to WRS.

FAS Assessment

- WRS IT services are provided in a manner that is similar to many small state and municipal pension systems that are viewed by the oversight entity as a bureau of the government, i.e., services are provided by sister agencies through mandate:
 - This mode of operation can create operational risk of failure for timely and adequate delivery of services due to limited authority over sister agency resources; and,
 - By the same token, centralized IT services provided by a sister agency may afford a smaller plan the backing and support of a much larger IT support network, increased purchasing power, and more sophisticated cyber security than it might otherwise be able to procure on its own with its current modest budget.
- The fund reports that it is comfortable with the current situation and reliance on state government for IT support and has been able to effectively leverage the resources of ETS; however, the lack of control over the now highly-experienced resources represents a significant risk.
- The RAIN/OnBase system appears to provide integrated member and employer services comparable to peer funds in other states.

Recommendations

- WRS should seek approval for additional programming resources to ensure required Board and legislative policy changes which affect the benefit system are completed on a timely basis.
- WRS should work with ETS and the Budget Division to transfer the two current ETS employees to WRS.
- Although WRS Information Technology is somewhat constrained by the state's oversight and control, WRS should nonetheless plan for IT to support its overall strategic plan; the Business Integration Manager should undertake with management to create a 5-year strategic IT plan that complements and supports the WRS strategic plan.
- WRS should consider if an intranet could be an effective tool to improve the availability and timeliness of policies and procedures for staff on a day-to-day basis.

6. Administrative Operations

A. Actuarial Valuation and Plan Funding decision-making

Peer Comparison

- Leading actuarial practices for public retirement systems include:
 - The Board of Trustees has authority to set all actuarial assumptions for the system based upon the advice of an independent external actuary.
 - Formal, written actuarial policy describing responsibilities and frequency of actuarial and asset/liability study processes, including:
 - Updating the asset/liability study every three to five years;
 - Conducting an actuarial experience study at least every five years;
 - Reviewing actuarial experience annually; and,
 - An independent actuarial review at least every five years.
 - Formal, written funding policy that addresses investment, demographic and benefit risks and recognizes tradeoffs between mitigating contribution volatility and recognizing gains and losses over a reasonable period and includes:
 - Actuarial cost method and assumptions;
 - Asset valuation method;
 - Amortization method; and,
 - Funding target.
 - Trustees periodically receive actuarial training and refresher sessions as part of continuing education.
- The recently-released 2018 NCPERS Public Retirement Systems Study reports that, for participants in its survey:
 - The average annual investment return assumption fell to 7.34 percent in 2018, versus 7.49 percent in 2017. In all, 65 percent of funds that responded to the 2018 study had reduced their assumptions, and 18 percent were considering doing so.
 - In addition to reducing their investment return assumptions, pension funds used more conservative amortization periods—a calculation of the period of time over which pensions liabilities must be funded. Pension funds participating in the survey shortened their amortization periods to an average of 22.4 years in 2018, down from 23.8 years in 2017.
- According to the most recent NASRA Public Fund Survey report, updated February 2018:
 - The average investment return assumption was 7.56%;
 - The average assumed inflation rate was 2.97%; and,
 - Consequently, the average assumed real rate of return was 4.60%.

Current State

- The WRS “Investments” policy requires development of a Strategic Asset Allocation but does not specify a frequency for conducting a full asset allocation study and making modifications, if appropriate.
- WRS maintains an “Actuarial Condition” policy which proscribes:
 - An objective for the actuarial policy of maintaining relatively level contribution rates for employers;
 - A full actuarial experience study every five years;
 - An annual actuarial review of assets, liability and funding requirements; and,
 - An actuarial review of the actuarial valuation study conducted by an independent actuary at least once every five years.
- WRS also maintains a “Member Benefits” policy which includes:
 - A requirement to maintain a plan design which:
 - Is equitable and provides a reasonable standard of living for retirees;
 - Encourages education for members regarding all retirement savings options;
 - Links any plan benefit changes to associated funding changes; and,
 - Recognizes limitations on increasing the employee contribution rate.
 - A focus on preventing unfunded liabilities through:
 - Seeking adequate funding;
 - Linking approval of COLAs to adequate funding; and,
 - Consideration of benefit changes which help address unfunded liabilities.
 - A COLA policy that states:
 - No ongoing COLA shall be recommended to the legislature by the Board unless the system’s actuary provides an opinion that the actuarial funded ratio of the plan can reasonably be expected to remain at 100%; and,
 - The Board supports the legislature providing ad hoc COLAs as individual appropriations allow, but it must be fully paid for and result in no increase in a particular plan’s unfunded liability.
- WRS had its most recent independent actuarial review of 2016 actuarial valuations, which were based upon the most recent experience study conducted in 2013.
- Several key WRS actuarial assumptions approved by the Board include:
 - Five-year smoothing of investment gains and losses;
 - Thirty year closed amortization schedule for the Unfunded Actuarial Accrued Liability (UAAL) (except for Judges and Fire A plans);
 - Investment return assumption of 7.0% (recently reduced from 7.75%);
 - Assumed inflation rate of 2.25%; and,

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- Assumed real rate of return was 4.75% (return assumption less inflation rate).
- At its September 2018 meeting, the WRS Board discussed the appropriateness of instituting an ongoing COLA or a one-time COLA and received public input from retiree groups.

FAS Assessment

- The WRS actuarial and member benefits policies are consistent with leading or prevailing practice.
- Based upon our discussions with trustees and the consulting actuary, the Board appears to give careful consideration to actuarial calculations and plan funding and receives competent external advice.
- The five-year smoothing assumption is prevailing practice for state public funds.
- Although the thirty year closed amortization schedule is commonly used by peer funds, the trend is to reduce the amortization period to reduce intergenerational wealth transfer.

Recommendations

- The WRS Board should ask its consulting actuary to provide an analysis and present scenarios regarding the UAAL amortization period to consider if a period shorter than 30 years would be more appropriate.

B. Succession planning

Peer Comparison

- A leading practice succession planning process addresses long-range needs and the cultivation of qualified talent to satisfy those needs and should include the following:
 - Identification of critical positions and highlighting potential vacancies;
 - Selecting key competencies and skills necessary for business continuity;
 - Focusing development of individuals to meet future business needs by grooming future leaders rather than recruiting outside the organization;
 - Safeguarding the departure of critical institutional knowledge;
 - Increasing employee engagement and loyalty by investing in staff; and,

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- Reinforcing a commitment to be a learning organization.
- A replacement planning process complements succession planning and concentrates on immediate needs and a “snapshot” assessment of the availability of qualified backup for critical positions.

Current State

- At 47.8 years old as of June 30, 2018, the WRS workforce is slightly older than the state agency average of 44.9 years old.
- WRS also has a higher level of staff eligible for retirement than the averages at other state agencies (also as of June 30, 2018):
 - 23.1% currently eligible to retire versus state average of 15.6%;
 - 33.3% eligible to retire within the next three years versus state average of 24.1%; and,
 - 43.6% eligible to retire within the next five years versus state average of 29.8%.
- The Board has a leading practice succession planning policy with respect to the Executive Director position that is clear and includes:
 - Responsibility for the process (the Board Chair and Vice Chair);
 - Responsibility for Executive Director responsibilities in the event of a temporary absence;
 - In the event of a permanent vacancy in the Executive Director position:
 - Process for filling the Interim Executive Director position; and,
 - Process for recruiting a permanent Executive Director.
 - Candidates for the permanent Executive Director role must meet the qualification described in the official position description; and,
 - The succession planning policy is to be reviewed every three years.
- The WRS Board has included a review of staff leadership positions and retirement eligibility as part of its strategic planning process.
- WRS has implemented two programs to help strengthen executive leadership capabilities:
 - A leadership development program which is incorporated into each manager’s and supervisor’s annual review process; and,
 - A mentoring program that includes Board mentors or executive coaches.

FAS Assessment

- The WRS Board and executive leadership are aware of the “retirement cliff” and have had discussions about it.
- The Board’s process for replacing the Executive Director is consistent with leading practice; however, the Executive Director job description is high level and lacks detail and would likely not be effective in supporting a new search process.

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- Efforts to assist current executives in development are well considered and should be helpful to long-term growth.
- WRS does not have a formal succession planning policy or process for staff, although there are ad hoc efforts at cross training in some departments.
- Many job descriptions appear to be out of date.

Recommendations

- The WRS Board should update the Executive Director job description and add considerable detail regarding requirements, consistent with delegated responsibilities.
- Staff job descriptions should be consistently updated and linked to the annual review process.
- WRS should develop and implement a staff succession planning policy and process to complement the leadership development program already in place; elements of the succession planning program could include:
 - Identification of critical positions and highlighting potential vacancies;
 - Selecting key competencies and skills necessary for business continuity;
 - Safeguarding the departure of critical institutional knowledge; and,
 - A replacement planning process that concentrates on immediate needs and a “snapshot” assessment of the availability of qualified backup for critical positions.

Summary of Recommendations and Priorities

Note: Nomenclature for highest priority recommendations is “Critical,” second highest priority is “Important,” and third priority is “Necessary.”

Num-ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
	1. Legal and Regulatory Framework					
	<i>A. Board Composition/Qualifications</i>					
1	i. Increase trustee expertise or access to expertise: <ul style="list-style-type: none"> • Improve on-boarding and continuing education for trustees to accelerate their learning curve; • Consider amending trustee requirements and appointment considerations to place greater emphasis on investment, financial, pension and/or actuarial experience and expertise (apply this requirement on the next rotation); or, • Add expert, non-voting advisory members to serve on existing WRS committees (similar to the Washington State Investment Board or Massachusetts PRIM). 	Important	Medium	Yes	TBD	
2	ii. The Board should more systematically exercise its responsibilities to advocate on behalf of WRS leveraging the influence of its participants and beneficiaries.	Important	Medium	Yes	Yes	External Stakeholder Groups
3	iii. The WRS Board, in cooperation with the legislative liaisons, should consider developing a description of the respective roles and responsibilities of the legislative liaisons and the WRS Board and staff, along	Necessary	Easy	Yes	Yes	Legislative Liaisons

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooper- ation needed	If yes, who?
	with an onboarding package, to provide guidance to new legislative liaisons and facilitate the most effective working relationship.					
	<i>B. Board Fiduciary Duties and Authorities (Budgets, Staffing, Compensation, Procurement)</i>					
4	i. Consistent with the authority granted by the WRA, the Board of WRS should have the authority for prudently determining its administrative budget (including staffing and compensation) given that these costs are paid from the system's funds and not the State's general fund.	Critical	Difficult	Yes	Yes	Legislature
5	ii. The legislature should provide budgetary capabilities for the WRS Board to be more responsive to rapidly changing circumstances through: <ul style="list-style-type: none"> • Elimination of the requirement for legislative approval of the WRS budget and either: <ul style="list-style-type: none"> ○ Alternative 1: Allow the Board to set staffing and compensation levels; or, ○ Alternative 2: Establish an administrative budgetary cap (for example, based on some % of the accrued actuarial liability or assets under management) that would require legislative approval to exceed. • Allow the Board to select the master custodial bank without seeking approval from the State Treasurer. • Allow WRS to fully manage its financial accounts, as stated in the WRA, without requiring all 	Critical	Difficult	Yes	Yes	Legislature

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooper- ation needed	If yes, who?
	disbursements flow through the State Auditor's Office.					
	2. Governance Framework					
	<i>A. Powers Reserved and Delegations to Staff and Third Parties</i>					
6	i. Re-organize the Board Policy Manual to provide easier reference to non-investment Board policies and consider creating separate Investment Policy Statement documents for the defined benefit and 457 deferred compensation plans.	Necessary	Easy	Yes	No	
7	ii. The Board should increase the rotation of trustees through the vice chair and various committee chair positions to improve development of future Board leadership.	Important	Easy	Yes	No	
8	iii. The Board should follow the recommendation of its general consultant to establish "broad band" ranges for larger, flexible asset classes in its Investment Policy Statement, and leave tactical management to the professional staff; as noted below, this becomes increasingly important as WRS enters a new era of performance based incentive compensation.	Critical	Medium	Yes	Yes	General Investment Consultant
9	iv. The Board should follow its policy of having the CIO perform an asset allocation study at least every five years, and not more frequently than three years, rather than modifying the asset allocation annually.	Critical	Medium	Yes	Yes	General Investment Consultant

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Number	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
10	v. In conjunction with conducting the asset allocation study every three to five years, include a review of the Board's investment beliefs, with an annual review to check adherence and underlying assumptions.	Critical	Medium	Yes	Yes	General Investment Consultant
11	vi. The Board should review the role and interaction of the CIO and the investment consultant in development of the strategic asset allocation, and the benchmarks used to calibrate effectiveness of the plan vs. peers as distinguished from internal performance attribution.	Important	Medium	Yes	Yes	General Investment Consultant
12	vii. The Board should continue to formalize its efforts to focus trustees on stakeholder engagement and develop a more explicit plan for all trustees.	Important	Medium	Yes	No	
13	viii. As part of the upcoming Executive Director search process, develop a more comprehensive Executive Director job description.	Important	Medium	Yes	No	
14	ix. Develop a multi-year calendar of key policy and direction decisions required for both the Board and its Committees.	Important	Medium	Yes	No	
	<i>B. Oversight of the 457 Deferred Compensation Plan</i>					
15	i. WRS should revisit the value of index products to provide participant access to broad asset class exposure at lowest possible cost with no performance risk.	Important	Medium	Yes	Yes	457 Plan Investment Consultant
	<i>C. Board Committee Structure</i>					
16	i. Add a Human Resources/Compensation Committee given the strategic importance of attracting and	Critical	Medium	Yes	No	

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside coopera- tion needed	If yes, who?
	retaining needed talent, especially given the impending retirement cliff and the potential need to approve annual incentive compensation.					
17	ii. Committees should work with their assigned staff and recommend to the Board the priority strategic agenda items they should respectively focus on for the next one, two, three, four and five years.	Important	Medium	Yes	No	
18	iii. The Board should approve the strategic agenda and delegate strategic agenda items to its committees.	Important	Medium	Yes	No	
19	iv. The committee meeting invitation process should be clarified: who gets invited and by whom?	Important	Medium	Yes	No	
	<i>D. Committee Charters</i>					
20	i. Update the Committee charters and clarify responsibilities of each committee in greater detail.	Important	Medium	Yes	No	
21	ii. In so doing, consider reorganizing the Charters to explicitly reflect the four powers reserved: 1. Set strategic direction and policy; 2. Approve certain decisions; 3. Conduct selected activities (e.g., hire, evaluate and compensate the Executive Director); 4. Oversee prudently delegated authority to the Executive Director and external service providers.	Necessary	Medium	Yes	No	
22	iii. Consider reorganizing Board and Committee meetings and key decision calendars to explicitly reflect the powers reserved.	Necessary	Medium	Yes	No	
23	iv. In the Audit Committee charter, consider adding a requirement for periodically (e.g., every five years)	Important	Medium	Yes	No	

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Num-ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
	commissioning an External Quality Assessment of the Internal Audit Activity by the Institute of Internal Auditors.					
24	v. In the Investment Committee charter, consider adopting a stated frequency for review of investment policy (e.g., every 2 years or as needed) and asset allocation (e.g., every 4 years)., or provide a broad time range, such as 3-5 years for the strategic asset allocation.	Critical	Easy	Yes	No	
25	vi. Ensure that the policy for notifying each trustee of the timing and location of each committee meeting is followed.	Necessary	Easy	Yes	No	
	<i>E. Trustee Time Commitments</i>					
26	i. The Board chair should ensure that: <ul style="list-style-type: none"> • All relevant topics are included on the Board agenda; • All trustees feel informed and have an opportunity to participate in board discussions without getting into unnecessary details; and, • When important activities occur in between Board meetings there is clear authority to act when necessary, coupled with effective communications to all trustees. 	Necessary	Easy	Yes	No	
27	ii. The WRS Board should consider developing guidelines for rotating leadership positions every 2-3 years to encourage broader trustee involvement.	Necessary	Easy	Yes	No	
	<i>F. Trustee On-Boarding and Continuing Education</i>					

Number	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
28	i. Develop a more formal process for matching the onboarding educational needs of the individual trustee (up to two years) to accelerate the learning curve.	Necessary	Medium	Yes	No	
29	ii. Utilize the strategic board calendar to anticipate the need for refresher training on key topics (actuarial, pension benefits, investments) prior to Board deliberations. <ul style="list-style-type: none"> Develop individualized training programs for each trustee to meet specific needs; this may include specialized investment training for some or most, and possibly a free-standing investment orientation session during the on-boarding process. Several specific topics that would be well suited for on-site board education sessions in the near term include: Investment Beliefs, comparative investment program strategies and practices (e.g., Idaho, South Dakota and San Bernardino Co CA, as noted below in section 4.B.), benchmarking and performance attribution. 	Necessary	Medium	Yes	No	
	3. Enterprise Strategies and Risks					
	A. Overall Enterprise Strategy and Risks					
30	i. Develop key performance indicators (KPIs) that reflect intended outcomes of the strategies, e.g., planned vs. unplanned turnover, retention rates, etc.	Important	Medium	No	No	

Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside coopera- tion needed	If yes, who?
31	ii. Include a long-term, strategic assessment of resource priorities to guide legislative requests (if autonomy is not granted) and/or recruitment efforts.	Important	Medium	No	No	
32	iii. Consider a definition of risk as the potential for an unacceptable difference between actual and expected performance.	Important	Medium	No	No	
	<i>B. Manager fee reporting policies and practices</i>					
33	i. In the CAFR or a separate fee report, consider breaking out management fees and performance/incentive fees and carried interest in the fee schedule by asset class to improve transparency and include trends, as well as contextual commentary.	Important	Medium	No	No	
34	ii. The Board should adopt a fee policy (or include a section in the IPS) that provides general principles-based guidance to staff and money managers on how performance fees and carried interest are viewed, reported and evaluated in the context of performance and the alignment of interests between the fund and its investment managers.	Important	Medium	Yes	No	
35	iii. Provide accounting support for the Investment Department to monitor fees as directed by the CIO.	Important	Medium	No	No	
	<i>C. Staff organization structure</i>					
36	i. WRS should develop a target organizational approach and structure that: <ul style="list-style-type: none"> Creates a more robust financial function with investment middle (e.g., capital calls, liquidity management, counterparty risk) and back office 	Important	Hard	Yes	Yes	State Human Resources Division

Num-ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
	<p>(e.g., investment accounting, valuation, performance reporting) capabilities;</p> <ul style="list-style-type: none"> Reinforces internal controls and segregation of duties; Creates more opportunities for key person backup, cross training and career development; Includes a “contact center” approach for handling member and retiree calls and inquiries (see 5. Pension Administration Operations); Recognizes that the member communications and education function now serves both the defined benefit and the deferred compensation plans; and, Includes more formalized responsibilities for: <ul style="list-style-type: none"> Human Resources; Procurement; and, Investment Accounting. 					
37	<p>ii. We recommend organizing CIO responsibilities currently contained in the IPS into a formal CIO charter, especially given the strong level of delegation through the Executive Director; this will be important in succession planning for both positions.</p>	Necessary	Easy	No	No	
	<i>D. Staffing and Resource Deployment</i>					
38	<p>i. WRS should continue to evaluate its capabilities and staffing levels and ensure that each function is adequately staffed and does not pose undue operational risk based upon either understaffing or lack</p>	Important	Medium	No	No	

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside coopera- tion needed	If yes, who?
	of backup or controls in the event of an unexpected staff departure.					
39	ii. In the case of the Executive Director's important role in oversight of the investment function, a backup program should include formalized training in investments for a surrogate.	Important	Medium	No	No	
40	iii. The board's succession plan for the ED should specifically identify and address investment training where needed and budgetary provisions to assure a quick learning curve, given the superior level of knowledgeability required of this position at WRS.	Important	Medium	Yes	No	
41	iv. The Finance and Accounting function should be assessed: <ul style="list-style-type: none"> • Determine if there are any immediate-term risks or gaps which must be addressed. • Develop a longer-term Finance and Accounting capability development plan. 	Important	Medium	No	No	
	<i>E. Staff compensation policies and retention</i>					
42	i. Develop a proactive strategy to continue to work with the State Legislature to gain budgetary authority for the WRS Board similar to, for example, all three Missouri statewide funds, all five Ohio statewide funds, New York State Teachers', Texas Teachers, Washington State Investment Board, West Virginia Investment Management Board, Massachusetts PRIM, and State of Wisconsin Investment Board.	Critical	Medium	Yes	Yes	Legislature

Number	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
43	ii. Increase efforts to cross-train staff in key positions to mitigate operational risk and potentially improve career development opportunities.	Important	Medium	No	No	
44	iii. Develop a stakeholder and media communication strategy to explain the rationale for investment team incentive compensation.	Important	Medium	Yes	No	
	<i>F. Legislative positioning (reactive and proactive)</i>					
45	i. Continue to pursue additional autonomy for the WRS Board in terms of staffing, compensation, budgeting and procurement consistent with leading practices for state retirement systems.	Critical	Difficult	Yes	Yes	Legislature
46	ii. Trustees should consider how to better leverage the one in six Wyomingites affected by WRS to address the potential risks to the members and beneficiaries.	Critical	Medium	Yes	Yes	External Stakeholder Groups
47	iii. Continue to anticipate any new measures being considered by the State Legislature which could potentially reduce WRS Board authority (e.g., an investment oversight board) and build the business case for a better alternative.	Critical	Medium	Yes	Yes	External Stakeholder Groups
	4. Investment Operations					
	<i>A. Overall investment governance</i>					
48	i. The Board, with the assistance of their general consultant and staff, could further define the investment risk policy and risk reporting could be more formalized; risk-identifying performance attribution	Critical	Medium	Yes	Yes	General Investment Consultant

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Num-ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
	analyses should be undertaken periodically as part of a formalized performance attribution regime that will become even more important as part of the incentive compensation program.					
49	<p>ii. The Board should periodically review their investment beliefs, with assistance from investment staff and the general consultant, and ensure the overall investment program strategy is consistent, e.g.:</p> <ul style="list-style-type: none"> • Areas where active is beneficial vs. passive investments; • Long-term strategy for each asset class: <ul style="list-style-type: none"> ○ Degree of diversification; ○ Directional number of managers; and, ○ Access to market, e.g., commingled funds, separate accounts, funds of one, direct investments; • Appropriate uses of overlays and derivatives; • Overall fund complexity vs. ability to analyze and understand performance; and, • Support capabilities and systems required, both internal and external, to effectively manage and report risk. 	Critical	Medium	Yes	Yes	General Investment Consultant
50	<p>iii. We recommend that WRS trustees study statements of investment beliefs from other public pension systems, especially those with strong performance records (see Appendix D).</p>	Important	Easy	Yes	Yes	General Investment Consultant

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooper- ation needed	If yes, who?
51	iv. To address potential staff concerns regarding proprietary WRS work in sourcing boutique investment managers and funds with limited or scarce capacity, we recommend that WRS: <ul style="list-style-type: none"> • Revisit/amend the fiduciary provisions of the General Investment Consultant engagement agreement (including paragraphs # 8: E,G and K); • Include a specific and enforceable provision to preclude misappropriation, “front running”, broadcasting or monetization of WRS’s internal manager sourcing; and/or, • Augment existing protections as well as the professional sanctions provided through the CFA Code of Ethics which is already cross-referenced in the existing agreement. 	Necessary	Easy	Yes	Yes	General Investment Consultant
52	v. As part of the final approval package for making a new investment, the Executive Director should receive written input from the general investment consultant or the private markets consultant as a check and balance; this would require and foster sharing of relevant manager-screening strategies and information.	Important	Easy	No	Yes	General Investment Consultant and Private Markets Consultant
53	vi. Internal Audit should consider outsourcing assistance for specific expertise required for auditing of investment processes and controls.	Important	Medium	Yes	No	
54	vii. Investment cost management and performance benchmarking through an independent third party should be considered, e.g., CEM.	Important	Medium	No	No	

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooper- ation needed	If yes, who?
55	viii. In consideration of trustees' and staff's concerns regarding lagging investment performance versus peers, despite higher measures of relative portfolio risk, the WRS Board should commission a special performance attribution study to help provide insights into the root causes of peer group underperformance as compared to relative performance on a portfolio benchmark basis.	Important	Medium	Yes	Yes	General Investment Consultant or Other Third Party
56	ix. The WRS Board should regularly review drawdown risk and equity beta risk analyses that should be included in the periodic performance and risk reporting it receives: <ul style="list-style-type: none"> • Where possible, peer comparisons should incorporate this information, even if this can only be accomplished on a selective sample or through case studies. • The general consultant could be asked to assemble a client peer group to provide comparable performance/risk data using similar/common measures, which would benefit both WRS and their other clients. 	Important	Medium	Yes	Yes	General Investment Consultant
57	x. At least annually, the Investment Committee should conduct an executive session with the general consultant, with periodic (perhaps biennial) formal reviews of the consultant's performance, for the purpose of continuously enhancing interactions, oversight and decision-making processes.	Important	Easy	Yes	Yes	General Investment Consultant

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Num-ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
58	xi. In consideration of the time which will be required to implement these recommended improvements, we encourage the CIO and the Executive Director to develop an implementation workplan for trustees to prioritize and approve; the general consultant's resources, industry and peer-plan experience, and independent perspectives can be leveraged in this endeavor also.	Important	Medium	Yes	No	
	<i>B. Role and authorities of internal investment staff</i>					
59	i. The investment staff should better leverage the capabilities and resources of the investment consultants, particularly the general consultant, utilizing all the capabilities being paid for in their contracts, and provide access to manager due diligence and hiring information so that the consultants can provide an independent perspective to the Board.	Important	Medium	No	Yes	General Investment Consultant
60	ii. WRS should develop formal, written due diligence standards and procedures which include when investment staff site visits are appropriate and develop travel budgets accordingly.	Important	Medium	Yes	No	
61	iii. Given the primacy of the Executive Director as a delegated generalist overseer in the portfolio manager approval process, the position description and budgets should include expectation of ongoing relevant investment education and conference attendance in support of that role.	Necessary	Easy	Yes	No	

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Number	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
62	iv. The governance of the CIO approval process, including risk management, communication and reporting formats, should be reviewed as it pertains to the oversight responsibilities of the Executive Director, internal audit, and the general consultant.	Important	Medium	Yes	No	
63	v. The WRS approach to the setting and revising the Strategic Asset Allocation should be adjusted (see Appendix E): <ul style="list-style-type: none"> The Board should set the Strategic Asset Allocation (SAA), with ranges for each asset class, every three to five years, preferably every five years; we encourage broad asset categories with ranges wide enough for staff to make market-responsive portfolio adjustments over most market cycles. Instead of staff recommending annual revisions to the SAA, changes in the staff's design of portfolio structure (subsets of asset classes, active/passive, number of managers, etc.) should take place within the ranges established in the SAA, and should be reported regularly to the Investment Committee, especially when manager changes are underway or implemented as a result; The CIO should periodically (at least annually, and each time the custom benchmark is revised) present a free-standing informational update to the full board on portfolio structure and strategies then under forward consideration. 	Critical	Medium	Yes	Yes	General Investment Consultant

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooper- ation needed	If yes, who?
64	<p>vi. The board's (primary) Policy Benchmark (PB) should only be updated when the strategic asset allocation is changed, barring unusual circumstances:</p> <ul style="list-style-type: none"> • Proper accountability requires trustee oversight through "Nose In, Fingers Out" of the staff's portfolio structure: Input is desirable, but responsibility and accountability for portfolio structure and tactical management should reside with the CIO; • In this context, occasional corresponding revisions of a dynamic "Custom Benchmark" (CB) based on material changes in the portfolio structure (as distinguished from the primary PB derived from the Board's SAA) could help clarify accountability and the performance attribution process; • Because of incentive compensation implications, the CB should be developed by the general consultant to fairly mimic/represent the portfolio structure, and the Investment Committee could, if desired (but need not necessarily), approve those CB changes as an instrument used in performance attribution. 	Important	Medium	Yes	Yes	General Investment Consultant
65	<p>vii. If WRS continues to utilize its extensive use of overlays, reporting should be enhanced to clearly indicate the effect of the overlays on performance:</p> <ul style="list-style-type: none"> • Where risk mitigation has been achieved through the overlay strategies and portfolio structure, this should be highlighted in CIO and consultant reports, as should the obverse; 	Important	Medium	No	Yes	General Investment Consultant

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Num-ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
	<ul style="list-style-type: none"> The general consultant should regularly evaluate and report/comment on the effectiveness of the tactical overlay program and specific strategies in the context of fund performance; and, If possible, Russell (preferably) or staff should separate the overlay results from strategic/neutral rebalancing vs. tactical tilts vs. currency balancing vs. transition overlay actions. 					
66	viii. Trustees should consider hosting an education session with informational presentations from other public pension systems and comparable asset allocators with successful relevant overlay, options management, rebalancing and similar risk-management features, including their approaches to governance, accountability and reporting; the CIO and consultants can identify potential speakers. (San Bernardino County CA (\$10 billion with comparably limited staff size) would be one potential example.)	Important	Medium	Yes	Yes	Peer Funds
67	ix. The WRS Board should consider if a maximum exposure limit for a single manager/mandate is necessary and appropriate; a higher ratio or exception guidelines could be considered in light of WRS' typical "middle market" mandate sizes and staff's interest in smaller funds with scarce capacity.	Important	Easy	Yes	No	
68	x. WRS should continue to advocate with the state legislature for:	Important	Medium	Yes	Yes	Legislature

Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooper- ation needed	If yes, who?
	<ul style="list-style-type: none"> Additional staffing to build a capable back- and middle-office function to reduce operational risk and improve internal controls; and, Removal of the requirement for Governor's Office approval of all international travel, with oversight provided by the WRS Board. 					
	<i>C. Incentive compensation plan</i>					
69	<p>i. In the future, consider incorporating the following concepts within the Plan's implementation, or else seek revisions to the statute to incorporate:</p> <ul style="list-style-type: none"> Asset class, sub-class and/or individual contribution components to the award formula, especially at the employee level reporting to the CIO; Allow the WRS Board of Trustees, or one of its committees, to oversee setting of benchmarks and the incentive compensation performance calculation within the statutory limits (it is appropriate that only the fund fiduciaries or their delegates have authority to expend monies of the fund); Allow the Board to set base salary levels, with the assistance of an independent compensation consultant; Include a feature for deferring/postponing some or all earned compensation in years when returns are negative; 	Important	Difficult	Yes	Yes	Legislature and Compensation Consultant

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooper- ation needed	If yes, who?
	<ul style="list-style-type: none"> • Include performance attribution and risk-adjusted returns in the WRS plan design, or at least consideration of both these aspects of investment returns relative to market and portfolio benchmarks; and, • To be effective and defensible in the public arena, the compensation plan should first separate out and distinguish the (a) portfolio-level returns from the Strategic Asset Allocation, which is measured through a mostly passive composite portfolio-level Policy Benchmark (this being the board's prerogative and central responsibility), from (b) the variances that result from delegated portfolio management, including: <ul style="list-style-type: none"> ○ Market-responsive portfolio structure designed predominantly by staff for which the CIO is accountable and measured by a custom benchmark; ○ Tactical overlay transactions, tilts and other portfolio level actions; ○ Manager selection/termination; and, ○ Managers' collective individual performances ("alpha") relative to their benchmarks. • Include a component in the compensation plan which reflects the contributions made by each individual, supported by a documented and 					

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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside coop- eration needed	If yes, who?
	disciplined performance management and evaluation system.					
70	ii. We recommend engagement of an independent compensation plan design consultant, with specific experience in public pension plan compensation design and pay levels for investment professionals, to help WRS and the Board properly calibrate the performance incentives and total compensation and optimize the recruitment and retention benefits of the new plan.	Important	Medium	Yes	Yes	Compensation Consultant
	<i>D. Measuring effectiveness</i>					
71	i. WRS should generally maintain a consistent Policy Benchmark at the Strategic Asset Allocation level in order to facilitate peer comparisons and actuarial discussions where the SAA is the primary focus, with a review whenever there is a full SAA study (e.g., every 3-5 years); changes in the Policy Benchmark should be very infrequent.	Important	Medium	Yes	No	
72	ii. A consultant-designed Custom Benchmark that broadly and fairly reflects the staff's current or planned Portfolio Structure has a legitimate place in the performance reporting regime and the incentive compensation plan analytics, as explained further in Section E below; an important policy and administrative question going forward is who "owns" this benchmark (vs. the portfolio structure itself) and how it is used, as explained in Section C above and cross-referenced in Section E.	Important	Medium	Yes	Yes	General Investment Consultant

Number	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
73	iii. Consider participating in an independent, third-party benchmarking of the asset allocation strategy and performance which attributes performance separately to the asset allocation, risk factors, portfolio structure and manager contributions.	Important	Medium	Yes	No	
74	iv. Conduct a staff-led trustee workshop to explain the various aspects of the portfolio overlay programs, processes and results, followed by periodic reviews of portfolio performance impact of each major category of the overlays (strategic, tactical and opportunistic); this can then be coordinated with the reports prepared by the general consultant, which will help improve understanding of the overlay programs/ strategies and their contribution (positive or negative) to risk management and total fund performance.	Important	Medium	Yes	Yes	General Investment Consultant
75	v. We recommend a “family discussion” among the board, consultants and staff as to how best to systematically incorporate and highlight investment risk assessment reporting and performance attribution into regular reports and peer comparisons, followed by an annual review of these processes by the Investment Committee.	Important	Medium	Yes	Yes	General Investment Consultant
	5. Benefit Operations					
	A. Member contact center					
76	i. WRS should develop and implement performance metrics and standards for incoming calls as part of a broader refinement of measuring and monitoring customer service levels.	Important	Medium	No	No	

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Number	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
77	ii. An overall customer service plan should include a multi-channel approach for interacting with members, retirees, and employers (i.e., website self-service, email, normal mail, face-to-face, and telephone calls) and consider how to best structure a contact center approach to be effective.	Important	Medium	No	No	
78	iii. Once the customer service plan is completed, a contact center could be developed consistent with the overall strategy and plan; a business case with costs/benefits should be included to justify the investment required.	Important	Medium	No	No	
	<i>B. New member enrollment</i>					
79	i. WRS should evaluate the cost/benefit of using estimates for initial payments and determine if it is a practical solution for achieving near-100% initial payment within 30 days of retirement.	Important	Medium	No	No	
80	ii. As part of a broader customer service planning initiative identified in 5.A. <i>Member Contact Center</i> , WRS should also develop and implement performance metrics and standards for initial payment processing.	Important	Medium	No	No	
	<i>C. Technology and record keeping information systems</i>					
81	i. WRS should seek approval for additional programming resources to ensure required Board and legislative policy changes which affect the benefit system are completed on a timely basis.	Important	Medium	Yes	Yes	Legislature
82	ii. WRS should work with ETS and the Budget Division to transfer the two current ETS employees to WRS.	Important	Medium	No	Yes	ETS and Budget Division

Number	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooperation needed	If yes, who?
83	iii. Although WRS Information Technology is somewhat constrained by the state's oversight and control, WRS should nonetheless plan for IT to support its overall strategic plan; the Business Integration Manager should undertake with management to create a 5-year strategic IT plan that complements and supports the WRS strategic plan.	Important	Medium	No	No	
84	iv. WRS should consider if an intranet could be an effective tool to improve the availability and timeliness of policies and procedures for staff on a day-to-day basis.	Important	Medium	No	No	
	6. Administrative Operations					
	<i>A. Actuarial Valuation and Plan Funding Decision-Making</i>					
85	i. The WRS Board should ask its consulting actuary to provide an analysis and present scenarios regarding the UAAL amortization period to consider if a period shorter than 30 years would be more appropriate.	Important	Medium	Yes	Yes	Actuary
	<i>B. Succession planning</i>					
86	i. The WRS Board should update the Executive Director job description and add considerable detail regarding requirements, consistent with delegated responsibilities.	Important	Easy	Yes	No	
87	ii. Staff job descriptions should be consistently updated and linked to the annual review process.	Important	Medium	No	No	
88	iii. WRS should develop and implement a staff succession planning policy and process to complement the leadership development program already in place;	Important	Medium	No	No	

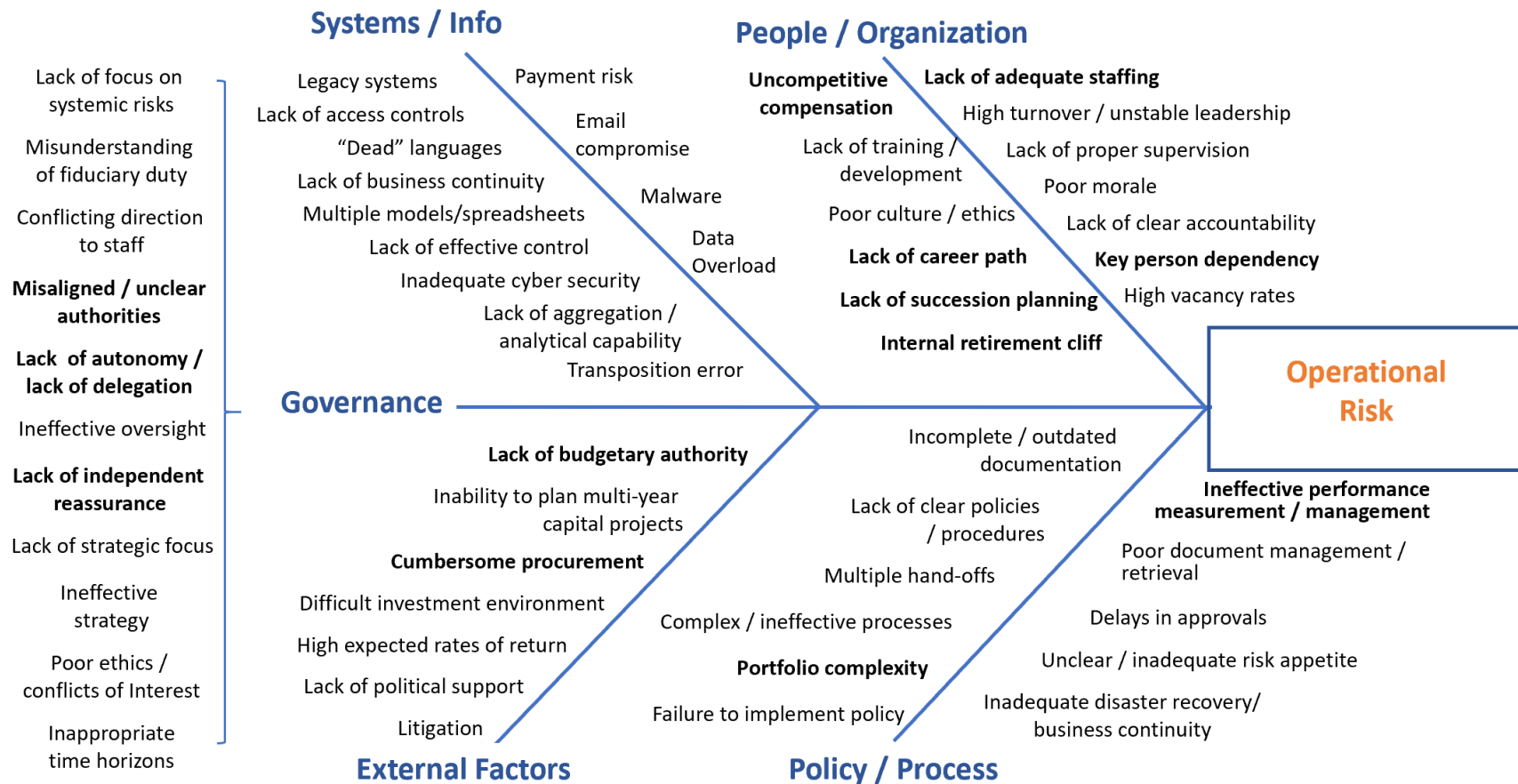
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Num- ber	FAS Recommendation	Critical vs Important vs Necessary	Difficult vs Medium vs Easy to Accomplish	WRS Board involvement needed	Outside cooper- ation needed	If yes, who?
	<p>elements of the succession planning program could include:</p> <ul style="list-style-type: none"> • Identification of critical positions and highlighting potential vacancies; • Selecting key competencies and skills necessary for business continuity; • Safeguarding the departure of critical institutional knowledge; and, • A replacement planning process that concentrates on immediate needs and a “snapshot” assessment of the availability of qualified backup for critical positions. 					

Appendix A – Example Board Governance Policy Manual Outline

- Powers reserved for the Board
 - Set strategic policy and direction
 - Approve certain key decisions
 - Conduct selected activities
 - Oversee prudently delegated authority
- Delegations to the Executive Director and external parties
- Charters for the Board and each committee
- Duties of Board and committee chairs, vice chairs and other trustees
- Board bylaws (e.g., election of Pension Board chair, attendance, calling a meeting, appointment of committee chairs and members, procedures, etc.)
- Board policies, including continuing education, self-assessment, ethics and standards of conduct, travel and gifts, procurement, strategic planning, referral of investment opportunities and service provider candidates, communications and Board/staff interaction

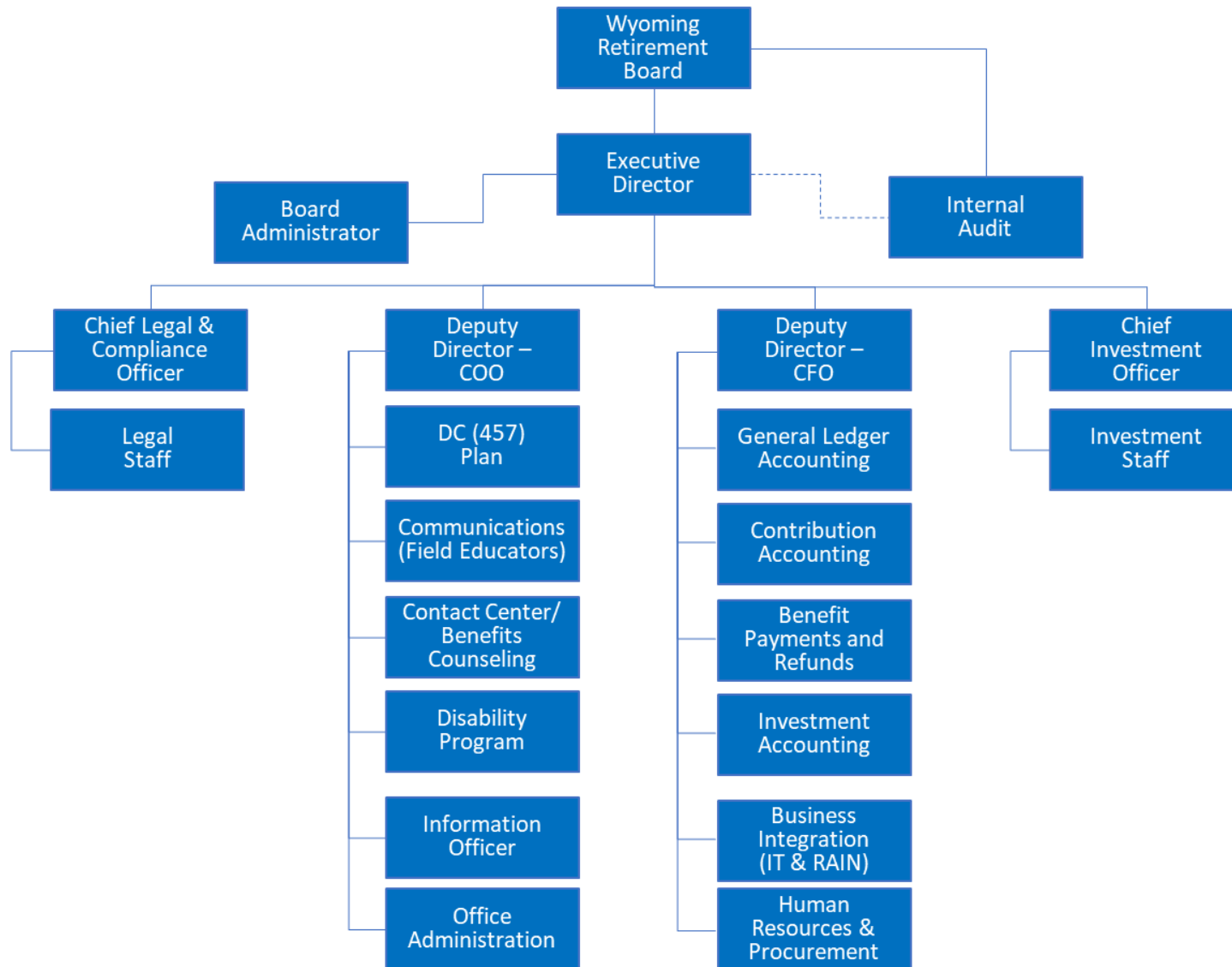
Appendix B – Operational Risk Root Cause Analysis



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Bold items indicate sources of operational risk found at WRS

Appendix C – Potential Organization Chart



Appendix D – High-Level Comparison of SDIC and PERSI Investment Strategies

	South Dakota Investment Council	Public Employee Retirement System of Idaho
Portfolio:	<ul style="list-style-type: none"> • Complex, \$15 billion portfolio <ul style="list-style-type: none"> – Thirteen asset categories – 75% internally managed – 82% is retirement system assets 	<ul style="list-style-type: none"> • Simple, \$17 billion portfolio <ul style="list-style-type: none"> – Four asset categories – All externally managed – 100% retirement system assets
Performance:	<ul style="list-style-type: none"> • Top percentile net returns <ul style="list-style-type: none"> – 10-year net returns: 8.0% – 20-year net returns: 7.5% 	<ul style="list-style-type: none"> • Second quartile net returns <ul style="list-style-type: none"> – 10-year net returns: 6.6% – 20-year net returns: 6.7%
Staffing:	<ul style="list-style-type: none"> • Twenty-eight investment professionals • Four investment accountants • Two administrative staff • One part-time legal counsel 	<ul style="list-style-type: none"> • Two investment professionals • One administrative staff
Core Investment Strategies:	<ul style="list-style-type: none"> • SDIC strengths are a disciplined focus on long-term investment value, an exceptionally supportive environment, and a stable internal investment team. • Invest in assets believed to be undervalued from a long-term perspective based upon in-house research. • Manage risk by diversifying across multiple asset categories and reducing exposure to expensive assets. • Manage the majority of assets internally to save money and to try to earn higher returns. 	<ul style="list-style-type: none"> • Utilize a simple, transparent, focused, and patient approach following conventional investment principles. • The Board will: <ul style="list-style-type: none"> – Make strategic decisions, including asset allocation and strategic policies and adjusting the mix between passive and active managers; and, – Delegate and monitor all other activities, relying on outside agents, and primarily investment managers, to be responsible for non-strategic decisions. • Maintain a reporting system that provides a clear picture of the status of the fund.

Appendix E – Integrated Investment Authorities, Responsibilities and Measurements for WRS

Function	Authority, Responsibility, Inputs	Highlights, Rationale and Comments
Strategic Asset Allocation (SAA) and Policy Benchmark (PB)	<ul style="list-style-type: none"> Board adopts SAA and PB in IPS, with target and ranges for SAA. Recommendations from general consultant and actuary, comments from staff. Typically reviewed every 3-5 years, not annually or biennially. 	<ul style="list-style-type: none"> Policy benchmark provides baseline for all performance attribution as the pure expression of Board's SAA. Staff performance contributions are ultimately all measured against this bogey, as this is the base for computing excess returns eligible for incentive compensation pool. Comparisons with peer plans must begin with returns of Policy Benchmark as foundational, with recognition of relative equity beta or drawdown risk.
Portfolio Structure Within SAA Ranges	<ul style="list-style-type: none"> Delegated CIO responsibility, with input from consultant and commentary from Investment Committee. CIO "owns" the portfolio structure. 	<ul style="list-style-type: none"> Includes asset class and subclass tilts within the ranges allowed under IPS and SAA. This is staff's roadmap to drive overlay strategies, asset subclass composition, and manager selections. Custom benchmark is a passive expression of the portfolio structure. Revisions reflect market valuation changes and new "internal" portfolio strategies. Reported to the Board annually and Investment Committee when managers are changed.
Custom Benchmark (CB)	<ul style="list-style-type: none"> Developed by consultant with staff and Exec. Dir. Input; should include passive overlays. Investment Committee approval is optional. Revised occasionally as needed. 	<ul style="list-style-type: none"> The custom benchmark annually reflects the planned portfolio structure; it need not be changed annually. It enables performance attribution to include the return contribution of the portfolio structure relative to the PB. This data point helps guide senior staff performance evaluations, but only as one dimension. It does not capture active management and short term tactical returns.
Portfolio Total Return and Risk	<ul style="list-style-type: none"> Verified by general consultant in conjunction with custodian. Includes returns from: portfolio structure, overlays, manager alpha; risk at Total Fund level. 	<ul style="list-style-type: none"> Total return net of fees is compared with both PB and CB benchmarks to evaluate and attribute performance. For peer comparisons, scatter grams and floating bar charts should include both benchmarks and the total return, for meaningful attribution. Reporting should also include risk factors and risk statistics comparable to the PB and CB universes.
Attributable and compensable excess return	<ul style="list-style-type: none"> Calculated by the general consultant and formally reviewed by Board. 	<ul style="list-style-type: none"> Calculation: Portfolio total net return minus return on Policy Benchmark. By statute, 2% of this number (in dollars) constitutes the limit on the incentive compensation pool.