

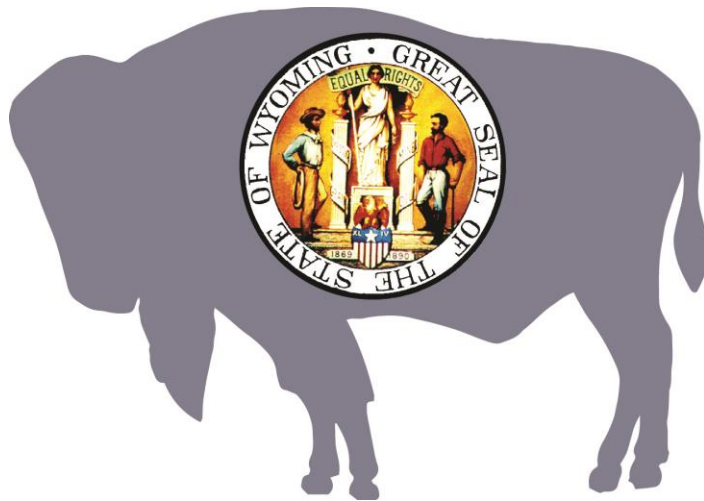


RETIREMENT SYSTEM

PARTNERING TO BUILD FINANCIAL SECURITY FOR MEMBERS AND THEIR FAMILIES

Report to the JAC

June 11, 2018





Wyoming Retirement System

Partnering to Build Financial Security for Members and their Families

Matt Mead
Governor

Ruth Ryerson
Executive Director



June 11th, 2018

Senator Bruce Burns, Co-Chairman JAC
Representative Bob Nicholas, Co-Chairman JAC
VIA EMAIL
c/o Legislative Service Office

Dear Senator Burns and Representative Nicholas:

We are providing this report to respond to the JAC's interim study into the investment program at WRS. We have included a memo discussing structure and governance topics that were indicated as areas of interest to the Committee and are also providing a PowerPoint format of the same material for presentation purposes.

Sincerely,

Tom Chapman,
Investment Committee Chair

Ruth Ryerson,
Executive Director

Sam Masoudi,
Chief Investment Officer

Cc: JAC committee members and staff

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Purpose of Report

The purpose of this report is to respond to the general inquiry from the JAC to provide recommendations of the WRS Board, describe additional system needs, and to meet statutory reporting requirements. This memo is followed by a PowerPoint presentation with summarized information.

Performance

- **Performance Meeting Expectations** - WRS portfolio performance has been in line with its strategic benchmark over long-term periods. See table below.
- **Importance of Investment Team** - In the five years prior to the hiring of a professional investment team in March 2009, the 5-year annualized performance of the portfolio was 1.87% below the strategic benchmark return. This underperformance was the equivalent to roughly a **\$540 million loss**.

Portfolio Returns as of 12/31/17	1-Year	3-Year	5-Year	7-Year
WRS	14.2%	6.9%	7.7%	7.2%
Strategic Benchmark	14.6%	6.9%	7.8%	7.1%
+/-	-0.4%	0.0%	-0.1%	+0.1%

Staffing

- **Status** - WRS is three years into a 5-year strategic plan and only reached its target staffing level of eight investment professionals only in June 2017. See Exhibit A – WRS Historical Staffing
- **Improvements** - The development of the investment team over the past several years has institutionalized the investment operation and created skill redundancy, both of which have improved institutional knowledge and made the organization less vulnerable to the departure of any one individual.
- **Turnover** - The investment program has suffered from substantial turnover since inception in 2009. Only one of the current eight investment staff was at WRS five years ago. Only three of the eight were at WRS three years ago. The average tenure of the current team is 36 months. See Exhibit B - Staff Tenure.
- **Proposed Additions** - WRS is considering requesting supplemental budget approval to convert three AWEC employees into FTE (no cost), and the potential addition of two non-investment professionals to support the investment group and improve operating efficiency and capacity. See Exhibit C - Organizational Chart. Implementing internal investing would require additional investment staff.

Incentive Compensation

- **Background** - The detailed incentive compensation presentation from the December 2, 2017 JAC meeting is included as Attachment B in the LSO background paper for this meeting
- **Rationale** -
 - **Alignment of Interests** - Incentivize investment staff to achieve superior performance.
 - **Staff Retention** - Holding back a portion of staff incentive compensation through vesting would discourage departures.
 - **Hiring** - The potential for above median compensation would help attract high-performing investment staff.
- **Target** - Based on outperformance relative to asset class or total portfolio benchmark returns. A portion of incentive compensation would be based on qualitative factors that would further align interests and strengthen the investment organization and culture.
- **Considerations** - The effectiveness of a program must also provide material potential compensation to the investment staff. The staff perception of value is based on the amount and likelihood of compensation:
 - Achievable performance hurdles
 - Likelihood of payment (not subject to future budget approval)
 - Near-term earning potential

Fee Discussion

- **Return Goals** - WRS' primary goal is to maximize net-of-fee returns. A reduction of fees cannot be considered in isolation and is only beneficial if it improves overall net investment returns.
- **Manager Types** - Active managers (those that select and trade individual securities in an attempt to outperform a given index) charge higher fees than passive managers (those that hold a group of securities that track a market index), because of the additional costs and expertise required. Depending on the asset class, active fees can be higher than passive fees by an additional 0.10% - 0.40% for fixed income or up to 1.0-1.5% higher for equity.
- **Fee Requirements** - Investors are willing to pay higher fees for active management because of the potential to outperform passive investments. While retail investors can only access lower-quality funds, WRS is able to access higher-quality institutional funds and negotiate more attractive fees.
- **Fees - WRS Relative to Treasury** - WRS and STO have different asset allocations because of their different mandates. Consistent with its mandate, the STO portfolio has a greater proportion of assets in lower-returning fixed income assets relative to WRS. WRS has a higher target return of 7.0% requiring a much larger proportion of the portfolio to be invested in higher-returning, higher-fee investments such as public and private equity. As a result WRS will typically have a much higher ratio of management fees to assets than STO.

Internal Management

- **Goals** - WRS is committed to exploring and implementing any opportunities that result in improved net investment returns.
- **Likely Areas of Focus** - Initially, WRS will evaluate investment strategies that are easier to implement than others, such as passive index investments and active plain-vanilla equity and fixed income. See Exhibit D: Theoretical Fee Savings
- **Return Potential** - There is a difference between doing something, and doing it well. In order for WRS to successfully implement an internal investment program, it would need to have the appropriate resources and staffing. While internal investing would reduce manager fees, it would not necessarily lead to higher net returns. Many investors who have attempted internal management have produced substantially lower net returns (Montana, Harvard, etc.), despite allocating substantial resources to the effort.
- **Potential Reduction in Fees** - Bringing easier to implement strategies (mainly passive) in-house would reduce fees by \$1.3 million gross and \$800 thousand net of roughly \$500 thousand incremental cost (most of which would be reoccurring). Active strategies that would be very difficult to implement and would require significantly more time and cost, could reduce fees by an additional \$9.7 million gross of substantial expenses, but their success would be highly uncertain. See Exhibit E.
- **Private Equity and Marketable Alternative Investments** - These asset classes provide the potential to earn higher or uncorrelated returns respectively, both of which provide substantial benefits to overall portfolio risk and return, but as a result, are much more difficult to access and charge higher fees than traditional investments.
- **Peer Comparison** - Very few pensions with a similar asset base as WRS (\$8.5 billion), or even that of WRS and STO combined (\$29 billion), invest internally. See Exhibit F: RVK Peer Analysis
- **Time to Implement** - While some investors have been very successful with internal investing (e.g. S. Dakota), they took many years to implement their plans. A WRS comprehensive active internal investment program would likely take 3-7 years to implement and evaluate.
- **Tactical Trades** - WRS has made several successful internal tactical trades. Tactical trades are made by the investment staff without the involvement of outside managers and incur no cost because there are no management fees. As of May 2018, these trades have produced a total of \$21 million profit, since the inception of the program.

Potential Synergies Between WRS and STO

- **Overview** - WRS' sole focus is to achieve the best outcomes for our members. If there are any synergies that we can utilize to improve the net investment return for the plan, we would like to evaluate and pursue them.
- **Reduction in Management Fees** - This is likely very limited because STO and WRS already independently have economies of scale.

- **Investing Jointly** – There is potential for marginal fee savings on some investments but there are times in which it would likely be detrimental to WRS. There are several premier investment managers that will only accept less capital than we would like to invest. Splitting the capacity further with STO would reduce WRS’ potential returns.
- **Joint Bidding for Contracts** - We are in the process of doing so, but the cost savings are minimal.
- **Joint Manager Meetings** - Managers already visit both WRS and STO when they are in Cheyenne.
- **Shared Resources** – WRS may be able to share subscriptions or research with STO. This is underway.

EXHIBITS

Exhibit A: WRS Historical Staffing

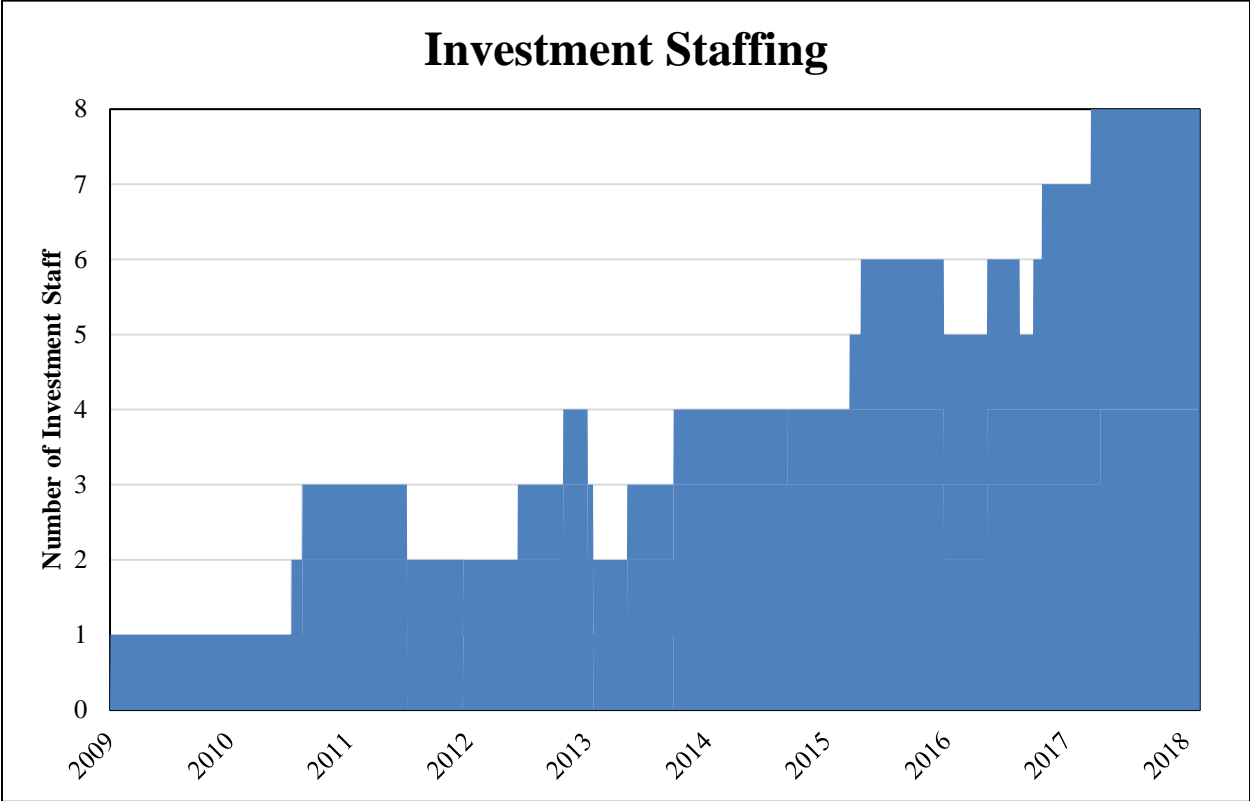


Exhibit B: Staff Tenure

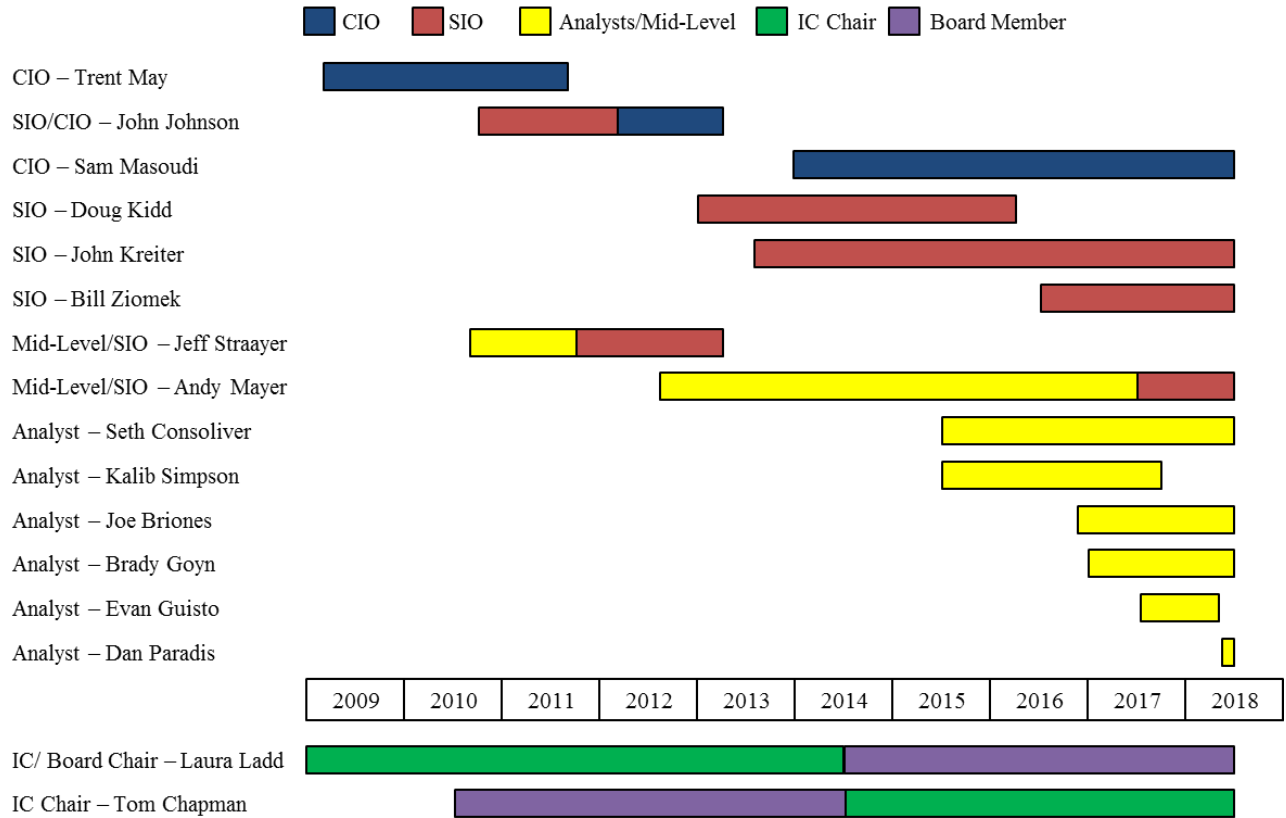


Exhibit C: Organizational Chart

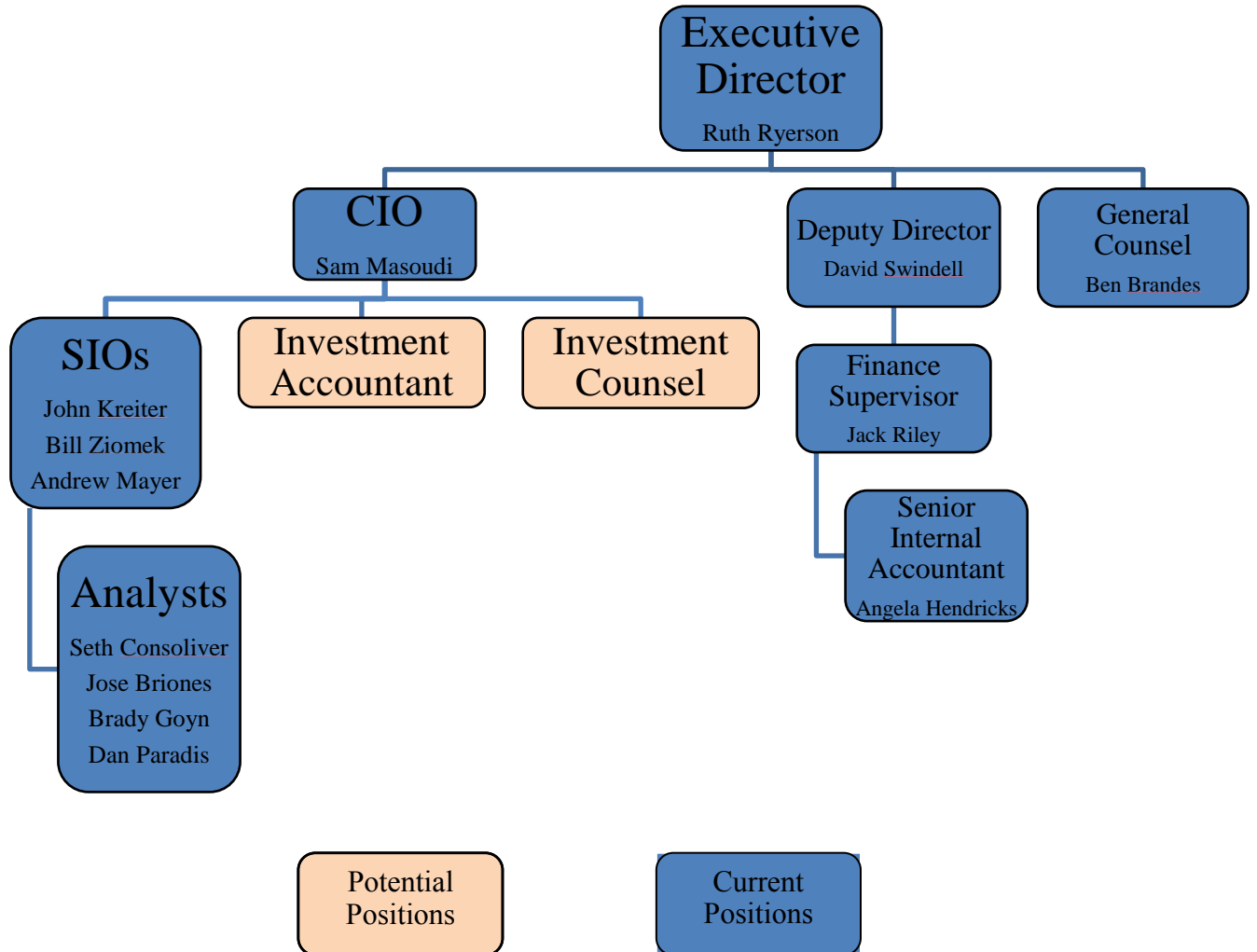


Exhibit D: Theoretical Fee Savings

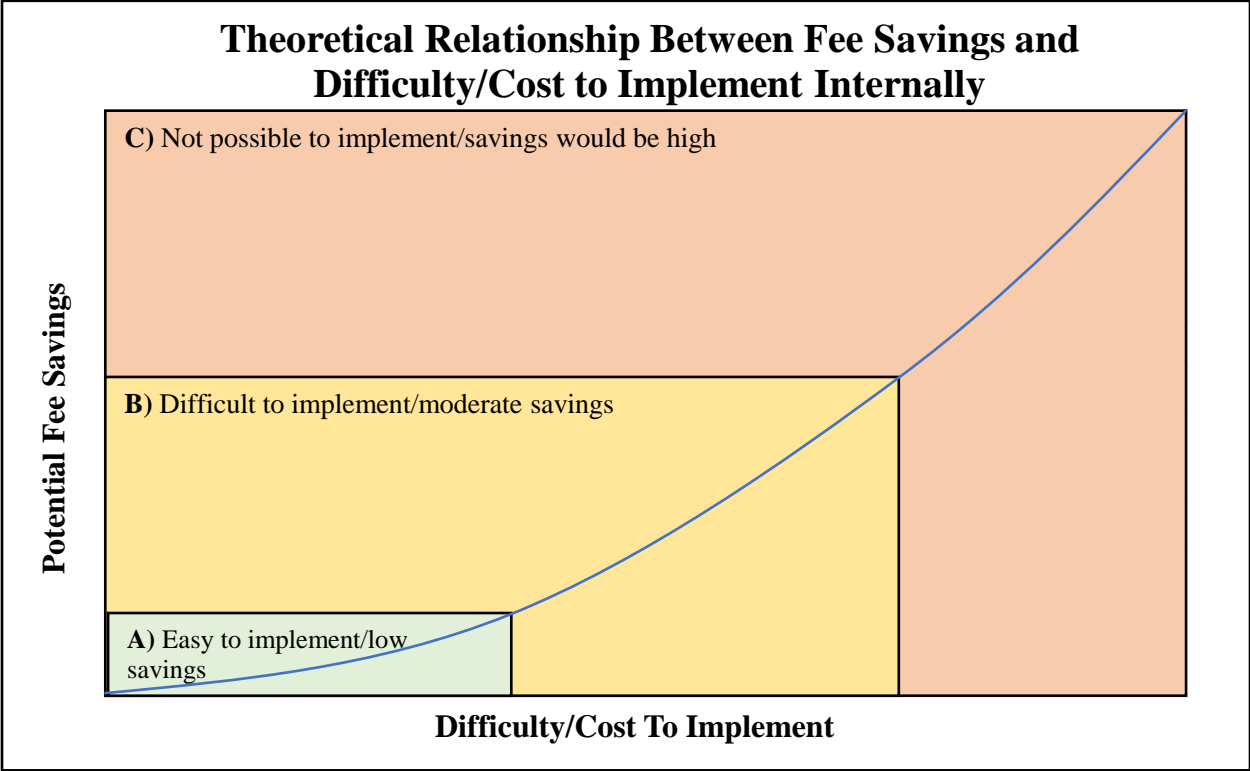


Exhibit E: Potential Internal Management Opportunity

\$ in millions, assets as of 12/31/17, management fees from CY 2017

Category	Assets	% of Portfolio	Avg Fee %	\$ Fee	Gross Potential Savings	Add. Costs	Net Savings \$
A - Relatively Easy to Implement, Low Cost Savings							
Passive Equity	\$784.15	9.24%	0.03%	\$0.2	\$0.2	-\$0.5	-\$0.3
Semi-Passive (4-Factor) Equity	\$846.17	9.97%	0.11%	\$0.9	\$0.9		\$0.9
Passive Fixed Income	\$415.75	4.90%	0.03%	\$0.1	\$0.1		\$0.1
Total Category A	\$2,046.07	24.10%	0.06%	\$1.3	\$1.3	-\$0.5	\$0.8
B - Difficult and Very Expensive to Implement, Moderate Cost Savings							
Active Fixed Income	\$1,560.89	18.38%	0.12%	\$1.8	\$1.8	High	?
Active U.S. Equity	\$864.89	10.19%	0.91%	\$7.8	\$7.8	High	?
Total Category B	\$2,425.79	28.57%	0.40%	\$9.7	\$9.7	High	?
C - Prohibitive							
Active Dedicated Non-U.S. Equity	\$1,493.47	17.59%	0.60%	\$9.0			
Marketable Alternatives	\$1,398.81	16.47%	1.12%	\$15.7			
Direct Private Equity	\$1,003.59	11.82%	1.19%	\$11.9			
Total Category C	\$3,895.87	45.88%	0.94%	\$36.6			
Total	\$8,490.71	100.00%	0.56%	\$47.6	\$11.0	High	?

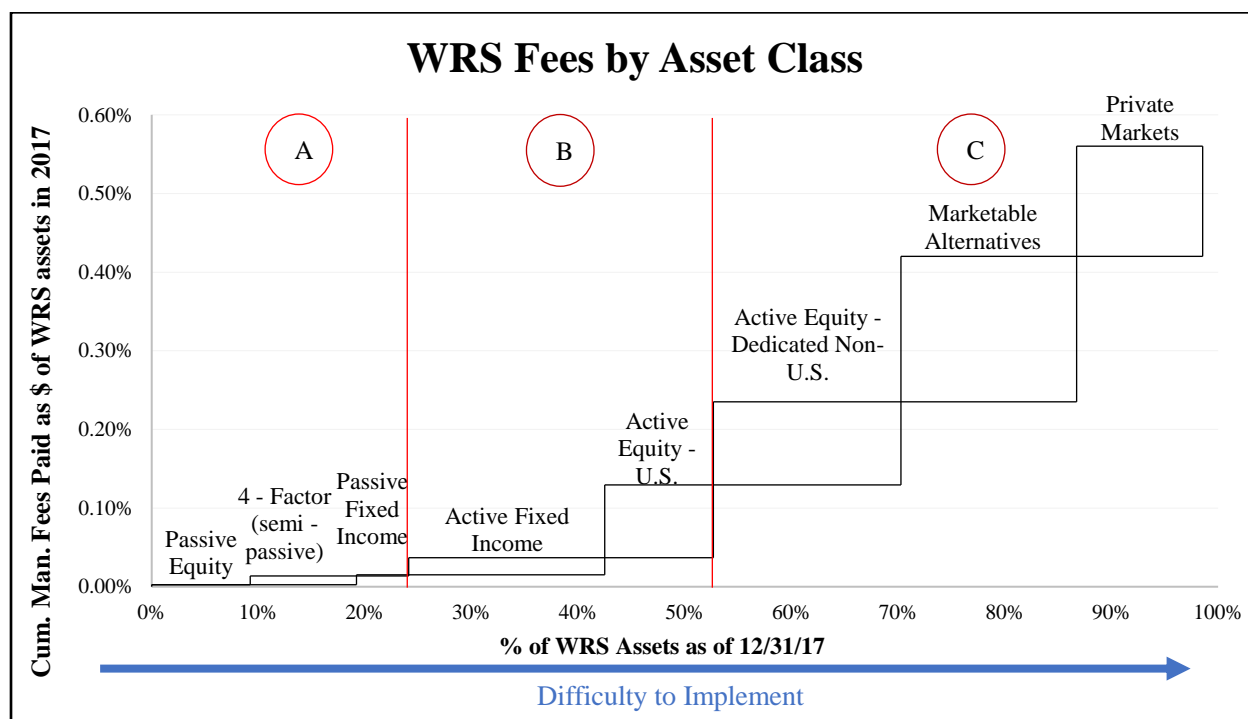


Exhibit F: RVK Peer Analysis

RVK Public Fund Universe

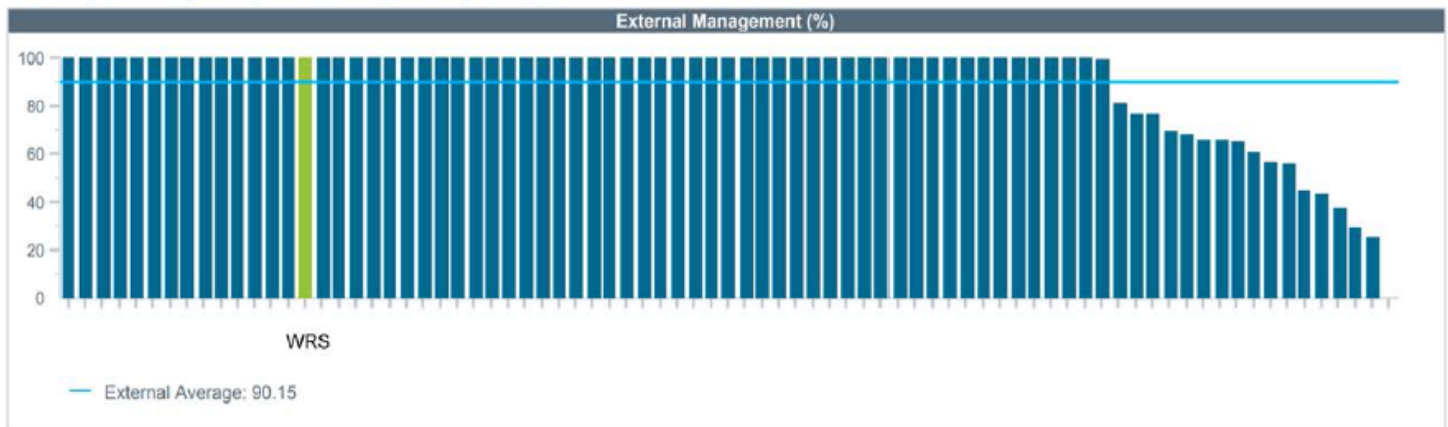
Active vs. Passive / Internally vs. Externally

Public Pension Plans Asset Range	Public Pension Plans Universe Population	Number of Funds with Internal Management	% of Assets Managed Internally (Average)	Internally Active
Over \$35B	16	10	29.98%	10
\$20B - \$35B	5	1	12.48%	1
\$10B - \$20B	15	4	15.02%	4
\$5B - \$10B	11	1	2.17%	1
\$1B - \$5B	16	1	1.49%	1
\$500mm - \$1B	6	1	0.02%	1
Under \$500mm	8	0	0.00%	0
Total	77	18	9.85%	18

Percent of Assets Managed Externally

Portfolio Management

Percentage Externally Managed & Percentage Actively Managed





Wyoming Retirement System

Partnering to Build Financial Security for Members and their Families

Matt Mead
Governor

Ruth Ryerson
Executive Director



WRS Presentation to JAC June 11, 2018

This Presentation Summarizes Information
in the Preceding Memo

Performance

Establishing an investment team has added value and the portfolio has met expectations since inception.

- Importance of robust investment operation:
 - In the five years prior to WRS having an internal investment staff, WRS lagged its strategic benchmark by an annualized 1.87%; this underperformance translates to roughly a **\$540 million loss**.

Portfolio Returns as of 12/31/17	1-Year	3-Year	5-Year	7-Year
WRS	14.2%	6.9%	7.7%	7.2%
Strategic Benchmark	14.6%	6.9%	7.8%	7.1%
+/-	-0.4%	0.0%	-0.1%	+0.1%

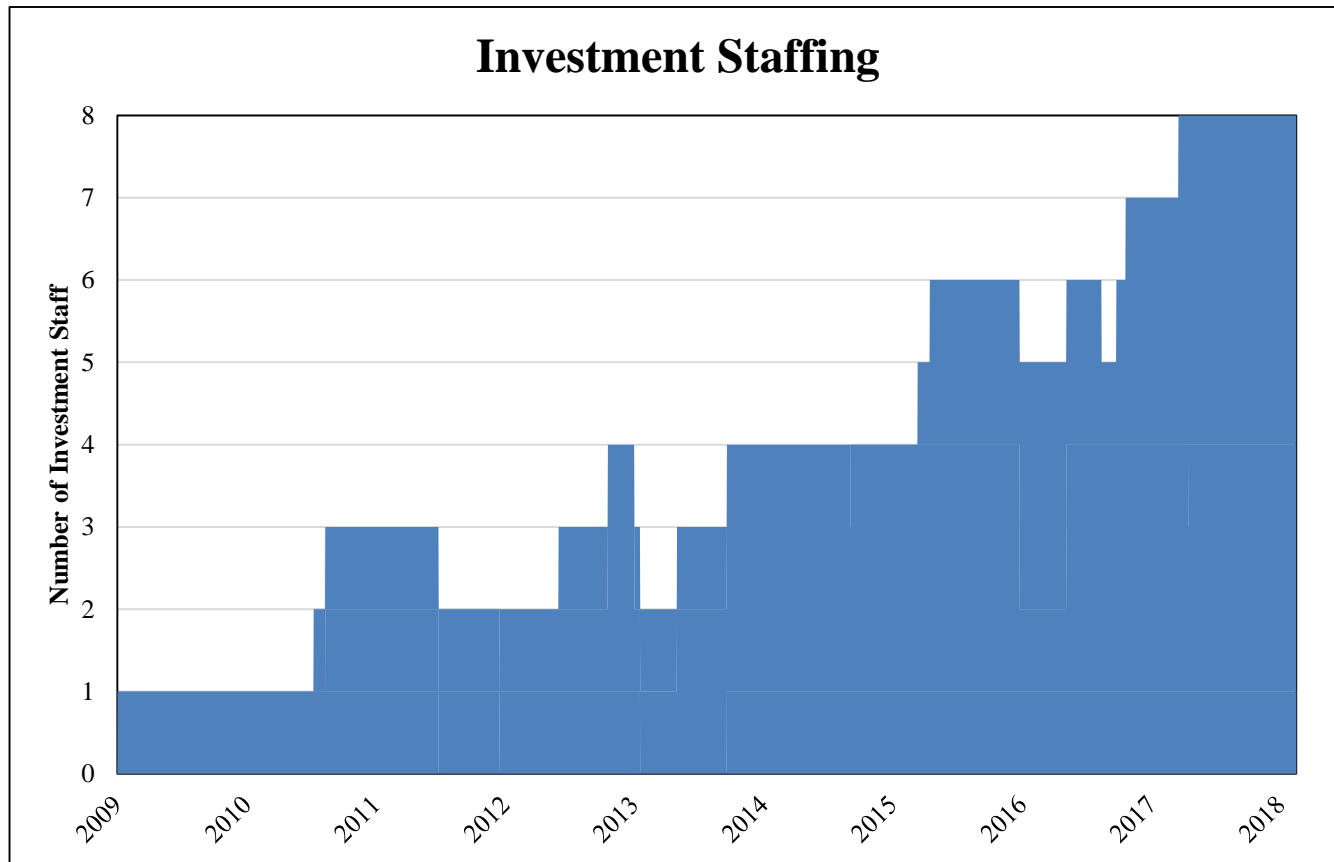
Staffing

Development of the investment staff has increased stability of the investment operations; however, maintaining momentum is critical.

- WRS is three years into a five-year strategic plan.
- The support of the Legislature has been critical to WRS' development.
- Status - WRS reached its target staffing level of eight investment professionals in June 2017.
- Improvements - Institutional quality, less vulnerable to any given staff member leaving.
- Turnover has been high since 2009, but has stabilized in the past few years.
- Proposed Additions - WRS is considering a supplemental budget request for non-investment positions to support the investment group.

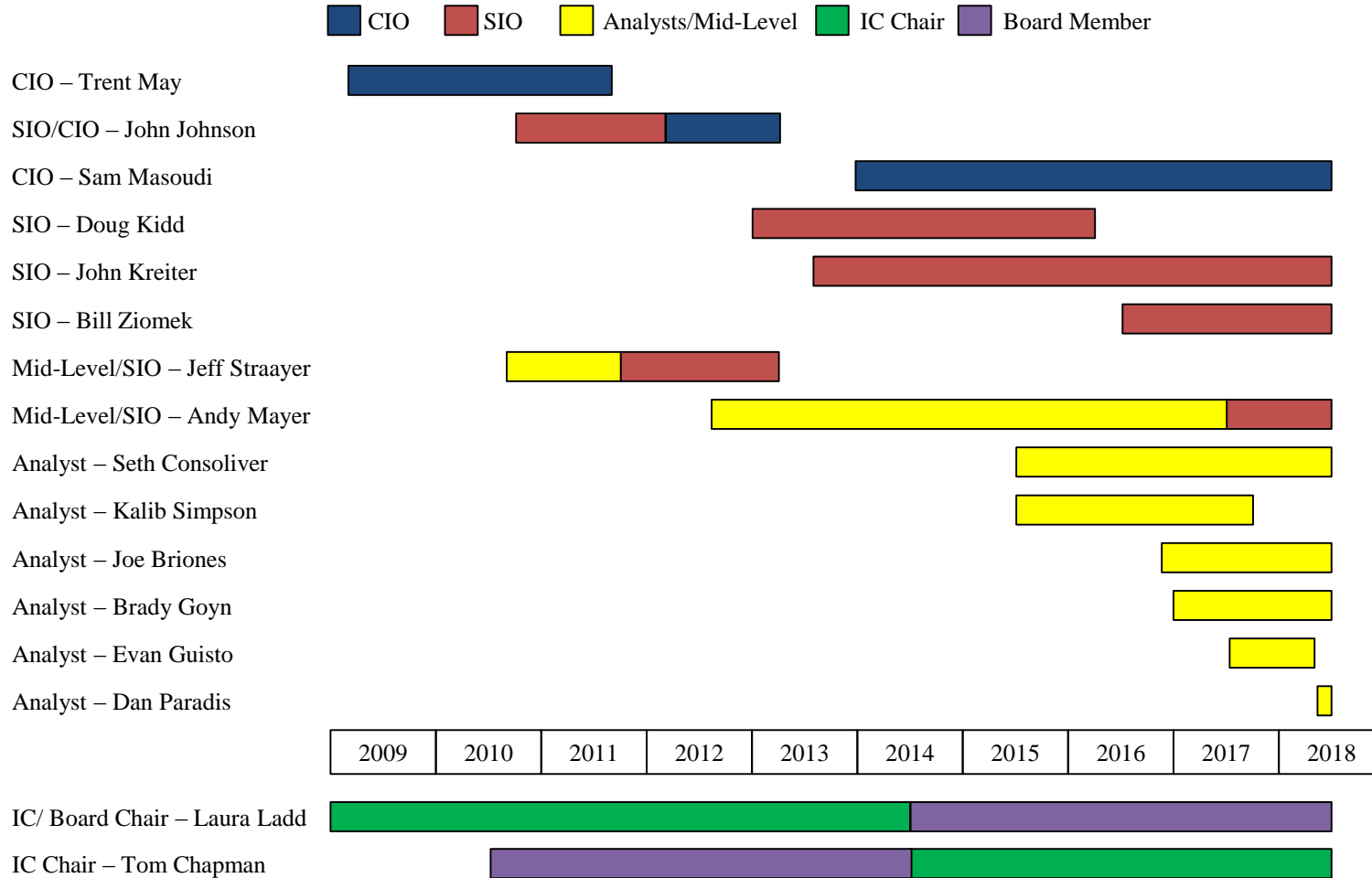
WRS Historical Staffing

WRS only achieved its five-year strategic plan investment staffing goal of eight professionals in June 2017.



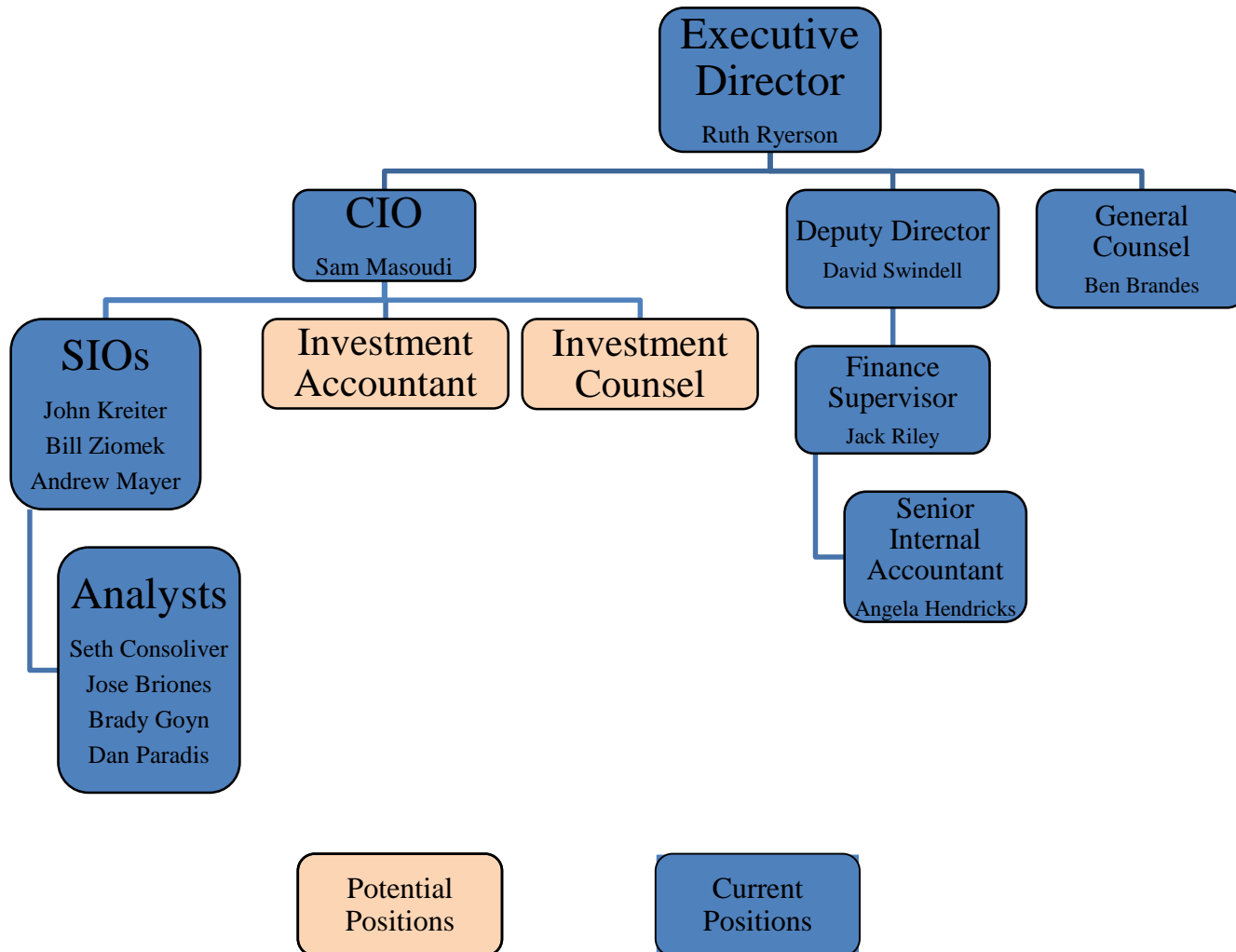
Staff Tenure

Staff turnover has been high since 2009, but has stabilized in the past two years.



Organizational Chart

WRS is considering submitting a supplemental budget for investment organization staffing support.



Incentive Compensation

Incentive compensation is critical to the long-term success of the investment program.

- Background – The December 2, 2017 JAC meeting is included as attachment B in the LSO background paper for this meeting.
- Rationale
 - Alignment of interests
 - Staff Retention
 - Hiring
- Target - Outperformance relative to asset class or portfolio benchmark
- Considerations for staff
 - Achievable performance hurdles
 - Likelihood of payment (not subject to future budget approval)
 - Near-term earning potential

Incentive Compensation

WRS has conducted preliminary research on other pension compensation plans.

- WRS recommends further detailed research on several of those programs:
 - South Dakota
 - Colorado Fire and Police
 - Colorado PERA
- In addition to these programs, WRS also recommends research on the following plans with model governance:
 - New Zealand
 - Alaska

Fee Discussion

WRS seeks to maximize net-of-fee returns and does not focus on fee reductions in isolation.

- **Manager Types:**
 - Active managers are those that select and trade individual securities in an attempt to outperform a given index.
 - Passive managers are those that hold a group of securities that track a market index.
- **Fee Requirements** - Active managers charge higher fees than passive managers but provide opportunities for value-add. WRS has access to the highest quality managers.
- **Fees Relative to Treasury** - Different asset allocations because of different return objectives. WRS will have relatively more high-returning, high-fee investments which will lead to relatively higher fees as a percentage of assets.

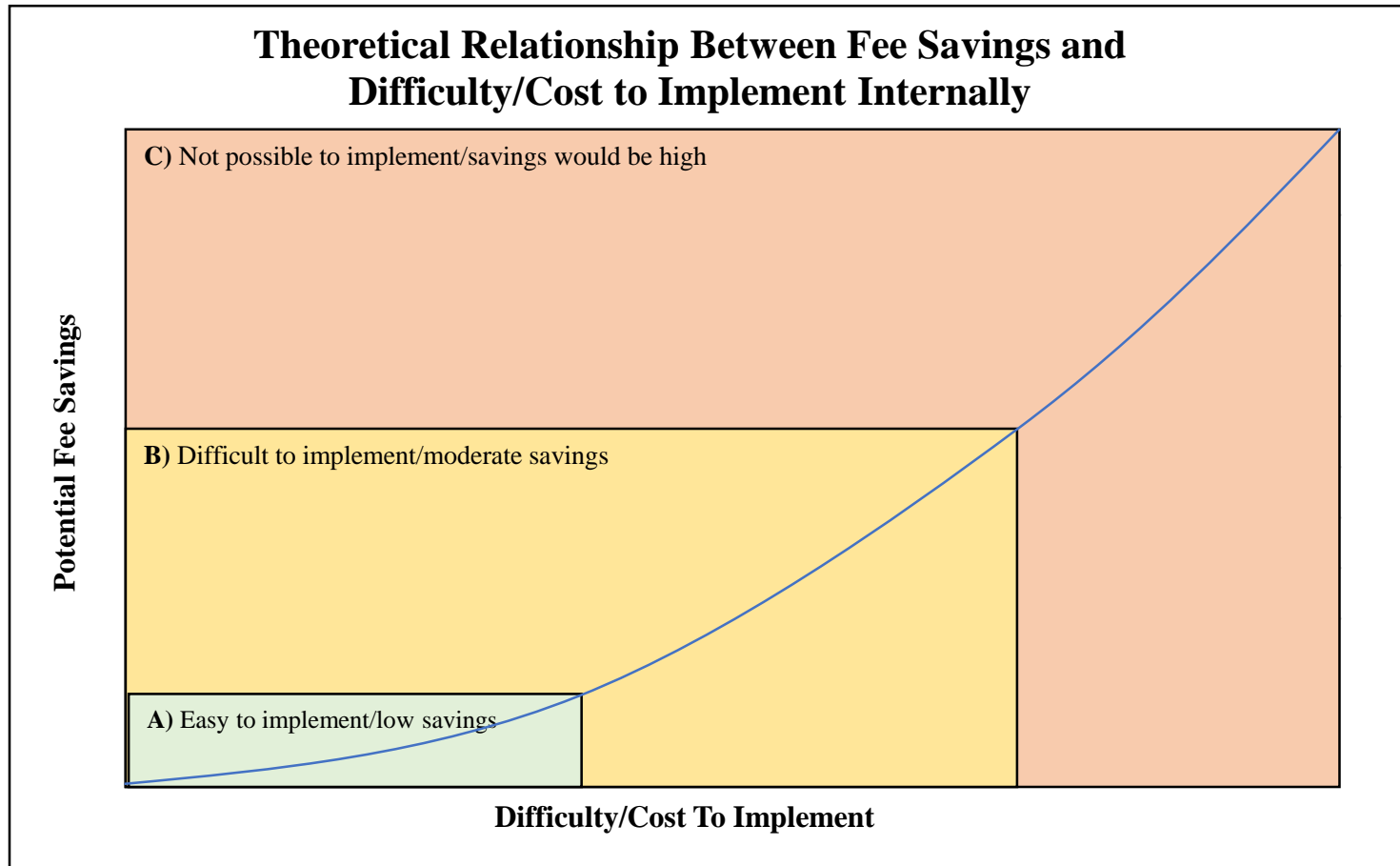
Internal Management

WRS will explore and implement any opportunities that could improve net returns.

- The primary areas for consideration are passive and active plain-vanilla equity and fixed income.
- Potential Reduction in Fees:
 - Category A (easier to implement but small savings)
 - Estimated \$1.3 million gross, \$800 thousand net
 - Category B (very difficult to implement but moderate fee savings)
 - Estimated \$9.7 million gross
 - Very high cost; additional research required to determine net savings potential
 - Might not be viable
- Return Potential - Lower fees do not guarantee higher returns.
- Tactical Trades - Staff internal trades have produced total profit of \$21 million with no fees.

Theoretical Fee Savings

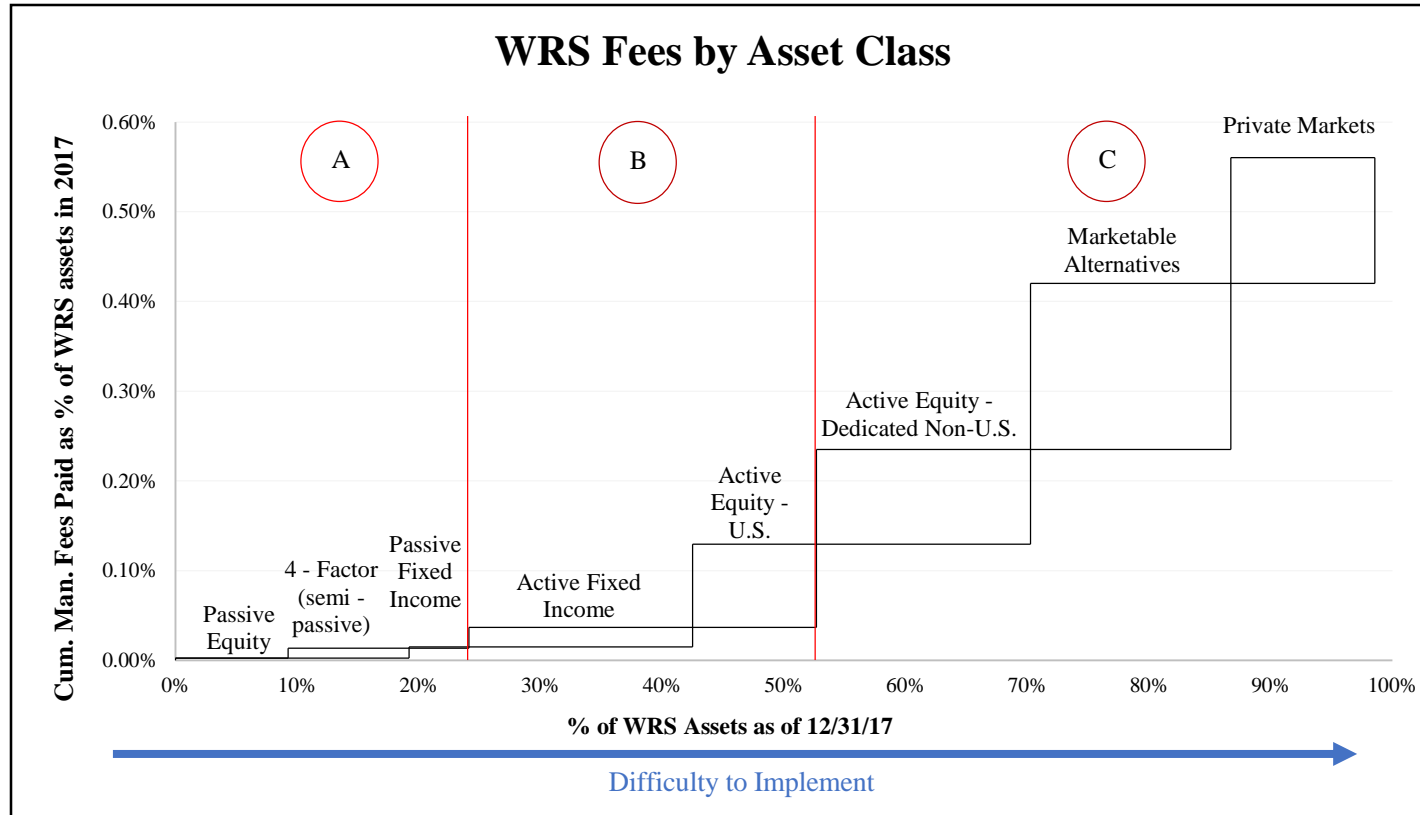
The potential for fee savings is highly correlated to the complexity of the asset class and the difficulty and cost of execution.



Potential Internal Management Opportunity

The WRS portfolio mirrors the theoretical fee savings relationship. There are likely opportunities to decrease fees, but primarily for lower-fee investments.

- Category A - Relatively easy to implement but low fee savings.
- Category B - Difficult and very expensive to implement, moderate fee savings.
- Category C - Prohibitive, very high fee savings.



Potential Internal Management Opportunity

Detailed potential fee savings below. Substantial additional research is needed.

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Total	\$8,490.71	100.00%	0.56%	\$47.6	\$11.0	High	?

Internal Management (Continued)

Few peers, especially those under \$10 billion, manage assets internally.

RVK Public Fund Universe

Active vs. Passive / Internally vs. Externally

Public Pension Plans Asset Range	Public Pension Plans Universe Population	Number of Funds with Internal Management	% of Assets Managed Internally (Average)	Internally Active
Over \$35B	16	10	29.98%	10
\$20B - \$35B	5	1	12.48%	1
\$10B - \$20B	15	4	15.02%	4
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\$500mm - \$1B	6	1	0.02%	1
Under \$500mm	8	0	0.00%	0
Total	77	18		18

Internal Management (Continued)

Items for consideration and additional research

- Peer Comparison
 - Few with asset sizes similar to WRS, or even WRS and STO combined, manage investments internally. Why?
 - Which have been successful (S. Dakota) and which have not (Montana), and why?
 - Cost of implementation (staffing and infrastructure)
- WRS preliminary estimate of time to implement and evaluate internal management based on preliminary research:
 - Passive: 1-2 years
 - Active: 3-7 years?

Potential Synergies Between WRS and STO

WRS will pursue all opportunities to improve net of fee returns through collaboration with STO.

- Reduction in Management Fees - WRS and STO already have economies of scale
- Investing Jointly - Potential for time and marginal fee savings
- Joint Bidding for Contracts - Minimal cost savings; currently in progress
- Manager Meeting Synergies - Currently in place