ORDER OF BUSINESS
Board of Trustees Meeting
Indiana Public Retirement System
1 North Capitol, Indianapolis, IN 46204
1st Floor Conference Room
Virtual Webcast
[Pursuant to Executive Order 20-09 and extensions]
October 30, 2020
10:00 A.M. – 2:00 P.M.
Link For Attendees
Event Number: 171 020 3022
Event Password: Q8YaMYnkZ57
Audio Conference: 1-844-621-3956

I.	**Approve Minutes From September 11, 2020 Board of Trustees Meeting**	**(Tab 1)**	**Vote**
II.	**Unfinished Business**		
	• Proposed Board Governance Manual Updates	**(Tab 2)**	**Vote**
	• Proposed Investment Policy Statement Updates	**(Tab 3)**	**Vote**
III.	**Required Business**		
	• Actuarial Valuation & Contribution Rates	**(Tab 4)**	**Vote**
	• Defined Contribution Fee Review & CY21 Fee	**(Tab 5)**	**Vote**
	• Custodian Banking Services Recommendation	**(Tab 6)**	**Vote**
IV.	**New Business**		
	• CEM Investment Benchmarking Review	**(Tab 7)**	
	• Member & Employer Survey Findings	**(Tab 8)**	
	• Financial Update	**(Tab 9)**	
	• Investments Update	**(Tab 10)**	
	• Executive Director Report	**(Tab 11)**	
V.	**Other business as requested by the Board**		
VI.	**Preliminary Agenda for December 11, 2020 Meeting**	**(Tab 12)**	
VII.	**Preliminary 2021 Board Meeting Calendar**	**(Tab 13)**	
VIII.	**Adjournment**		

MINUTES
BOARD OF TRUSTEES OF THE
INDIANA PUBLIC RETIREMENT SYSTEM
1 N. Capitol, Indianapolis, IN 46204
1st Floor Conference Room and Virtual Webcast
[Pursuant to Executive Order 20-09 and extensions]

September 11, 2020

Board Members Present

Michael Pinkham
Brian Abbott
Connie Plankenhorn
Justin McAdam
Tera Klutz
David Frick
Bret Swanson

Guest Presenters

Jeff MacLean, Verus

Staff Presenters

Steve Russo, Executive Director
Scott Davis, Chief Investment Officer
Donna Grotz, Chief Finance and Administration Officer
Tony Green, Chief Legal & Compliance Officer
Steven Barley, Chief Operations Officer and Deputy Director

Meeting called to order at 10:20 a.m. by Chairman Swanson.

In accordance with normal practice, Board members were provided electronically written materials in advance of the meeting.

I. Approval of Minutes from June 26, 2020 Board of Trustees Meeting

MOTION duly made and carried to approve the Board of Trustees Meeting minutes from the June 26, 2020, Board meeting.

Proposed by: ***David Frick***
Seconded by: ***Justin McAdam***
Votes: ***5 in favor, 0 opposed, 0 abstentions (Connie Plankenhorn and Tera Klutz were absent)***

II. Unfinished Business

There was no unfinished business discussed by the Board.

III. Required Business

A. Proposed Board Governance Manual Updates

Tony Green presented proposed revisions to the Board Governance Manual. Mr. Green noted replacing the INPRS principle statements with INPRS values. Mr. Green also talked about clarifying that PERF and TRF defined benefit and defined contributions are two separate funds, adding PERF MyChoice for volunteer fire departments, clarifying that the Special Death Benefit fund pays its own administrative expenses, updating the Special Death Benefit amount for public safety officers who die in the line of duty because of legislation, adding and clarifying language to allow the Executive Director to enter into a contract already established by federal GSA, clarifying the Executive Director's performance review process, and , other technical corrections based on language in the Indiana Code. Mr. Green asked the Board to review and provide any feedback to him before the next board meeting. Mr. Green said that the Board would be voting on the recommended changes at the next Board meeting in October.

B. Proposed Investment Policy Statement Updates

Scott Davis presented proposed revisions to the Investment Policy Statement. A copy was provided to the Board electronically for review. Scott discussed the changes to the defined benefit plans, defined contribution plans and other plans and noted specific sections of the Investment Policy Statement. Recommended revisions were discussed. Mr. Davis said the Board would be voting on the recommended changes at the next Board meeting in October.

IV. New Business

A. FY20 – A look back

Steve Russo presented the 2020 fiscal year in review. Mr. Russo stated that the INPRS managed pension plans remain well funded with no expected increase in 2022 employer contribution rates. Mr. Russo reviewed the estimated aggregate funded status of the pre-funded defined benefit plans, the Teacher pre-1996 pay-go plan status, and the progress toward exemplary customer and operational services. Mr. Russo also discussed FY20 year-end performance and year over year trend. Mr. Russo also reviewed the FY20 strategic plan accomplishments and results.

B. Operations Update

Steve Barley summarized the Operation department's key performance metrics including call center volume and service level, and retirement volumes. Mr. Barley also discussed key challenges within the department.

C. Investments Update

Scott Davis presented the INPRS investment update to the Board. Mr. Davis provided highlights and reviewed the INPRS investment portfolio as of June 30, 2020. Mr. Davis talked about the asset allocation, defined benefit funds' performance, and defined contribution funds' performance. Jeff MacLean of Verus briefly discussed the economy and risk.

D. Financial Update

Donna Grotz presented the INPRS financial update. Ms. Grotz summarized the financial results, net position, supplemental reserve accounts, and the administrative and investment expenses as of the end of fiscal year 2020 (through June, 2020) and for one month of fiscal year 2021 (through July, 2020).

E. Executive Director Report

Steve Russo presented the Executive Director's report. Mr. Russo noted two line of duty deaths. Mr. Russo also provided highlights of the Balance Scorecard and escalated BSC measures.

V. Preliminary Agenda for October 30, 2020 Board Meeting

A copy of the preliminary agenda for the October 30, 2020, meeting was included in materials provided electronically to Board members.

VI. Other business as requested by the Board

There was no other business as requested by the Board discussed.

VII. Adjournment

MOTION duly made and carried to adjourn the June 26, 2020 Board meeting at 12:14 p.m.

VIII. Executive Session

A brief Executive Session was held at pursuant to IC 5-14-1.5-6.1(b)(9).

As posted, the Board discussed personnel matters as authorized pursuant to IC 5-14-1.5-6.1(b)(9).

As required by IC 5-14-1.5-6.1(d), the Board hereby certifies that only subject matter related to IC 5-14-1.5-6.1(b)(9) was discussed.

Updates to Board Governance Manual

Executive Summary

September 11, 2020

(Comparing 10-25-19 version to 9-11-20)

1. Replacing INPRS Principle Statements with INPRS Values.

2. Clarifying that the PERF and TRF DBs and DCs are in two separate trust funds.

3. Adding PERF MyChoice for Volunteer Fire Departments.

4. Clarifying that the Special Death Benefit fund pays its own administrative expenses.

5. Updating Special Death Benefit amount for public safety officers who die in the line of duty because of legislation.

6. Adding and clarifying language to allow Executive Director to enter into a contract already established by federal GSA. (Appendix D).

7. Clarifying the Executive Director's performance review process. (Appendix H).

8. Technical corrections based on language in the Indiana Code and/or clarifications.

Manual as shown in the attached Red-Lined Version

No changes were made to the

Board Governance Manual presented to the Board on September 11, 2020.

INPRS staff recommends that the Board approve

the Board Governance Manual as presented to the Board

on October 30, 2020

INDIANA PUBLIC RETIREMENT SYSTEM

BOARD GOVERNANCE MANUAL

Originally Adopted by the INPRS Board on September 16, 2011

Last Restated October 25, 2019

Table of Contents

Appendices of Board Policies

A. Introduction

1. Purpose of this Board Governance Manual

Members of the Board of Trustees of the Indiana Public Retirement System ("INPRS" or the "System") are fiduciaries and are subject to the statutory and common law duties of a fiduciary, as well as policies adopted by the board governing their conduct, including this Board Governance Manual and the System's Investment Policy Statement (Appendix A). Members of the board of trustees (the "Board") acknowledge their role as fiduciaries to the funds administered by INPRS and, specifically, that the INPRS Board must prudently administer the assets of each of the INPRS-administered Funds (listed below) for the exclusive benefit of the members and beneficiaries of each of those Funds. The purpose of this Board Governance Manual is:

a) To set forth the Board's responsibilities provided in the Indiana Code, the Indiana Administrative Code, and Board-approved policies, as well as the Board duties and proscriptions provided under federal law;

b) To set forth those responsibilities that have been delegated by the Board; and

c) To facilitate the organized, efficient, and cohesive functioning of the Board.

This Board Governance Manual and all attached policies and documents shall be reviewed biennially and will be amended by the Board whenever circumstances warrant action. This Manual is intended to be in harmony with applicable laws; however, should there be any discrepancies, the law prevails. Any questions regarding this Board Governance Manual should be directed to the Executive Director of the System.

2. Vision Statement

Engaged members able to realize their retirement dreams.

3. Mission Statement

As fiduciaries, educate stakeholders, collect necessary contributions, and prudently manage member assets to deliver promised DB and DC benefits and services.

4. ~~Principle Statements~~Values

In previous years, our Strategic Plan included a set of Principles by which we made strategic decisions and completed our operational tasks. This year, the INPRS' executive staff made a decision to place focus on our internal culture to develop critical core values for intentional culture transformation.

The INPRS Values Statement reflects the organization's beliefs about our staff, how we accomplish our work and how we deliver services to our members and employers.

INPRS BELIEVES
People are the foundation of our success. It takes people with different backgrounds, ideas, and strengths to be successful.

Our people are…

- Models of Integrity - hold themselves accountable to the highest standards of ethical and professional behavior.
- Team Players – encourage and support others for the success of the team breaking down silos and connecting with our shared vision.
- Candid - believe in direct, respectful, and honest communication.
- Continuous Learners – eager to improve while having an open-mind to feedback and new ideas.
- Diligent – well-researched, risk aware, and transparent.

Success is built upon…

- Trust - empowering our people to successfully fulfill their duties while providing them with training, support, and mentorship.
- Constructive Conflict - encouraging debate around ideas to arrive at the best solution.
- Commitment – dedicated to decisions and action plans.
- Accountability - setting clear expectations for people, roles, and teams and holding ourselves and each other accountable for results.

Balance in life is important. We strive to have a flexible and supportive environment while not sacrificing service to our members

- ~~**Integrity.** We hold ourselves accountable to the highest standards of ethical and professional behavior.~~
- ~~**Stewardship.** We prudently manage assets held in trust for current and future retirees. We are value oriented. We rigorously identify, measure and manage risk.~~
- ~~**Service.** We exist to serve our stakeholders with attentiveness to high quality, respectful customer service.~~
- ~~**Trust.** We are our stakeholders' trusted source of reliable information.~~

- ~~**Collaboration.** We seek out stakeholder input when establishing goals and setting priorities.~~

4.5. **Indiana Code and Indiana Administrative Code**

The Indiana Code (IC) sections referenced in this document are available online at http://www.in.gov/legislative/ic/code/. The Indiana Administrative Code (IAC) is available at http://www.in.gov/legislative/iac/.

B. Overview

1. Description of the Funds

On July 1, 2011, the Indiana General Assembly created the board of trustees of the Indiana Public Retirement System to administer the following Indiana public employee retirement plans (hereinafter the "Funds")[1]:

- Teachers' Pre-1996 Defined Benefit Account (TRF Pre-1996 DB)
- Teachers' 1996 Defined Benefit Account (TRF 1996 DB)
- Teachers' Hybrid Members Defined Contribution Account (TRF DC)
- MyChoice Retirement Savings Plan (TRF MC DC)[2]
- Public Employees' Defined Benefit Account (PERF DB)
- Public Employees' Hybrid Members Defined Contribution Account (PERF DC)
- MyChoice: Retirement Savings Plan For Public Employees (PERF MC DC)[3]
- Prosecuting Attorneys' Retirement Fund (PARF)
- 1977 Police Officers' and Firefighters' Pension and Disability Fund (1977 Fund)
- Legislators' Defined Benefit Plan (LEDB Plan)
- Legislators' Defined Contribution Plan (LEDC Plan)
- Judges' Retirement System (JRS)
- Excise, Gaming and Conservation Officers' Retirement Fund (EG&C)

The INPRS board also oversees one non-retirement fund called the Special Death Benefit Fund which was created by legislation in 2017. The legislation consolidated several non-retirement death benefit funds such as the Public Safety Officers' Special Death Benefit Fund and the State Employees' Death Benefit Fund.

INPRS administers 16 total funds that include eight (8) defined benefit funds, five (5) defined contribution plans, one post-employment benefit fund in the Special

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[1] See IC 5-10.5-2 and 5-10.5-3.
[2] See IC 5-10.4-8.
[3] See IC 5-10.3-12

Death Benefit Fund, one custodial fund in the Local Public Safety Pension Relief Fund, and one health reimbursement fund in the Retiree Medical Benefits Account (RMBA) Plan. These funds are further described below.

2. Board of Trustees History and Structure

Prior to July 1, 2011, the retirement plans for Indiana public employees were administered by two separate boards of trustees; the Public Employees' Retirement Fund board (which also managed PARF, 1977 Fund, LRS, JRS, EG&C, and the non-retirement funds) and the Indiana State Teachers' Retirement Fund board. This administrative merger began in 2010 with the adoption of legislation requiring the two boards to name a common Executive Director.

Despite the creation of the unified INPRS board, each retirement fund continues as a separate fund under the oversight of the combined board of trustees.[4] INPRS is not a merger of PERF and TRF plans and neither the assets nor the liabilities of one fund become the assets or liabilities of the other. Individual funded status for each fund will continue to be calculated separately.

INPRS is governed by a nine-member Board of Trustees and each Trustee is appointed by the Governor pursuant to the following criteria[5]:

- one trustee with experience in economics, finance, or investments;
- one trustee with experience in executive management or benefits administration;
- one trustee who is an active or retired member of the 1977 fund and nominated by the speaker of the house of representatives;
- two trustees who are TRF members with at least 10 years of creditable service; one trustee must be nominated by the speaker of the house of representatives and one trust must be nominated by the president pro tempore of the senate;
- one trustee who is a PERF member with at least 10 years of creditable service and must be nominated by the president pro tempore of the senate;
- one trustee nominated by the auditor of state, who may be the auditor or another individual with experience in economics, finance, or investments;
- one trustee nominated by the treasurer of state, who may be the treasurer or another individual with experience in economics, finance, or investments.

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[4] See IC 5-10.5-2-5 and IC 5-10.5-2-6.
[5] See IC 5-10.5-3-2.

As well as an ex officio member:

- the Director of the State Budget Agency, or designee;

The Indiana Code enumerates the duties and powers of the Board which include promulgating rules to administer the Funds, adopting an annual budget, and the ability to exercise all powers necessary, convenient, or appropriate to carry out and effectuate the Board's public and corporate purposes and to conduct the Board's business.[6]

Prior to fulfilling their official duties, trustees will take an oath which will be filed with the Secretary of State.[7] The terms for positions on the Board are fixed four year terms beginning on July 1.[8] If a trustee is appointed to fill a vacancy during a term, that trustee shall serve the unexpired term of the trustee's predecessor.[9] If a trustee is reappointed with no interruption in service, the original oath remains in full effect and force. When a term expires and a trustee is not reappointed, the respective trustee shall continue serving until the trustee's successor is appointed and qualified.[10]

a. State Teachers' Retirement Funds

(i) The Pre-1996 Fund

The Indiana General Assembly created the Teachers' Retirement Fund (TRF) in 1921 which provided that teachers be assessed three-sevenths of an annuity of $700 per year to teachers of sixty years of age who had served for forty years. TRF was to be funded through a levey as other state taxes are levied. In 1955, TRF was changed to become a "pay-as-you-go" defined benefit (DB) retirement system to provide pension and disability benefits to its members and their survivors/beneficiaries who meet the statutory requirements for such benefits. *Pay-as-you-go* means that the State did not pre-fund the teachers' retirements through employer contributions while the members were actively teaching. Instead, the State appropriated money for the retirement benefits as they became due for payment. Additionally, in 1955, the General Assembly also established the Annuity Savings Account (ASA) as part of the member's total pension benefit. In 1995, the General Assembly passed legislation creating the Pension Stabilization Fund ("PSF"), designed to partially fund TRF's unfunded liability of the Pre-1996 Account. The PSF was initially funded from $439 million of employer reserves from the TRF Pre-1996 Account and, since that time, has received contributions from the Indiana State

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[6] See IC 5-10.5-4.
[7] See IC 5-10.5-3-5.
[8] See IC 5-10.5-3-3(a).
[9] See IC 5-10.5-3-3(b).
[10] See IC 5-10.5-3-3(c).

General Fund, contributions from the Indiana State Lottery, and interest earned from the investment of PSF assets.

(ii) The 1996 Fund (TRF Hybrid)

In 1995, legislation was passed that closed the pay-as-you-go plan (named the "Pre-1996 Account") to newly hired members and created a new account for teachers hired after June 30, 1995 (the "1996 Account"). The 1996 Account was established to be actuarially pre-funded by requiring school corporations to set aside a fixed percentage of payroll for teacher retirements.

The Pre-1996 Account and the 1996 Account are multiple-employer retirement funds established to provide pension benefits for teachers and their supervisors in the State's public schools. Membership in the TRFs is required for all legally qualified and regularly employed public school teachers. TRFs provide retirement benefits, as well as death and disability benefits.

The TRFs' benefits consist of (1) a defined benefit ("DB") based upon years of service and final average salary and (2) a separate annuity savings account (ASA), which is also known as a defined contribution ("DC") account. The DB and DC are two separate trust funds. This DC account~~ASA~~ is based on member contributions. The mandatory member contribution rate to his or her TRF ~~ASA (~~DC~~)~~ is defined by law as 3.0% of each member's salary. Each employer is authorized to elect to pick up the member contribution.[11]

(iii) TRF MyChoice Plan

The TRF MyChoice Plan is a defined contribution plan created by July 1, 2017 legislation and implemented after appropriate IRS approvals on July 1, 2019. The plan provides benefits for individuals who 1) begin employment with a school corporation after the effective date of the plan and 2) make a one-time irrevocable election to participate in the TRF MyChoice Plan (rather than the TRF Hybrid Plan) within 60 days of initial employment.[12] If no election is made, individuals are defaulted into the TRF Hybrid Fund. The Plan affords employees who do not intend to be long-term or career teachers the option of receiving employer contributions into their DC account combined with employee contributions instead of a state pension, thus building the corpus of the DC account at an accelerated rate. The employee contribution rate is defined by law as 3.0% of each employee's salary.[13] Employers are required to pick up the employee's contributions.[14] In addition, the employer

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[11] See IC 5-10.4-4-11.
[12] See IC 5-10.4-8.
[13] See IC 5-10.4-8-9.
[14] See IC 5-10.4-8-9.

contributes the actuarially determined rate. The contributions are employee directed into the various investment programs available to participants.

b. Public Employees' Retirement Fund

The Public Employees' Retirement Fund is a multiple-employer plan created in 1945 with the passage of the Public Employees' Retirement Act to provide retirement benefits, disability, and death benefits to members and their survivors/beneficiaries who meet the statutory requirements for such benefits. Members of the PERF plans include employees of the State and employees of other governmental units who have adopted resolutions joining PERF (including cities, towns, counties, and other governmental units). Effective March 2013, INPRS administers two PERF Tiers: 1) a PERF Hybrid Fund including a defined benefit element and a defined contribution element and 2) a PERF MyChoice Plan containing only a defined contribution element.

(i) PERF Hybrid Fund

The PERF Hybrid Fund benefit consists of (1) a ~~pension formula~~defined benefit (DB), based upon years of service and an average of the member's annual compensation as defined by statute, and (2) a- separate annuity savings account ("ASA"), which is also known as a defined contribution ("DC") account. The DB and DC are maintained in two separate trust funds. The DC account ~~ASA~~ is derived from employee contributions. The employee contribution rate is defined by law as 3.0% of each employee's salary. For State employees, the law requires the State to pick up the employee's contributions to PERF.[15]

Contributions are made to PERF Hybrid Fund by the State and local units determined by normal cost and amortizing the unfunded accrued liability of each unit during periods established pursuant to statute. Contribution rates are set by the Board based on annual actuarial valuations.

(ii) PERF MyChoice Plan (for State employees)

The PERF MyChoice plan is a defined contribution plan that provides benefits for first-time, full-time state employees, who 1) are employed after March 1, 2013, and 2) make a one-time irrevocable election to participate in the MyChoice Plan (rather than the PERF Hybrid Plan) within 60 days of initial employment.[16] If no election is timely made, the employee is defaulted into the PERF hybrid fund. The Plan affords employees who do not intend to be long-term or career public servants the option of receiving employer contributions into their DC account combined with employee contributions instead of a state pension, thus building the corpus of the DC account at an accelerated rate. The state must contribute an actuarially determined rate in

[15] See IC 5-10.3-7-9.
[16] See IC 5-10.3-12.

addition to the 3% that the state picks up on behalf of the member. The contributions are employee directed into the various investment programs available to participants.

(iii) PERF MyChoice (for Political Subdivision employees)

Eligible first time or re-hired employees of participating political subdivisions may make a one-time irrevocable election to participate in the plan. If no election is timely made, the employee is defaulted into the PERF hybrid fund or the Plan depending on the employer's resolution. The Plan affords employees who do not intend to be long-term or career public servants the option of receiving employer contributions into their DC account, at the discretion of the employer, combined with employee contributions instead of a state pension, thus building the corpus of the DC account at an accelerated rate. The employer has discretion to contribute between 0% to an actuarially determined rate as well as the 3% in member contributions. The contributions are employee directed into the various investment programs available to participants. The effective date for participation in the Plan was set as January 2, 2016.

(iv) PERF MyChoice (for Volunteer Fire Departments)

Eligible first time or returning volunteer firefighters of a participating political subdivision in a volunteer fire department may become members of PERF My Choice. The legislature created this plan as a tier within the PERF MyChoice for political subdivisions with volunteer firefighters. The plan affords an opportunity to allow volunteer firefighters to participate in a retirement plan. The political subdivision has the discretion of setting the rates and timing of contributions for volunteer firefighters. Contributions received are not considered to be employer contributions. All contributions are considered to be completely member contributions.[7] The contributions are employee directed into the various investment programs available to participants.

c. 1977 Police Officers' and Firefighters' Pension and Disability Fund

The 1977 Police Officers' and Firefighters' Pension and Disability Fund provides pension and disability benefits for local police officers and firefighters hired after April 30, 1977. Benefits for the members of this plan have been funded on an actuarial basis through contributions from cities and towns and from plan members.

The 1977 Fund pension benefit consists of a pension formula benefit based upon years of service and the first-class salary as defined by statute. The employee contribution rate is defined by law as 6% of first-class salary. Contributions are made

[7] IC 5-10.3-12-24.7.

to the 1977 Fund by the participating employer units as determined by INPRS. Contribution rates are set by the Board based on annual actuarial valuations.

In addition, INPRS Board of Trustees administers the Pension Relief Fund separate and distinct from the 1977 Fund, which was created in 1980 by the Indiana General Assembly to address the unfunded pension obligations of the police officers' and firefighters' pension systems of Indiana's cities and towns, specifically, the 1925 police pension fund, the 1937 firefighters' pension fund and the 1953 police pension fund (the "Old Funds"). INPRS is not responsible for the administration of those local pension funds, which have been closed to new membership since the creation of the 1977 Police Officers' and Firefighters' Pension and Disability Fund. However, Benefits for the members who participate in the Old Funds have been funded on a "pay-as-you-go" basis, under which benefits are paid from current revenue of cities and towns and by plan members' contributions. The state reimburses cities and towns for their entire pension benefit expenditure under the Old Funds via the Pension Relief Fund. To provide such pension relief, the State has dedicated a portion of the State's cigarette tax revenue, liquor tax revenue, Hoosier Lottery profits, and investment earnings on the Public Deposit Insurance Fund along with appropriations from the General Assembly. INPRS makes disbursements from funds provided by the General Assembly to the local police and firefighter units throughout the state that are still obliged to pay benefits under those former plans.

d. Judges' Retirement System

The Judges' Retirement System (JRS) has been in existence since 1985 to provide retirement, disability and survivor benefits for judges and magistrates. The Judges' Retirement System consists of two plans (the 1977 System and the 1985 System) that are single-employer defined benefit plans. All judges and magistrates in covered positions are required to join the JRS. The pension benefit consists of a pension formula benefit based upon years of service and the member's salary as defined by statute. The employee contribution rate is defined by law as 6% of each employee's salary. Contributions are made to the JRS by the State as determined by INPRS. The total appropriation is set by the Board based on the annual actuarial valuation.

e. Prosecuting Attorneys' Retirement Fund

The Prosecuting Attorneys' Retirement Fund (PARF) has been in existence since 1990 to provide retirement, disability and survivor benefits for Prosecuting Attorneys, Chief Deputy Prosecuting Attorneys and Deputy Prosecuting Attorneys, who are required to join PARF. PARF members are also required to join PERF. The PARF benefit consists of a pension formula benefit based upon years of service and the member's annual compensation as defined by statute. The member contribution rate is defined by law as 6% of each employee's salary. The employer may pick up the member's contributions to PARF. Contributions are made to PARF by the State determined by normal cost and amortizing the unfunded accrued liability during periods established pursuant to statute. The total appropriation is set by the Board based on annual actuarial valuations.

f. Legislators' Retirement System

The Legislators' Retirement System (LRS) has been in existence since 1989 to provide retirement, disability and survivor benefits for members of the General Assembly. The LRS includes two plans: The Legislators' Defined Benefit Plan ("LEDB Plan") and the Legislators' Defined Contribution Plan ("LEDC Plan").

i. The Legislators' Defined Benefit Plan ("LEDB Plan")

The LEDB Plan includes only legislators of the state of Indiana who were serving on April 30, 1989, and elected participation. Legislators elected or appointed after April 30, 1989 participate in the LEDC Plan.

The LEDB Plan benefit consists of a pension formula benefit based upon the lesser of $40 per month multiplied by the years of service in the General Assembly prior to November 8, 1989 or the highest consecutive three-year average annual salary at termination, divided by twelve. Contributions are made to the LEDB Plan by the State determined by normal cost and amortizing the unfunded accrued liability during periods established pursuant to statute. The total appropriation is set by the Board based on annual actuarial valuations.

ii. Legislators' Defined Contribution Plan ("LEDC Plan")

The LEDCP member contribution rate is defined by law as 5%. State contributions are made to the LEDCP based on a rate determined by the Board and confirmed by the budget agency not to exceed the total contribution rate paid that year by the state to INPRS for state employees.

g. State Excise Police, Gaming Agent, Gaming Control Officer and Conservation Enforcement Officers' Retirement Plan (EG&C Plan)

The State Excise Police and Conservation Enforcement Officers' Retirement Plan has been in existence since 1972 to provide retirement, disability and survivor benefits for Excise Police, Gaming Agents, Gaming Control Officers and Conservation Enforcement Officers, who are required to join EG&C Plan. The EG&C Plan benefit consists of a pension formula benefit based upon years of service and the member's annual compensation as defined by statute. The member contribution rate is defined by law as 4% of each employee's salary. The employer may pick up the member's contributions to EG&C Plan.

Contributions are made to EG&C Plan by the State determined by normal cost and amortizing the unfunded accrued liability during periods established pursuant to statute. Contribution rates are set by the Board based on annual actuarial valuations.

h. Special Death Benefit Fund

The Special Death Benefit Fund was created by legislation in 2017. The legislation consolidated several non-retirement death benefit funds such as the Public Safety Officers' Special Death Benefit Fund and the State Employees' Death Benefit Fund. ~~The~~ INPRS administers the fund ~~fund must be administered by INPRS~~ from which it pays the ~~, and~~ administrative expenses ~~paid from money in the fund~~. The fund consists of the fees collected from posted bail, ~~and~~ contributions from employers who purchase coverage for employees, and the contribution rates determined by the board necessary to adequately maintain the fund.[18] All money in the fund that is not needed to pay the current obligations of the fund can be invested in the same manner as INPRS's other funds. At the end of the state fiscal year, all money in the fund will remain there; none reverts back to the state general fund. This fund pays lump sum death benefits for public safety officers, state employees, motor carrier inspectors and special police employees, and for the 1977 Police and Fire Fighters Pension and Disability Fund (along with the Old Funds).[19]

i. Public Safety Officers' Special Death Benefit Fund

This benefit was established for the purpose of paying lump sum death benefits to the survivors of public safety officers who die in the line of duty as those positions are defined in law and certain other public safety officers identified in law if their employers pay an annual $100 premium. The amount of the benefit for those officers who die in the line of duty after June 30, 2020 is $225,000. ~~currently is $150,000.~~

ii. State Employee's Death Benefit

~~Pursuant to law t~~The state must establish and operate a death benefit program for the payment of lump sum death benefits to the survivors of a state employee who dies in the line of duty.[20] The state employees' death benefit is in addition to any other benefits provided by state or federal law.

The state may provide these benefits by purchasing group life insurance or establishing a program of self-insurance. In 1991, the state did establish a program of self-insurance. Because the state established a program of self-insurance, the state established a fund to be managed by INPRS and funded by such contributions as considered necessary by INPRS. INPRS must pay the lump sum payments out of this fund. The current benefit is $100,000.

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[18] See IC 5-10-9.8-2.5.
[19] See IC 5-10-9.8-2.
[20] See IC 5-10-11-4.

iii. Special Death Benefit for Motor Carrier Inspectors and Special Police Employees

The Special Death Benefit fund is also responsible for the payment of lump sum death benefits to survivors of motor carrier inspectors and special police employees who die in the line of duty. The amount of the benefit is ~~currently $150,000~~$225,000 for those employees who die after June 30, 2020.

iv. Special Lump Sum Death Benefits for 1977 Fund Members

This benefit was created for the purpose of paying lump sum death benefit to 1977 Fund members (in addition to members of the Old Funds) who die in the line of duty. The current amount of the benefit ~~is $150,000~~for members who die in the line of duty after June 30, 2020 is $225,000.

i. Retiree Medical Benefits Account Plan (RMBA)

This plan has been in existence since 2007 to provide pre-tax funding for sickness, accident, hospitalization and medical expenses for certain retired employees. Eligible retired participants may use funding in the accounts to pay premiums for individual or group health insurance. The amount available to certain eligible retired employees is based on their number of years of service and age at each annual contribution. Annual contributions range between $500 and $1,400 per year. In 2019, legislation transferred the administration of this plan from the State Budget Agency to INPRS.

3. Governing Law

INPRS administers the Funds under Internal Revenue Code Section 401(a) and is governed by federal law, the Indiana Constitution, Indiana Code, Indiana Administrative Code, and policies set by the Board. Pursuant to Indiana law and the Internal Revenue Code, INPRS must be operated for the exclusive benefit of, and solely in the interest of, each Fund's members and their beneficiaries. In order to provide the ensuing tax advantages to its members, INPRS is required by Indiana law to meet all rules applicable to qualified plans under Section 401 of the Internal Revenue Code.[21] In addition, the Funds are trusts, exempt from taxation under Section 501 of the Internal Revenue Code and as an instrumentality of the State of Indiana. The Funds administered by INPRS are not regulated by Employee Retirement

[21] See IC 5-10.5-5-2; see also IC 2-3.5-3-3, IC 5-10-5.5-2.5, IC 5-10.2-2-1.5, IC 33-38-6-13, IC 33-39-7-22, and IC 36-8-8-2.5.

Income Security Act (ERISA), but INPRS may implement some of ERISA's guidance as best practice.

Many of the statutes governing or affecting the administration of INPRS are found in Title 5, Articles 10 (governing public employee benefits), 10.2 (governing both PERF and TRF), 10.3 (PERF), 10.4 (TRF) and 10.5 (governing INPRS and the Board) of the Indiana Code, as well as 36-8-8 (1977 Fund), 33-38-6 (JRS), 33-39-7 (PARF), 5-10-5.5 (EG&C), 2-3.5 (LRS), and the rules promulgated by the Board which are published in Title 35 of the Indiana Administrative Code.

4. Board Delegation

Indiana Code 5-10.5 enumerates the duties and powers of the Board, which include promulgating rules to administer the Funds, adopting an annual budget, and the ability to exercise all powers necessary, convenient, or appropriate to carry out and effectuate the Board's public and corporate purposes and to conduct the Board's business.[22] To this end, the Board has delegated the day-to-day operations to the Executive Director and staff of the Funds[23], though oversight of the Funds remains with the Board of Trustees.

The Executive Director carries out the policies set by the Board. The Executive Director acts on behalf of the Board, and is responsible for performing duties as assigned by the Board, as well as maintaining a record of the Board's proceedings and being responsible for the safekeeping of the books and records of the Funds, among other duties.[24]

See Appendix G for the board-retained duties and delegated duties of the Executive Director.

5. External Service Providers

INPRS may hire outside advisors to assist in carrying out Fund responsibilities and to fulfill fiduciary duties. Such advisors may include but are not limited to: actuaries, auditors, custodians, investment consultants, investment managers, external legal counsel, record-keeper, human resource consultants, information technology support, and other technical experts.

C. Board Duties and Responsibilities

1. Fiduciary Duty of the Board

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[22] See IC 5-10.5-4-1 *et seq.*
[23] See 35 IAC 1.2-1-2, 35 IAC 1.3-1-1, 35 IAC 14-1-12
[24] See IC 5-10.5-6-2; 35 IAC 1.2-1-2 and 35 IAC 14-1-12.

The members of the Board of Trustees recognize that they serve as fiduciaries of the respective Funds. One of their primary responsibilities, in this regard, is the prudent investment of Fund assets. In addition, the Board shall exercise the care, skill, prudence and diligence that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims. Consequently, the Board must diversify the investments of the Funds in accordance with prudent investment standards.[25]

The Board has a duty of undivided loyalty, and must be impartial in the exercise of such duty, to the members of the Funds, as all Fund assets must be used for the exclusive benefit of each Fund's covered members and their beneficiaries. No part of the corpus or income of the trust may be used for or diverted to any purpose other than for the exclusive benefit of the members or their beneficiaries of each Fund.[26] Further, the Board may not engage in any transactions prohibited by Internal Revenue Code Section 503(b).[27] Board members or anyone acting on their behalf must comply with these provisions.

Additionally, Board members who come into possession of material non-public information concerning a publicly traded company via their Board service must safeguard such information and not intentionally or inadvertently communicate it to any person unless the person needs to know for legitimate fund-related reasons. See additional restrictions in Board Trading Policy in Appendix E.

2. Compliance with Code of Ethics

Board members recognize that they are governed by a strict code of ethics. Because public confidence in the Board's integrity is essential not only for members and retirees, but also for the public and taxpayers of the State of Indiana, the Board endeavors to ensure that their actions conform not only with the letter of the law but also with the spirit of the law. The Indiana Code of Ethics covers members of the Board, System employees, other System staff, and some vendors (including, but not limited to, Consultants, Custodians, and Investment Managers), and supersedes previous ethics policies adopted by the Board. However, the Executive Director may adopt additional ethics-related policies covering the personnel of the System in limited circumstances. Additional ethics-related policies may not be less-restrictive than the rules established by the Code of Ethics.

Below is a brief summary of the Indiana Code of Ethics promulgated pursuant to IC 4-2-6.[28] A Board member is considered a special state appointee ("appointee") for purposes of compliance with state ethics rules. For specific questions, Board

[25] See IC 5-10.3-5-3, IC 5-10.4-3-10.
[26] See IC 5-10.2-2-1.5.
[27] See IC 5-10.2-2-1.5(9). In general, a prohibited transaction under IRC 503(b) means any transaction which results in a diversion of the income or corpus of the trust to a trustee, a family member of the trustee, or a corporation controlled by the trustee.
[28] See 42 IAC 1 et seq.

members should consult with the Executive Director ~~of the System~~ and / or the agency Ethics Officer ~~the Chief Legal and Compliance Officer~~.

- An appointee or former appointee shall not accept compensation from any employment, transaction, or investment which was entered into or made as a result of material information of a confidential nature.

- An appointee shall not knowingly accept a gift, favor, service, entertainment, food, drink, travel expenses, or registration fees from a person who has a business relationship with the appointee's agency or is seeking to influence an action by the appointee, except as allowed by law.

- An appointee shall not engage in political activity, including solicitation of political contributions, from another when acting in an official capacity or from persons who have a business relationship with the appointee's agency.

- An appointee shall not knowingly accept employment involving compensation of substantial value if the responsibilities are inherently incompatible with the responsibilities of the public office, or that would require the appointee to discuss confidential information.

- An appointee may not participate in any decision or vote that would financially benefit the appointee, the appointee's immediate family, business organizations related to the appointee, or any person or organization with whom the appointee is negotiating prospective employment.

- An appointee shall not pay or accept compensation for the performance of official duties, except as provided by law.

- An appointee shall not divulge nor benefit from confidential information, except as provided by law.

- An appointee shall not use state materials, funds, property, personnel, facilities or equipment for a purpose other than official state business.

- An appointee shall not accept employment or compensation as a lobbyist within 365 days after leaving the appointment.

- An appointee shall not accept employment or compensation from an employer within 365 days after leaving the appointment if the appointee in his/her capacity as an appointee engaged in contract negotiations or administration of the contract with the employer.

- Appointees shall be properly trained in the code of ethics by participating in ethics training within six weeks of appointment, and at least every two years during the appointee's tenure.

In addition to Indiana's Code of Ethics, there are similar ethics-related rules in the Funds' own governing statutes regarding self-dealing and conflicts of interest[29], including the proscription that a trustee may not have any direct interest in the income of an investment made by the Board and may not receive any compensation for services connected with any investment made by the Board. State criminal law similarly addresses bribery, official misconduct, and conflicts of interest.[30] Though Board members should not participate in a discussion or vote on a matter in which they have a financial interest, a trustee is not required to recuse themselves in a case where the connection with a matter affects the trustee only as a member of the general public or of a subgroup of the general public, such as members of a Fund as a whole. The above is intended as a summary and does not affect board members' rights or obligations under the law, including under the Indiana Code of Ethics.

3. Conflict of Interest Rules

Board members recognize that all Fund transactions and selections are to be based on the integrity and competence of the parties with whom the Fund is dealing and upon financial merit and benefit to Fund members and their beneficiaries, and not on personal relationships. Board members shall never act where there may be a conflict of interest or the appearance of a conflict of interest unless authorized by law after the appropriate disclosures have been made. Board members must realize they occupy special positions of fiduciary trust and confidence such that each member must studiously and conscientiously avoid any reasonable appearance of conflict. A conflict of interest is understood to be presented in a situation wherein a relationship exists which could reasonably be expected to diminish independence or judgment in their performance of official responsibilities as a Board member. Accordingly, a Board member shall not engage in conduct that constitutes or involves a conflict of interest unless authorized by law after the appropriate disclosures have been made. It is the Board member's duty to determine if a potential conflict of interest exists, to avoid the conflict, if possible, or, where applicable, to disclose a conflict to the Ethics Commission, executive director and/or Board Chairman. If a Board member determines that a conflict of interest or potential conflict of interest exists, that individual shall have an obligation to recuse themselves from participating in the matter as required by law. The Board member should consult with the Executive Director on any specific questions.

In furtherance of the general principles stated above, the Board has adopted the following specific rules.

a. Contact with Vendors

It is the Board's policy that all contact with all service vendors, Investment Managers or others seeking a business relationship with the

[29] See IC 5-10.2-2-1.5 and IC 5-10.4-3-15.
[30] See IC 35-44.1.

System should be directed to the Executive Director and staff, not to individual Board members. For example, during a manager, consultant or other professional search process, it is the Board's policy that no contact with prospective bidders and individual Board members is appropriate. However, the Board recognizes three exceptions to this general rule. First, this rule is not applicable to circumstances arising in the ordinary course of business of an individual that is unrelated to the individual's status as a Board member. Second, this rule is not applicable to contacts relating to Board business with vendors with whom the Board has a current existing fiduciary relationship. For example, Board members may contact an existing Investment Manager with any questions or concerns they might have with respect to a specific investment directed by that Investment Manager. Third, any other casual incidental contact with an existing or prospective vendor that a Board member has, not directed to specific System matters, will not pose a conflict but should be immediately disclosed to the Executive Director.

b. Speaking Engagements

A Board member may not accept any expenses, reimbursement, or honorarium for any speeches or presentations made in his or her capacity as a Board member. This rule does not apply to circumstances where the individual is speaking or presenting in a capacity unrelated to Board membership or as to which Board membership is simply recognized as a part of such member's professional experience. See *Section 7, Board Communications*, below for guidance on board communications generally.

4. Board Member Financial Reporting

Board members are exempted from the Indiana State Ethics Commission's requirement to file Financial Disclosure Statements in accordance with IC 4-2-6-8.[31]

5. Strategic Planning

To systematically plan for the immediate and long-term challenges and needs of the System, the staff and Board will engage in a strategic planning process resulting in a strategic plan covering a three- to five-year timeframe. The Executive Director will initiate the strategic planning process and report to the Board. The Board will be responsible for:

1) Providing management with input on the strategic plan, including goals and strategic initiatives;
2) Approving the final strategic plan and operating budget to support the plan; and
3) Monitoring the implementation of the strategic plan.

[31] Advisory Opinion No. 06-I-25 dated November 9, 2006, from the Indiana State Ethics Commission

Strategic planning is a continuous process; therefore the resulting strategic plan may be modified by the Board as needed. The strategic plan should be revisited by staff at least annually, and an update should be provided to the Board in advance of the Board's annual approval of the budget.

6. Board Policy Development

Policy development should be a deliberate and proactive process. The general role of the Executive Director in the process is to assist the Board in identifying the need for Board policy, to provide the Board with analysis of the policy issues, and to develop proposed policy documents, revisions or recommendations for the Board's consideration. Policies regarding matters which have been delegated to the Executive Director and staff pursuant to Indiana Code and Appendix G do not require board approval and may be developed and approved by the executive director. Approval of a board policy will require a formal motion of the Board, to be carried by a majority of voting Board members present.

Policies are to be formally reviewed by staff as needed, or within the timeframe appropriate for each policy.

7. Board Communications

a. External Communications

Board members should refrain from advising Fund members as to the rights and benefits to which a member or beneficiary may be entitled under the Funds, to the extent the trustee does not have such information. In cases where a member or beneficiary contacts a Board member with questions pertaining to personal situations or benefits matters, the member or beneficiary may be referred directly to the Executive Director and/or appropriate staff member to handle the issue.

In external communications, Board members should:

- Limit commentary in public settings to existing board policies or decisions;
- Speak on behalf of the Board only when explicitly authorized to do so by the Board;
- Clearly indicate when he or she is representing a personal position, opinion or analysis that is not necessarily a Board-approved position; and
- Indicate if he or she is speaking in a capacity other than that of a Board member.

The Executive Director and Chief Communication Officer and/or their designees will serve as the primary contacts for media and other public inquiries and will serve as spokespersons for the System and each of the

Funds. When Board members are speaking on behalf of the System or Funds, the topic and speech notes should be reviewed and approved in advance by the Executive Director. If a Board member is contacted by the media, an investment professional, or other member of the public, the trustee shall direct such individual to the Executive Director and notify the Executive Director immediately. If a Board member is interviewed by the media, the Board member should clarify that they are speaking as an individual Board member and not on behalf of the Board.

Confidentiality of Member Information: Board members may, from time to time, have access to personal data pertaining to Fund members. Board members will not divulge or communicate such information to any person or organization, except as permitted by law.[32]

b. Internal Communications/Board Portal

Each Board member will be provided access to a dedicated Board Portal for reviewing reports and materials in advance of public meetings through their personal device (i.e., tablet, notebook, PC, etc.) or equipment provided by INPRS. Information on the Board Portal shall be considered public and subject to disclosure in accordance with the Indiana Access to Public Records Act (IC 5-14-3 et. seq.), unless an exemption is applicable. Additionally, all email correspondence with Executive Director and INPRS staff shall be considered subject to public disclosure, unless an exemption is available.

D. Board Procedure and Positions

1. Meetings

Participation in board meetings is considered to be an essential element of a Board member's fiduciary duty. Therefore, members are expected to attend and participate in all meetings unless there are extenuating circumstances that prevent such attendance.

The Board determines and approves a regular meeting schedule on an annual basis in advance of each calendar year; the Board shall hold regular meetings at least quarterly.[33] Changes in the approved schedule may be made by agreement of the Board, and special meetings may be called by the chairperson or by written request of at least five trustees.[34] A quorum (five members) must be present in person, or participating by means allowing simultaneous communication,[35] to take final action. Each member is entitled to one vote, and final action can be taken on a majority vote

[32] See IC 5-10.5-6-4,35 IAC 1.2-5-1, 35 IAC 2-1-1.
[33] See IC 5-10.5-3-8(a).
[34] See IC 5-10.5-3-8(b).
[35] See IC 5-14-1.5-3.6.

of the trustees present (or participating by means allowing simultaneous communication pursuant to IC 5-14-1.5-3.6) at the meeting.[36]

It is hereby the policy of the Board to allow participation by electronic communication. Under IC 5-14-1.5-3.6, at least three (3) trustees must be physically present; all votes during the electronic meeting must be taken by roll call vote; and each trustee is required to physically attend at least one meeting annually.

Generally, the Executive Director will distribute meeting agendas and materials in advance of the meeting. Further, the Executive Director will have the investment, finance, and/or operations staffs provide routine reports to the Board at regular board meetings.

The INPRS Board of Trustees is subject to Indiana's Open Door Law.[37] Therefore, when a quorum of trustees is present, the meeting must be open to the public and must follow prescribed rules on public notice and memoranda. The Board, however, may convene an executive session under a limited set of exceptions,[38] where attendance is closed to the public, though any final action must be taken at a meeting open to the public.

A series of meetings among board members may constitute a meeting in violation of the Open Door Law if the board members meet in a series of at least two gatherings and the gatherings meet the following criteria: (1) one of the gatherings is attended by at least three board members but less than five members (a quorum) and the other gathering(s) include at least two board members; (2) the sum of the attending board members equals at least a quorum (five members); (3) all the gatherings concern the same subject matter and are held within a period of not more than seven consecutive days; and (4) the gatherings are held to take "official action" on public business. A gathering can occur by telephone or other electronic means, excluding electronic mail.[39] "Official action" means not only making decisions, but also includes the receipt of information and deliberation.

The rules contained in the current edition of *Robert's Rules of Order* should generally guide all proceedings of the board insofar as they are applicable and not inconsistent with any of the laws or policies governing the Board. Special note should be made of the rules providing for procedure in small boards. Since Robert's Rules is a guide, minor violations of strict and formal adherence to these rules will not invalidate action or decisions made by the Board. See Appendix J for a brief summary of *Robert's Rules of Order Newly Revised*.

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[36] See IC 5-10.5-3-10(c).
[37] Indiana's Open Door Law is outlined at IC 5-14-1.5.
[38] See IC 5-14-1.5-6.1.
[39] See IC 5-14-1.5-3.1.

In addition to the Open Door Law requirements, the Board is required to keep a record of all meetings.[40]It is desirable that the Executive Director should be delegated authority by the Board to manage and administer the System.[41] The Executive Director, in his sole discretion, may establish procedures for implementing and maintaining committees or working groups for investment and actuarial, audit and risk, governance and compensation, benefits administration and other matters that the executive director determines necessary.

2. Board Positions

At a board meeting held on or before December 31[42], the Board shall annually elect a chairperson and vice-chairperson to serve a term of one year or until successors are elected by the Board. Officers are elected by a majority of the applicable Board members present (or participating by means allowing simultaneous communication[43]).

The following are the duties of each officer:

Chairperson: This officer shall conduct all meetings, may assist the Executive Director in preparing the agenda, and has the ability to call special meetings.

Vice-Chairperson: This officer shall conduct board meetings in the absence of the chairperson.

3. Board Travel and Reimbursement

Board trustees are entitled to receive reimbursement for necessary and reasonable expenses actually incurred through service on the Board.[44] Board members are subject to the reimbursement procedures contained in the *INPRS Travel Policy*, which are as follows:

- A *Request For Travel Approval* form must be completed and approved by the Executive Director prior to travel. This does not apply to anticipated travel to board meetings and retreats.

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[40] See IC 5-10.5-3-8(e)
[41] See 5-10.5-6-1
[42] See IC 5-10.5-3-7.
[43] See IC 5-14-1.5-3.6.
[44] See IC 5-10.5-3-6.

- An *Expense Report* with itemized original receipts or other supporting documentation, such as Mapquest.com distance maps, must be submitted for travel reimbursement.
- Original receipts are required for all reimbursable expenses, though the System will allow reimbursement of incidental expenses under $25.00.
- Registration fees for educational conferences should be billed to the System directly, when possible.
- If renting a car, trustees should request insurance coverage, unless the travel begins and ends in Indiana and the trustee is using an approved state of Indiana vendor, as coverage is already provided under a contract with the State of Indiana.

Board members may consult with the Executive Director for guidance on specific questions, and the Executive Assistant to the Executive Director may assist with the completion of travel forms.

4. Board Fiduciary Insurance

The System appreciates the volunteer commitments of each Board member to the System and permits the procurement of fiduciary insurance to cover Board, officers and/or staff.

E. Board Policies

The appendices provided hereafter are additional policies approved by the Board. Board policies may be added below by separate adoption of the individual policy by the Board.

Appendix A. INPRS Investment Policy Statement

Appendix B. Internal Audit Department Charter

Indiana Public Retirement System

Internal Audit Department Charter

First Approved on November 19, 2010

Purpose:

The Internal Audit Department is an analytical and evaluative function established by the Board of Trustees ("Board") of the Indiana Public Retirement System to independently examine and evaluate the activities and conditions of the Funds as a service to the Board in particular and to fund management in general. The Internal Audit Department is to assist the System in accomplishing its objectives primarily through risk analysis; examining and evaluating the adequacy and effectiveness of internal controls implemented by the System's management; and evaluating the effectiveness of processes and procedures.

The Internal Audit Department is functionally responsible to the Board and, for administrative purposes, will report to the INPRS Executive Director. The Internal Audit Department will have no executive or managerial powers or duties at the System except those relating to the management of the Internal Audit operation and external auditor.

Authority:

Subject to the approval of the Board, and in conjunction with the Executive Director, the Internal Audit Department is authorized to:

- Conduct a broad, comprehensive risk assessment;
- Decide on the nature, scope, and timing of audits;
- Enter all premises of the System, subject to reasonable security procedures, and have access to and inspect all systems, accounts, documents, and records;
- Require any employee of the System to supply such information and explanations relevant to the performance of an audit as may be needed;
- Have discussions with employees of the System at any reasonable time; and
- Assist in the selection and coordinate specialized services for audits requiring these services.

The Internal Audit Department will have authority to review all areas related to the System's operations. There will be no unreasonable limitations on the scope of the duties exercised by the Internal Audit Department. Where the need is indicated, special arrangements will be made for the examination of confidential information. Internal auditors will exercise due diligence in the safeguarding and use of these resources.

Except as required by law, all information gathered and workpapers generated shall be held in confidence by the Internal Audit Department. Dissemination, except under extraordinary circumstances, shall be limited to the reports or other memoranda issued by the Internal Audit Department.

Professional Standards and Ethics:

The Internal Audit Department will operate under the guidelines of the Institute of Internal Auditors' *Code of Ethics and International Standards for the Professional Practice of Internal Auditing* and these standards are incorporated by reference.

Internal auditors will have sufficient knowledge, skills, and training to effectively meet the requirements of this Charter.

Independence:

Internal auditors are and will remain independent of the System's activities or operations they review, and will not be involved in the day-to-day operations of the System. The Internal Audit Department will not be involved in the implementation of internal control systems, processes or procedures; however, it may be consulted on the adequacy of these items.

Responsibilities:

The Internal Audit Department is entrusted with the responsibility and duties listed below and will be accountable to the Board with oversight from the Executive Director to carry out duties and responsibilities within the context of audits performed:

- Review annually the Internal Audit Charter for any significant changes in policies and current audit practices, and obtain the Board's approval.
- Perform, or assist in the performance of, a Risk Assessment annually to determine the exposure of the System to risk and establish the direction and approach of audits. Based on the results of the risk assessment, prepare a detailed annual Audit Plan for submission to the Board for approval.
- Prepare proposed budget and staffing needs for the Internal Audit Department for management to present to the Board for fiscal year budget approval.
- Develop and establish policies and procedures as needed for conducting internal audit activities and reporting.
- Review the policies, procedures and management controls of the Funds to ensure that activities are properly managed and fulfilled in a cost-effective manner representing the best interests of members.

- Review systems and operations to assess the extent to which organizational objectives are achieved, and the adequacy of controls over activities leading to achievement of these objectives.
- Evaluate the relevance, reliability and integrity of financial and management information.
- Evaluate the use of resources with regard to economy, efficiency, and effectiveness.
- Assess the means of safeguarding assets and verifying their existence.
- Ascertain the extent of compliance with internal controls, fiduciary standards, policies, and procedures. ~~,~~Consult with the legal department to determine compliance with laws~~,~~ and regulations.
- Recommend improvements in procedures and systems to prevent waste, extravagance, and fraud, or to improve efficiency and effectiveness.
- Provide counsel and advice to management and the Board on appropriate systems of controls and other accounting and operational matters in a consulting capacity.
- Participate as an advisor in the planning, design, development, and implementation phases of manual and automated systems to determine whether:
    - Adequate controls are incorporated in the system;
    - Thorough systems testing is performed at appropriate stages; and
    - Systems documentation is maintained, complete, and accurate.
- Carry out ad hoc appraisals, inspections, investigations, examinations or reviews requested by the Board or management.
- Contract with external service providers regarding assistance with specialized audit-related activities (e.g., specialized audits, investigations, consulting engagements, etc.).
- Coordinate with the System's external auditors to ensure all significant risks are addressed.
- Facilitate the work of any external (contracted) auditors hired by the System.
- Follow-up on audit findings identified by both internal and external audits and report to management the status of these findings.
- Draw attention and report to management and the Board on failure to take remedial action.

Reporting:

The Internal Audit Department will report the following:

- Results of the annual Risk Assessment and resultant Audit Plan to the Board for approval.
- Any changes to the annual Audit Plan and projects requested by management to the Board for approval.
- A draft written report of audit results to the auditee as soon as practicable upon completion of each audit and produce a final report for the auditee and Executive Director.
- A Dashboard Report to the Board providing a summary of the audit scope and the findings, as well as, a detailed Project Report, including the background of the project, procedures performed, and where applicable, management's action plans. Additionally, a copy of the Observation Tracking log will be provided on a semi-annual basis.

Appendix C. Enterprise Risk Management Policy

Indiana Public Retirement System

Enterprise Risk Management Policy

Purpose:

This policy sets out the enterprise risk management objectives and requirements for the Indiana Public Retirement System ("INPRS").

Scope:

The policy is applicable to every INPRS Trustee and INPRS employee. Wherever practical, risk management capabilities will be a required element of vendor responses to RFP's and will be a criterion when selecting third party service providers.

Risk Management Statement:

It is the responsibility of all employees within the organization to follow and adhere to this policy. Management is responsible for consistently implementing and enforcing all standardized policies. Failure to support and comply with this policy may inhibit our ability to properly serve our members, and could result in the violation of federal or state law.

In addition, it is a requirement that all INPRS policies contain specific language regarding the consideration of risk and the need for adherence with this policy.

Enterprise Risk Philosophy:

INPRS is committed to managing enterprise risk in a disciplined, open and transparent manner, that recognizes that opportunities and risks, and how they are managed, are virtually inseparable. To this end, the INPRS Executive Team with facilitation by~~in conjunction with~~ the Chief Audit and Risk Officer~~Enterprise Risk Management~~ assesses, responds to and manages the risks facing the organization. The intent is to embed enterprise risk management in a practical way into all business activities—not to impose enterprise risk management as an extra requirement. The Board provides oversight of the critical enterprise risks, as well as the process used by management to assess and manage enterprise risk. INPRS recognizes that the aim of enterprise risk management is not to eliminate risk entirely, but rather to provide the structural framework to identify, prioritize, and manage risk involved in all INPRS activities so that the residual risk is aligned with the risk appetite of INPRS.

Policy:

Risk is inherent to all activities of INPRS. INPRS aims to be enterprise risk aware, and actively manages to protect and enhance stakeholder value. Management will seek to take risks in an informed and proactive manner, such that:

- Enterprise risks are in alignment with INPRS's strategic objectives;
- Established enterprise risk responses are within the parameters as established in the enterprise risk appetite; and
- INPRS is appropriately compensated for enterprise risk that is consciously being accepted by the organization.

To structure and formalize the enterprise risk management activities across the organization, INPRS has developed an enterprise risk management framework that integrates explicit consideration of enterprise risk into the existing business management processes. Foundational to the framework are the following key elements:

- Maintaining sufficient business environment and market intelligence regarding our stakeholders, investments, external governing bodies, and state codes;
- Carrying out a strategic planning process that provides adequate consideration to identifying, prioritizing and managing the enterprise risks the organization faces in the future;
- Actively managing those risks of significant likelihood and consequence in the pursuit of INPRS' stated strategic goals and objectives and building enterprise risk management into appropriate core management processes;
- Providing a consistent enterprise risk management framework in which the risks associated with INPRS objectives will be identified and assessed resulting in transparency that will support decision making throughout INPRS;
- Identifying opportunities where the potential for additional appropriate levels of risk could provide significant benefits to stakeholders;
- Encouraging pro-active rather than re-active enterprise risk management;
- Providing a reasonable assurance critical risks relative to the INPRS' strategic plan have been identified and communicated; and
- Instilling within the INPRS culture a business perspective that it is an imperative to consider risk in the day to day operations of the business, not as an afterthought.

The INPRS enterprise risk management framework integrates enterprise risk management into the organization's strategic planning process to more formally identify enterprise risk associated with INPRS' overall strategy. The framework emphasizes the expectation that enterprise risk is considered in all strategic and operational decisions by all levels of management, and that there is open and transparent communication across the organization of enterprise risk issues. INPRS recognizes that the implementation of this policy is an on-going process and that the treatment of risks can change over time.

The enterprise risk management framework has established specific objectives to provide a common level of transparency and enterprise risk management performance. Key elements include:

- Conduct a formalized enterprise risk assessment at least annually that is aligned with the strategic planning cycle, which includes consideration of strategic, operational, financial and compliance risk;

- Assignment of risk ownership of all critical enterprise risks;

- Where enterprise risk exposure is deemed to be unacceptable, the enterprise risk owner will create strategic action plans to be approved by the executive team;

- On-going identification and monitoring of critical enterprise risks and emerging enterprise risks;

- Periodic self-assessment by executive management on the application of the enterprise risk management framework, and review by the Board of the effectiveness of the process; and

- Reporting to the Board on:
    - Inventory of significant realized enterprise risk events (if any)
    - Regular status of open action plans related to critical enterprise risks
- Enterprise risk metrics incorporated into the balanced scorecard.

Enterprise Risk Appetite

INPRS has established a Statement of Enterprise Risk Appetite, which is the articulation of the acceptable operating limits and parameters within which management will pursue INPRS' strategic objectives. This statement is reviewed at least annually by management and presented to the Board for review and approval as needed. In addition, the Statement of Enterprise Risk Appetite will be reviewed with changes to the INPRS strategy (or strategic priorities) or significant changes to the business or operating environment.

The Statement of Enterprise Risk Appetite is included as Appendix 1 to this document.

Enterprise Risk Management Roles and Responsibilities

Specific responsibilities for overseeing, supporting and auditing the enterprise risk management process are detailed in the INPRS Enterprise Risk Management Handbook. In general terms, the INPRS Board of Trustees is responsible for enterprise risk policy making and oversight

Further information regarding the roles and responsibilities of the Board of Trustees can be found in Board of Trustees Risk Management Oversight Charter - Appendix 2 to this policy.

INPRS Executive Team

Roles and responsibilities for the INPRS Executive Team are as follows:

- Recommend changes as needed to the INPRS Enterprise Risk Management Policy for consideration by the Board of Trustees;
- Ensure that the appropriate structure, processes and competences are in place across INPRS in order to address the requirements set out in this policy;
- Participate in the enterprise risk assessment and management process;
- Apply the enterprise risk management framework in the context of the strategic and business planning processes; and
- Support INPRS's enterprise risk management approach.

In support of the Enterprise Risk Management process, all members of the INPRS executive team are required to participate in a formal risk management exercises, either with a risk identified in the enterprise risk assessment, or associated with a strategic objective for which they have ownership. To help ensure that this work is documented and carried out in a consistent and appropriate manner, this exercise should follow the instructions found in the Enterprise Risk Management Handbook.

INPRS Chief Audit and Risk Officer

Roles and responsibilities for the INPRS Chief Audit and Risk Officer are as follows:

- Maintain INPRS's enterprise risk management framework;
- Support organization in their use of these tools and methodologies;
- Regular and open communication with the Executive Director and the executive staff on matters of enterprise risk and the enterprise risk management process;

- Maintain enterprise risk management communication within the INPRS organization;
- Facilitate executive management risk discussions and consolidating report; and
- Coordinate and supply training in enterprise risk management.

Further details as to the enterprise risk management roles and responsibilities are included in the Enterprise Risk Management Handbook.

Definitions, Tools and Methodologies

INPRS adopts the approach and general methodology of our internally developed Enterprise Risk Management framework which are included in the Enterprise Risk Management Handbook.

Appendix C1. Statement of Enterprise Risk Appetite

Indiana Public Retirement System

Statement of Enterprise Risk Appetite
Last Reviewed: 2018

INPRS has established a Statement of Enterprise Risk Appetite, which articulates the acceptable operating limits and parameters within which management will pursue INPRS' strategic objectives. This statement is reviewed at least annually by management and presented to the Board for review and approval as needed. In addition, the Statement of Enterprise Risk Appetite will be reviewed with changes to the INPRS strategy (or strategic priorities) or significant changes to the business or operating environment.

	Statement
Reputation	• We have no appetite for core business process failures, in particular: ○ Inaccurate and untimely processing of payroll ○ Ethics violations and fraudulent activities ○ Relationships with disreputable parties ○ Preferential treatment across membership ○ Or any other activities which could create headline risk, distracting us from our mission • We proactively educate stakeholders and the media on INPRS' practices. • We identify and measure perceived threats to reputation, taking deliberative, timely, strategic action to respond as needed. • We focus on customer service activities that drive customer satisfaction through value-added services while ensuring we maximize asset dollars to the benefit of the members. • We avoid/manage situations which could lead to erosion of customer satisfaction and/or stakeholder trust.

	Statement
Political	• We embrace the legislative process to further INPRS' strategic objectives. • We meet with Senators and Representatives, and members of the Pension Management Oversight study committee to proactively: ○ Discuss proposed legislative actions that could impair the achievement of INPRS' strategic objectives ○ Propose legislative actions for the benefit of INPRS fund administration ○ Educate legislators as to the financial impacts of proposed changes to benefit policies • We seek legislative changes when there is a benefit to stakeholders in quality of service or reduction in cost.
Public Pension Plan Benchmarking	• Cost-per-member does not exceed the 75th percentile relative to INPRS' peers, according to the CEM Benchmarking analysis. • Service level does not decline to the 25th percentile relative to INPRS' peers, according to the CEM Benchmarking analysis.
Key Personnel	• We limit instances of key individuals holding exclusive knowledge and expertise in critical INPRS processes or projects. • In the event we identify an instance of concentrated institutional knowledge, we develop contingency and succession plans for key positions. • We identify individual critical positions and functional minimum staffing requirements, and develop succession plans and contingency plans to ensure our ability to meet strategic and operational performance goals.
Portfolio Performance	• Since inception of the current Defined Benefit asset allocation (June 2012), we seek a return within two standard deviations (95% confidence level) of the actuarial long term rate of return assumption as approved by the Board (currently 6.75%). • Since inception of the current Defined Benefit asset allocation (June 2012), we seek a Sharpe Ratio greater than or equal to that of a global 60% equity and 40% bond portfolio. • We maintain an overall level of risk and asset allocation set forth in the INPRS Investment Policy Statement.

	Statement
Compliance	• In accomplishing our strategic goals and fulfilling our mission and core duties, we strive to be compliant, with all state and federal laws and regulations. • INPRS proactively monitors and audits activities to demonstrate compliance. If INPRS becomes aware of any non-compliance, INPRS takes all necessary actions to return to compliance as soon as practically possible, and when required by law, reports non-compliance to the appropriate authorities. • We abide by all policies established by the Executive Director and the Board of Trustees.
Third Party Relationships	• We enter into mutually beneficial business relationships with third-parties in compliance with the INPRS Procurement Policy. • We manage outsourcing relationships using a tiered approach to define and segment vendors in order to establish and execute appropriate vendor oversight protocols. We hold all vendors to their contract terms, including service level agreements.
Ethics & Fraud	We have a zero-tolerance policy for ethics violations and fraudulent activities, and for violations of specific policies around: ○ Non-discrimination ○ Non-harassment ○ Drug and alcohol ○ Confidentiality of member information ○ Social media ○ Timekeeping and following labor laws ○ Conduct in the workplace ○ Background checks ○ Criminal and fraudulent activities ○ Gifts from vendors • Violations result in discipline up to and including termination, and may involve outside investigation by the Inspector General's office and/or criminal investigation.
Liquidity	• We hold liquid assets equivalent to at least two years projected cash flow.

	Statement
Data Security	• We maintain privacy of information in accordance with generally accepted industry standards and Federal and State legislation.
Continuous Improvement	• Process improvements are continuously pursued to maximize value. Improvement initiatives are data driven and follow generally accepted quality management system practices.
Strategic Decisions	• Strategic decisions are made with a consideration for the inherent risk associated with each proposed option and with transparency concerning how those specific risks will be managed within acceptable risk parameters

Appendix C2. Board of Trustees Risk Oversight Charter

Indiana Public Retirement System

Board of Trustees Risk Oversight Charter

Purpose

The Indiana Public Retirement System (INPRS) Board of Trustees (the "Board") has a responsibility to its constituents and other stakeholders to provide oversight over the risk taking activities of INPRS. In this context risk oversight includes:

A. Providing oversight to management relating to the identification and evaluation of critical enterprise risk (the "Risks"), including major strategic, operational, financial, and compliance risks inherent in the business of INPRS and the processes with respect to such risks; and

B. Overseeing the risk management, compliance and control processes of INPRS.

Meetings

The Board shall include as circumstances dictate, discussion of enterprise risk. The Chairman of the Board or any member may call additional discussions of enterprise risk, based on need or specific circumstances at that time.

Additionally, for enterprise risk discussions, the Board may invite to its meetings management of INPRS and such other persons as it deems appropriate in order to carry out its responsibilities.

Responsibilities and Duties

The following functions shall be the common recurring activities of the Board in carrying out its purposes outlined above. These functions should serve as a guide with the understanding that the Board may carry out additional functions and adopt additional policies and procedures as may be appropriate in light of changing business, legislative, regulatory, legal or other conditions. The Board shall also carry out any other responsibilities related to the purposes of the Board outlined above.

1. Review and approve the statement of risk appetite, as developed and presented by management;

2. Review and challenge management's identification of critical enterprise risks and their relative weight;

3. Assess the adequacy of management's Risk assessment, the consideration of both current and emerging risk, its plans for Risk management, control or mitigation, and disclosure;

4. Review specific risk management activities in place within INPRS to manage critical enterprise risks;

5. Review periodic updates on all critical enterprise risks, including detailed analysis of potential exposure, status of risk management action plans, and realized risk events; and

6. Assess the adequacy of the overall risk management program and the supporting resources to meet INPRS and Board needs.

Structure and Operation

The Board is responsible for providing oversight for all risk, with a responsibility to understand the exposure to those risks. The Board will review and reassess the adequacy of this charter annually and recommend any proposed changes to the Board for approval.

Appendix D. Procurement Policy

Indiana Public Retirement System

General, Investment and Real Estate Procurement

The Board of Trustees (the "Board") of the Indiana Public Retirement System ("System") is committed to utilizing a public and competitive process in making their general procurement decisions whenever a public process is feasible and does not conflict with the purposes of the System. The Board intends to review this policy and make any necessary changes at least every three (3) years.

Procurement Authority

(a) The Executive Director shall have the full and complete authority to enter into all contracts on behalf of the System for the procurement of goods and services pursuant to this policy.

(b) The Executive Director may appoint one (1) or more persons employed by the System to supervise and manage the procurement of goods and services. This person shall have such authority as may be set forth in this policy or as may be delegated by the Executive Director.

Procurement Principles

The principles that govern the System's procurement decisions include:

1. Value for money, the benefits achieved compared to the whole-of-life costs (e.g., price, reliability, service, delivery, payment terms and strategic suppliers);
2. Quality, efficiency and effectiveness;
3. Transparency of process;
4. Effective competition, including ethical behavior and fair dealing; and
5. Risk management considerations.

The fiduciary responsibility to members is paramount. However, when possible it is preferable to conduct business with Indiana firms. It is also crucial that the acquisition of goods and services by the System is free from corruption, fraud and conflict of interest. *See* INPRS Board Governance Manual sections addressing the Indiana Code of Ethics and Conflict of Interest Rules.

Procurement Policy

(a) In all procurement decisions, the Executive Director shall take into account the particularly sensitive nature of the System and shall consider the competence, quality of product, experience, and timely performance of the vendors in order to promote and ensure security, fairness, and integrity in the procurement process.

(b) All decisions made under this policy by the Executive Director or the Executive Director's designee shall be final except as otherwise specifically set forth in this policy.

(c) The Board intends for the System to operate with written contracts whenever feasible.

(d) While this policy is intended to control the procurement of investment consulting, custodian, and investment management services, the System's Investment Policy Statement ("IPS") shall control in circumstances where a conflict exists.

A. <u>**GENERAL PROCUREMENT**</u>

Applicability

The procurement methods described in this Section A, *General Procurement*, apply to every expenditure of the System under any contract or licensing agreement for the procurement of goods or services, except for the following:

(1) Contracts for the acquisition, leasing, or disposition of real property, including goods or services provided as part of, or related to, a lease of real property. (For non-investment real property procurement, see Section B, *Lease/Purchase of Real Property,* below.)

(2) Any contract or memorandum of understanding with a state agency, state official, or any other body corporate and politic of this state, unless special procurement is determined necessary. (For procurement from state agencies, see Section C*, Contracts with State Agencies,* below.)

(3) Employment contracts.

(4) Amendments, modifications, or extensions of existing contracts, unless the predominate purpose of an amendment or modification is to avoid the applicability of this policy.

(5) Contracts for employee benefit/plans and related services for employees of the System.

(6) Contracts for maintenance agreements for products previously contracted where there is a single source of service for a fixed amount.

(7) For investment consulting, custodian, and investment management services, these general procurement policies shall apply, except for contracts for alternative investments. In addition, if an emergency exists with respect to any System assets, the Executive Director or the Board may take any actions they deem necessary and appropriate to safeguard the assets for a temporary period, until permanent disposition of those assets can be made under this policy.

(8) Goods and services costing less than $2,500 should be procured using any reasonable method that is efficient and follows best industry practices.

General Procurement Methods

Except as provided above, the Executive Director or the Executive Director's designee shall procure goods or services through the use of one of the following procurement methods or any combination thereof:

(1) **Request for Quotations (RFQ) $2,500 - $100,000**, solicitations used for purchases of $2,500 to $100,000.

(2) **Negotiated Bidding**, solicitations where a limited universe of potential bidders is easily identifiable by the System.

(3) **Managed Services Provider (MSP),** solicitations used for Third Party Contractors (TPC's) and outsourced projects

(4) **Request for Information (RFI) & Request for Proposals (RFP)**
- Requests for Information – A non-committed solicitation for information used to develop a Request for Proposal.
- Requests for Proposals – Solicitations used to obtain a usually complex and/or costly product or service.

(5) **Shared List**, purchases based on a contract with another state agency or quasi state agency or utilizing a Quantity Purchase Agreement (QPA) that usually includes preferred pricing.

(6) **Special Procurement**, solicitations that fall within an approved exception to the normal purchasing procedures due to special circumstances.

(7) Any other method or process which is approved by the Board for a specific contract, or series of contracts, for goods or services, including, but not limited to, use of requests for information or prequalification.

INPRS' portfolio and project management process is not a substitution for any of the above procurement methods.

Requests for Quotation (RFQ) - $2,500 to $100,000

The Procurement Department may recommend in writing to the Executive Director that a contract in an amount which does not exceed one hundred thousand dollars ($100,000) (based on the total length of the contract including renewal options) be entered into without utilizing the RFP process. The written recommendation must include information regarding the reasons why engaging in the RFP process would not be cost effective or efficient; in addition, more than one (1) price quote must be obtained for any procurement valued in excess of twenty-five thousand dollars ($25,000) where practicable. This RFQ provision shall not apply to the acquisition of goods or services under a series of contracts if the predominate purpose of the series of contracts is to avoid otherwise applicable provisions of this policy. The written recommendation must be included in the contract file if a contract is executed based on the recommendation.

Negotiated Bidding - <$500,000

The objective of the negotiated bid process is to create an efficient and thorough bidding process while maintaining competitive pricing and product/service offerings. The negotiated bidding process may be used in contracts that are less than $500,000 when either:

(a) there is a limited universe of potential bidders that is easily identifiable by the System (and a public RFP is unlikely to result in additional bidders); or

(b) for reasons of confidentiality or competitiveness it would be unreasonable to issue an RFP.

A negotiated bid process will not be opened publicly, but pre-identified bidders will be invited to bid on a project or service. In a negotiated bid, the System will provide the bidders with details of the bidding process and selection criteria for any bid that is released and the System will be allowed to conduct discussions with bidders before a contract is awarded. Such discussions with bidders must be consistent with fair competition among all bidders.

Managed Services Provider (MSP) - <$500,000

The MSP process is used to procure TPCs and is also used for outsourced projects in contracts that are less than $500,000. Vendors are pre-identified and invited to contract with the MSP, which establishes a base set of contract terms and conditions. TPC job descriptions or statements of work (SOW's) are bid on by the vendors in this vendor pool, and from these bids a selection is made by INPRS. Since the majority of the contract terms are already in place, the TPC or project can be started more efficiently.

Request for Information (RFI) & Requests for Proposals (RFP)

(a) The Executive Director may award a contract using the procedure in this section.

(b) Unless one of the other methods applies, proposals shall be solicited through a Request For Proposals (RFP) or a request for proposal after issuing a Request For Information (RFI). An RFP must include the following:

(1) Factors or criteria that will be used in evaluating the proposals.

(2) General statement concerning the relative importance of price and the other evaluation factors.

(c) It is the intent of the Board to promote the purchase of goods and services in the State of Indiana, except when limited quantity or price differentials make that not in the best interest of the System.

(d) Public notice shall be given in the manner described in item (j) below.

(e) Proposals shall be opened so as to avoid disclosure of contents to competing offerors during the process of negotiation.

(f) A register of proposals shall be prepared and must be open for public inspection after contract award. The register of proposals must contain the following:

(1) Copy of the request for proposals.

(2) Listing of all proposals received.

(3) General basis on which award was made.

(4) Entire contents of each response, except for information submitted as confidential by the RFP/RFI respondent and for which a statutory exemption to the Indiana Public Records Act applies.

(g) If an RFI is utilized, then the following procedure will be used:

(1) The System will publish the RFI pursuant to procedures set out in subsection (j).

(2) The System will review all RFI responses received.

(3) The System may, but is not required to, issue an RFP following the review of RFI responses.

(4) If an RFP is issued, it must be issued in accordance with the provisions of this policy.

(5) The System will develop a register of proposals, as required in subsection (f).

(h) The RFP will contain a clear statement as to whether or not any communication with the System may be initiated by a respondent after publication of the RFP and before final selection, what may be contained in such communication, whom the respondent may contact, and whether or not the System will respond. However, the System reserves the right to discuss any part of any response at any time for the purpose of clarification. Except for the purpose of clarification and as otherwise provided in the RFP, no member of the Board, employee of the System, or consultant or advisor to the System shall have any communications with a respondent or a representative of the respondent about the respondent's proposal or the RFP after publication and before final selection. Respondents must be given equal access to any communications about the RFP between the System and other respondents. The System will make available a recapitulation of the subject matter of any communication and the response of the System. The System may make such information available by posting it on the internet. Respondents must be accorded fair and equitable treatment with respect to any opportunity for discussion and revision of proposals. In conducting any communications, there must be no disclosure of any information derived from proposals submitted by competing respondents.

(i) Award shall be made to the responsible respondent whose proposal is determined in writing to be most advantageous to the System, taking into consideration price and other evaluation factors set forth in the RFP.

(j) Public notice of an RFP shall be made by publication at least five days in one (1) newspaper of general circulation in Marion County, Indiana. The Executive Director/Executive Director's designee may designate additional newspapers or publications for the publication of notice according to the nature of the procurement. The Executive Director/Executive Director's designee may also send notices or requests for proposals by mail to prospective bidders or offerors known to be reasonably susceptible to award of the contract. However, failure to give notice to a particular bidder or offeror does not invalidate a procurement under this policy.

Cancellation; Rejection; Amendment of Solicitations

(a) When the Executive Director determines that it is in the best interests of the System, any request for proposal may be withdrawn or canceled. Additionally, the Executive Director may reject in whole or in part any bids, proposals, or offers that have been submitted at any time prior to the effective date of the resulting contract.

(b) The reasons for the withdrawal, cancellation or rejection must be made a part of the record.

(c) The Executive Director may amend any solicitation in any manner provided that notice is given in a manner reasonably calculated by the Executive Director to provide fair and equitable notice to the potential vendors.

Disclosure Requirements for Procurements

(a) All respondents shall submit the information required by the process at the time of submission of its bid, proposal, or offer. The vendor shall be under a continuous duty to correct any such information as may be later found to have been incorrect or incomplete when submitted, in accordance with the provisions of the vendor's contract.

(b) The Executive Director may require such additional disclosures as may be desired for the purpose of enforcing, auditing, investigating, or confirming the accuracy of the disclosures or for any proper purpose.

Shared List

(a) When the Executive Director determines that it is in the best interest of the System, the Executive Director may, or authorize others to, enter into a contract with a vendor selected by another state agency, state official or any other body corporate or politic of the state.

(b) When the Executive Director determines that it is in the best interest of the System, the Executive Director may, or authorize others to, enter into a contract with a vendor listed on the state's Quantity Purchase Agreement (QPA) list.

(1) When the Executive Director determines that it is in the best interest of the System, the Executive Director may, or authorize others to, enter into a contract with a vendor based on terms established by the current federal General Services Administration or based on contract solicitations administered through the OMNIA Partners, Public Sector cooperative (formerly National IPA and U.S. Communities consortiums).

Special Procurement

(a) Notwithstanding any other provision of this policy, the Executive Director/Executive Director's designee may execute special procurements:

(1) when the compatibility of equipment, accessories, replacement

parts, or the current business process/continuation of flow is a substantial consideration in the procurement and only a limited number of sources meet the System's reasonable requirements;

(2) when time is of the essence due to an exigency or emergency when the urgency for the requirement will not permit a delay incident to competitive solicitation;

(3) when the Executive Director, or the Executive Director's designee, states in writing the determination that there is only one (1) appropriate or viable source for the required supply or service. A copy of such determination shall be made a part of the contract file;

(4) when after solicitation of a number of sources, competition is determined inadequate;

(5) when there exists a unique opportunity to obtain supplies or services at a substantial savings;

(6) when supplies or services can be purchased at prices equal to or less than prices stipulated in current federal supply service schedules established by the federal General Services Administration and it is advantageous to the System's interest in efficiency and economy;~~ or~~

(7) when there is a reallocation of investment services within a current service provider's contract; or~~.~~

(8) when the service sought involves the support or the required maintenance for a long lived asset that may have a very high initial purchase price; a large investment in the implementation or integration costs; or high conversion costs relative to the amount of savings that might be realized from making a change in the service provider.

(b) A special procurement must be made with such competition (if any) as is practicable under the circumstances as determined by the Executive Director.

(c) Any time the special procurement process is used, a written determination identifying the basis for the special procurement, signed by the Executive Director, must be included in the contract file.

Contract Terms

No initial term of contract shall obligate the System for a period in excess of five (5) years. That said, a contract may contain one (1) or more option periods or provisions for extensions of the contract term, provided that:

(1) any individual option period or extension does not exceed five (5) years in duration; and

(2) any individual option period or extension may become effective only upon the specific, affirmative exercise of the option, or the specific, affirmative agreement to the extension, by the Executive Director; and

(3) the total length including renewals of any contract shall not exceed ten (10) years, except for certain agreements that fall within the Special Procurement Section noted above.

Notwithstanding the above restrictions, agreements for alternative investments, such as private equity, private credit, private real estate, and absolute return strategies, may differ from the above limitations to the extent contract terms are addressed in the IPS; and

The contract term under agreements for the management of investment real property may not exceed four (4) years and the agreement must be approved by the governor, attorney general and budget agency, pursuant to Indiana Code 5-10.3-5-3 and 5-10.4-3-10.

B. **<u>LEASES/PURCHASE OF REAL PROPERTY</u>**

Authority to Lease or Purchase Real Property

(a) The Executive Director shall have the authority to lease, sublease or purchase any real property necessary for the efficient operation of the System and for conducting of the business of the System including, but not limited to, office space, warehouse facilities, parking facilities, and fixtures and improvements related thereto and services related to the use and occupancy of the property.

(b) The term of a lease may not exceed four (4) years without the prior approval of the Board.

(c) The lease may contain option periods or extensions of the lease term provided that:

(1) no individual option period or extension period may be more than four (4) years in duration; and

(2) the option period or extension period becomes effective only upon the specific, affirmative exercise of the option period, or the specific, affirmative agreement to the extension, by the Executive Director.

Where the System is acting as a lessor and not in a procurement capacity, this Procurement Policy shall not apply.

C. CONTRACTS WITH STATE AGENCIES

Authority to Contract with State Agencies

The System may contract with any state agency, state official, or any other independent body corporate and politic of this state, provided that the term of such contract or memorandum of understanding does not exceed five (5) years. That said, a contract may contain one (1) or more option periods or provisions for extensions of the contract term, provided that:

(1) any individual option period or extension does not exceed five (5) years in duration; and

(2) any individual option period or extension may become effective only upon the specific, affirmative exercise of the option, or the specific, affirmative agreement to the extension, by the Executive Director; and

(3) the total length including renewals of any contract shall not exceed ten (10) years.

D. GENERAL PROVISIONS

This Section D is applicable to all types of procurement outlined above.

Contract Clauses

No contract with the System may contain terms or provisions which are prohibited by Indiana or federal law. If it is determined that any term or provision is invalid or unenforceable, such term or provision, will be severed from the contract. The remaining terms and provisions shall be unimpaired and interpreted as if such invalid provisions were not contained in the contract.

Public Records

(a) Except as provided in subsection (b) and except to the extent the disclosure is prohibited by law, all procurement records shall be available for public inspection following award of the contract or cancellation of the procurement.

(b) The Executive Director may except from public disclosure, at any time, procurement records which are exempt from mandatory disclosure under IC 5-14-3-4(b).

Contract Signing Authority

The Executive Director is authorized to sign any document that creates an obligation or undertaking on behalf of the System, unless otherwise delegated in writing and signed by the Executive Director or as provided in the Signature Cover Page Policy and Procedure, Authorized Signors Policy, and Delegation Signature Authority Policy and Procedure.

Vendor Payment

When applicable, a purchase order is created based on payments owed under a contract. The purchase order is routed for approval based on the financial system approval workflow: Department managers have approval up to $1,000; the Chief Financial Officer must approve any payments equal to or over $1,000; and the Executive Director must approve any payments equal to or over $10,000.

E. PROCUREMENT CLAIMS AND APPEALS

Application

Pursuant to IC 4-21.5-2-5(11), procurement decisions by the System or the Executive Director are not subject to IC 4-21.5 (Adjudicative Proceedings). In lieu thereof, vendors or prospective vendors, shall follow the procedures of and have the remedies available under this policy in the event of a protest of any procurement decision of the Executive Director or his/her designee.

Appeal of Award or Decision to Award a Contract

(a) Any prospective vendor may appeal the award or decision to award a contract by filing a written appeal within seventy-two (72) hours after the award, after receipt of notice of the award, or after the announcement of the decision to award is posted or published, whichever occurs first.

(b) The only grounds for filing an appeal under this policy are as follows:

(1) A procurement decision was not made in compliance with the procedures required by this policy; or

(2) A procurement decision was made in violation of any rules regarding ethics promulgated by the System.

(c) The appeal shall be in writing and shall state the following: the decision which is being appealed, the grounds for the appeal, and any other information necessary to identify the contract, bid, or request involved in the appeal.

(d) No appeal shall be made under this policy on the grounds that the prospective vendor was not determined to be a responsible bidder.

Notice

A notice of appeal shall be filed by mailing the notice to the Executive Director at the principal office of the Executive Director in Indianapolis by registered or certified mail, return receipt requested, or by delivering the notice of appeal to the principal office of the Executive Director in Indianapolis. Filing by registered or certified mail shall be effective upon mailing.

Executive Director's Review of an Appeal

The Executive Director shall issue a decision on a claim within thirty (30) days after the claim was filed, which decision shall be final. The Executive Director shall state the reasons for denial of any appeal filed under this policy. A copy of the decision shall be mailed by certified or registered mail, return receipt requested, to the entity who filed the claim. The decision may order such relief (if any) as is in the best interests of the System. Relief may include, but is not limited to, voiding the selection and redoing the process.

Appendix E. Board Trading Policy

Indiana Public Retirement System

Board Trading Policy

Board members who come into possession of material non-public information concerning a publicly traded company must safeguard the information and not intentionally or inadvertently communicate it to any person unless the person needs to know for legitimate fund-related reasons. Any Board member who improperly reveals material non-public information to another person may be held liable under the anti-fraud provisions of the federal securities laws. The person with whom the Board member shares the information may also be held liable under the anti-fraud provisions of the federal securities laws. To avoid even the appearance of impropriety, Board members should refrain from providing advice or making recommendations regarding the purchase or sale of any securities knowingly traded by the System.

The anti-fraud provisions of the federal securities laws generally prohibit persons who have a duty not to disclose material non-public information from trading securities on the basis of such information. Board members shall not trade securities on the basis of such information. In addition, these anti-fraud provisions prohibit fraudulent, manipulative, or deceptive trading practices. Persons who violate these prohibitions are subject to potential civil damages and criminal penalties. A Board member should contact the System's Chief Legal and Compliance Officer immediately if he/she has questions, becomes the subject of a securities-related investigation, or becomes aware of the possibility of a violation of insider trading laws.

Information regarding a publicly traded company is deemed "material" if it would be considered important by a reasonable investor in deciding whether to buy, sell, or refrain from any activity regarding that company's securities. Further, such information would be material if it were likely to have a significant impact on the market price of that company's securities. So long as the information remains material and non-public, it must be maintained in strict confidence and not used for trading purposes.

Appendix F. Board Education Policy

Indiana Public Retirement System

Board Education Policy

To ensure that members of the Indiana Public Retirement System ("INPRS") Board of Trustees (the "Board") are adequately equipped to carry out their duties as trustees, and pursuant to Indiana Code 5-10.5-3-2, staff of INPRS is asked to provide, and Board members agree to participate in, educational opportunities on the following topics, annually, approximately two hours on each topic:

1. Fiduciary duties and responsibilities of a trustee;
2. Ethics;
3. Governance process and procedure;
4. Retirement plan design and administration;
5. Investments; and
6. Actuarial principles and methods.

To fulfill these educational goals, the following may be provided each year:

1. One or more educational retreats (typically in the Spring and Fall), provided by INPRS staff, addressing one or more of the topics outlined above;
2. A list of pre-approved educational conferences (provided annually before the start of the calendar year);
3. Articles and reading materials addressing the topics outlined above or other topics related to the governance of a retirement system; and
4. Any other resources or materials deemed by the Executive Director to be valuable to the educational goals of Board members.

The INPRS Chief Legal & Compliance Officer will coordinate the above educational opportunities for Board members and will track the participation of Board members in appropriate and sufficient educational opportunities. Subject to the Executive Director's advance approval, each trustee is entitled to reimbursement for reasonable educational expenses actually incurred. See section *Board Travel and Reimbursement* for reimbursement procedures.

Each Board member should complete a Board orientation when first appointed to the Board. The Board orientation should provide an introduction to INPRS' processes, roles and responsibilities, including the responsibilities of key outside consultants, as well as information on retirement system concepts; fiduciary duties; and the Indiana Code of Ethics governing INPRS. Prior to attending the first meeting as a trustee, in-coming Board members should be invited to attend a meeting of the Board.

Finally, all Board members, as "special state appointees," must complete ethics training within six weeks of appointment and every two years during their tenure. [45] The on-line training can be found at www.in.gov/ethics/training.

[45] See 42 IAC 1-4-1.

Appendix G. Board Retained and Delegated Duties

Indiana Public Retirement System

Board Retained and Delegated Duties

Retained Board Member Duties and Responsibilities

To fulfill its fiduciary and administrative responsibilities, the Board of Trustees shall perform the following duties:

1. Approve the overall mission of the System. Approve the strategic plan and objectives of the System. The Board's focus is the long-term objectives of the System, not the operational means of achieving those objectives.
2. Establish and amend rules and regulations under the Indiana Administrative Code without adopting a rule under IC 4-22-2 (Adoption of Administrative Rules).[46] All administrative rules adopted under the Indiana Administrative Code shall be forwarded to the Legislative Services Agency for printing.
3. Adopt a budget on a calendar year or fiscal year basis that is sufficient, as determined by the Board, to perform the Board's duties and, as appropriate and reasonable, draw upon Fund assets to fund the budget.[47]
4. Appoint an Executive Director.[48] The Board shall evaluate the performance of the Executive Director annually and fix the compensation of the Executive Director.
5. With the advice of the actuary, establish employer contribution rates;[49] establish the amortization of the unfunded actuarial accrued pension liability;[50] adopt actuarial tables;[51] and establish other policy-driven actuarial assumptions as determined by the Board.
6. Approve the engagement of actuary(ies), outside fiduciary counsel, investment managers, investment consultants and custodian banks, unless such approval has been specifically delegated to the Executive

[46] See IC 5-10.5-4-2(a)(1).
[47] See IC 5-10.5-4-1(10).
[48] See IC 5-10.5-4-1(1).
[49] See IC 5-10.5-4-2(7).
[50] See IC 5-10.5-4-2(8).
[51] See IC 5-10.5-4-1(6).

Director and/or Staff by the Investment Policy Statement or Board Resolution.[52]

7. Adopt an Investment Policy Statement (IPS), including an asset allocation.
8. Adopt other board-level policies, as determined by the Board in consultation with the Executive Director.
9. Approve a regular meeting schedule in advance of each calendar year.
10. Receive finance reports and investment reports at regular board meetings.
11. Annually elect a Chairperson and Vice-Chairperson.
12. Under the IPS, hire and terminate investment managers over certain limits; oversee the System's assets; exercise the duties of loyalty, care and prudence; evaluate performance, including performance of staff and consultants; evaluate Investment Department compliance with IPS and laws; approve filing of certain securities litigation claims.
13. Oversee the enterprise risk management process, including approval of the risk appetite, receiving reports on risk management, and reviewing the effectiveness of the process.
14. Participate in educational opportunities provided by staff.[53]
15. Participate in on-line ethics trainings provided by the Indiana Office of the Inspector General.
16. Take an Oath of Office, which must be filed with the Secretary of State.
17. Maintain an alternative investment program within the Defined Contribution Account.
18. Approve the Administrative Fees charged to DC accounts.
19. Hold regular board meetings, at least quarterly.[54]
20. Approve an annual Audit Plan.
21. Approve the executive director bond amount.
22. Delegate duties to the Executive Director or other employees of the System.[55]

Delegated Responsibilities to Executive Director and Staff

The Executive Director is the executive officer in charge of the administration of the System's detailed affairs and operations, makes eligibility and other determinations

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[52] See IC 5-10.5-4-1(2) and IC 5-10.5-4-2(2).
[53] See IC 5-10.5-3-2(c).
[54] See IC 5-10.5-3-8(a).
[55] See IC 5-10.5-4-2(a)(3).

on application to the Board and shall cause all necessary persons to be notified of any determinations made concerning such applications, and makes periodic reports to the Board.[56] To this end, all operational duties are delegated by the Board to the Executive Director, to be further delegated, as determined by the Executive Director, to the staff of the System. All operational matters provided for in the Indiana Code and the Indiana Administrative Code that reference the Board of the System shall be delegated to and carried out by the Executive Director and staff of the System. Should any condition arise in which the Executive Director is unable to fulfill his/her duties, the Deputy Director and Chief Operating Officer shall assume all duties of the Executive Director until such time that the Board determines otherwise.

The following list of responsibilities is intended to provide a general description of the duties that are delegated by the Board to the Executive Director which may be carried out by System staff at the direction of the Executive Director. This list is intended to provide a general description of staff responsibilities and shall not be interpreted to be an exhaustive list of such duties.[57]

1. Employ or contract with employees, auditors, technical experts, legal counsel, medical experts and other service providers as necessary to transact the business of the System; fix the compensation or consideration for those engaged by the System; and monitor the performance of such service providers.
2. Prepare job descriptions for System staff and fix compensation of staff (except as to the Executive Director, as described under Board Responsibilities).
3. Establish and enforce personnel programs and policies, and establish administrative policies and procedures to carry out System operations in compliance to state and federal laws and regulations.
4. Provide for a report at least annually to each member of the amount credited to him or her in the defined contribution account in each investment program under IC 5-10.2-2.
5. Act on applications for benefits and claims of error filed by members, beneficiaries and survivors. Set all policies and procedures relative to Defined Contribution Accounts, employers and their contributions, purchases of service, and the payment of member benefits, pursuant to the Indiana Code and the Indiana Administrative Code. Act on special death benefit claims, with a report to the Board of such initiated benefits.
6. Establish and maintain communication programs sufficient to educate and inform members and other stakeholders.

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[56] See IC 5-10.5-6-1 and IC 5-10.5-6-2.
[57] See IC 5-10.5-4-1 and IC 5-10.5-4-2.

7. Establish and maintain member service programs including but not limited to call center operations and internet accessible applications.

8. Maintain financial records in compliance to GASB standards and have the accounts of the Funds audited annually by the State Board of Accounts, and/or an outside auditor as directed by the Board.

9. Publish for the members a summary of the Funds' condition.

10. Expend money, including income from the Funds' investments, for effectuating the System's purposes within the annual budget as approved by the Board.

11. As delegated by the Board, hire and terminate investment managers under certain limits; oversee the System's assets; exercise the duties of loyalty, care and prudence; evaluate performance, including performance of staff and consultants; evaluate Investment Department compliance with IPS and laws; execute filing of certain securities litigation claims.

12. Provide regular reports to the Board relative to the operations and investments of the funds.

13. Submit an electronic report of the System's previous year's activities to the Governor, the Pension Management Oversight Commission, and the Budget Committee as described in IC 5-10.5-4-1(13).

14. Represent the System before the Indiana General Assembly and its Pension Management Oversight Commission.

15. Correct and revise any previously-approved employer contribution rate where such rate is incorrect due to calculation error or incorrect data inputs, provided that the Executive Director shall report the change to the Board.

16. Negotiate and execute all contracts, litigation settlement agreements, other agreements, and memorandums of understanding made by the System pursuant to the System's Procurement Policies.

17. Deduct and remit to the appropriate entities any authorized amounts from the benefits of members of the Funds, including the 1977 Police Officers' and Firefighters' Pension and Disability Fund and pursuant to IC 36-8-8-17.2. No further written agreement by the Board is required.

18. Remit to the appropriate entities any authorized amounts from the Pension Relief Fund.

19. Recover payments made under false or fraudulent representation.[58]

20. Act as the ultimate authority on behalf of the Board to administer all litigation matters and issue final determinations on decisions that have been appealed through the Indiana Administrative Orders and

[58] See IC 5-10.5-4-2(a)(9).

Procedures Act, and to make all determinations relative to benefit forfeitures and reimbursements.

21. Review all disability impairment awards and default disability impairment awards.

22. Exercise all powers necessary, convenient, or appropriate to carry out and effectuate the System's public and corporate purposes and to conduct its business (including all funds and accounts administered by the Board).

23. Perform required duties as Indiana's Social Security Administrator.

24. Perform any and all additional duties assigned by the Board.

Roles and Reporting

The following positions directly report (a solid line) to the Board of Trustees: The Executive Director and the ~~Director of Internal Audit~~Chief Audit and Risk Officer.

The following position indirectly reports (a dotted line) to the Board of Trustees: The Chief Legal and Compliance Officer.

The following positions directly report (a solid line) to the Executive Director: The Chief Operations Officer & Deputy Director, Chief Investment Officer, Chief Finance and Administration Officer, Chief Legal and Compliance Officer, Chief Information and Technology Officer, Director of Strategic Initiatives, and Chief Communication Officer.

The following position administratively reports (a dotted line) to the Executive Director: The ~~Director of Internal Audit~~Chief Audit and Risk Officer.

Appendix H. Executive Director Profile and Evaluation

Indiana Public Retirement System

Executive Director Profile, Evaluation, and Executive Succession Planning

Executive Director Profile and Specifications

Profile: An experienced and successful leader of staff and manager of internal systems who will place a high priority on developing staff resources, collective expertise and the management systems. The Executive Director will have respect for and experience working with governing bodies that assert their policy role, their fiduciary responsibilities to members, and oversight of the Funds through the Executive Director. Accordingly, the Executive Director must establish a relationship with the Board that has complete transparency and accountability.

Characteristics and abilities of the Executive Director include:

- Outstanding personal leadership, administrative and management skills.
- A commitment to providing the highest level of customer service to employers and members.
- High personal energy, a positive approach, self-confidence and a sense of humor.
- Outstanding ability to communicate in oral, written or formal presentation settings in a variety of venues, including with state and national organizations, in media interviews and with staff.
- The capacity to absorb complex issues and disparate information and provide clear, concise briefings and presentations.
- The ability to solve problems and provide a range of alternatives to the Board as they consider issues affecting the Funds and the Funds' investments.
- An approachable, friendly, open and participatory management style open to and respecting input from others.
- A willingness to appropriately confront issues and make tough recommendations and decisions.
- A willingness to maintain a high level of professional networking to remain aware of cutting edge thinking relative to public sector pension plan practices.
- The ability to proactively anticipate problems and changes and their potential impact on the Funds.
- The ability to effectively delegate authority and responsibility while maintaining appropriate levels of accountability, operational control and personal involvement.

Specifications:

- Minimum of a Bachelor's Degree in business or public administration or a related field and a graduate degree is preferred.
- A minimum of five, and preferably ten, years of experience leading and managing an organization of comparable or larger size and complexity is required.
- While there is no requirement for specific experience in finance, investments, operations or actuarial science, it is imperative that the Executive Director be able to comprehend such disciplines and communicate effectively with experts on technical matters that affect the System.
- Experience with and knowledge of Indiana pension legislation and legislative relationships are not required, but could be beneficial. Pension plan administration experience is strongly preferred and candidates with records of achievement in this area will receive preference, but the Board will consider other areas of professional achievement, to include the ability to build productive working relationships and a track record of leading and managing complex organizations.
- The Executive Director's public and private life must exemplify the highest standards of ethics, professional decorum and financial responsibility.

<u>Executive Director Performance Evaluation Policy</u>

The primary responsibility of the Executive Director is the efficient and effective management of the System's operations in accordance with Indiana statute, administrative rules and the policy direction established by the Board. Accordingly, the quality of operations management constitutes the most relevant measure of performance, and should weigh heavily in the performance evaluation.

The process of evaluating the performance of the Executive Director should be free of real or perceived conflicts of interest and performed on a timely basis. To provide feedback and guidance to the Executive Director, the Board has established the following procedures for annually evaluating the performance of the Executive Director.

~~The Executive Director, if requested by the Board, will prepare a self-evaluation memo focused on the System's accomplishments and relevant performance issues for the previous year. Such performance criteria should be established in advance of the year being evaluated, though flexibility in modifying them is important. This memo, if requested, may be submitted to the Board at the October or November Board meetings for review and discussion in Executive Session. A written summary of the discussion and final evaluation will be provided to the Executive Director. Any salary increase for the upcoming year may be determined through this review and discussion, or as otherwise determined by the Board.~~

The board will evaluate the Executive Director with a performance review that has been approved by the board. This performance review includes an evaluation of the "Look Back" report which summarizes the metrics and strategic plan performance for the year. The Executive Director is also evaluated on the goals within the Executive Director Incentive Plan. In addition to the metrics required to measure the results on the incentive plan, the Executive Director will provide updates and a self-evaluation (if needed) on the goals related to the incentive plan for the year. This evaluation will occur between the end of the fiscal year and September 15th so that the incentive award can be processed according to the Executive Director Incentive Plan.

Executive Director and Executive Staff Succession Planning

The purpose of the succession planning policy is to mitigate the impact and enhance the opportunities that turnover among the Executive Director and the executive staff can have on INPRS operations. While Board recognizes that it may not be able to prevent such turnover, the Board recognizes that it has a duty to manage the risks and impacts associated with the loss of those individuals. This policy is to provide a framework for the Board's succession planning efforts.

The Executive Director shall continually prepare for the potential departure of members of the executive staff, including the Executive Director position. In conjunction with annual performance reviews of executive staff members, the Executive Director will incorporate appropriate cross-training and developmental opportunities into the executive member's Career Action Plan (CAP). The Executive Director will work closely with the incumbent executive staff member in the succession planning for their respective position.

The Executive Director may have no fewer than two other members of the executive staff who are familiar with Board and Executive Director duties.

At least annually, the Board will meet in executive session to discuss Executive Director and executive staff succession planning. The Executive Director shall provide the Board information including but not limited to: the most recent performance review for each executive staff member, the most recent Career Action Plan (CAP) for each executive staff member, any human resource issue involving the executive staff, known risks to potential turnover or retirements, possible successors, and contingency plans for the loss of executive staff. The Executive Director shall also provide a summary of the most recent enterprise wide succession planning activity.

In the event of a vacancy or pending vacancy in the Executive Director position, the Chair of the Board will initiate the following process:

a. In the event of vacancy, the Board Chair will call a special meeting of the Board to select one or more executive staff members to serve as the Acting Executive Director(s) who will be responsible for carrying out the Executive Director's duties until the Board has selected a permanent replacement. The Board shall review the list of delegated duties and at its discretion may retain certain duties previously delegated.

b. The Chair will appoint an ad hoc Search Committee. The Search Committee will determine the extent to which staff and/or a third-party search firm will assist in its search for candidates. At a minimum, the position will be posted internally for consideration by INPRS staff. The Search Committee has the discretion to advertise the position locally and/or nationally.

c. After an initial screening of applicants to determine those who are qualified, the Search Committee will rank the candidates according to the established evaluation criteria.

d. The Search Committee will recommend a minimum of two candidates for the full Board to interview.

e. Following the Board interviews and consultations with staff members and/or third party resources to the extent that the Board deems appropriate, the Board will select the new Executive Director and agree to the terms of employment by a vote.

f. All meetings of the ad hoc Search Committee and the Board shall be conducted in compliance to Indiana Open Door laws.

In the event of a vacancy or pending vacancy in the ~~Director Of Internal~~ AuditChief Audit and Risk Officer position, the Chair of the Board will initiate the following process:

a. In the event of vacancy, the Executive Director will select one or more staff members to serve as the Acting Director of Internal AuditChief Audit and Risk Officer who will be responsible for carrying out the Chief Audit and Risk Officer's ~~Internal Audit Director's~~ duties until the Board has selected a permanent replacement.

b. The Chair will appoint an ad hoc Search Committee. The Search Committee will determine the extent to which staff and/or a third-party search firm will assist in its search for candidates. At a minimum, the position will be posted internally for consideration by INPRS staff. The Search Committee has the discretion to advertise the position locally and/or nationally.

c. After an initial screening of applicants to determine those who are qualified, the Search Committee will rank the candidates according to the established evaluation criteria.

d. The Search Committee will recommend a minimum of two candidates for the full Board to interview.

e. Following the Board interviews and consultations with staff members and/or third party resources to the extent that the Board deems appropriate, the Board will select the new Director Of Internal AuditChief Audit and Risk Officer and agree to the terms of employment by a vote.

f. All meetings of the ad hoc Search Committee and the Board shall be conducted in compliance to Indiana Open Door laws.

In the event of a vacancy or pending vacancy in the Chief Investment Officer position, the Executive Director will initiate the following process:

a. In the event of vacancy, the Executive Director shall select one or more investment staff members to serve as the Acting Chief Investment Officer(s) who will be responsible for carrying out the duties of the Chief Investment Officer until a permanent replacement is hired.

b. The Executive Director shall appoint an ad hoc Search Committee that will include a minimum of two Board members, but no more than three Board members. The Search Committee will determine the extent to which staff and/or a third-party search firm will assist in its search for candidates. At a minimum, the position will be posted internally for consideration by INPRS staff. The Search Committee has the discretion to advertise the position locally and/or nationally.

c. After an initial screening of applicants to determine those who are qualified, the Search Committee will rank the candidates according to the established evaluation criteria.

d. The Search Committee will interview a minimum of two candidates.

e. Following the interviews and consultations with Search Committee members, staff members, and/or third party resources to the extent that the Executive Director deems appropriate, the Executive Director will select the Chief Investment Officer and establish terms of employment.

f. All meetings of the ad hoc Search Committee shall be conducted in compliance with Indiana Open Door laws.

In the event of a vacancy or pending vacancy in any other executive staff member position other than the Executive Director, ~~Director of Internal Audit~~Chief Audit and Risk Officer or the Chief Investment Officer position, the Executive Director is delegated authority to hire replacements in a manner consistent with professional human resource practices and established policies.

Appendix I. Board Service Providers

BOARD SERVICE PROVIDERS

CUSTODIAN

BNY Mellon Asset Servicing
BNY Mellon Center
500 Grant Street
Pittsburgh, PA 15258

INVESTMENT CONSULTANTS

Aksia
599 Lexington Avenue, 46th Floor
New York, NY 10022

Capital Cities
47 South Meridian, Suite 425
Indianapolis, IN 46204

Mercer
10 S. Wacker Drive, Suite 1700
Chicago, IL 60606

TorreyCove Capital Partners
10180 Barnes Canyon Road, Suite 200
San Diego, CA 92121

Verus
800 Fifth Avenue, Suite 3900
Seattle, WA 98104

ACTUARIES

Cavanaugh Macdonald Consulting, LLC
3802 Raynor Parkway, Suite 202
Bellevue, NE 68123

FIDUCIARY COUNSEL

Kutak Rock LLP
1650 Farnam Street,
Omaha, NE 68102-2186

Other Appendices

Appendices below may be updated without formal action of the Board.

Appendix J. Robert's Rules of Order

Summary of Robert's Rules of Order

What is Parliamentary Procedure?

It is a set of rules for meeting conduct that allows all participants to be heard and to make decisions in an effective and efficient manner. It allows for:

- Motions that are in order
- Members to obtain the floor properly
- Discussion of differing points of view
- Orderly and courteous debate

Why is Parliamentary Procedure important?

It provides a process by which issues can be addressed in a systematic fashion and increases the likelihood that satisfactory solutions can be identified. Parliamentary procedure can be adapted to fit the needs of any organization. When the basic rules are understood by all parties involved in the meeting, it can assist in effective decision making. Many boards of trustees have followed Robert's Rules of Order for their meetings.

Organizations using parliamentary procedure usually follow a fixed order of business. Below is a typical example:

- Call to order
- Roll call of members present
- Approval of the minutes of the last meeting
- Staff reports
- Board Chair report
- Unfinished business
- Presentations
- Other announcements
- Adjournment

Those participating in the meeting conduct business by "moving motions." A motion is a proposal that the entire membership take action or a stand on an issue. Individual members can:

- Call to order
- Second motions

- Debate motions
- Vote on motions

There are four basic types of motions:

1) *Main Motions*: The purpose of a main motion is to introduce items to the board for consideration by all the members. Motions cannot be made when any other motion is on the floor, and yield to privileged, subsidiary, and incidental motions.
2) *Subsidiary Motions*: Their purpose is to change or affect how a main motion is handled, and is voted on before a main motion.
3) *Privileged Motions*: Their purpose is to address urgent issues about special or important matters unrelated to pending business.
4) *Incidental Motions*: Their purpose is to provide a means of questioning procedure concerning other motions and must be considered first.

How are motions presented?

- The floor is obtained by a Board member
- The Chair is addressed
- The Board member making the motion waits to be recognized by the Chair
- The motion is made. Motions are best when stated concisely and affirmatively.
- Another Board member seconds the motion or the Chair will call for a second. If there is no second to the motion it is lost.
- The Chair re-states the motion, thus placing the motion before the Board for consideration and action. The Board then either debates the motion, or may move directly to a vote.
- Once the motion is presented to the Board by the Chair it becomes "assembly property," and cannot be changed without the consent of the members.

Expanding on a motion

A Board member may speak in favor of the motion after it is seconded and placed before the Board for consideration. The Board member who made the motion is always allowed to speak first. All comments and debate must be directed to the Chair. The Chair is also responsible for keeping any established time limits for speaking. The Board member who moved the motion may speak again only after other speakers are finished, unless called upon by the Chair.

Putting the question to the Board

The Chair will ask, "Are you ready to vote on the question?" If there is no more discussion, a vote is taken. When voting is complete, the Chair will announce the result.

Voting on a motion

The method of vote on any motion depends on the situation and the by-laws or policy of the Board. There are five methods used to vote by most organizations:

- By Voice -- The Chair asks those in favor to say, "aye," those opposed to say "no." Any member may move for an exact count.
- By Roll Call -- Each member answers "yes" or "no" as his/her name is called. This method is used when a record of each person's vote is required.
- By General Consent -- When a motion is not likely to be opposed, the Chair says, "if there is no objection ..." The membership shows agreement by their silence, however if one member says, "I object," the item must be put to a vote.
- By Division -- This is a slight verification of a voice vote. It does not require a count unless the Chair so desires. Members raise their hands or stand.

There are two other motions that are commonly used that relate to voting.

- Motion to Table -- This motion is often used to delay a decision on a motion. The option is always present, however, to "take from the table," for reconsideration by the Board.
- Motion to Postpone Indefinitely -- This is often used as a means of parliamentary strategy and allows opponents of motion to test their strength without an actual vote being taken. Also, debate is once again open on the main motion.

Appendix K. Oath of Office Format

Oath of Office Format

The following Oath of Office shall be completed for each Board member and filed with the Indiana Secretary of State.[59]

OATH OF OFFICE

BOARD OF TRUSTEES OF THE

INDIANA PUBLIC RETIREMENT SYSTEM

I, ____________________________________, do solemnly swear that I will support the Constitution of the United States and the Constitution of the State of Indiana, and the laws of the United States and the State of Indiana, and that I will honestly and faithfully discharge my duties as a member of the Board of Trustees of the Indiana Public Retirement System to the best of my abilities, so help me God.

By: ______________________________ Witnessed By: ______________________

Printed Name: ____________________ Printed Name: ______________________

Date: ____________________________ Title: ___________________________

Date: ___________________________

COUNTY OF MARION)
) SS:
STATE OF INDIANA)

Subscribed and sworn to before me, this _____ day of _______________, 20_____.

____
Signature of Notary

____
(Printed Name of Notary)
Notary Public, State of Indiana

County of Residence: ______________________
My Commission Expires:____________________

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[59] See IC 5-10.5-3-5.

INDIANA PUBLIC RETIREMENT SYSTEM

Investment Policy Statement Revisions

Recommended Revisions

INPRS Investments

October 30, 2020

(844) GO-INPRS
inprs.in.gov

Investment Policy Statement (IPS)

- Sets forth prudent investment policies, defines roles and responsibilities of the Board, Staff, and service providers, and establishes criteria to evaluate and monitor investment managers.

- Reviewed regularly and, at minimum, upon completion of an asset-liability study to ensure overall spirit of document remains consistent to the "prudent investor" standard.
  - Proposed Revisions presented at the September 2020 Board meeting.
  - *Understanding INPRS's Benchmarks* paper to be published on the website, per the reference on page 12 of the IPS.

Staff is seeking Board approval of the attached Investment Policy Statement

PRS

INDIANA PUBLIC RETIREMENT SYSTEM

Investment Policy Statement

Originally Adopted: January 1, 2012
Last Revised: October 30, 2020

Table of Contents

Section 1 Definitions

1. **"Actuarial Required Rates of Return"** refers to the rate of return approved by the Board during the most recent asset-liability study.
2. **"Board"** refers to the board of trustees of the System established by IC 5-10.5-3-1.[1]
3. **"Chief Investment Officer"** or **"CIO"** means the System's acting chief investment officer.
4. **"Consultant(s)"** are third party persons or firms who are approved by the Board and are responsible for providing advice on the investment program based upon their expertise and their analysis of the issues under consideration.
5. **"Custodian(s)"** is a bank or trust company which is retained by the Board to hold the assets of the System. A Custodian serves as an additional layer of risk control for the System by ensuring that any movement of funds is properly approved and documented.
6. **"Defined Benefit Retirement Funds"** refers to the accounts listed in Section 2 Introduction.
7. **"Defined Contribution Retirement Funds"** refers to the accounts listed in Section 2 Introduction.
8. **"Executive Director"** or **"ED"** refers to the director of the System.[2]
9. **"Investment Managers"** refers to an external person(s), firm, corporation, bank or insurance company who is retained to manage a portion of the assets of the System under specified guidelines. Such Investment Managers will be registered as investment advisors under the Investment Advisors Act of 1940 and Securities Exchange Commission Acts, unless exempted from registration by the SEC (e.g. banks and insurance companies and affiliates).
10. **"Investment Staff"** refers to the employees of the System responsible for performing investment activities who report to the CIO.
11. **"Legal Counsel"** refers to attorney(s) engaged to provide legal advice to the System.
12. **"Other Fund(s)"** refers to the System's assets that are not part of the Retirement Funds.
13. **"Policy"** refers to the INPRS Investment Policy Statement, as amended from time to time.
14. **"Portfolio"** refers to the assets managed by an Investment Manager according to a specific mandate or strategy.
15. **"Retirement Fund(s)"** refers to the System's Defined Benefit Retirement Funds and Defined Contribution Retirement Funds.
16. **"Service Provider(s)"** means all external parties who perform investment-related services for the System or Retirement Funds, including, but not limited to, Consultants, Custodians, Investment Managers, Legal Counsel, data aggregators, securities litigation monitors, etc.
17. **"Staff"** refers to all employees of the System, including the ED and CIO.
18. **"System"** refers to the Indiana Public Retirement System established by IC 5-10.5-2-1.[3]
19. **"Target Rates of Return"** refers to the long-term net-of-fee rates of return targeted through the approval of an asset allocation during the asset-liability study.

Section 2 Introduction

The Indiana Public Retirement System ("INPRS" or the "System") was statutorily established on July 1, 2011[4] and is responsible for the management and administration of Indiana's public retirement funds and pensions systems including:

Defined Benefit Retirement Funds

1. Public Employees' Defined Benefit Account;
2. Teachers' Pre-1996 Defined Benefit Account;
3. Teachers' 1996 Defined Benefit Account;
4. 1977 Police Officers' and Firefighters' Retirement Fund;
5. Judges' Retirement System;
6. Excise, Gaming and Conservation Officers' Retirement Fund;
7. Prosecuting Attorneys' Retirement Fund;
8. Legislators' Defined Benefit Fund;

Defined Contribution Retirement Funds

9. Public Employees' Defined Contribution Account;
10. Teachers' Defined Contribution Account;
11. Legislators' Defined Contribution Account;

Other Funds

12. Special Death Benefit Fund[5];
13. Local Public Safety Pension Relief Fund
14. Retiree Medical Benefits Account Plan

Prior to July 1, 2011, the retirement plans for Indiana public employees were administered by two separate boards of trustees, the Public Employees Retirement Fund Board and the Indiana State Teachers' Retirement Fund Board.

2.1 System Oversight

Oversight of the System's assets is the responsibility of the INPRS Board of Trustees ("Board").[5] The Board is supported by the Executive Director ("ED"), Chief Investment Officer ("CIO") and internal investment and legal staff ("Staff") and externally by investment consultants ("Consultants"), Investment Managers, Custodian(s), Legal Counsel and all others fulfilling fiduciary duties (collectively, each external party, a "Service Provider").

2.2 Authority for Investment Policy Statement

Indiana law permits the Board to establish investment guidelines and limits on all types of investments and take other actions necessary to fulfill its duty as a fiduciary for all assets under its control.[6]

2.3 Fiduciary Standard

The Board is required by law to invest the System's assets with the care, skill, prudence, and diligence that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character with like aims. The Board is also required to diversify such investments in accordance with prudent investment standards.[7]

2.4 Scope of Investment Policy Statement

This Policy is binding on all persons with authority over the System's assets, including the Board, Investment Managers, Custodians, Consultants, Staff, Service Providers as well as any other person who has a fiduciary relationship with the System.

This Policy is divided into multiple sections and each section is only applicable to the Retirement Funds unless otherwise stated. The Policy also includes multiple Addendums, which are an integral part of this Policy and are incorporated into the Policy by reference.

2.5 Compliance with the Law

The Board, Staff and Service Providers are required to comply with all applicable federal and state laws, rules and regulations. This Policy attempts to describe the applicable laws and specifically identifies such laws in the endnotes. However, in the event of any conflict between the law and this Policy, the law prevails, and each fiduciary to the System is ultimately responsible for interpretation and compliance with laws.

2.6 Contact

Questions and comments relating to the application or interpretation of this Policy and any written notice required to be delivered should be directed to:

Indiana Public Retirement System
Attn: Chief Investment Officer
One North Capitol Avenue, Suite 001
Indianapolis, IN 46204

If notice is required to Compliance Officer, please deliver notice to:

Indiana Public Retirement System
Attn: Chief Legal and Compliance Officer
One North Capitol Avenue, Suite 001
Indianapolis, IN 46204

If notice required to Internal Audit, please deliver notice to:

Indiana Public Retirement System
Attn: Director of Internal Audit
One North Capitol Avenue, Suite 001
Indianapolis, IN 46204

Section 3 Objectives and Purpose of Policy

All aspects of this Policy shall be interpreted in a manner consistent with the System's objectives. The primary objective of the System is to maintain adequate funding for the Retirement Funds in order to provide for the payment of such fund's actuarially determined liabilities over time in a cost-effective manner.

The purpose of this Policy is to support this general objective by:

1. Setting forth the investment policies which the Board judges to be appropriate and prudent, in consideration of the needs and legal requirements applicable to direct investment of the assets;
2. Making a clear distinction between the roles and responsibilities of the Board, Staff, and each Service Provider;
3. Establishing formalized criteria to measure, monitor and evaluate the performance results of the Investment Managers;
4. Communicating the investment policies, objectives, guidelines, and performance criteria of the Board to the Staff, Investment Managers, Consultants, Service Providers, Employers, Members and all other interested parties; and
5. Serving as the guide relative to the ongoing oversight of the investments by the System and demonstrating that the Board is fulfilling its fiduciary responsibilities in the administration and management of each Retirement Fund's assets solely in the interests of such Retirement Fund's members and beneficiaries.

The Board intends for this Policy to be a dynamic document, and, as such, expects to conduct periodic reviews utilizing input from Staff, Consultants and other knowledgeable parties. The Board anticipates approving changes from time to time to reflect changes in any or all of: economic and market conditions, investment opportunities, the System's investment strategy, benefit provisions, and the System's governance. This Policy shall be reviewed on a regular basis and, at minimum, upon completion of an asset liability study.

Section 4 Guiding Principles

The Board has adopted a set of guiding principles for oversight and management of the Retirement Fund's assets. The guiding principles are as follows:

4.1 Time Horizon

Given the Retirement Fund's intent to provide retirement security for current and future members and beneficiaries, long-term is defined as greater than ten years.

4.2 Target Rates of Return

The Board shall set Target Rates of Return for the Retirement Fund based on input from the System's Actuaries, CIO, Staff, and Consultant.

4.3 Asset Allocation

The asset allocation is the most important determinant of long-term investment results. The CIO and Consultant shall recommend, for Board approval, asset allocation strategies that are expected to meet the Retirement Fund's Target Rates of Return net of fees, while minimizing risk. Within each asset class, the CIO and Investment Staff, at their discretion, may establish sub-asset classes in an effort to better match the risk profile of the Board-approved asset allocation.

4.4 Risk Tolerance

The Board acknowledges that capital markets will exhibit short-term volatility that may cause variations in the total portfolio's performance relative to the Target Rates of Return and relative to peers. However, maintaining focus on the Retirement Fund's unique objectives and long time horizon should allow the Board, CIO, and Investment Staff to weather such fluctuations.

4.5 Preservation of Capital

It is important to limit the loss of capital during challenging market environments, as significant losses can reduce the probability of achieving the Target Rates of Return.

4.6 Diversification

True diversification goes beyond simple capital allocation. Rather, the diversification of asset class risk factors is paramount in achieving the most efficient risk-adjusted rate of return through various economic environments.

4.7 Sources of Return

The Retirement Fund's asset allocation should be constructed utilizing an array of diversified asset classes and attractive global investment opportunities.

4.8 Liquidity

The investment strategies employed for the Retirement Funds shall consider liquidity needs in order to fund withdrawals for benefit payments, fees and expenses, and other obligations. Provided there are sufficient monies available to meet cash outflows, the Retirement Funds have the ability to take advantage of superior risk-adjusted returns provided by prudent investments in illiquid securities.

4.9 Rebalancing

Rebalancing the Board-approved asset allocation should control risk over a long period of time. However, the CIO shall have the ability to make tactical shifts within the asset allocation in an effort to increase risk-adjusted returns as long as such changes are within Board-approved asset allocation ranges.

4.10 Asset Management

Investment of Retirement Fund assets will be delegated to Investment Managers, except in situations where the Board has determined that the CIO and Investment Staff have demonstrated the expertise and ability to achieve specific investment objectives internally at a better overall value to the Retirement Fund. Investment Managers should employ clearly defined investment strategies and demonstrate a sustainable competitive edge relative to their peers.

Section 5 Responsible Parties and Their Duties

5.1 Prudent Investors

All Service Providers will maintain a prudent investor profile, consistent with their fiduciary responsibility to invest the assets solely in the interests of the System's members and beneficiaries.[8]

5.2 Code of Ethics

All Service Providers shall abide by all ethical requirements that apply to persons who have a relationship with the System as set forth in Indiana law[9] or the Board of Governance Manual. If a Service Provider or its agents violate any applicable ethical standards, the System may, in its sole discretion, terminate its agreement immediately upon notice to the Service Provider. In addition, the Service Provider may be subject to penalties under Indiana law.[10]

All parties are compelled to promptly report any acts that create a conflict of interest or could be construed as a violation of Indiana law or the Board of Governance Manual. Such report shall be in writing to the System's Compliance Officer, CIO, or ED. If the issue in question involves the System's Compliance Officer, CIO, or ED, then the Service Provider may use an alternative method such as reporting the violation directly to the System's Director of Internal Audit. The obligation under this section extends only to those facts that the Service Provider knows or reasonably could know.

The Board recognizes that Service Providers have every right as citizens to participate in the political process both individually or corporately. However, the Board believes that it is inappropriate and improper for members of the Board to solicit contributions or support of specific candidates from any Service Provider or member of Staff. Any such incidents should be reported, in writing, by the Service Provider to the Compliance Officer or ED.

5.3 Delegated Authority

The Board has delegated the day-to-day investment operations to the Staff, though oversight of the System's assets remains with the Board. The Staff is responsible for performing such duties consistent with this Policy and as otherwise directed by the Board. Included in this, the ED is authorized by the Board, pursuant to a recommendation by the CIO, to retain, manage, and terminate Investment Managers within each asset class as required to achieve the investment objectives of the Retirement Funds within the following limitations:

1. The initial investment made in a Portfolio described in Section 9 (Public Investment Guidelines), and Section 13 (Risk Parity Investment Guidelines), may not exceed 3.0% of the market value of the Retirement Fund's assets at the time of investment. Notification regarding the investment should be provided to the Board at its next regularly scheduled meeting. Any additional allocations to the same Portfolio that increase the Portfolio's total market value to a weight greater than 6.0% of the Retirement Fund's assets at the time of investment must receive prior authorization from the Board;

2. The initial investment made in a Portfolio described in Section 10 (Private Markets Investment Guidelines), Section 11 (Real Estate Investment Guidelines), and Section 12 (Absolute Return Investment Guidelines), may not exceed 0.75% of the market value of the Retirement Funds' assets at the time of investment. Notification regarding the investment should be provided to the Board at its next regularly scheduled meeting. Any additional allocations to the same Portfolio that increase the Portfolio's total market value to a weight greater than 1.5% of the

Retirement Fund's assets at the time of investment must receive prior authorization from the Board;

3. Reducing assets under management, including full termination of a Portfolio, may not exceed 4.0% of the market value of the Retirement Funds' assets. Notification regarding the termination should be provided to the Board at its next regularly scheduled meeting. A Portfolio, however, may be terminated with the agreement of the ED and CIO for any level of assets if such removal is deemed necessary to protect the Retirement Funds' assets.

An Investment Manager change may only exceed the limits described in this section with the prior authorization of the Board. If an investment opportunity requires more immediate action and requires prior approval by the Board, the Board recognizes that the ED and CIO may request that the full Board convene between regularly scheduled meetings, via conference call, to review and approve the investment.

Approval authority set forth in this Policy shall be reviewed upon the departure of either the ED or CIO, to consider the suitability of this investment authority delegated by the Board.

In addition to the responsibilities outlined above, the following parties also have separate responsibilities and duties to the System.

5.3.1 Board of Trustees

1. Approve the overall mission, strategic plan, and objectives of the System;
2. Adopt an Investment Policy Statement, including an asset allocation according to prudent investor standards;
3. Exercise the care, skill, prudence and diligence that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims;
4. Operate with a duty of undivided loyalty, and must be impartial in the exercise of such duty, to the members of each Retirement Fund, as Retirement Fund assets must be used for the exclusive benefit of such Retirement Fund's members and their beneficiaries;
5. Approve and review the engagement of Service Providers;
6. Evaluate the Retirement Fund's performance and compliance with this Policy and applicable state and federal laws;
7. Evaluate performance of the Executive Director and Consultant; and
8. Delegate any permitted responsibilities or duties to the Staff.

5.3.2 Executive Director

1. Supervise the investment operations by ensuring that the CIO and Investment Staff invest assets in accordance with the Board's policies and internal controls that are in place to safeguard the System's assets;
2. Expend money, including income from the assets, for effectuating the System's purposes;
3. Provide regular reports to the Board;
4. Negotiate and execute all contracts, agreements and memorandums of understanding in accordance with the System's Procurement Policy and this Policy;
5. With the advice and counsel of the CIO and Consultant, take prudent actions that are deemed essential to protect the assets of the System with any emergency actions taken being promptly notified to the Board; and

6. Perform and/or delegate any and all additional duties assigned by the Board.

5.3.3 **Chief Investment Officer**

1. Monitor and manage the investment operations of the System to ensure compliance with Board policies;
2. Regularly provide updates and recommend modifications to this Policy to the Board;
3. Assist Board in establishing appropriate asset allocation targets and ranges;
4. Implement agreements and disburse funds to the selected Investment Managers at prudent and approved commitment levels;
5. Advise the Board and ED on investment matters;
6. Keep the Board and ED apprised of situations which merit their attention; and
7. Supervise and/or delegate to the Investment Staff.

5.3.4 Investment Staff

1. Regularly provide updates and recommend modifications to this Policy;
2. Source and evaluate prospective Portfolios for the System;
3. Monitor and review Investment Managers for adherence to strategies, objectives and guidelines; and
4. Regularly evaluate and advise the Board on the performance of the Consultants.

5.3.5 Consultants

8. Regularly review and advise the Board and Staff on investment policies related to the System;
9. Assist Board and Staff in establishing appropriate asset allocation targets and ranges;
10. Provide the Board and Staff with relevant, reliable and timely research and information requests to fulfill their responsibilities;
11. Assist Staff in conducting Investment Manager and/or Portfolio due diligence and in negotiating business terms and appropriate structural incentives;
12. Monitor and review Investment Managers on an ongoing basis, for adherence to objectives and guidelines and, if appropriate, recommend any changes to the Board and Staff; and
13. Provide a third party perspective and oversight to the System's assets.

Section 6 Asset Allocation

The asset allocation of the Retirement Fund is expected to meet the Target Rates of Return over a long period of time while minimizing risk. The Board will evaluate the asset allocation periodically, after reviewing considerations and recommendations from the CIO and Consultant, and conduct a formal asset liability study no less frequently than every five years.

6.1 Formal Asset-Liability Study

To guide their selection of the optimal target allocation and target range for each asset class, the Board shall consider the following key factors:

1. Expected long-term return, risk, correlations, liquidity constraints, and transaction costs of various global public and private asset classes;
2. Key risks affecting Retirement Fund assets, such as equity risk, credit risk, interest rate risk, and inflation risk;
3. Projected cash flow and liquidity needs of the Retirement Funds;
4. Projected liabilities of the Retirement Funds;
5. Projected funded status of the Retirement Funds; and
6. Contribution needs of the Retirement Funds.

6.2 Strategic Asset Allocation

The following asset classes, target allocations, and allowable ranges were approved by the Board on October 23, 2015 based on a formal asset-liability study and shall remain in place until revised by the Board.

Table 6.2

Global Asset Classes	Target Allocation	Target Range
Public Equity	22.0%	19.5% to 24.5%
Private Markets	14.0%	10.0% to 18.0%
Fixed Income – Ex Inflation-Linked	20.0%	17.0% to 23.0%
Fixed Income – Inflation-Linked	7.0%	4.0% to 10.0%
Commodities	8.0%	6.0% to 10.0%
Real Estate	7.0%	3.5% to 10.5%
Absolute Return	10.0%	6.0% to 14.0%
Risk Parity	12.0%	7.0% to 17.0%

Section 7 Retirement Funds' Performance Evaluation

7.1 Introduction

The Board recognizes the need to evaluate the investment performance of the CIO and Investment Staff who have been delegated the duty to invest the Retirement Fund's assets, and further recognizes that the CIO and Investment Staff are under a fiduciary duty to the Retirement Fund.

7.2 Benchmarks

1. The Investment Staff uses a variety of benchmarks to evaluate the risk and return of the total plan, asset classes, and managers.
    a. Custom total plan benchmarks are established to describe the Retirement Fund's asset allocation, described in table 6.2.
    b. Custom asset class benchmarks are established to represent the qualities of INPRS's global asset classes, described in table 6.2.
    c. Standard benchmarks are used to represent the opportunity set of certain managers.
2. The returns of these benchmarks are provided to the Board to aid them in evaluating the performance of the total plan and constituent asset classes.
3. The benchmarks employed and the methodology used are described in a separate document, "Understanding INPRS's Investment Benchmarks". Changes made to the custom total plan benchmarks or global asset class benchmarks will be communicated to the Board at the next regularly scheduled Board meeting.

7.3 Performance Evaluation Factors

The key factors to be used in the evaluation of the investment performance of the Retirement Fund include:

1. Net of fees, five year and ten year rolling annual rate of return equal to the target rate of return for the Retirement Funds.
2. Net of fees, three year and five year Sharpe Ratio of the Retirement Funds, no less than a weighted average of benchmark indices' Sharpe Ratio which best describe the Retirement Funds' asset allocation.
3. Net of fees, three year and five year rolling investment rate of return of the Retirement Funds, no less than a weighted average of benchmark indices which best describe the Retirement Funds' asset allocation.

Section 8 Risk Management

The Board believes that a central focus of investing is to control risks that may reduce the probability of achieving the Target Rates of Return. The Board sets the framework for risk management through this Policy, and within it, identifies three critical parts:

1. Risk Measurement
2. Risk Monitoring
3. Risk-Adjusted Investment Management

8.1 Risk Measurement

The Board has developed a broad set of managerial, advisory, and consulting relationships which provide a flow of information that enables the CIO and Investment Staff to effectively analyze market conditions, research investment opportunities, monitor Investment Managers, and manage the System's assets. The CIO and Investment Staff are responsible for selecting, maintaining, and enhancing the risk management tools used to provide analysis that inform and support the investment process of the System and report on the System's investment risks and associated returns to the Board as appropriate.

8.2 Risk Monitoring

The Board believes that when building the most diversified investment portfolio it is critical to think in terms of risk allocation, not capital allocation. Risk allocation should be based on a fundamental understanding of the relationship between asset classes and economic environments. As a result, the Board, CIO, and Investment Staff will regularly monitor the Systems' success in achieving the targeted risk diversification that is inherent in the approved asset allocation stated in Section 6 (Asset Allocation). The following list is a sample set of portfolio risk exposures that will be monitored on an absolute and relative basis; this list is not intended to be exhaustive.

Table 8.2.1

Market Risk Factors
Equity Risk
Nominal Interest Rate Risk
Credit Risk
Inflation Risk
Currency Risk

The Board recognizes that there are a number of other risks that naturally exist in a global investment portfolio. As a result, the Board, CIO, and Investment Staff will regularly monitor the performance and composition of the System's assets and make favorable adjustments that seek to improve overall risk-adjusted performance. The following table contains a sample set of strategic risk factors that will be monitored on an absolute and relative basis; this list is not intended to be exhaustive.

Table 8.2.2

Strategic Risk Factors	Descriptions
Issuer Risk	Direct exposure to specific entity or company
Country Risk	Direct exposure to specific countries and currencies
Geographical Risk	Exposure to regions of the U.S. or countries outside the U.S.
Credit (Quality) Risk	Segmentation of investments by credit rating
Counterparty Risk	Risk of a counterparty default
Debt Refinancing Risk	Measured by the concentration of debt maturities by year
Liquidity Risk	Risk associated with an inability to buy or sell an investment due to contractual commitments, high transaction costs, or the time required to find a seller or buyer
Sector Risk	Risk that many of the investments in one sector fall in price at the same time due to an industry-wide event
Vintage Year Risk	Risk of an investment vintage year occurring at the peak or bottom of a market cycle
Business Risk	Overexposure to a specific Investment Manager or Investment Manager's style

8.2.1 Investment Manager Concentration Limit

The Board recognizes that allocating a large percentage of assets to a single Investment Manager may introduce increased business or liquidity risk to the System. Consistent with the long-term goal of enhancing return while reducing risk, the Board has placed an upper limit on the concentration of assets placed with an Investment Manager.

No Investment Manager shall manage more than 15% of the System's assets in actively managed Portfolios.

No Investment Manager shall manage more than 20% of the System's assets in passively managed Portfolios.

No Investment Manager shall manage more than 25% of the System's assets in a combination of actively and passively managed Portfolios.

8.2.2 Foreign-Exchange Risk Management

The objective of this foreign-exchange ("F/X") risk management policy is to effectively manage the Retirement Fund's performance volatility associated with foreign currency risk. F/X risk is the possibility of a negative currency return as a result of adverse movements in foreign exchange rates. The CIO, with the advice and counsel of the Consultant, is charged with assessing the F/X impact on the Retirement Fund's assets based on overall exposure and the resulting impact on incremental risk and return.

Unless otherwise approved by the Board, it is the policy of the Board that management of F/X exposure may be only implemented (1) by an Investment Manager on its Portfolio when the Investment Manager possesses recognized F/X experience or (2) by an overlay manager or other third-party expert ("F/X Overlay Manager") for a specific Portfolio or the Retirement Fund. Any recommended hedging strategy that will be implemented by an F/X Overlay Manager will be presented to the Board for approval and incorporated into the appropriate benchmark. The management and implementation of Board-approved F/X hedging activities will be implemented by the CIO, with the advice of the ED and the Consultant.

8.2.3 Leverage

The System is authorized to allow the following prudent uses of leverage by Investment Managers who possess recognized expertise with the allowed tools as follows:

1. Strategies that use derivatives in accordance with the asset allocation and risk parameters of this Policy;
2. Short sales in accordance with this Policy;
3. Foreign currency hedging in accordance with this Policy;
4. Embedded leverage within the Retirement Fund's limited partnership and limited liability company investments; and
5. Collateralized funding operations including securities lending, repurchase, and reverse repurchase agreements.

8.2.4 Operations Risk Management

1. Procedures: A procedures manual shall be maintained by the Investment Staff that provides detailed steps on how to complete the essential tasks of the investment department.
2. Custodial Bank: The Investment Staff shall conduct on-site due diligence to review the operational controls set in place by all custodial banks. The Investment Staff will also consider the extent of remedies provided by the Custodian and its overall ability to fulfill its commitments should operational failures occur.
3. Investment Managers: The Investment Staff shall regularly conduct on-site due diligence to review the operational controls and investment activities conducted by all Investment Managers. The Investment Staff will also regularly monitor each Investment Manager and its portfolio through periodic update calls.

8.2.5 Legal Risk Management

The Staff will exercise diligence to ensure that all contracts are legally binding and enforceable in a suitable venue. When appropriate, the Staff will seek the advice the System's legal department and shall bring all investment agreements for review prior to execution of such agreements.

8.3 Risk-Adjusted Investment Management

Given the volatility and complexity of global markets, the Board believes that timely implementation of risk management efforts is of paramount importance to maintaining an optimal portfolio. As a result, the CIO and Investment Staff will regularly review the risk parameters to maintain the risk profile implied by the Board approved asset allocation.

8.3.1 Rebalancing

The CIO and Investment Staff will be charged with monitoring individual asset classes and rebalancing as necessary to keep the Retirement Fund within the Board-approved asset allocation ranges. Excluding Private Markets and Real Estate, asset classes beyond the target range shall be rebalanced back to the midpoint between the target allocation and outer edge of the target range. However, the CIO and Investment Staff shall have the ability to make tactical shifts in portfolio allocations as deemed appropriate to increase risk-adjusted portfolio returns as long as movements are within Board-approved asset allocation ranges.

Given the illiquid nature of Private Markets and Real Estate investments, any allocation to these asset classes that extends beyond the target ranges will not require a rebalance. Instead, the CIO will be required to update the Board at the next meeting on the investment pacing plan and projected allocation going forward for the asset class that is beyond the target range.

8.3.2 Active Risk

Active risk refers to the potential for portfolio returns to be less than or greater than benchmark returns. It arises from differences in asset class weights between portfolio and benchmark as well as active management decisions made by Investment Managers. Active risk is commonly referred to as tracking error. The CIO and Investment Staff will monitor active risk and report any material changes to the Board.

Section 9 Public Investment Guidelines

9.1 General Guidelines

Each Investment Manager retained to manage a portion of the System's assets that reside within the Public Equity, Fixed Income (excluding private credit strategies), or Commodities asset class ("Public Investment Manager") shall be aware of and operate within this Policy and applicable law. Subject to the guidelines in this Policy and its contract with the System, any Public Investment Manager retained by the System is to have full discretionary investment authority over its Portfolio.

Public Investment Managers shall observe the following rules:

1. Specific Limitation on Holdings: The purchase of securities of any one issuer (with the exception of the US Government and its agencies) shall be limited to an initial cost of 10% or two times the benchmark weight of the market value of the Portfolio, whichever is greater. Through capital appreciation and additional purchases, no such holding should exceed 15% of the market value of the total holdings of the Portfolio, unless the CIO approves an exception.

2. Securities Trading: Each Public Investment Manager is to immediately send copies of each transaction record to the System's Custodian(s), and any designated agent of its Custodian(s). Each Public Investment Manager is further required to reconcile the account(s) under its management on a timely basis each month with the Custodian(s). Each Public Investment Manager is responsible for complying fully with the System's policies for securities trading and selecting brokerage firms as stated in Addendum 3 (Trading and Brokerage Policy).

3. Acknowledgments of Registration: Each Public Investment Manager retained by the System must be a person, firm, or corporation registered as an investment adviser under the Investment Advisors Act of 1940; a bank as defined in such Act; or an insurance company qualified to do business in more than one state, and must acknowledge its fiduciary responsibility in writing. SEC-registered firms must provide the Investment Staff a copy of its Form ADV Part 2 on an annual basis.

4. Acknowledgments of Compliance: All Public Investment Managers shall confirm at least annually that they have complied with this Policy and acknowledge in writing their receipt of this Policy, any updated versions of this Policy, and their agreement to abide by the terms. All Public Investment Managers shall have an affirmative duty to bring suggestions for modification or change of this Policy to the Staff.

5. Insurance Requirements: Each Public Investment Manager will obtain insurance coverage in an appropriate amount as customary in the industry. The insurance coverage must cover losses resulting from a breach of fiduciary duty in providing or failing to provide professionals services to the System, losses due to a mistaken or negligent act or omission, and losses resulting from acts of dishonesty and theft. Each Public Investment Manager shall annually provide written evidence of such coverage.

6. Conflicts of Interest: A Public Investment Manager through its actions on behalf of the System, shall not invest any part of its Portfolio with itself or with any person or entity with which or in which it has any economic interest, unless such Public Investment Manager receives prior written approval from either the CIO or ED or with the exception of passive index funds where the Public Investment Manager is a constituent of the index. This does not preclude Public

Investment Managers from investing personal assets alongside System assets in a manner that is not in conflict with their fiduciary obligation to the System. This limitation shall be construed so as to avoid any possibility of self-dealing or conflict of interest.

In addition, no Public Investment Manager, through its actions on behalf of the System, shall act or receive compensation as a broker, dealer, underwriter, or principal whether directly or through a related or an affiliated entity, unless such Public Investment Manager receives prior written approval from the CIO or ED.

7. Commingled and Pooled Investments: In accordance with Indiana law[11], Public Investment Managers may, with the express written permission of the CIO, invest in commingled or pooled funds that otherwise comply with the guidelines in this Policy.

8. Ethics Policy: Public Investment Managers shall provide a copy of their respective ethics policy to the System.

9. Correction of Violations: In the event a violation of the guidelines in this Section occurs, unless otherwise approved by the CIO or ED in writing, based upon a determination of the best interests of the System, the violation:
    a. Shall be corrected as soon as practicable following detection and notification, unless the CIO or ED has agreed in writing to a correction which does not require immediate action;
    b. Shall result in reimbursement to the System by the Public Investment Manager for any losses which may have been incurred due to the violation;
    c. Shall result in the System retaining any gains which are realized from the violation; and
    d. May be grounds for termination.

10. Prohibited Securities and Transactions: The System is prohibited from engaging in any transaction that would be a "prohibited transaction" under the Internal Revenue Code Section 503 or be prohibited under Indiana law. The following transactions shall be prohibited unless otherwise approved by the CIO or ED in writing:
    a. Repurchase agreements that may create explicit leverage in the Portfolio (Repurchase agreements such as cash equivalents are permitted);
    b. Purchases of letter or restricted securities; and
    c. Direct purchases of physical commodities (Swaps and instruments that constitute a security, or authorized derivatives are permitted).
    d. Securities identified as prohibited securities under the Indiana Sudan and Terror legislation (IC 5-10.2-9 Chapter 9. Sudan Divestment; IC 5-10.2-10 Chapter 10. Divestment from States the Sponsor Terror).
    e. Divestment related to Boycott, Divestment From, or Sanctions of Israel Act (IC 5-10.2-11).

Public Investment Managers within the Commodities asset class shall observe the following rules, in addition to those stated above:

1. Permissible Investment Types: Investments may include listed securities that have a high correlation to the Index, overlay exposures, and collateral investments, including but not limited to: futures contracts, forward contracts, swap agreements, structured notes, and options.

Commodities Investment Managers may hold individual positions long, short, or a combination of both. The Commodities Program will be implemented through a combination of passive and active management in both liquid and illiquid structures.

2. Listing Requirements: Exchange-traded commodity futures, options, and other instruments may be traded on any exchange regulated by the Commodities Futures Trading Commission ("CFTC") of the United States and/or the Financial Services Authority ("FSA") of the United Kingdom.

   For non-exchange traded derivatives, counterparty creditworthiness shall be at a minimum of "A3" as defined by Moody's Investor Service, "A-" by Standard & Poor's, and/or "A-" by Fitch. The use of unrated counterparties is prohibited unless such counterparty is a wholly-owned affiliate of a parent organization that guarantees payment and meets the above-noted counterparty creditworthiness standards.

3. Risk Controls: Derivative instruments may be standardized and exchange-traded (e.g., futures) and/or privately-negotiated and over-the-counter (e.g., swap agreements). Underlying risk exposures may be to cash commodities and/or commodity derivatives. Risk exposures for exchange-traded instruments shall lie with exchange clearinghouses and with approved counterparties for non- exchange-traded transactions.

4. Collateral Investment: The Commodities Program collateral investments shall only be invested in cash or government obligations used for future margin requirements, inflation linked bonds held for investment, a short term investment fund, or any receivable due from an approved counterparty to a commodity-related investment. The Board must approve any collateral investments not listed above.

5. Collateral Value: The market value of commodities collateral shall be maintained at 100% or greater of the net option-adjusted notional value of any commodities overlay exposure at the consummation of any new commodities overlay position. If the collateral market value falls below the net option-adjusted value of the overlay, the Investment Manager(s) shall adjust their Portfolio at the earliest feasible opportunity to bring collateral value up to the notional value of the overlay.

9.2 Reporting Procedures

The Board recognizes the need to evaluate the investment performance of the Public Investment Managers who have been delegated the duty to invest the System's assets, and further recognizes that Public Investment Managers are under a fiduciary duty to the System. The Investment Staff shall evaluate the performance of each Public Investment Manager pursuant to the procedures outlined below.

Periodic reports from the Investment Staff should supply critical information on a continuing basis, such as the comparative investment performance, portfolio positions relative to stated strategy, and other perspectives of the Portfolios as requested by the Board. The reports should be examined to determine whether investment policy guidelines are being followed and if the Public Investment Managers have met their established objectives. At least annually, the Investment Staff will confirm that each Public Investment Manager has complied with the Investment Policy Statement and contract guidelines.

Public Investment Managers will be expected to comply with the CFA Institute's Global Investment Performance Standards (GIPS) in calculating and reporting investment performance. The use of a time-weighted return formula (which minimizes the effect of contributions and withdrawals) should be utilized. The services of an outside, independent consulting firm to provide performance measurement and evaluation may be retained.

The Public Investment Manager shall:

1. Prepare a report to be delivered to the Investment Staff which includes those items requested by the System, in the format requested by the System. These reports shall be delivered as described below:
    a. Monthly
        i. A review of recent and anticipated investment activities;
        ii. Investment results of Portfolio;
        iii. A summary of the risk characteristics of the Portfolio (e.g. country exposure vs. benchmark); and
        iv. Other matters as requested by the Investment Staff from time to time.
    b. Quarterly
        i. Any changes in the firm's structure, professional team or product offerings;
        ii. An analysis of the major changes which have occurred in the investment markets and in the Portfolio in particular since the last report;
        iii. A summary of other key characteristics of the Portfolio; and
        iv. Other matters as requested by the Investment Staff from time to time.

2. Meet with the Investment Staff at least annually to make a presentation describing the professionals, the investment process employed for the Portfolio, recent performance of the Portfolio, current investment strategy and outlook, and any other related issues as requested by the Investment Staff.

3. Immediately report all instances of economically material events which would affect investment performance of assets held (e.g., default, missed interest payments, violation of bond covenants, or significant business restructuring) to the Investment Staff and provide recommendations regarding options for addressing such issues, including withdrawing from the investment or other appropriate actions.

4. Advise the Investment Staff immediately and in writing if any of the following events occur within the Public Investment Manager's organization:
    a. A change in staffing of key personnel;
    b. A change in ownership or control (whether through acquisition, disposition, merger, consolidation, or otherwise) or in business focus of the Public Investment Manager;
    c. Changes in philosophy or investment process that the Public Investment Manager was hired to implement;
    d. Involvement in material litigation or fraud;
    e. Any investigation or action by a federal or state regulatory body;
    f. Loss of a significant client relationship(s); or
    g. Any other event which could be judged to or deemed to adversely impact to a significant degree the management, professionalism, integrity or financial position of the Public Investment Manager.

The CIO or ED reserves the right to suspend or terminate any Public Investment Manager at any time.

9.3 Performance Evaluation

The Investment Staff shall review the performance of each Public Investment Manager's Portfolio at least quarterly. Evaluation standards considered may include the following:

1. Net of fee performance rates of return ranking at or above the median of an appropriate universe or style peer group of Public Investment Managers over quarter-to-date, year-to-date, one year, three year, five year, and since inception time periods;
2. Net of fee performance rates of return exceeding an appropriate market index benchmark, over quarter-to-date, year-to-date, one year, three year, five year, and since inception time periods;
3. Sharpe ratio exceeding an appropriate market index benchmark over quarter-to-date, year-to-date, one year, three year, five year, and since inception time periods;
4. Information ratio compared to the expected information ratio over quarter-to-date, year-to-date , one year, three year, five year, and since inception time periods; and
5. Tracking error of the performance rates of return of the Public Investment Manager compared to the expected tracking error over one year, three year, five year, and since inception time periods.

Further, the Investment Staff shall review the resources and management of the Public Investment Manager and its Portfolio at least annually. Evaluation standards considered may include the following:

1. Staffing of personnel;
2. Organizational structure;
3. Changes in investment strategy and developments in capital markets as they impact strategy;
4. Changes in resources;
5. Stability of business;
6. Changes in product offerings;
7. Performance against relevant peer groups;
8. Client service; and
9. Conformance to this Policy.

9.4 Watch List

The purpose of the "Watch List" is to provide an objective plan to assist the CIO and Investment Staff in determining any action that is warranted when a Public Investment Manager is not meeting expectations. The Watch List shall be presented to the Board on a quarterly basis with more frequent updates as needed to discuss material changes.

9.4.1 Conditions for Placement on the Watch List

Conditions considered in determining whether a Public Investment Manager may be placed on the Watch List include, but are not limited to, the following:

1. Quantitative
    a. Performance
        i. Net of fee performance rates of return rank in the bottom quartile of an appropriate universe or style peer group of Public Investment Managers over a three year and/or five year period; and
        ii. Net of fee performance rates of return less than an appropriate market index benchmark over a three year and/or five year time period.
    b. Risk-Adjusted Performance

i. Sharpe ratio of performance rates of return less than that of an appropriate market index benchmark over a three year and/or five year period; and
ii. Information ratio of performance rates of return less than the expected information ratio over a three year and/or five year period.

1. Qualitative
   a. A change in staffing of key personnel;
   b. A change in ownership or control (whether through acquisition, disposition, merger, consolidation, or otherwise) or in business focus of the Public Investment Manager;
   c. Changes in philosophy or investment process that the Public Investment Manager was hired to implement;
   d. Public Investment Manager involvement in material litigation or allegation of fraud;
   e. Any investigation or action by a federal or state regulatory body;
   f. Material client servicing problems;
   g. Deterioration of financial condition; and
   h. Any event which is deemed to adversely impact the management, professionalism, integrity or financial position of the Investment Manager.

The CIO will determine if a Public Investment Manager qualifies for the Watch List based on the Quantitative and Qualitative conditions listed above. A Public Investment Manager that is placed on the Watch List will be promptly notified and given a 10 business day response period to explain the issues that led to their placement on the Watch List. Additional actions could include Staff meetings with the manager or a formal interview of the manager by the Board. Investment Staff will work with the Public Investment Manager to outline expectations for what will facilitate its removal from the Watch List. The Public Investment Manager's willingness and ability to meet these expectations must be deemed adequate by the CIO and Investment Staff; otherwise, the Public Investment Manager may be terminated.

9.4.2 Conditions for Removal from the Watch List

Public Investment Managers that are formally placed on the Watch List will be given a period of up to six months to remedy the rationale for being placed on the watch list or adequately explain the rationale for violating these guidelines, to the satisfaction of the Board, CIO, and Investment Staff ("Review Period"). At the conclusion of this Review Period, the CIO, advised by the Investment Staff, will make a determination as to whether the Public Investment Manager should be removed from / remain on the Watch List or be terminated.

9.5 Investment Selection Criteria

The CIO, Investment Staff, and Consultant are responsible for overseeing investments with Public Investment Managers. The CIO, Investment Staff, and Consultant shall also be responsible for sourcing and performing due diligence on Public Investment Managers. The sourcing responsibilities are a result of an ongoing review of Staff contacts and the Consultant's database. Each investment opportunity will be evaluated compared to other available investments and its risk/return characteristics.

Due diligence will cover all issues as appropriate as determined by Staff and Consultant. Following completion of due diligence, a recommendation memorandum and materials outlining the investment will be distributed and presented to the CIO and ED for their review, comment and approval. Final documentation and funding will be the responsibility of the Investment Staff with the assistance of the Consultant and as appropriate, Legal Counsel.

Section 10 Private Markets Investment Guidelines

10.1 Statement of Purpose

The purpose of the Private Markets Program ("PM Program") is to earn risk-adjusted returns in excess of public markets. The PM Program is also expected to decrease the volatility of the System's assets through the diversification benefits of having lower correlations with other asset classes.
For the purpose of this section, private markets refer to Private Equity investments ("Private Equity") as well as Private Credit investments ("Private Credit").

10.2 Description

Private Markets Investment Managers generate returns by investing in a universe of opportunities not typically available through the public markets. These investments have historically delivered returns that are higher than public markets while attempting to reduce risk through diversification.

The Private Equity and Private Credit markets are highly sophisticated and specialized with respect to variety and types of investment structures. There exists major competition for deal flow on the part of both limited and general partners. To a great extent, market forces drive the bargaining of economic terms. Most investment vehicles are structured as commingled and often blind pool investment partnerships. The most common offering forms are private placements where the governing laws of the partnership agreement impose a passive role to the limited partner investors. These contractual arrangements are long-term in nature and provide the general partner or sponsor a reasonable time horizon to wisely invest capital, add value through intensive operational management, then realize the proceeds of such an investment. Moreover, terms of the partnership are proposed by the general partner and are critical to the economic incentives and ultimate net performance of the partnerships.

10.3 General Guidelines

To strengthen the diversification of the PM Program, the following guidelines will be utilized in the Investment Staff's and Consultant's formulation of an annual investment strategy and pacing plan for the PM Program:

1. Investment Structure: Staff may utilize the following investment vehicles within the PM Program: private limited partnerships; group trusts; limited liability companies; and co-investments alongside existing or potential general partners. Co-investment opportunities provide additional funding to specific investments being made by limited partnerships. In specific instances, the general partner can invite limited partners to provide additional investment capital alongside the investment partnership (in some cases through side-car vehicles intended to invest in multiple co-investments or sole-purpose vehicles formed for a single co-investment), typically at better economic terms.

2. Investment Timing Risks: Staff should limit the potential for any one investment to negatively impact the long-term results of the portfolio by investing across business cycles. The PM Program should gain exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle. Staff should also seek to build Private Equity and Private Credit portfolios that are broadly diversified across vintage years. Staff may also consider purchasing secondary partnership interests to shorten the effective life of the partnership interest and positively impact the current and long term net return of the PM Program.

3. Industry Concentration: Given the blind pool nature of most private market investments, it is generally not feasible to target specific industry exposures; that said, staff should generally seek to diversify the PM Program across industries by investing in multi-sector funds, sector-specific funds where warranted, and targeted co-investments as appropriate. For venture capital (and, at times, other sub-strategies), it is recognized that opportunities may be most readily realized in a relatively small number of industries.

4. General Partner Diversification: Investment Staff will seek to work with a variety of general partners due to their specialized expertise in particular segments of the private equity and private credit markets and deal flow sources.

5. Investment Size: No more than 15% of the PM Program's commitments shall be invested with any individual sponsor organization without Board approval. The PM Program is permitted to own up to 100% of any particular separate account, fund-of-one, co-investment fund, co-investment vehicle, or parallel partnership subject to the sponsor limitation above. The PM Program's combined commitment to any partnership and any parallel partnership shall not represent more than 25% of the total combined capital commitments to an individual partnership without board approval. International private market investments shall not exceed 50% of the PM Program.

6. Alignment of Interests: Staff shall actively negotiate partnership agreements on behalf of the System with a prime directive to ensure that interests of the general partner are aligned with those of the System and supported by all other similar limited partners. This should include a competitive fee structure with participating interest in the investment for the commensurate risks being taken. Staff will also delineate between sweat and cash equity being committed by the general partner with an emphasis on the latter with respect to the preferred alignment tool.

7. Special Services: Due to the complex nature of alternative investment formats and the acknowledgement that Private Equity and Private Credit are high risk asset classes, expert Legal Counsel will be retained by Staff on an as needed basis. The Staff or Consultant may periodically be required to engage specialized firms to investigate principals for integrity, ethical problems, tax-related issues, etc. prior to an investment. Specialized firms may also be engaged to manage and liquidate non-cash distributions from private partnerships.

8. Legal Confirmation: For each Private Equity or Private Credit commitment, Legal Counsel shall provide written confirmation that documentation has been satisfactorily completed prior to closing of any investment in the PM Program that involves negotiated System documentation.

9. Contract Terms: Contract terms will generally be ten (10) years. Any contract may contain one (1) or more option periods or provisions for extensions of the contract term, provided that any individual option period or extension does not exceed five (5) years in duration. No contract shall obligate the System for a period in excess of fifteen (15) years, excluding extensions. The System's general procurement policy as to contract terms is not applicable to these contracts.

10. Contract Conditions:
    a. No contract with the System may contain any terms or provisions prohibited by Federal or Indiana law.

b. If it is determined that any term or provision is invalid or unenforceable, such terms will be severed from the contract. The remaining terms and provisions shall be unimpaired and interpreted as if such invalid provisions were not contained in the contract.

c. In all contractual decisions, the System shall take into account the particularly sensitive nature of the PM Program and shall consider the competence, quality of product, experience, and timely performance of the vendors in order to promote and ensure security, fairness, and integrity in the procurement process.

10.4 Performance Objectives

The Board is committed to utilizing a global sourcing strategy in making partnership investment decisions. The following return objectives for the PM Program shall be reviewed:

Private Equity

1. <u>Relative Return:</u> the median return for all Private Equity funds as measured by a reputable database provider; and
2. <u>Public Market Equivalent:</u> a custom index based on INPRS's target exposures and using public market indices.

Private Credit

1. <u>Relative Return:</u> the median return for all Private Credit funds within a corresponding sub-asset class as measured by a reputable database provider (e.g. middle market lending Investment Managers against the median of the middle market lending universe); and
2. <u>Public Market Equivalent:</u> a custom index based on INPRS's target exposures and using public market indices.

10.5 Investment Selection Criteria

The CIO, Investment Staff and Consultant are responsible for overseeing the PM Program. The CIO, Investment Staff and Consultant shall be responsible for sourcing and performing due diligence on investment opportunities for the PM Program. The sourcing responsibilities are a result of an ongoing review of Staff contacts and the Consultant's database. Each investment opportunity will be evaluated compared to other available investments and its risk/return characteristics.

Due diligence will cover all issues as appropriate as determined by Staff and Consultant. Following completion of due diligence, a recommendation memorandum and materials outlining the investment will be distributed and presented to the CIO and ED for their review, comment, and approval. Final documentation, closing, and funding will be the responsibility of the Investment Staff with the assistance of the Consultant and as appropriate, Legal Counsel.

Section 11 Real Estate Investment Guidelines

11.1 Statement of Purpose

The purpose of the Real Estate Program ("RE Program") is to generate attractive risk-adjusted returns by providing stable current income and preserving investment capital. The RE Program should also reduce volatility by providing a hedge against unanticipated inflation and through the diversification benefits provided by real estate investments.

11.2 Description

The global real estate investment universe can be divided into the following three (3) sectors:

1. Core
    a. Stable and income producing with limited income volatility.
    b. Operating, substantially leased office, retail, industrial or multi-family properties.
    c. Generally have institutional qualities for size, physical attributes and location.
    d. A high proportion of the total return should be generated from current income with a smaller portion of the total return generated from appreciation.
    e. Target leverage for Core investments is generally limited to no more than 50% loan to value with comfortable debt service coverage ratios, depending on property type, cash flow coverage and interest rate environment. Exceptions will be considered based on characteristics of individual investments.
    f. Core investments may include property types other than traditional Core investments when the cash flow or appreciation characteristics are similar to traditional Core property types.
    g. May include Core Plus strategies when underlying investments most closely resemble above Core characteristics.
    h. Core investments have historically been accessed through the private real estate funds or separate accounts, although public market securities (discussed below) and certain low risk commercial mortgages (discussed below) will be classified as core to the extent they have investment attributes consistent with traditional core investments.

2. Value-Added
    a. Generally, core property types with an identifiable deficiency that can be corrected and converted to Core investments.
    b. Office, retail, industrial or multi-family properties that have moderate risk associated with their investment.
    c. The additional risk associated with Value-Added investments is generally a deficiency that is identifiable and correctable through leasing, re-development, management and/or recapitalization.
    d. Value-Added investments may include property types other than traditional Value-Added investments when the risk/return characteristics are similar to traditional value-added property types.
    e. Target gross-of-fee total returns for Value-Added investments are at least 200 basis points per year higher than for Core investments.
    f. Target leverage for Value-Added investments is up to 70% loan to value. Exceptions will be considered based on characteristics of individual investments.
    g. May include Core Plus strategies when underlying investments most closely resemble above Value-Added characteristics.

h. Value-Added investments have historically been accessed through the private real estate funds or separate accounts, although public market securities (discussed below) and certain moderate risk commercial mortgages (discussed below) will be classified as Value-Added to the extent they have investment attributes consistent with Value-Added properties.

3. Opportunistic
   a. Similar to Value-Added investments but with greater risk characteristics such as distressed assets, development, land and international properties.
   b. Opportunistic investments can be comprised of any property sector. Opportunistic investments can include office, retail, industrial and multi-family with high-risk attributes. These high-risk attributes may include a combination of hotels, international and domestic non-performing loans, operating companies, development, land and distressed properties and other high-risk investments.
   c. Target leverage for Opportunistic investments can be up to 80% loan to value at acquisition (property and portfolio level). Exceptions will be considered based on characteristics of individual investments.
   d. Target gross-of-fee total returns for Opportunistic investments are at least 600 basis points higher than Core investments per year in order to compensate for the increased risk.
   e. Opportunistic investments have historically been accessed through the private real estate funds, although non-U.S. public market securities (discussed below) and certain higher risk commercial mortgages (discussed below) will be classified as Opportunistic to the extent they have investment attributes consistent with Opportunistic investments.
4. Other
   a. Investments in non-traditional real assets (e.g. infrastructure), asset-backed securities (e.g. rail car finance), and asset backed financing (e.g. commodity trade financing) that are expected to satisfy the goals of the portfolio as stated in 11.1; investments may be entered via commingled fund, separately managed accounts, and/or co-investment structures. Returns will vary depending on the risk profile of the strategies, which will range from debt-like risk to the risk associated with value-add investments.

11.3 General Guidelines

1. Investment Timing: The RE Program will endeavor to achieve any differences between the actual allocation and target allocation by averaging into the market over a three- to five-year period, thus avoiding any concentrated vintage year risks. The Policy ranges for the RE Program have been set with reasonably wide ranges in order to capitalize on market inefficiencies and attractive opportunities, while also maintaining a certain level of low-risk stability.

   Additionally, since many of the real estate investments will be private market investments in commingled funds, the RE Program will not have precise control over the exact investment targets. As a result, there may be instances where the RE Program's composition is outside the target ranges. In those cases, the Investment Staff and Consultant will work to rebalance the RE Program toward the target ranges. This process may take time due to the private market nature of real estate investments in commingled fund vehicles, many of which have broad investment mandates.

2. Sector Diversification: The RE Program shall consist of a minimum of 50% in low-risk investments that will be generally considered Core, but may be structured in the form of equity or debt and may be

public or private securities. The remainder of the RE Program will not be tied to specific targets, but will be monitored regularly to maintain prudent levels of diversification, as determined by the CIO, Investment Staff and Consultant.

Table 11.3.1

Sector	Target Allocation Range
Core	50% - 100%
Value-Added	0% - 50%
Opportunistic	0% - 50%
Other	0% - 50%

3. Investment Structure: Due to the size of the RE Program, the preferred investment structure is commingled funds. However, the RE Program may also consider direct or co-investment opportunities in cases where discounted fees and appropriate diversification can be achieved. Other investment structures that may be considered include public real estate securities or mortgages.
   a. Commingled Funds
      i. Commingled funds are collective investment vehicles where investors pool capital alongside other investors. The commingled fund structure provides discretion to investment managers within the stated strategy and allows the investors in commingled funds to benefit from diversification that is greater than the System could achieve by acquiring properties on a direct basis through separate accounts. The commingled fund emphasis should enable the System to access top tier managers in various strategies and diversify the risk of the real estate portfolio across numerous funds, managers and strategies.
      ii. The commingled funds shall be structured as limited partnerships, limited liability companies, private REITs, corporations or other investment vehicles.

   b. Public Securities.
      i. Public real estate securities can be classified as Core, Value Added or Opportunistic as discussed herein.
      ii. Public real estate investment trusts ("REITs") and real estate operating companies ("REOCs") are generally considered to have risk/return attributes consistent with core real estate.
      iii. Daily pricing and public market trading provide liquidity. However, due to the small float and limited market capitalization of REITs and REOCs relative to the companies in other sectors, liquidity may come at a price.
      iv. The emergence of the international public real estate securities market has broadened the universe to include Asia, European, Australian and North and South America property companies.
      v. Other public securities including but not limited to those collateralized by automobiles, aircraft, and intellectual property may also be included.

   c. Residential and Commercial Mortgages
      i. Mortgages can be classified as Core, Value Added or Opportunistic as discussed herein. The attributes for commercial mortgages are summarized below.
      ii. Mortgage returns are sensitive to interest rates, spreads and credit quality. The duration of a commercial mortgage portfolio can be high due to potential yield maintenance pre-payment penalties.

iii. Mortgages have bond-like risk/investment characteristics, with real estate serving as collateral.
iv. Investment in mortgages can be accomplished through public or private market vehicles and can be investment grade (core) or non-investment grade (value-add or opportunistic).

4. Property Type Diversification: The RE Program's Core, Value-Added, and Opportunistic investments shall seek diversification through investments in office, retail, multi-family, industrial and non-traditional categories such as hotels, self-storage, senior housing, land and other property types.

Table 11.3.2

Type	Target Allocation Range
Office	0% - 50%
Retail	0% - 50%
Multi-family	0% - 50%
Industrial	0% - 50%
Other*	0% - 50%

* Hotel, land, self-storage, senior housing, etc.

5. Geographic and Economic Location Diversification: The RE Program shall seek to include investments diversified across various locations with different economic concentrations. It will be monitored on a regular basis and geographic diversification shall be achieved in a sufficient manner as measured by the professional judgment of the Investment Staff and Consultant.

Table 11.3.3

Location	Target Allocation Range
U.S. Markets	70% - 100%
Non-U.S. Markets	0% - 30%

6. Investment Manager Diversification: The RE Program shall utilize various Investment Managers for real estate. The RE Program will limit the amount invested with one Investment Manager to no more than twenty percent (20%) of the total real estate allocation.

7. Vintage Year Diversification: To avoid excessive exposure to any one real asset cycle, the RE Program shall not commit more than 30% of the total real estate allocation for investment during any one calendar year.

8. Leverage: The System recognizes that leverage is an inherent component of real estate investments and the use of leverage can be an effective means to increase overall returns from time to time on a risk-adjusted basis. There will be a limit of 60% loan to value for the aggregate RE Program. This limit will be derived from the values reported by the Investment Managers. Should the leverage limit be exceeded, the Investment Staff and Consultant will develop a plan to rebalance the RE Program in order to comply with the target leverage percentage. All leverage will be secured through Portfolios. Recourse debt to the System is not permitted.

9. Investment Size: The RE Program will be diversified among a variety of private and public market investment types in order to reduce the volatility of real estate returns and the risk of loss of capital. The System shall not invest more than 20% of the total real estate allocation in public real

estate securities and shall not invest more than 50% of the total real estate allocation in mortgages. These structures may be invested in either commingled funds or separate account formats. The maximum investment size for any single Portfolio shall be limited to fifteen percent (15%) of the total RE Program. Also, the RE Program shall limit the investment size to any commingled Portfolio to twenty-five percent (25%) of the total assets of such commingled Portfolio.

11.4 Performance Objectives

Investment Managers will be expected to comply with the CFA Institute's Global Investment Performance Standards (GIPS) and the National Council of Real Estate Investment Fiduciaries (NCREIF) in calculating and reporting investment performance. The use of a time-weighted return formula should be utilized. The services of an outside, independent consulting firm providing performance measurement and evaluation may be retained.

The following return objectives shall be reviewed:

1. Absolute Return (net of fees): the absolute return objective is a real rate of return (adjusted for inflation) of five percent (5%);
2. Relative Return: Private real estate investments are expected to generate returns in excess of the NCREIF Open End Diversified Core Equity Index ("NCREIF ODCE"), net of investment management fees; and
3. Public Market Equivalent: a custom index based on INPRS's target exposures and using public market indices.

11.5 Investment Selection Criteria

The CIO, Investment Staff and Consultant are responsible for overseeing the RE Program. The CIO, Investment Staff and Consultant shall be responsible for sourcing and performing due diligence on investment opportunities for the RE Program. The sourcing responsibilities are a result of an ongoing review of Staff contacts and the Consultant's database. Each investment opportunity will be evaluated compared to other available investments and its risk/return characteristics.

Due diligence will cover all issues as appropriate as determined by Staff and Consultant. Following completion of due diligence, a recommendation memorandum and materials outlining the investment will be distributed and presented to the CIO and ED for their review, comment, and approval. Final documentation, closing, and funding will be the responsibility of the Investment Staff with the assistance of the Consultant and as appropriate, Legal Counsel.

Section 12 Absolute Return Investment Guidelines

12.1 Statement of Purpose

The purpose of the Absolute Return Strategies Program ("ARS Program") is to enhance the long-term risk-adjusted returns of the Retirement Fund by providing diversification benefits, preserving capital, and reducing volatility. The Staff believes that these objectives have a higher probability of being met if the ARS Program is constructed with the appropriate diversification among strategies and Portfolios, and is properly aligned with the System's objectives.

12.2 Description

Absolute Return Strategies ("ARS") generate returns by exploiting mispricing and inefficiencies in global capital markets, while attempting to reduce exposures to primary market factors (e.g., interest rates and equities) through various hedging techniques. These strategies have historically delivered returns that are less correlated with equity and fixed-income markets than traditional investment strategies.

12.3 General Guidelines

1. Investment Structure: Direct investing in ARS requires sophisticated risk management systems, operational infrastructure, trading capabilities and specialized investment expertise and may also involve the use of leverage, short selling, and derivative instruments. Therefore, the ARS Program should be implemented by placing assets in limited liability vehicles—to protect the Retirement Fund from losing more than its invested capital—under the discretion of experienced Investment Managers. These Investment Managers, who may manage and operate direct hedge funds or funds of hedge funds (FoHF), typically charge management and incentive fees, which should align the interests of investors with the performance of the managers.

2. Investment Timing: These guidelines are based on the ARS Program being fully funded. As a result, during funding or transition phases, the percentages shown in Table 13.1 may be temporarily breached.

3. Corrective Action: To the extent that the ARS Program exceeds any of the established guidelines discussed in this Section, the CIO, Investment Staff, and Consultant should take corrective action expeditiously to bring the portfolio back into compliance once a breach has been identified. The results of these corrective actions may not be immediately evident given the relatively illiquid nature of hedge fund vehicles.

4. Strategy Diversification: The ARS Program should be diversified across and within strategies, without regard to the vehicle (direct hedge fund vs. FoHF), with the following table serving as a general guideline:

   a) Opportunistic Investments: The ARS Program may also from time to time fund Portfolios that exhibit attractive risk/return profiles that do not offer the full diversification benefits of an absolute return mandate. These investments may be more directional strategies, which could carry more systematic exposure. As such, these Portfolios should be limited to 50% of the ARS Program at funding. The assets allocated under these mandates may deviate from the hedge fund structures as outlined in this section and will be evaluated against appropriate benchmarks. ARS Co-Investments shall be included in the Opportunistic Investments bucket.

Table 12.1

Strategy	Target Allocation Range
Tactical Trading	0% - 50%
Relative Value	0% - 50%
Event Driven	0% - 50%
Equity Long/Short	0% - 50%
Multi Strategy	0% - 50%
Opportunistic Investments	0% - 50%

5. Investment Size: The ARS Program should generally be diversified as follows:
   a. Maximum allocation to any one management firm: 30%
   b. Maximum allocation to any single Direct fund: 30%
   c. Maximum allocation to any FoHF: 50%

6. Liquidity: While investments in illiquid securities, or hedge funds with long lock-up periods, are often key to enhancing returns, the fully developed ARS Program, excluding up to 25% of the overall ARS portfolio's weight that may reside within the Opportunistic Investments strategy, shall target portfolio level liquidity of not more than one (1) year, as measured by the asset-weighted average period for redemption of all underlying funds. Up to 25% of the ARS portfolio's weight may reside in the Opportunistic Investments bucket with no liquidity restrictions.

7. Use of Derivatives: In the normal course of risk management, the ARS Program may elect to engage in derivatives transactions to offset, or hedge, unintended market exposures in underlying funds that remain in a lock-up period. To avoid counterparty risk, these transactions shall be executed through the use of listed options and futures traded on registered exchanges, whenever possible. Non-exchange-traded options, forwards, or swaps shall be deemed acceptable only if the counterparty is rated "A" or better by at least one of the Nationally Recognized Statistical Rating Organizations ("NSRSOs").

8. Contract Terms: No contract, with the exception of opportunistic investments, shall obligate the System for a period in excess of three (3) years. Any contract may contain one (1) or more option periods or provisions for extensions of the contract term, provided that any individual option period or extension does not exceed three (3) years in duration.

9. Contract Conditions: No contract with the System may contain any terms or provisions prohibited by federal or Indiana law. If it is determined that any term or provision is invalid or unenforceable, such terms will be severed from the contract. The remaining terms and provisions shall be unimpaired and interpreted as if such invalid provisions were not contained in the contract.

12.4 Performance Objectives

The aim in building the ARS Program is to select the highest-quality funds and vehicles to form a diversified portfolio capable of meeting targeted performance objectives. The risk and return objectives for the ARS Program, as noted below, shall be reviewed:

1. Target annual return (net of fees): Cash + 4%;
2. Relative Return: a custom index based on the ARS Program target exposures and using HFRI indices;
3. Target annual volatility of performance returns (standard deviation): 7% or lower; and
4. Target Correlation: 0.7 or less to the Retirement Fund excluding the ARS Portfolio.

12.5 Investment Selection Criteria

The CIO, Investment Staff, and Consultant are responsible for overseeing investments in ARS. The CIO, Investment Staff, and Consultant shall also be responsible for sourcing and performing due diligence on ARS. The sourcing responsibilities are a result of an ongoing review of Staff contacts and the Consultant's database. Each investment opportunity will be evaluated compared to other available investments and its risk/return characteristics.

When selecting Investment Managers for the ARS Program, the Investment Staff and Consultant should consider, but not be limited to, the following attributes:

1. Investment Manager performance history;
2. Terms and structure of investment;
3. Fit with rest of ARS Program;
4. ARS Program investment relative to the size of the Portfolio, including capacity in the proposed vehicle;
5. Willingness to agree to side-letter provisions;
6. Investment strategy, including strategy overview, decision making, research process, and the growth history of assets under management;
7. Investment team, including staffing, key person dependency, turnover, compensation, and ownership;
8. Risk management, including philosophy, systems, asset/liability mismatch, risk exposure and leverage, position sizing, and preferential terms;
9. Operations and Infrastructure, including fund transparency, business philosophy, business complexity, processes, non-investment staffing, independence of net asset value calculation; and
10. Regulatory, compliance and financial statement review.

Following completion of due diligence, a recommendation memorandum and materials outlining the investment will be distributed and presented to the CIO and ED for their review, comment and approval. Final documentation and funding will be the responsibility of the Investment Staff with the assistance of the Consultant and as appropriate, Legal Counsel.

Section 13 Risk Parity Investment Guidelines

13.1 Statement of Purpose

The purpose of the Risk Parity Program ("RP Program") is to deliver consistent and high risk-adjusted rates of return as a standalone investment through the allocation of capital in a way that equalizes risk across a set of potential macro-economic environments. Overall, the RP Program should improve diversification and economic environmental balance, and therefore, minimize the likelihood of severe drawdowns.

13.2 Description

The Board understands that diversification goes beyond the concept of capital-based allocations among different asset classes. To create a truly well-diversified portfolio, one must consider how various asset classes have historically performed under different economic environments, and appropriately weigh them from a risk-budget perspective.

Risk Parity aims at creating a well-balanced portfolio that is capable of delivering consistent and high risk-adjusted returns in several macro-economic environments. It rests on the following key tenets:

1. Over a full market cycle, most asset classes carry a risk premium, and by investing in them, investors expect to earn a return higher than that offered by cash instruments.
2. The return of a particular asset class is proportional to its risk over long periods of time (i.e. different asset classes have similar Sharpe Ratios).
3. The main drivers of returns are growth and inflation factors, and certain asset classes perform better than others depending on the particular combination of such factors the economy is facing.

13.3 General Guidelines

1. <u>Investment Structure</u>: Direct investing in Risk Parity strategies requires sophisticated risk management systems, operational infrastructure, trading capabilities, and it may also involve the use of leverage. Consequently, the RP Program should be implemented by Investment Managers with demonstrated expertise in these areas.

2. <u>Investment Manager Concentration</u>: The RP Program shall be a multi-manager program utilizing differentiated Investment Managers. No more than 50% of the funds dedicated to Risk Parity shall be placed with any single Investment Manager.

3. <u>Contract Conditions</u>: No contract with the System may contain any terms or provisions prohibited by federal or Indiana law. If it is determined that any term or provision is invalid or unenforceable, such terms will be severed from the contract. The remaining terms and provisions shall be unimpaired and interpreted as if such invalid provisions were not contained in the contract.

13.4 Performance Objectives

The risk and return objectives for the RP Program, as noted below, shall be reviewed:

1. <u>Target annualized return (net of fees)</u>: the Target Rates of Return; and
2. <u>Target annualized volatility of performance returns (standard deviation)</u>: 10% - 12%.

13.5 Investment Selection Criteria

The CIO, Investment Staff, and Consultant are responsible for overseeing investments with Risk Parity managers. The CIO, Investment Staff, and Consultant shall also be responsible for sourcing and performing due diligence on Risk Parity managers. The sourcing responsibilities are a result of an ongoing review of Staff contacts and the Consultant's database. Each investment opportunity will be evaluated compared to other available investments and its risk/return characteristics.

When selecting Investment Managers for the RP Program, the CIO, Investment Staff, and Consultant should consider, but not be limited to, the following attributes:

1. Investment Manager performance history;
2. Terms and structure of investment;
3. RP Program investment relative to the size of the Portfolio, including capacity in the proposed vehicle;
4. Willingness to agree to side-letter provisions;
5. Investment strategy, including strategy overview, decision making, research process, and assets under management growth history;
6. Investment team, including staffing, key person dependency, turnover, compensation, and ownership;
7. Risk management, including philosophy, systems, asset/liability mismatch, risk exposure, and leverage, position sizing, and preferential terms;
8. Operations and infrastructure, including fund transparency, business philosophy, business complexity, processes, non-investment staffing, independence of net asset value calculation; and
9. Regulatory, compliance, and financial statement review.

Following completion of due diligence, a recommendation memorandum and materials outlining the investment will be distributed and presented to the CIO and ED for their review, comment and approval. Final documentation and funding will be the responsibility of the Investment Staff with the assistance of the Consultant and as appropriate, Legal Counsel.

Addendum 1 Guidelines for the Custodian

1.1 Custody of System's Assets

The System's assets must be held by a bank or trust company under a custodial agreement or agreements.[12] The Custodian must be domiciled in the United States and approved by the Board to (1) act in a fiduciary capacity and (2) manage custodial accounts on behalf of the System.[13] Income, interest, proceeds of sale, materials, redemptions, and all other receipts from securities and other investments which the Board retains for the cash working balance shall be deposited with the Custodian as authorized by the Board.[14]

1.2 Guidelines for the Custodian

The Board recognizes that accurate and timely completion of custodial functions is necessary for effective investment management and accurate records. The Custodian is a fiduciary as to the assets placed with them by the System. The following custodial responsibilities have been identified by the Board:

1. Provide complete custody and depository services for the designated accounts;
2. Provide for prompt investment of any cash;
3. Implement in a timely and effective manner the investment actions as directed by the Investment Manager(s);
4. Collect and receive all income and principal realizable and properly report transactions in periodic statements;
5. Provide monthly and annual accounting statements as well as on-line access accounting for the System, including all transactions; these should be based on accurate security values both for cost and market value. These reports should be provided within a time frame acceptable to the Board;
6. Report to the Staff situations where security pricing is either not possible or subject to considerable uncertainty;
7. Distribute to the Investment Manager(s) in a timely manner all proxy voting materials;
8. Provide assistance to the Board and Staff, to complete such activities as the annual audit, transaction verification and other issues;
9. As requested by Board or Staff, provide performance measurement and portfolio analytics for the Fund, consistent with CFA Institute Global Investment Performance Standards (GIPS);
10. When directed by the Board, and pursuant to a separate, written agreement for securities lending service, implement, in a fair and equitable manner, a securities lending program for the System, and report fully on all aspects of its operation and returns;
11. The Custodian shall cooperate fully with all reasonable requests for documents and records made by the Board, Staff or a Consultant. The Board (on its own or through Staff or a Consultant) shall periodically review the Custodian, including but not limited to, services provided, services available, charges and fees, and reports;
12. Reconcile differences in performance with Investment Managers;
13. The Custodian shall conform to all provisions in its contracts with the System; and
14. The Custodian shall comply with all applicable federal and Indiana laws.

1.3 Custodian Role and Authority in Securities Litigation

The Board recognizes the importance of the Custodian's role in securities litigation monitoring. The following custodial responsibilities have been identified by the Board:

1. Maintain and communicate data necessary to identify the System's securities holdings and transactions in order to determine if the System is a class member, calculate amount of losses, and prepare proofs of claim;
2. Collect and distribute to appropriate parties (i.e., monitoring firm, evaluation counsel, litigation counsel) all notices regarding the commencement, class certification, and settlement of class action lawsuits in which the System has an interest as an actual or potential class member;
3. Collect and deposit into appropriate accounts all investment proceeds of the System's claims;
4. Establish and implement a procedure to identify all securities class actions filed by others in which the System is or may be a class member;
5. Timely file proofs of claim on behalf of System in all class actions in which System may participate as class member; and
6. Provide quarterly reports to CIO regarding status of all class actions in which System is a class member, including status of all proofs of claim.

Addendum 2 Defined Contribution Retirement Funds

2.1 Introduction

The purpose of this Addendum is to:

1. Outline the number and characteristics of investment options selected by the Board for the Defined Contribution Retirement Funds ("DC Retirement Funds"); and
2. Provide rate-of-return objectives and establish formal criteria to monitor and evaluate the performance results of the various investment options.

2.2 Statutory Authority

The DC Retirement Funds are bookkeeping accounts established for each member. The member's account is credited with the member's 3% contribution (whether paid by the member or "picked-up" by the employer). The member has investment direction for the investment of such contributions to various investment funds (referred in Indiana statutes as "alternative funds") or may leave their contributions invested in the default investment option. The DC Retirement Funds produce an additional separate benefit from the fixed-formula employer-funded pension benefit.

The DC Retirement Funds are subject to the following provisions:

1. The Board must maintain an indexed stock fund option within the Defined Contribution Retirement Funds.[15]
2. The Board must maintain a bond fund within the Defined Contribution Retirement Funds.[16]
3. The Board must maintain a "Stable Value Fund" option within the Defined Contribution Retirement Funds. [17]
4. The Board may establish any other options it wishes, so long as the options represent a variety of investment objectives.[18]
5. Administrative investment costs of each of the alternative fund options are paid from the earnings on that option.[19]
6. A valuation of each member's account in the Defined Contribution Retirement Funds must be completed no later than the last day of each quarter, and is currently valued on a daily basis as provided by a rule of the Board.[20]

2.3 Delegated Authority

The ED is authorized by the Board, pursuant to a recommendation of the CIO, to retain, manage, and terminate Investment Managers within each investment fund option as required to achieve the investment objectives of the Plans within the following limitations:

1. The initial investment made in a Portfolio may not exceed 3.0% of the market value of the Plans' assets at the time of investment. Notification regarding the investment should be provided to the Board at its next regularly scheduled meeting. Any additional allocations to the same Portfolio that increase the Portfolio's total market value to a weight greater than 6.0% of the Plans' assets at the time of investment must receive prior authorization from the Board;

2. Reducing assets under management, including full termination of a Portfolio, may not exceed 4.0% of the market value of the Plans' assets. Notification regarding the investment should be provided to the Board at its next regularly scheduled meeting. A Portfolio, however, may be terminated with the agreement of the ED and CIO for any level of assets if such removal is deemed necessary to protect the Plans' assets.

An Investment Manager change may only exceed the limits described in this section for the Stable Value Fund or with the prior authorization of the Board. If an investment opportunity requires more immediate action and requires prior approval by the Board, the Board recognizes that the ED and CIO may request that the full Board convene between regularly scheduled meetings, via conference call, to review and approve the investment.

Approval authority set forth in this Policy shall be reviewed upon the departure of either the ED or CIO, to consider the suitability of this investment authority delegated by the Board.

2.4 Objectives and Structure

The Plans have been structured to provide members with a choice of several diverse investment options that offer a range of risk and return characteristics appropriate for members. A member may direct an allocation in the amount credited to the member among the Stable Value Fund and available alternative funds subject to the following conditions[21]:

1. A member is allowed to make a change or selection at least once a day.
2. A member's selection shall be implemented the same day the selection is received by the System, unless such selection is received after 4:00 p.m. EST on a business day, or anytime on a weekend or holiday, or any other date the New York Stock Exchange is closed, then the System shall implement the member's selection beginning the next business day after the selection is received. This date is the effective date of the member's selection.
3. A member may select any combination of the Stable Value Fund or any of the available alternative accounts in one percent (1%) increments.
4. A member's selection remains in effect until a new selection is made.
5. On the effective date of a member's selection, the member's existing balance or balances shall be reallocated in accordance with the member's direction, based on:
    a. For an alternative investment program balance, the market value on the effective date; and
    b. For any Stable Value Fund program balance, the balance of the member's account on the effective date.

The DC Retirement Funds investment fund options currently include:

1. Stable Value Fund;
2. Money Market Fund;
3. Inflation-Linked Fixed Income Fund;
4. Fixed Income Fund;
5. Target-Date Retirement Funds;
6. Large Cap Equity Index Fund;
7. Small/Mid Cap Equity Fund; and
8. International Equity Fund.

The number and types of investment funds available will be periodically reviewed by the Board in order to ensure a diversity of investment alternatives, adequate and reasonable availability of investment types, and clarity and usefulness of the investment choices.

Annually, the System is required to prepare a separate analysis of the investment fund options available in the DC Retirement Funds, including the Stable Value Fund and each alternative investment fund. Such analysis must:[22]

1. Include a description of the procedure for selecting and/or changing the member's investment allocations;
2. Be understandable by the majority of members; and
3. Include a description of prior investment performance.

2.5 Investment Policy Guidelines

2.5.1 Money Market Fund
The investment objective of the Money Market Fund is to provide investment in short-term, principal preserving securities. The fund will be invested according to Section 9 (Public Investment Guidelines).

2.5.2 Stable Value Fund
The investment objective of the Stable Value Fund is to provide a competitive level of income over time while preserving the principal value. The fund will be invested according to Section 9 (Public Investment Guidelines).

2.5.3 Inflation-Linked Fixed Income Fund
The investment objective of the Inflation-Linked Fixed Income Fund is to provide a real return investment option which is primarily invested in Treasury Inflation Protected Securities (TIPS). The fund will be invested according to Section 9 (Public Investment Guidelines).

2.5.4 Fixed Income Fund
The investment objective of the Fixed Income Fund is to provide investment in the broad domestic bond market. The fund will be invested according to Section 9 (Public Investment Guidelines).

2.5.5 Target Date Retirement Funds
The investment objective of the Target Date Retirement Funds is to provide a complete asset allocation strategy that seeks to generate the maximum, appropriate amount of total return, with consideration paid to relevant risks faced by Plan participants at the appropriate time in the glide path. Relevant risks defined by the System include, but are not limited to:

- Longevity Risk - outliving your retirement savings.
- Shortfall Risk - not being able to maintain your desired standard of living.
- Inflation Risk - inflation outpacing investment returns.
- Market Risk - market movements harming retirement savings.

The mix of equity and fixed income within the Target Date Retirement Funds becomes more conservative over time until it reaches the allocation of the Retirement Fund. The funds will be invested according to Section 9 (Public Investment Guidelines).

2.5.6 Large Cap Equity Index Fund
The investment objective of the Large Cap Equity Index Fund is to provide investment in the broad domestic equity market. The fund will be invested according to Section 9 (Public Investment Guidelines).

2.5.7 Small/Mid Cap Equity Fund
The investment objective of the Small/Mid Cap Equity Fund is to provide investment in the stock of small to mid capitalization domestic companies, typically referred to as small/mid cap stocks. The fund will be invested according to Section 9 (Public Investment Guidelines).

2.5.8 International Equity Fund

The investment objective of the International Equity Fund is to provide a broad exposure to foreign equity markets. The fund will be invested according to Section 9 (Public Investment Guidelines).

2.6 Performance Objectives

The Board has determined that it is in the best interest of the DC Plans' participants and beneficiaries that performance objectives be established for each investment alternative and it is clearly understood that these objectives are to be viewed over the long term and have been established after full consideration of all factors set forth in this Addendum. The performance of each individual option will be evaluated relative to a market index and to a meaningful peer group of active managers. The evaluation of performance results will be accomplished according to the standards established in Section 9 of this Policy. Specific benchmarks for each option are delineated below:

1. Money Market Fund: 90-day Treasury Bill rate;
2. Stable Value Fund: 3yr Constant Maturity Treasury;
5. Inflation-linked Fixed Income Fund: Barclays Capital US TIPS Index;
6. Fixed Income Fund: Barclays Capital Aggregate Bond Index;
7. Target Date Retirement Funds: Composite of various benchmarks that closely match each Target Date Fund's allocation;
8. Large Cap Equity Index Fund: Standard & Poor's 500 Index;
9. Small/Mid Cap Equity Fund: Russell Small Cap Completeness Index; and
10. International Equity Fund: Morgan Stanley Capital International (MSCI) All Country World Index (ACWI) ex USA Investable Market Index (IMI).

2.7 Rebalancing Guidelines

The Board has enacted the following rebalancing guidelines for execution by the Custodian at the direction of the CIO and Investment Staff:

1. Small/Mid Cap Equity, International Equity and Fixed Income Options: Rebalancing shall occur systematically on a monthly basis, unless the underlying investment managers' allocations are within +/- 100 basis points (1 percentage point) of the strategic targets, as reviewed by the Board on an annual basis.

2. Target Date Options: Rebalancing shall occur systematically on a monthly basis, unless the underlying investment options' allocations are within +/- 50 basis points (0.5 percentage point) of the strategic targets, as reviewed by the Board on an annual basis.

Addendum 3 Trading and Brokerage Policy

3.1 Introduction

The Board intends to fulfill its responsibility for the evaluation and management of the System's transaction costs for the benefit of members and beneficiaries. To assist in accomplishing these duties, the Board has adopted the following trading and brokerage policy.

3.2 Best Execution

Best execution is to take all reasonable efforts to obtain the best possible result in trading securities on a consistent basis, taking into account the following:

- Quantitative factors, such as price, commission, spread, implicit market impact, and size of the trade relative to volume, and
- Qualitative factors, such as likelihood of execution within a desired timeframe, market conditions, ability of a broker/dealer to act on a confidential basis, ability of a broker/dealer to handle large trades in securities having limited liquidity without undue market impact, creditworthiness of a broker-dealer, willingness of a broker/dealer to commit capital to a particular transaction, market knowledge of a broker/dealer, back office infrastructure of a broker/dealer, fairness of a broker/dealer in resolving trade disputes, and responsiveness of a broker/dealer to request.
- If an Investment Manager utilizes soft dollar commissions, the Investment Manager must ensure that INPRS's mandate is benefiting from the program and does not pay an unreasonably disproportionate amount of other clients' and other investment strategies' research and brokerage services, as protected by Section 28(e) of the Securities Exchange Act of 1934.

3.3 Basic Principle

The Board requires that best execution, as defined in 3.2, must apply to trades.

3.4 Self-Dealing

The Board intends there to be a prohibition on any self-dealing on the part of any brokerage firm, including with the firm's broker affiliate, without specific written prior authorization from the CIO or ED.

3.5 Basic Criteria for Selection of Brokerage Firm

Subject to any direction from the CIO or ED, each Investment Manager will be responsible for the selection of brokerage firms, or automated trading systems through which trading will be completed for the System. Each Investment Manager is also responsible for conducting all appropriate due diligence on the brokerage firms it selects. Their selection must in all cases meet the basic principles as defined in 3.3.

3.6 Directed Brokerage/Commission Recapture Policy

The CIO or ED, on behalf of the Board, retain the right to direct brokers and enter into brokerage commission recapture agreement(s). Accordingly, the Board has developed the following policy guidelines to ensure that any directed brokerage or commission recapture serves the interests of the System's members and their beneficiaries:

1. The objective of this policy is to achieve best execution;
2. Any directed commission brokers will be selected through a process directed by Staff;
3. The percentage of Investment Manager's Portfolio to be directed to the Board's directed commission broker(s) shall be mutually agreed upon between Investment Manager and Staff. Staff shall seek the advice of the Consultant during this process. The objective will be to select a

percentage amount that generates substantial commission savings, without hindering the Investment Manager's abilities to execute investment strategies that meet the objectives set forth in the Investment Management Agreement;
4. Directed commission brokers will provide Staff with periodic reports that document the date and commission amount associated with every directed trade, by the Investment Manager. In this manner, Staff will be able to monitor the overall directed brokerage program, the services of the directed commission broker, and the progress each Investment Manager is making toward any directed commission goal;
5. Commission recapture services will be utilized, where feasible, to defray costs and benefit the Fund's members, subject to the Investment Manager's "best execution" efforts; and
6. The Board intends there to be a prohibition on any self-dealing on the part of any brokerage firm, including with the firm's affiliate, without specific prior authorization.

3.7 Review/Evaluation
Annually, the CIO and Investment Staff shall review the transactions and arrangements for compliance with these policies through a best execution analysis. The Investment Managers and Custodian shall provide any information necessary to conduct this review.

3.8 Disclosure
In addition, each Investment Manager shall report on brokerage firms they are using and the terms of those relationships. This disclosure must cover all components of that relationship, including but not limited to, payment for order flow, soft dollars, covered expenses, and the nature of the broker selection process.

Addendum 4 Cash Overlay Policy

The System has a target asset allocation to cash of 0%. However, cash must be kept to pay benefit disbursements and other expenses. In an effort to minimize cash exposure at both the System and Investment Manager level, the System may retain a cash overlay manager to more closely align the actual portfolio with the Board-approved asset allocation stated in Section 6 (Asset Allocation), through the buying and selling of futures contracts to increase or decrease asset class exposures, as necessary ("Cash Overlay").

The CIO may authorize the use of the Cash Overlay for short-term investments of cash flows as well as rebalancing purposes through buying futures in the underweight asset class (long exposures) and shorting futures in the overweight asset classes (short exposures). The net notional value (defined as notional value of long positions minus short positions) of any derivative exposure in the Cash Overlay portfolio(s) shall be maintained at 100% or less of the cash value being overlaid.

The Cash Overlay is intended to accomplish the following:

1. Keep the total portfolio invested at the appropriate risk level
2. Improve total fund returns by investing cash exposures in the intended asset classes and earning the market risk premiums in excess of cash
3. Reduce tracking error relative to the Board-approved asset allocation
4. Efficiently manage ongoing cash flows at the System level

The Cash Overlay can use a combination of derivative instruments such as futures, currency forwards, total return swaps and other OTC instruments that require International Swaps and Derivatives Association ("ISDA") agreements, in order to obtain the desired policy asset allocation exposures.

Addendum 5 Securities Lending Policy

5.1 Background

The Board may authorize a Custodian to enter into a securities lending program agreement under which securities held by the Custodian on behalf of the System may be loaned. The purpose of such a program is to provide additional revenue for the System. This policy is not meant to cover securities lending performed by managers of commingled accounts. The Custodian shall agree to keep all assets of the System that are subject to its custodial care in a segregated account. Collateral initially in excess of the total market value of the loaned securities must be pledged by the borrower, and must be maintained at no less than the total market value of the loaned securities.

5.2 Investment Objective

The investment objective for the securities lending program is to generate incremental income within a high quality investment program that safeguards the return of principal, maintains adequate daily liquidity, ensures diversification of the cash collateral portfolio and tightly controls exposure to fluctuating interest rates.

5.3 Method of Implementation

The securities lending program may be implemented through a Custodian or through a sub-agent of a Custodian. Subject to the approval of the Board, any current Custodian for the System may implement a securities lending program for the assets placed at that particular institution. Any Custodian may utilize a sub-agent at its discretion to conduct its securities lending program in lieu of maintaining an in-house capability. The use of any sub-agent must be approved in writing by the Board, and such approval may be revoked for any reason by the Board. It shall be the responsibility of the Custodian to ensure that their sub-agent adheres to all aspects of these Guidelines as well as any additional contracts with the System which exist in addition to these Guidelines. All costs associated with the use of a sub-custodian shall be borne by the Custodian.

The Board expects the Custodian and/or securities lending sub-agent to offer suggestions with respect to any possible improvements in the program at least annually, and to monitor the results of the program (e.g., income, costs associated with the program, issues that arise with respect to the program) and report to the Investment Staff as directed.

The System shall be entitled to no less than eighty percent (80%) and the Custodian shall be entitled to no more than twenty percent (20%) of (1) the total Premiums paid by the borrower in a loan of securities against Securities Collateral; and (2) the total Yield, after deducting the rebate, in a loan of securities against Cash Collateral (as defined below) unless otherwise agreed to by the Board.

The specifics pertaining to any securities lending program shall be detailed in a separate Securities Lending Agreement.

5.4 Risk Controls

The Board is responsible for evaluating the income attributable to the program and the risks inherent in the program. The Custodian and/or securities lending sub-agent will provide agreed upon indemnification to the System (the Lender) from and against any losses, damages, costs and expenses which arise from a borrower defaulting on a loan or filing for bankruptcy. Upon notification of default by the Custodian, which shall be reported immediately to the CIO in writing, the Custodian shall take such actions as are prudent, necessary and appropriate to use the collateral to acquire replacement securities of the exact same type and kind as the securities which were loaned to the borrower. Any inability to acquire such securities shall be reported to the CIO and Investment Manager immediately.

The Custodian and/or securities lending sub-agent is responsible for conducting all appropriate and necessary due diligence on the borrowers and potential borrowers. The Custodian shall propose loans of the System's securities only to borrowers meeting the Custodian's customary standards of creditworthiness. The Custodian shall formally review the creditworthiness of the borrowers approved by the System no less frequently than annually, and shall remove any borrower no longer meeting the Custodian's customary standards of creditworthiness. The name of borrowers and potential borrowers shall be updated and provided to the CIO promptly following the end of each calendar quarter.

The Custodian shall be responsible for receiving acceptable collateral from any borrower to secure each securities loan. "Acceptable Collateral" shall refer only to the following forms of collateral:

1. "Cash Collateral," meaning collateral in the form of cash and evidenced by a certified check, bank cashier's check, wire transfer or, if the loaned securities are delivered to the borrower through an approved central depository system, funds delivered through such depository, including all accounts or instruments in which any such checks or funds are deposited or invested, any proceeds of the foregoing and any increases or decreases to the cash collateral resulting from the marking to market adjustments;
2. "Securities Collateral," meaning collateral consisting of securities issued, or guaranteed as to principal and interest, by the United States government, its agencies or instrumentalities, together with all present and future proceeds there from including all accrued and unpaid interest, and any and all distributions made by the issuer on or with respect thereto, and including any increases or decreases thereto resulting from the marking to market adjustments; and
3. Any combination of Cash Collateral and Securities Collateral agreed upon by the Custodian and a borrower, as defined above.

The Custodian and/or securities lending sub-agent is responsible for ensuring that all loans are at least 102% collateralized for domestic securities and 105% collateralized for international securities. At the close of the market each day, the Acceptable Collateral shall be "marked to market," meaning that market value of the loaned securities shall be determined, and if the market value of the collateral securing the loan is 100% or less of the market value of the respective loaned securities for that day, the borrower shall be required to deliver additional collateral to bring the value back to at least 102% for domestic securities and 105% for international securities, by the close of trading on the next business day. Cash Collateral, for purposes of these collateral requirements, shall be valued at either the amount of cash deposited or the purchase price of the securities purchased with such cash. In no event shall the Acceptable Collateral be less than the total market value of loaned securities.[23]

Securities shall not be loaned in excess of forty percent (40%) of the market value of the System's assets (not on an individual manager account-by-account basis) under the care of the Custodian, marked to market on a day-to-day but not on an intra-day basis. In addition, the Custodian and/or securities lending sub-agent shall not loan out 100% of a specific security position and shall maintain at least one share of a specific security position and designate as not available for loan in order for the System to act and participate on the merits of a corporate action, including proxy voting.

To the extent that the Custodian exercises discretionary authority with respect to the investment of Cash Collateral, the Custodian is a fiduciary with respect to the System in connection with such cash collateral investment activity. The Custodian shall not make loans unless the System has full, unencumbered rights to the collateral (both cash and non-cash collateral). The Custodian shall perfect the collateral for the benefit of the System.

5.5 Cash Collateral Investment Guidelines

5.5.1 Objectives and Structure of the Cash Collateral Reinvestment Program

The cash collateral fund seeks to maximize current income to the extent consistent with the preservation of capital and maintenance of liquidity by investing cash collateral of this section in high quality fixed income (or adjustable rate) securities. Cash collateral investments emphasize liquidity and principal preservation as prime objectives. Within quality, maturity, and market sector diversification guidelines, investments are made in those securities with the most attractive yields. The Custodian shall be liable to the System for negligent acts and omissions resulting in damages to the System. Any securities acquired in violation of these Cash Collateral Investment Guidelines shall be sold no later than the day following detection, and the Custodian shall reimburse the System for any losses, while the System shall retain all gains from any violation.

5.5.2 Permitted Investments

In reinvesting cash received as collateral pursuant to Securities Lending Agreements, including income received from such collateral, the Custodian is authorized and directed to use any of the following types of investments (the "Permitted Investments"):

1. Obligations of the U.S. Treasury as well as agencies and instrumentalities and establishments of the U.S. Government ("U.S. Government Securities").
2. Repurchase transactions (including tri-party repurchase transactions) collateralized with U.S. Government Securities. Repurchase transactions will be collateralized at 102% at time of purchase and marked to market on each business day.
3. Shares of money market funds registered with the Securities and Exchange Commission under the Investment Company Act of 1940, including affiliated funds of the Bank, that invest only in U.S. Government Securities and/or repurchase agreements collateralized by U.S. government Securities.

5.5.3 Repurchase Transactions

The Custodian, as agent for Lender, and a Counterparty may, under the terms of a Repurchase Agreement ("Repurchase Transactions"), conduct a transaction pursuant to which the Counterparty initially transfers securities to the Custodian (the "Purchased Securities"). If for any reason a Counterparty to any Repurchase Transaction shall fail to redeliver to the Custodian the Repurchase Price (as defined in the applicable Repurchase Agreement), upon the termination of such Repurchase Transaction, the Custodian shall promptly sell the Purchased Securities in a commercially reasonable manner and immediately deposit the proceeds of such sale ("Proceeds") to the Cash Collateral Account. If the Proceeds are less than the Repurchase Price required to have been delivered by the Counterparty, the Custodian shall, at Custodian's cost and expense, promptly deposit the amount of such difference (the "Repurchase Price Deficiency") to the Cash Collateral Account.

5.5.4 Concentration of Collateral Investments

A maximum of 25% of the cash collateral may be invested with a single counterparty; provided that there is no concentration limit with respect to U.S. Government Securities.

5.5.5 Maturity Guidelines

1. All collateral investments will have a maturity of the next business day.

5.6 Monitoring

The Custodian and/or securities lending sub-agent is responsible for reporting fully on all aspects of the securities lending program, including its operation and returns. The Custodian and/or securities lending sub-agent shall cooperate fully with all reasonable requests for documents and records made by the State of Indiana's State Board of Accounts and/or an independent certified public accountant selected and retained by the Board to audit securities lending activities.

The System shall receive a monthly report reflecting the loan transactions during the period and showing at least the following information:

1. The total fees paid by borrowers in loans of securities against securities collateral (the "Premiums"), and the percentage share of such Premiums credited to the System's account;
2. The total income earned on Cash Collateral investments (the "Yield"), the amount to be deducted there from as due from the System to the borrowers under the borrowing agreements (the "Rebate"), and the percentage share of the remaining earnings (Yield minus Rebate) credited to the System's account. All amounts credited to the System shall be shown on an Investment Manager-by-Investment Manager, fund-by-fund basis. In addition to the monthly report, significant events which require additional reporting shall include but not be limited to borrower list changes, failed trades due to securities on loan, and collateral shortfalls.

The CIO, on their own or through a Consultant, shall conduct an annual review of the securities lending program. At this time, the CIO will also survey the System's Investment Managers to ensure they have not encountered any problems with the Securities Lending program. If any problems are discovered, steps will be taken to resolve the issue(s) that are in the best interest of the System that may include removal of certain Investment Managers from the program. If and when the program is out of compliance, Staff will notify the Board and take commercially reasonable steps to bring the program into full compliance with this Policy.

Addendum 6 Securities Litigation Policy

6.1 Statement of Intent

This securities litigation policy is established to provide a process for the monitoring of pending legal actions in which the System is a potential member of a plaintiff's class or otherwise possesses an independent right to a securities law claim. As a fiduciary, the System has a duty to monitor and evaluate such actions in which it may potentially be a member or participant. This policy contains the System's process and guidelines for evaluating the appropriate level of participation in securities litigation claims.

6.2 Identifying and Evaluation Potential Claims

Claims may generally be identified either by Staff, Custodian, Investment Managers, securities litigation monitoring firm(s) engaged by the System, or the class action bar. Staff will determine the most expedient method to identify claims in which the System has an interest. If the System may qualify to recover, further review by Staff (and evaluation counsel, if one is selected) will be undertaken to determine the System's level of participation. Such levels may include:

1. Participating as passive class member in class actions brought by others, and filing claims when action is settled/resolved;
2. Enhanced participation as class member in class actions brought and led by others, by considering objections or comments on settlements;
3. Active participation in class action litigation, including serving as a "lead plaintiff" pursuant to the Private Securities Litigation Reform Act; and
4. Opting out of the class action and pursuing separate litigation on behalf of the System.

In determining the level of participation, consideration will be given to the following factors:

1. Size of the System's damages measured by standards applicable to securities litigation;
2. Strength of claims, including evaluation of defenses;
3. Special circumstances which render the System's claims different from (stronger or weaker) than claims of typical class members;
4. Venue of litigation;
5. Availability of resources to pay a significant recovery (e.g. financial condition of target company, availability of insurance, multiple defendants such as auditors, underwriters, etc.);
6. Qualifications of other lead plaintiff candidates and their counsel, and likelihood the System would be selected a lead plaintiff;
7. Relations of claims to other corporate governance issues of special interest to the System's participants, and impact on other System holdings;
8. Potential for non-monetary remedies of special importance to the System which other class members/lead plaintiffs may not pursue;
9. Costs to the System of separate litigation/lead plaintiff status such as discovery, and Staff/Board time and resources needed to monitor litigation more actively; and
10. Whether the active involvement of the System will likely add value to the potential recovery or management of the case.

If, after reviewing these factors, Staff determines that additional examination is warranted and that the potential exists for the System to add significant value to the claim by actively participating, or opting out of a potential class of litigants and pursuing a claim independently, review of the potential claim may be referred to an evaluation counsel, in accordance with the process outlined below.

6.3 Evaluation Counsel

If further evaluation is determined to be warranted, an evaluation counsel may be retained to perform additional due diligence regarding the claim. The System may retain evaluation counsel through the issuance of a request for proposal ("RFP") on a case by case basis, or by issuing an RFP that selects any number of firms to be subsequently used in individual cases when a referral to an evaluation counsel is determined to be warranted by Staff reviewing a case. Additional due diligence may include, without limitation: assessment of the complaint, SEC filings and company disclosures, contacts with other investors, consideration of non-litigation alternatives, and potential conflicts with other class members. The evaluation counsel will make a recommendation to the ED, the CIO, and the Chief Legal Counsel based upon their due diligence as to whether more active participation or opting out of a class action and pursuing a claim independently by the System would add significant value to any other options for recovery. Evaluation counsel may also be asked to evaluate settlements of class actions and recommend whether the System should object to, comment or opt out of a particular settlement. Evaluation counsel will not be eligible to serve as litigation counsel for the System on any matter they have evaluated for the System.

6.4 Staff Review and Consultation

Following a review of the potential claim by Staff and receipt of the recommendation of the evaluation counsel (if applicable), in-house Legal Counsel will make a formal recommendation to the Executive Director for approval of INPRS's active involvement in a securities litigation claim.

6.5 Selection of Securities Litigation Counsel

If the System pursues active involvement in a securities litigation claim, the System shall engage outside counsel to pursue such claims directly on its behalf. The Executive Director shall make a selection of the Legal Counsel that he/she deems best able to represent the System's interests in pursuing such action.

The System may determine it would be best to work with another institutional investor, so the Staff may recommend, and the Executive Director may conclude, that the most sensible and cost effective source of legal representation will be the in-house counsel or the Legal Counsel representing such institutional investor.

6.6 Case Management

The authority to settle, withdraw from or otherwise terminate a securities litigation matter initiated by the System pursuant to this Policy ultimately rests with the Board, but the Board hereby delegates such authority to the Executive Director.

The Board shall receive a quarterly report regarding the status of all securities litigation matters when such matters are currently under consideration and shall direct the Staff to prepare any securities litigation updates

Addendum 7 Proxy Voting Policy

7.1 Introduction

The System is a significant equity investor in businesses around the world. The Board recognizes its responsibilities as a fiduciary of the System and believes a delegation of authority to other fiduciaries of the System, specifically the Investment Managers, is the most suitable approach to voting proxies.

Each Investment Manager who is retained by the System to buy, sell or manage common stock, will have the responsibility of voting the common stock in accordance with its internal proxy voting policy and this Policy. To the extent that a third-party is used by an Investment Manager for proxy voting, the Investment Manager must inform the System of the third-party and its exact responsibility. In completing this responsibility, each Investment Manager is expected to take this Policy into consideration.

7.2 Guidelines

In exercising the proxy voting authority delegated to it by the Board, each Investment Manager is to vote the proxies for the exclusive benefit of the System's members and beneficiaries, recognizing all such assets are governed by the exclusive benefit rule of the Internal Revenue Code applicable to qualified plans.

In accordance with Indiana law[24], when voting the proxies of common stock, the Investment Manager must act with the care, skill, prudence, and diligence of a prudent expert who is similarly situated and knowledgeable in the matters under consideration. The Board intends that this duty embodies the most rigorous application of this standard and that the Investment Manager act solely in the best interests of the System's members.

These two requirements mandate that the Investment Manager conduct an individual review and analysis of each proxy issue prior to voting. In all cases, the long-term economic best interests of the System's members and beneficiaries should guide voting decisions.

7.3 Reporting Requirements

Each Investment Manager that votes shares of common stock owned by the System will be required to document all proxy voting decisions and report to the Investment Staff no less frequently than annually. The report shall include at a minimum the following:

1. A description of the process the Investment Manager uses to ensure that reasonable steps have been taken to allow for the timely voting of all proxies on all stocks which are held as of the record date; and
2. The action and rationale taken on proxies.

7.4 Revocation of Voting Authority

The CIO or ED may revoke the authority of an Investment Manager to vote the shares of common stock held by presenting a written revocation of voting authority to the Investment Manager. This revocation may apply to an individual common stock or all common stocks managed by the Investment Managers as deemed to be in the best interest of the System. Any actions taken will be reported to the Board at its next regular meeting.

Addendum 8 Investment Information Disclosure Policy

In order to comply with the Access to Public Records Act ("APRA")[25], the Board hereby adopts this policy regarding disclosure of information pertaining to the System's alternative investments (i.e., limited partnership interests in Private Markets funds, Real Estate funds, Absolute Return funds, and Risk Parity funds (individually, such entity, a "Partnership")).

8.1 General Principles

The Board appreciates its public role as an independent body corporate and politic exercising its responsibility to be publicly accountable for its investment decisions. As a separate corporate body, the Board is required to comply with the public records provisions of APRA.

Generally, public records of the Board must be available for public disclosure. However, APRA prohibits disclosure of records that contain trade secrets[26] or confidential financial information[27] and exempts from disclosure records that are intra-agency or interagency advisory or deliberative material.[28] APRA provides that records containing trade secrets or confidential financial information may not be disclosed by a public agency unless specifically required by statute or under the rules of discovery.[29] Further, APRA provides that records considered intra-agency or interagency advisory or deliberative material shall be excepted from the disclosure requirements under APRA at the discretion of the public agency receiving such APRA disclosure request.[30]

8.2 Alternative Investment Disclosure Policy

Subject to the procedures and any other restrictions applicable under APRA, Staff is permitted to disclose any of the following information in response to a legitimate APRA request concerning alternative investments:

1. The name of the Partnership in which the System has made an investment;
2. The vintage of the Partnership (i.e., the year in which the initial investment was made or the year the Partnership first calls capital);
3. The amount of the System's total commitment to the Partnership;
4. The amount of the System's unfunded commitment;
5. Aggregate capital contributions and distributions to date resulting from the System's investment in the Partnership;
6. The overall size of the Partnership by committed capital;
7. The reported valuation of the System's investment in the Partnership;
8. Quarter to date, year to date, one year, three year, five year, and inception to date internal rate of return ("IRR") for each Partnership;
9. Inception to date investment multiple ("MOIC") for each Partnership;
10. The dollar amount of the total management fees and costs paid on an annual fiscal year-end basis by the System to Partnerships in the aggregate for each applicable asset class; and
11. Other information expressly agreed by the System and Partnership to be disclosable.

In connection with the disclosure of the items listed above, the System is prohibited from agreeing to any terms which would require the System to:

1. Notify the Partnership of any anticipated disclosure of such information (unless the information to be disclosed is not listed as a permitted disclosure above) pursuant to an APRA request;
2. Provide a legal opinion to the Partnership that disclosure of such information in response to an APRA request is required by law; or

3. Cooperate with the Partnership to prevent the disclosure of such information the System, in good faith, determines is not exempt from public disclosure under applicable law.

In order to comply with APRA's prohibition on disclosure of the records that contain trade secrets, the Board and Staff are expressly prohibited from disclosing any information on the Partnership's portfolio company investments and such portfolio company's individual performance contribution to the rate of return on a particular investment. All information disclosed shall be as of the last calendar date of the quarter prior to the quarter immediately ended.

Addendum 9 Other Funds

9.1 Background

This Addendum is intended to assist the Board in managing the investment program established for the "Other Funds" administered by the System.

Special Death Benefit Fund[31]: Established by the General Assembly in 2015, this Fund allows police officer, firefighter, and emergency medical service (EMS) service providers to enroll their employees for a special death benefit in the event of an in line-of-duty death. This benefit provides qualified enrolled employees with in line-of-duty death coverage. If a covered employee dies while on duty, his or her elected survivors or beneficiaries will receive the benefit to use for burial, cremation, or other necessary purposes.

Local Public Safety Pension Relief Fund[32]: Designed to relieve cities and towns from some of the liability for benefit payments under the 1925 Police Fund, the 1937 Firefighters Fund and the 1953 Police Fund, and is funded through state and local sources. The Local Public Safety Pension Relief Fund may be commingled with Plans' assets for investment purposes.

Retirement Medical Benefits Account Plan[33]: Designed to reimburse certain qualifying medical expenses in which eligible retirees, their spouses and dependent children incur. The Plan only funds benefits for sickness, accident, hospitalization, and medical expenses to eligible retirees on a pre-tax basis. Active employees or participants are not entitled to receive reimbursements for certain qualified medical benefits under this Plan.

With the exception of Section 6 (Asset Allocation), the investment of the Other Funds remains subject to the other guidelines and requirements found in this Policy.

9.2 Asset Allocation

An asset allocation will be set for the Other Funds that is consistent with the liquidity needs of the investment funds and corresponding liabilities that the assets support. For all situations in which the assets will be utilized on a short-term basis, the investments will be held in a portfolio of high-quality, fixed income assets. Additional asset classes, such as public equities, may be utilized to enhance expected asset returns whenever the investable assets will be held for a significant period of time before disbursement. Investment Staff will be responsible for balancing the funds liquidity needs and return objectives

Addendum 10 Placement Agent Disclosure Policy and Procedures

11.1 Introduction

The System requires complete and timely disclosure of all agreements or other arrangements by the System's Investment Managers in connection with their use, if any, of Placement Agents with respect to the System's investment and other business activity.

11.2 Definitions

All capitalized terms not defined herein shall have the meanings ascribed to such terms in the System's Investment Policy Statement effective January 1, 2012, as the same may be amended from time to time.

1. Benefit – Any actual or proposed fee (regardless of whether it is a flat fee, a contingent fee, a percentage fee, etc.), commission, retainer, economic benefit or other consideration or benefit, to be paid, provided, or given to a Placement Agent or its designee that is or will be paid, provided, or given with respect to any Investment.
2. Investment Manager – A person or entity that manages Investments and all individuals or entities, regardless of legal form, affiliated with such person or entity. The term "Investment Manager" does not include any employee of the System or of the State of Indiana whose responsibilities include managing the System's investments.
3. Investment(s) – Any actual or proposed investment or commitment to invest made by the System and/or its Retirement Funds, including, without limitation, investments or commitments to invest in investment funds, real estate, real property assets, or securities, or the establishment of a managed account or separate account with respect to which the Investment Manager has investment discretion.
4. Placement Agent – An individual or entity, regardless of legal form, that directly or indirectly through one or more intermediaries, contracts with, is engaged or retained by, or represents or otherwise acts with or on behalf of, an Investment Manager to market, solicit, assist, facilitate or seek to secure an Investment in exchange for a Benefit, where such individual or entity is not an employee of the Investment Manager. The term "Placement Agent" does not include attorneys, actuaries, accountants, financial analysts, or economists under contract with the Investment Manager to provide their respective professional services.
5. Policy – This Placement Agent Disclosure Policy and Procedures.

11.3 Policy Application and Compliance

The Executive Director shall have discretion to determine the application and interpretation of, and compliance with, this Policy including, but not limited to, whether there has been a material misstatement or omission in any Disclosure Letter or Closing Disclosure.

11.4 Disclosure and Compliance Requirements

1. Staff or the Consultant shall provide each prospective Investment Manager with a copy of this Policy prior to the commencement of the System's full due-diligence review of any potential Investment.
2. The Investment Manager shall provide a letter signed by an appropriate senior executive and addressed to the System that provides accurate and complete disclosure with respect to the matters specified in **EXHIBIT A**, attached hereto (the "Disclosure Letter"). The Disclosure Letter must be provided to the System prior to the System's completion of its due-diligence review of any potential Investment.

3. At the final closing of the Investment, the Investment Manager must either (1) restate its previously submitted Disclosure Letter, (2) certify that its previously submitted Disclosure Letter contains no material inaccuracies or omissions, or (3) submit a revised Disclosure Letter (such restated Disclosure Letter, certification, or revised Disclosure Letter, the "Closing Disclosure").
4. Staff shall include the original Disclosure Letter and the Closing Disclosure as an essential part of the closing record in the file with other documents related to the Investment.
5. In the event it is discovered that the Investment Manager knew or should have known about any material omission or inaccuracy in the Disclosure Letter or in the Closing Disclosure or about any other violation of this Policy, the Investment Manager shall provide the System's CIO with written notice within five (5) days. The foregoing provision will apply to the Disclosure Letter and the Closing Disclosure in the form and substance they were provided as of the dates they were each provided based on the facts and circumstances at such time, *i.e.*, there is no continuing obligation to update the Disclosure Letter or the Closing Disclosure with respect to events that occur subsequent to such dates.

11.5 System Remedies

In the event that the Investment Manager fails to comply with this Policy or makes a material misstatement or omission in the Disclosure Letter or in the Closing Disclosure, the System shall have the option in its sole discretion to exercise at any time any or all of the following remedies, to the extent applicable to such Investment: (1) be reimbursed by the Investment Manager for any management or advisory fees paid by the System to the Investment Manager or any of its affiliates or designees for the prior two years in connection with the Investment; (2) be reimbursed by the Investment Manager an amount equal to the Benefit paid or promised to be paid to the Placement Agent in connection with the Investment; and/or (3) terminate without liability or penalty the System's investment relationship with the Investment Manager, which may involve termination of any contract or agreement with the Investment Manager, withdrawing from the applicable investment vehicle, terminating the obligation of the System to pay any fees or make any capital contributions with respect to the applicable investment vehicle and terminating the right of the applicable investment vehicle to withhold and apply amounts retained by such investment vehicle for the account of the System.

EXHIBIT A

TO ADDENDUM 11 PLACEMENT AGENT DISCLOSURE POLICIES AND PROCEDURES

Disclosure Letter and Closing Disclosure Requirements

An Investment Manager's Disclosure Letter and Closing Disclosure shall, with respect to each Investment, contain the following:

A. If a Placement Agent was not used in connection with the Investment or in obtaining, or seeking to obtain, a business relationship with the System: A representation that to the best of its knowledge the Investment Manager did not utilize a Placement Agent to assist the Investment Manager in connection with the Investment or in obtaining, or seeking to obtain, a business relationship with the System.

B. If a Placement Agent was used in connection with the Investment or in obtaining, or seeking to obtain, a business relationship with the System:

1. Identification of the Placement Agent and of all natural persons employed, hired, engaged or retained by, or otherwise affiliated (including, but not limited to, third party contractors, advisors and consultants) with, the Placement Agent, who provided services in connection with the Investment;

2. A description of the services to be performed, or that are currently being performed by, the Placement Agent, and a statement whether the Placement Agent is utilized with all prospective investors or with a subset of prospective investors (*e.g.*, public pension funds, pension funds within a certain geographic area, etc.);

3. A description of the value, timing, and nature of any compensation or other Benefits provided or to be provided either directly or indirectly to the Placement Agent by the Investment Manager in connection with the Investment;

4. A statement whether the Placement Agent, or any of its affiliates, is required to be registered or is in fact registered (i) with one or more regulatory or self-regulatory bodies and/or (ii) as a lobbyist with any state or federal governmental body, and confirmation of such registration if so required.

5. A statement whether the Placement Agent (or any of its affiliates, if applicable), has been subject to any disciplinary actions, fines, suspensions of registration, or other material investigations or sanctions by one or more regulatory or self-regulatory bodies (*e.g.*, SEC, FINRA, or state regulators) or by any state or federal governmental body and, if so, a statement providing details of such events.

C. A representation that the Disclosure Letter or Closing Disclosure contains no material inaccuracies or omissions.

D. An acknowledgment and agreement that the System may publicly disclose any information contained in the Disclosure Letter or the Closing Disclosure as required under the Indiana Access to Public Records Act.

E. An agreement to comply with this Policy including, but not limited to, the System's exercise of the remedies described herein and to provide any further information or documents as may be requested by the System in connection with this Policy.

[1] IC 5-10.5-1-2
[2] IC 5-10.5-1-3
[3] IC 5-10.5-1-6
[4] IC 5-10.5-2-1
[5] IC 5-10.5-3. The Board has the powers, duties, restrictions, limitations, and penalties in connection with the board's investment and management of the assets of the Retirement Funds of the System under the following provisions: (1) IC 5-10.2-2-2.5; (2) IC 5-10.2-2-13; (3) IC 5-10.2-2-18; (4) IC 5-10.3-3-7.1; (5) IC 5-10.3-5-3; (6) IC 5-10.3-5-3.1; (7) IC 5-10.3-5-4; (8) IC 5-10.3-5-5; (9) IC 5-10.3-5-6; (10) IC 5-10.4-3-7; (11) IC 5-10.4-3-9; (12) IC 5-10.4-3-10; (13) IC 5-10.4-3-11; (14) IC 5-10.4-3-12; (15) IC 5-10.4-3-13; (16) IC 5-10.4-3-14; (17) IC 5-10.4-3-15; (18) IC 5-10.4-3-16; (19) 35 IAC 1.2-1-3
[6] IC 5-10.2-2-2.5(a)
[7] IC 5-10.3-5-3 and IC 5-10.4-3-10(a)
[8] IC 5-10.3-5-3 and IC 5-10.4-3-10(a)
[9] IC 4-2-6, IC 4-2-7, Indiana Exec Orders 04-08 and 05-12
[10] IC 4-2-6 and IC 4-2-7
[11] IC 5-10.2-2-2.5
[12] IC 5-10.3-5-4(a)
[13] IC 5-10.4-3-13
[14] IC 5-10.3-5-4(a)
[15] IC 5-10.2-2-3(c)(1)
[16] IC 5-10.2-2-3(c)(1)
[18] IC 5-10.2-2-3 (b)
[18] IC 5-10.2-2-3(c)(2)
[19] IC 5-10.2-2-3(c)(4)
[20] IC 5-10.2-2-3(c)(5)
[21] 35 IAC 1.2-5-21
[22] IC 5-10.2-2-3(d)
[23] IC 5-10.2-2-13(d)
[24] IC 5-10.3-5-3, IC 5-10.4-3.10, IC 5-10.2-2-1.5
[25] IC 5-14-3-1, et seq.
[26] IC 5-14-3-4(a)(4)
[27] IC 5-14-3-4(a)(5)
[28] IC 5-14-3-4(b)(6)
[29] IC 5-14-3-4(a)(4) and (5)
[30] IC 5-14-3-4(b)(6)
[31] IC 5-10-9.8-1 et seq., 5-10-10-1 et seq.
[32] IC 5-10.3-11-1 et seq.
[33] IC 5-10-8.5-11

INDIANA PUBLIC RETIREMENT SYSTEM

Understanding INPRS's Investment Benchmarks

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One of the biggest challenges that investors face is determining how well their portfolios are performing. To evaluate performance, investors must select one or more benchmarks and continuously monitor the portfolio's performance against the chosen benchmark(s).

In the article, "Are Manager Universes Acceptable Performance Benchmarks?"[1] Jeffery Bailey, CFA, provides investors with a framework for what makes a good benchmark. He outlines six criteria (the "Bailey Criteria") that an appropriate benchmark should display:

1. Unambiguous – The names and weights of all portfolio securities in the benchmark should be clearly defined.

2. Investable – The investors should have the option of adopting a totally passive approach by investing in the benchmark itself in which case the amount invested should not disrupt the market.

3. Measurable – The investor should be able to calculate returns to the benchmark reasonably frequently, but in any case, at least as frequently as its board or other responsible fiduciary measures the investor's results.

4. Appropriate – The benchmark chosen should be consistent with the style or risk profile of the investment manager whose performance is being gauged.

5. Reflective of current investment opinions – All participants in the market in which the investor is participating must be able to have current knowledge of the benchmark.

6. Specified in advance – The benchmark computation should be constructed prior to the start of an evaluation period.

There are many factors that impact the selection of a benchmark, and it is unlikely that any benchmark will be perfect. As a result, there are some instances where all criteria cannot be met. Nonetheless, using the criteria as an evaluation tool will improve benchmark selection[2].

The subsequent sections of this paper outline the various types of benchmarks available to investors, the decision(s) that each benchmark measures, and the benchmarks utilized by INPRS to evaluate investment performance.

[1] The Journal of Portfolio Management, Spring 1992.

[2] Please see the final page of the appendix for an evaluation of INPRS's benchmarks using the Bailey Criteria.

Benchmarks, generally, are identified as absolute or relative.

Type	Description	Examples
Absolute Benchmark	Measures the portfolio against a fixed (absolute) target.	(1) Portfolio versus a fixed return (e.g., 6.75%) (2) Portfolio versus a spread over cash[3]
Relative Benchmark	Measures the portfolio against a moving target.	(1) Portfolio versus an index (2) Portfolio versus a peer group (3) Portfolio versus another investment option (e.g., opportunity cost)

INPRS utilizes a mixture of absolute and relative benchmarks depending on the strategy or portfolio that is being evaluated. Relative benchmarks are the most common in the investment industry when evaluating individual managers. However, when a strategy with more flexible guidelines is being measured, an absolute benchmark may be more appropriate.

In addition to benchmark selection, it is also important to select a suitable method for calculating returns. The most common method of calculation is Time Weighted Return ("TWR"), which can also be referred to as geometric return. TWR excludes the impact of intra-period cash flows and is most suited for fully funded investment managers (e.g. public market investments) that have little to no control over when they receive cash flows. For private investments, it is often more appropriate to use Money Weighted Return, commonly referred to as the Internal Rate of Return ("IRR"). Private asset classes such as private real estate and private equity provide managers greater discretion in determining when to call capital to make investments. As a result, these asset classes may have large inflows/outflows intra-period, which are more accurately measured with IRR[4].

[3] A blend of a relative and absolute benchmark can also be referred to as a hybrid benchmark (e.g., an absolute spread over a relative benchmark).
[4] Please see appendix for more information on IRR versus TWR.

INPRS Investment Staff uses a combination of relative and absolute benchmarks to measure the key decisions for which they have been given discretion.

Decision	Description	Measurement
Asset Allocation	INPRS Investment Staff recommends, for Board approval, an asset allocation to achieve the Target Rate of Return.	Absolute benchmark of the Target Rate of Return (currently 6.75%).
Tactical Shifts	INPRS Investment Staff can tactically overweight asset classes within the target allocation ranges.	Relative benchmark using the asset classes' benchmarks with weights equal to the target asset allocation.
Manager Selection	INPRS Investment Staff selects managers to increase the probability of achieving the Target Rate of Return through either (1) outperformance over a market index or (2) providing uncorrelated, positive returns.	Public Markets: Compare portfolio to a market index with similar exposure. Private Markets: Compare portfolio to a public market equivalent or to peers investing in similar strategies.

Different decisions are evaluated at each portfolio level. The focus of this paper will be asset allocation, tactical shifts, and manager selection at the INPRS Retirement Funds and global asset class levels. At the manager level, benchmarks are selected for individual strategies, with input from the Investment Team, Consultant, and manager for the strategy in question. Chosen benchmarks are intended to resemble the strategy employed by the manager and aid staff in evaluating manager performance and guideline compliance for the specific mandate in question.

INPRS Retirement Funds' Returns (e.g., Total INPRS Defined Benefit)

→ Asset Class Returns (e.g., INPRS Public Equity)

→ Investment Manager Returns (e.g., Ballie Gifford)

Total INPRS Defined Benefit ("DB")

IPS Reference: Section 7.2, five year and ten year rolling annual rate of return equal to INPRS Target Rate of Return, and net of fees, three year and five year rolling investment rate of return of the Retirement Funds, no less than a weighted average of benchmark indices which best describe the Retirement Funds' asset allocation.

Benchmark	Reference	What is it measuring?
6.75% Return Index	IPS, Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection
DB Target Index	IPS, Board Presentation	Tactical Shifts, Manager Selection
DB Manager Selection Index	IPS, Board Presentation	Manager Selection

INPRS Investment Staff is continuously analyzing its ability to reach its target rate of return of 6.75% (the "Target Rate of Return"), which is one of the three imperatives for the INPRS Investment Staff [6]. Unfortunately, many other INPRS benchmarks are not as straightforward as the Target Rate of Return. In the DB Target Index, a representative asset class benchmark rolls up and the weighting is fixed to the approved INPRS Target Asset Allocation, as stated in the IPS. INPRS's global asset classes and their corresponding benchmarks can be found in the table below.

Global Asset Class	Global Asset Class Benchmark
Public Equity	MSCI ACWI IMI
Private Markets	Neutralized
Fixed Income – Ex Inflation-Linked	Total Global Bonds Ex-Inflation-Linked
Fixed Income – Inflation-Linked	Blended Global Inflation-Linked
Commodities	Bloomberg Commodity Index, Inflation-Linked Collateral
Real Estate	Neutralized
Absolute Return	HFRI Custom
Risk Parity	Neutralized

Private Equity, Private Credit, Real Estate, and Risk Parity lack public market indexes, often are associated with an illiquidity premium, and in some cases, are reported with a lag. These issues can introduce a significant amount of additional risk relative to the benchmark that is not necessarily reflective of the underlying portfolio holdings. To address this, INPRS has neutralized these asset classes in the DB Target Index and the DB Manager Selection Index. Neutralization is a process whereby the portfolio's holdings (and performance) are utilized as the asset class benchmark which eliminates risk and performance differences due to asset selection. INPRS uses other methods to evaluate manager selection and the efficacy of these programs described later in this paper.

The DB Target Index differs from the IPS Target because it incorporates the funding ramp-up period for the Private Credit asset class, a new asset class added following the 2015 asset-liability study. Annually,

[5] The analysis in the paper focuses on the Defined Benefit benchmarks. For a brief analysis of the DC benchmarks, please see appendix.
[6] (1) Achieve 6.75% Target Rate of Return (2) Achieve the return as efficiently and effectively as possible (3) Always have enough cash on hand to pay the bills

the DB Target Index updates the weight for this asset class based on the Consultant's pacing model estimate. The difference between the IPS target and the DB Target Index weight for Private Credit is proportionally added to all other global asset classes.

The variance between the portfolio return and the DB Target Index will be attributed to manager selection, but also to any asset class weight deviations from the fixed, Board-approved asset allocation. The table below presents the Board-approved asset allocation and the weights for the two previously described indexes.

Global Asset Class	IPS Target	DB Target Index
Public Equity	22.0%	22.7%
Private Equity	10.0%	10.3%
Private Credit	4.0%	1.0%
Fixed Income – Ex Inflation-Linked	20.0%	20.6%
Fixed Income – Inflation-Linked	7.0%	7.2%
Commodities	8.0%	8.3%
Real Estate	7.0%	7.2%
Absolute Return	10.0%	10.3%
Risk Parity	12.0%	12.4%

The asset class benchmarks that currently roll up for the DB Target Index are similar to the DB Manager Selection Index. The DB Manager Selection Index measures manager selection by, each month, adjusting the representative asset class benchmark weighting to the adjusted beginning market value of that asset class within the Plan. This monthly adjustment removes the tactical shift decision from the evaluation and isolates manager selection. January 2012 marks the merger of the Public Employees Retirement System ("PERF") and Teachers Retirement System ("TRF"). The DB Manager Selection Index's history prior to January 2012 is a market value weighted blend at a plan level between PERF's benchmark and TRF's benchmark.

Public Markets

IPS Reference: Section 9.3, The Investment Staff shall review the performance of each Public Investment Manager's Portfolio at least quarterly. Evaluation standards considered may include the following:

2. *Net of fee performance rates of return exceeding an appropriate market index benchmark, over quarter-to-date, year-to-date, one year, three-year, five year, and since inception time periods;*
3. *Sharpe ratio exceeding an appropriate market index benchmark over quarter-to-date, year-to-date, one year, three-year, five year, and since inception time periods.*

Public Equity

Benchmark	Reference	What is it measuring?
MSCI ACWI IMI Net Index	Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection

The selection of the MSCI All Country World Investable Markets Net Index ("MSCI ACWI IMI") was made due to INPRS's desire to have exposure to global equity markets. Over time, the performance difference between the portfolio and the benchmark will be attributed to: (1) Manager Selection and (2) Region Selection.

Fixed Income Ex-Inflation-Linked ("Fixed Income ex ILB")

Benchmark	Reference	What is it measuring?
Custom Fixed Income ex ILB	Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection

The portfolio invests in a custom combination of publicly traded treasury and credit opportunities across geographies, and as such, utilizes a static, custom benchmark to measure the performance of the portfolio. The sub-asset classes, their benchmarks, and weights can be found in the table below.

Fixed Income ex ILB Sub-Asset Classes	Custom Benchmark Component	Benchmark Weight
US Long Government	Bloomberg Barclays ("BB") Long Government	25.0%
US Long Credit	BB Long Credit	25.0%
Developed International Government (excluding US)	Citi World Government Bond Index, excluding United States, 25% Japan Capped, USD Hedged	25.0%
Emerging Markets Debt	50% JPMorgan EMBI (hard currency debt), 50% JPMorgan GBI (local currency debt)	15.0%
Opportunistic Credit	40% Credit Suisse Leverage Loan Total Return Index, 25% BofA ML US High-Yield Total Return Index, 25% BofA ML Non-Financial Developed Markets High-Yield Constrained Total Return Index, 10% Credit Suisse Western European Leveraged Loan Total Return Index	10.0%

Fixed Income Inflation-Linked ("Fixed Income ILB")

Benchmark	Reference	What is it measuring?
Custom Fixed Income ILB	Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection

The current constituents of the Custom Fixed Income ILB benchmark can be found in the table below. The Custom Bridgewater Inflation-Linked Benchmark includes an allocation to US TIPS so the total portfolio allocation to domestic inflation-linked bonds is greater than the 64% implied by the benchmark component weights.

Fixed Income ILB Sub-Asset Classes	Custom Benchmark Component	Benchmark Weight
US TIPS	ICE BofA ML US TIPS 15+ Years	64.3%
Global Inflation-Linked	Bridgewater Custom[7]: 40% US, 30% Euroland, 15% United Kingdom, 10% Canada, 5% Sweden	35.7%

[7] The Bridgewater Custom Index is intended to replicate the individual country indexes of the Barclays Government Inflation-Linked Bond Index at the weights implied in the table. The index is rebalanced back to these weights monthly.

Commodities

INPRS's commodity managers utilize fully collateralized commodity futures positions to gain exposure to various commodity markets. When purchasing $100 worth of commodity exposure, for example, the entire $100 is not required but rather a set percentage, commonly referred to as collateral. This ratio is generally 85:15; so in the example above, $15 of the original $100 would be required to gain $100 in commodity exposure with the remaining $85 used as collateral and invested as the investor deems appropriate. Historically, INPRS collateral has been invested in treasury bills, but starting in July of 2012, an inflation-linked collateral program was initiated.

Benchmark	Reference	What is it measuring?
Commodities Custom Benchmark	Board Presentation, Internal Reporting	Manager Selection

INPRS utilizes a mixture of inflation-linked bonds and US treasury bills to collateralize its commodity investments. To reflect this decision in a benchmark, the Excess Return (Commodity only performance, excludes collateral performance) version of the Bloomberg Commodity Index is combined with Treasury Bill and inflation-linked collateral at the target weights found in the portfolio. Since INPRS's unique collateral is included in the benchmark, performance differences between the commodity portfolio and the custom benchmark will be a result of manager selection only.

Commodities Sub-Asset Classes[8]	Custom Benchmark Component	Benchmark Weight
Commodities	Bloomberg Commodity Excess Return Index	100.0%
US TIPS Collateral	BB US Treasury Inflation Notes 1-10 Years	37.5%
Global Inflation-Linked Collateral	BB Global Inflation-Linked 1-10 Years, ex US, ex Italy, ex Spain, USD Hedged	37.5%
T-Bill Collateral	FTSE 3-Month T-Bill	25.0%

Private Markets

IPS References: Section 10.4: Performance Objectives
Private Equity

1. *Relative Return: the median return for all Private Equity funds as measured by a reputable database provider; and*
2. *Public Market Equivalent: a custom index based on INPRS's target exposures and using public market indices.*

Private Credit

1. *Relative Return: the median return for all Private Credit funds within a corresponding sub-asset class as measured by a reputable database provider (e.g. middle market lending Investment Managers against the median of the middle market lending universe); and*
2. *Public Market Equivalent: a custom index based on INPRS's target exposures and using public market indices.*

[8] BNY Mellon utilizes an all-zeros offset with a -100% weight so that the weight of the benchmark components sums to 100%.

Benchmarking private investments presents numerous challenges for investors. It is difficult to identify the "market" because, by definition, the market is private, and information is not readily available. For performance reporting purposes, INPRS Investment Staff has identified a public equity market proxy, added an illiquidity premium, and lagged the returns of the PME by one quarter.

As mentioned in the IRR vs. TWR discussion, the most appropriate way to calculate private market returns is the IRR method, and as a result, the IRRs for both Private Equity and Private Credit are reported separately in the board presentation. However, the TWR for each of the private asset classes is still shown alongside the TWR for each of the public asset classes, merely for reference. In addition, the IPS states that the managers are to be measured against the median peer returns for similar strategies. There is no ideal way to capture the "market" index return for private asset classes. However, the peer-relative benchmark does provide measurement against the market of managers investing in similar strategies.

Private Equity

Benchmark	Reference	What is it measuring?
Relative Return: pooled IRR for private equity funds (excluding Real Estate, Timber, and Infrastructure) measured by Cambridge Associates	IPS, Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection
Public Market Equivalent ("PME"): 60% Russell 2000, 20% EAFE Small-Cap, 15% Credit Suisse High-Yield Index, 5% Credit Suisse Western Europe High-Yield Index (EUR Hedged), + 3.00%, lagged one quarter.	IPS, Internal Reporting	Asset Allocation, Tactical Shifts, Manager Selection

The Private Equity PME uses multiple public market proxies, including equity and fixed income exposures, designed to reflect the size, geographical, and capital structure opportunities targeted by the portfolio. The 3.00% that is added is a generally accepted illiquidity premium that investors demand for investments in private equity opportunities[9]. Additionally, INPRS compares itself to the PME lagged one quarter which lines up the performance of the PME with the valuation data received by INPRS and its managers.

[9] Please see appendix for more information on illiquidity premium.

Private Credit

Benchmark	Reference	What is it measuring?
Relative Return: pooled IRR for Senior Debt funds in the U.S. and Europe measured by Cambridge Associates	IPS, Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection
Public Market Equivalent ("PME"): 50% Credit Suisse Leveraged Loan Index, 33% Wells Fargo Business Development Company ("BDC") Index, 17% Credit Suisse Western Europe Leveraged Loan Index, +1.50%, lagged one quarter.	IPS, Internal Reporting	Asset Allocation, Tactical Shifts, Manager Selection

The Private Credit PME uses multiple public market proxies designed to reflect the size, geographical, and capital structure opportunities targeted by the portfolio. The 1.50% that is added is a generally accepted illiquidity premium that investors demand for investments in private credit opportunities[10]. Additionally, INPRS compares itself to the PME lagged one quarter which lines up the performance of the PME with the valuation data received by INPRS and its managers.

Real Estate

IPS Reference: Section 11.4: The following return objectives shall be reviewed:

1. *Absolute Return (net of fees): the absolute return objective is a real rate of return (adjusted for inflation) of five percent (5%);*
2. *Relative Return: Private real estate investments are expected to generate returns in excess of the National Council of Real Estate Investment Fiduciaries ("NCREIF") Open End Diversified Core Equity Index ("NCREIF ODCE"), net of investment management fees; and*
3. *Public Market Equivalent: a custom index based on INPRS' target exposures and using public market indices.*

Benchmark	Reference	What is it measuring?
5% Real Rate of Return (net of inflation)	IPS, Internal Reporting	Asset Allocation, Tactical Shifts, Manager Selection
NCREIF ODCE NFI Net 1 Qtr in Arrears	IPS, Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection
Public Market Equivalent ("PME"): 70% FTSE NAREIT All Equity REITs, 30% BB US CMBS Index	IPS, Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection

[10] Please see appendix for more information on illiquidity premium.

The NCREIF ODCE NFI Index[11] is a market-capitalization weighted, gross of fee index that presents time-weighted returns. Much of the INPRS Real Estate portfolio is comprised of private investments, and it is difficult to capture the "market." The NCREIF ODCE NFI attempts to capture the performance of private, open-ended (infinite-life) core equity funds; however, this index is not an investable benchmark but is shown in the INPRS Board Presentation because it is a widely accepted core equity Real Estate benchmark.

Because the NCREIF ODCE NFI Index does not closely reflect the underlying exposure of Real Estate portfolio, Investment Staff has constructed a Custom Public Market Equivalent[12] ("PME") benchmark. The PME is constructed with two public indexes, weighted to approximately capture the target capital structure exposures of the INRPS Real Estate portfolio: 70% FTSE National Association of Real Estate Investment Trusts ("NAREIT") All Equity Real Estate Investment Trusts ("REITS") and 30% BB Commercial Mortgage Backed Bond Securities("CMBS") Index. This benchmark is reported separately in the Board presentation as an IRR calculation.

The IPS states that Real Estate investments should also be measured against an Absolute Benchmark of five percent (5%), adjusted for inflation. This benchmark is considered when evaluating potential opportunities internally.

Total Absolute Return

IPS Reference: Section 12.4, The aim in building the ARS Program is to select the highest-quality funds and vehicles to form a diversified portfolio capable of meeting targeted performance objectives. The risk and return objectives for the ARS Program, as noted below, shall be reviewed:

1. *Target annual return (net of fees): Cash + 4%;*
2. *Relative Return: a custom index based on the ARS Program target exposures and using HFRI indices.*

Benchmark	Reference	What is it measuring?
Cash plus 4.00%	IPS, Internal Reporting	Asset Allocation, Tactical Shifts, Manager Selection
Custom Hedge Fund Research Index ("HFRI")	Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection

Within the INPRS Absolute Return portfolio, managers have flexibility in their investment process. This, along with not sharing holdings and proprietary information in real-time, contribute to benchmarking challenges. For these reasons, a cash plus 4.00% will be the absolute measuring stick for the portfolio. To capture relative performance versus a market, INPRS Investment Staff also measures the Absolute Return portfolio versus a Custom HFRI benchmark. HFRI collects returns from various hedge funds and attempts to bucket them into certain categories or strategies[13]. See below for the HFRI custom benchmark and corresponding static weights.

[11] Source: NCREIF.org
[12] Please see appendix for more information on PME benchmarks.
[13] Please see appendix for more information on HFRI Indices.

Absolute Return Sub-Asset Class[14]	HFRI Component	Benchmark Weight
Tactical Trading	Macro	35.0%
Relative Value	Relative Value	25.0%
Event Driven	Event Driven	20.0%
Fund of Funds	Fund of Funds	12.5%
None	Equity Hedge	7.5%

Risk Parity

IPS Reference: Section 13.4, The risk and return objectives for the RP Program, as noted below, shall be reviewed:

1. *Target annualized return (net of fees): The Target Rates of Return.*

Benchmark	Reference	What is it measuring?
INPRS Target Rate of Return	IPS, Internal Reporting	Asset Allocation, Tactical Shifts, Manager Selection
Global 60/40 Index	Board Presentation	Asset Allocation, Tactical Shifts, Manager Selection

Much like INPRS's target asset allocation, Risk Parity invests in multiple asset classes with an absolute goal of earning a better risk-adjusted return. Risk Parity attempts to achieve this goal by constructing a diversified asset allocation without making tactical bets. As a result of this quickly changing, diversified allocation, it is difficult to evaluate the manager selection within Risk Parity. Over the long-term, the Risk Parity portfolio will be judged against the INPRS Target Rate of Return, currently 6.75%.

In addition to the Target Rate of Return, a traditional asset allocation of 60% Equity (MSCI ACWI IMI Index) and 40% Bonds (Barclays Global Aggregate Bond Index) is used to measure the portfolio. Risk parity is often regarded as a more efficient way to construct investment portfolios while achieving a return similar to that of a traditional portfolio. As such, benchmarking against a global 60/40 allows staff to assess the opportunity cost of not investing in a more traditional portfolio. The Global 60/40 Index has a larger concentration in equity risk than the Risk Parity allocation, and consequently, there may be significant differences in returns at any point in time.

INPRS, in conjunction with the System's General Consultant, will continue to monitor and evaluate the suitability of its total plan benchmarks and global asset class benchmarks. In accordance with Section 7.2 of INPRS's IPS, any changes to the total plan and/or global asset class benchmarks will be communicated to the Board of Trustees at their next regularly scheduled meeting, following thorough research supporting such change(s).

[14] Source: BNY Mellon reporting as of June 30, 2020.

Appendix

Chicago ILPA Members-Only Fall Conference 2009 Presentation by Adams Street Partners

IRR

- Take size and timing of cash flows into consideration
- Annualized Return
- Need to de-annualize or use change-in-value for return less than one year
- No simple way to compute a combined return from two IRR numbers without getting down to the cash flow level

TWR

- Time only; Size of cash flow is irrelevant
- Link daily, monthly, quarterly, or yearly returns
- Explicit step to annualize numbers
- Very easy to calculate weighted return for an aggregate portfolio and do performance attribution

IRR makes sense for Private Equity, Private Credit, and Private Real Estate

- Managers control size and timing of cash flows
- Helps to appropriately evaluate private portfolios with J-curve effect (J-curve is when the fund incurs negative returns for the first few years due to capital draw downs and an immature portfolio)
- Inability to rebalance

Example

INPRS makes a $1,000 investment at the beginning of the year for two shares of Company ABC for $500 per share. At the end of the first year of the investment, the valuation of ABC went to $400 per share, down 20%. INPRS makes an additional investment for 10 more shares of ABC at $400. Over the next year the valuation of ABC goes up to $460 per share, up 15%. INPRS decides to sell all the shares at the end of the second year. In order to calculate the TWR, the return for the first period and the return for the second period are geometrically linked. However, the large investment after the first year is not taken into account. Alternatively, the IRR calculation accounts for the fact that the investment was larger during the best return period.

Time	Action	Market Price / Share	Cash Flow	Position	IRR	TWR
January 1st 2012	Buy 2 Shares	$500	-$1,000	2 shares ABC @ $500		
January 1st 2013	Price Securities	$400		2 shares ABC @ $400	20%	20%
January 1st 2013	Buy 10 Shares	$400	-$4,000	12 shares ABC @ $400		
December 31st, 2013	Sell 12 Shares	$460	+$5,520			+15%
				Annualized Portfolio Return	-8.5%	4.0%

Use IRR formula.
$0 =-$1000 + -$4,000/(1+IRR) + $5,520/(1+IRR)^2

Geometrically link the annual returns.
[(1+(-20%))*(1+15%)]$^{1/2}$ -1 = -4.0%

The Defined Contribution plan is offered to members and either 1) supplements their defined benefit option or 2) serves as their only INPRS-provided retirement benefit. Within the DC plan, members are offered multiple funds to invest in at their discretion, found in the table below. The funds contain a mixture of active and passive management based on input from outside consultation and INPRS investment staff. The benchmarks shown below were selected to evaluate the funds and are reported to the INPRS Board of Trustees.

Fund(s)	Benchmark	Active Investment	Passive Investment	What is it measuring?
Target Date	Custom[15]	Varies	Varies	Asset Allocation, Manager Selection
Large Cap Equity*	S&P 500 Index	0.0%	100.0%	Manager Selection
Small/Mid Cap Equity*	Russell Small Cap Completeness Index	10.0%	90.0%	Asset Allocation, Manager Selection
International Equity*	MSCI ACWI ex-US IMI Index	40.0%	60.0%	Asset Allocation, Manager Selection
Fixed Income*	Bloomberg Barclays US Aggregate Bond Index	40.0%	60.0%	Asset Allocation, Manager Selection
Inflation-Linked Fixed Income*	Bloomberg Barclays US TIPS Index	0.0%	100.0%	Manager Selection
Stable Value*	3-Year Constant Maturity Treasury	100.0%	0.0%	Manager Selection
Money Market	Citigroup 3-Month T-Bill Index	100.0%	0.0%	Manager Selection

*Funds are included in the target date funds.

[15] The returns for the custom target date indices are sent to INPRS investment staff on a monthly basis from the consultant for the Defined Contribution. The custom target date index returns are calculated by keeping the similar weight but assume 100% passive investment in order to evaluate the active managers' performance.

The term “illiquidity premium” is often used to explain any difference in performance between liquid and illiquid markets, such as across public and private equity or public fixed income and private credit. A performance difference, or “premium,” of between 1.50% and 3.00% seems to be a defensible and standard assumption for private credit and private equity performance, respectively, above and beyond public markets. But research suggests that a wide variety of private market characteristics could be leading to this performance “premium,” rather than simply illiquidity. These characteristics include different levels of leverage (private equity managers tend to employ higher leverage), portfolio concentration (fewer investments within each vehicle), active manager skill, and style factor concentration in size and value factors (these managers tend to acquire small businesses that are cheap).

Cornelius, P., Diller, C., Guennoc, D., & Meyer, T. (2013). *Mastering Illiquidity: Risk Management for Portfolios of Limited Partnership Funds.* Wiley.

Franzoni, Francesco A. and Nowak, Eric and Phalippou, Ludovic, Private Equity Performance and Liquidity Risk (August 29, 2011). *Journal of Finance*, Forthcoming; Swiss Finance Institute Research Paper No. 09-43. Available at SSRN: http://ssrn.com/abstract=1517044 or http://dx.doi.org/10.2139/ssrn.1517044

Nesbitt, Stephen, Topor, Jeff, and Cheng, Roger. "Risk Premiums in U.S. Middle Market Lending." Cliffwater, LLC, December 6, 2016. Available at https://storage.googleapis.com/ccl/CliffwaterResearch-RiskPremiumsinMiddleMarketLending-Part1-Dec2016.pdf

Stafford, Erik. "Replicating Private Equity with Value Investing, Homemade Leverage, and Hold-to-Maturity Accounting." Harvard Business School Working Paper, No. 16-081, January 2016. https://www.hbs.edu/faculty/Publication%20Files/ReplicatingPE_20151213_3859877f-bd53-4d3e-99aa-6daec2a3a2c3.pdf

Henly, Samuel. PME Benchmark Methods (August 12, 2013). *PitchBook.* Available at http://blog.pitchbook.com/wp-content/uploads/2013/11/20131104-PME-Sam-Piece.pdf

The two most common measures of PE performance, IRR and cash multiples, are adequate measurements of fund performance when used judiciously. However, IRR and cash multiples cannot be directly compared to indices that use TWR to evaluate performance in mainstream asset classes. The purpose of public market equivalent benchmarks (PMEs) is to make fund performance directly comparable to the performance of indexed asset classes.

PME metrics benchmark the performance of a fund (or group of funds) against an indexed alternative investment. For example, one could use a PME to compare the performance of a PE fund to the performance of publicly traded stocks indexed by the Russell 3000 Index. When PMEs are generated for many funds, the PME values can be used to rank fund performance controlling for broader market behavior.

First proposed in 1996, the Long-Nickels PME (hence, simply 'PME') benchmark answers the question: if an investor had made contributions to an indexed fund instead of a PE fund, and if these contributions (and the resulting distributions) were the same size and made at the same time as they were for the PE fund, what would the return be? In this sense, it is a relative measure of performance. When using PME benchmarks, a PE fund is compared to a hypothetical alternative investment, the PME vehicle. The idea is to take cash flows of a PE fund, redirect them to (or from) the PME vehicle, and obtain the vehicle's net asset value (or NAV) for use in an IRR calculation.

www.hedgefundresearch.com

HFRI Monthly Indices Methodology and Construction

The HFRI Monthly Indices are a series of benchmarks designed to reflect hedge fund industry performance by constructing equally weighted composites of constituent funds, as reported by the hedge fund managers listed within the HFR Database. The HFRI range in breadth from the industry level view of the HFRI Fund Weighted Composite Index, which encompasses over 2200 funds, to the increasingly specific level of the sub-strategy classifications.

In order to be considered for inclusion in the HFRI, a hedge fund manager must submit a complete set of information to HFR Database (the listing of required fields for Database inclusion are available here). Funds are eligible for inclusion in the HFRI the month after their addition to HFR Database. For instance, a fund that is added to HFR Database in June is eligible for inclusion in the indices upon reporting their July performance. Additionally, all HFRI constituents are required to report monthly, net of all fee's performance and assets under management in U.S. dollars. Constituent funds must have either (a) $50 million under management or (b) a track record of greater than twelve (12) months.

The HFRI are fund-weighted (equal-weighted) indices. Unlike asset-weighting, the equal-weighting of indices presents a more general picture of performance of the hedge fund industry. Any bias towards the larger funds potentially created by alternative weightings is greatly reduced, especially for strategies that encompass a small number of funds.

Asset Class	Benchmark	Bailey Criteria[16] #1	#2	#3	#4	#5	#6	Description
Total INPRS DB	6.75% Return Index	Yes	No	Yes	Yes	Yes	Yes	INPRS's Target Rate of Return.
Total INPRS DB	DB Target Index	No	No	Yes	Yes	No	No	The individual asset class benchmarks roll up with the weights fixed to the INPRS Target Asset Allocation. The private credit allocation is adjusted annually with the difference between current pacing target and IPS target proportionally added to other asset classes.
Total INPRS DB	DB Manager Selection Index	No	No	Yes	Yes	No	No	The individual asset class benchmarks roll up with their weights adjusted to the market value weight of that asset class within the Plan monthly.
Total Global Public Equity	MSCI ACWI IMI Market Net Index	Yes	Yes	Yes	Yes	Yes	Yes	A global equity market index.
Total Private Equity	Private Equity Custom PME	Yes	No	Yes	No	Yes	Yes	Utilizes public indexes in an attempt to best capture INPRS's exposure, adds 3.00% reflecting the illiquidity premium, and lags returns to align with manager reporting.
Total Private Equity	Cambridge Associates Peer Index	No	No	Yes	No	No	No	The median peer's return as measured by Cambridge Associates.
Total Private Credit	Private Credit Custom PME	Yes	No	Yes	No	Yes	Yes	Utilizes public indexes in an attempt to best capture INPRS's exposure, adds 1.50% reflecting the illiquidity premium, and lags returns to align with manager reporting.
Total Private Credit	Cambridge Associates Peer Index	No	No	Yes	No	No	No	The median peer's return as measured by Cambridge Associates.
Total Fixed Income Ex Inflation-Linked	Fixed Income ex Inflation-Linked Custom Benchmark	Yes	Yes	Yes	Yes	Yes	Yes	Custom benchmark constructed with sub-asset class benchmark components.
Total Inflation-Linked Fixed Income	Inflation-Linked Custom Benchmark	Yes	Yes	Yes	Yes	Yes	Yes	A global inflation-linked and US inflation-linked custom benchmark weighted to match INPRS's allocation.
Total Commodities	Commodities Custom Benchmark	Yes	Yes	Yes	Yes	Yes	Yes	A cross sector commodity index with collateral invested in 3-month US Treasury bills.
Total Real Estate	NCREIF NFI-ODCE Net 1 Qtr in Arrears	No	No	Yes	No	No	No	NCREIF is a not for profit organization that collects real estate data. NFI-ODCE Net 1 Qtr in Arrears is a core equity index they compile.
Total Real Estate	Real Estate Custom PME	Yes	Yes	Yes	Yes	Yes	Yes	A PME benchmark makes contributions to appropriate public indices in line with capital calls for the private real estate managers.
Total Real Estate	5% Real Rate of Return	Yes	No	Yes	Yes	Yes	Yes	Absolute real (excluding inflation) return target.
Total Absolute Return	Cash plus 4.00%	Yes	No	Yes	Yes	Yes	Yes	Absolute benchmark reflecting the additional return, above cash, absolute return managers are expected to generate.
Total Absolute Return	HFRI Custom	No	No	Yes	No	No	No	The index has evolved over time to attempt to capture the absolute return portfolio exposure.
Total Risk Parity	INPRS Target Rate of Return	Yes	No	Yes	Yes	Yes	Yes	Absolute return target equivalent to INPRS's target rate(s) of return.
Total Risk Parity	Global 60/40 Index	Yes	Yes	Yes	No	No	Yes	A commonly cited general asset allocation approach used to measure the efficacy of risk parity through time.

[16] Bailey Criteria: (1) Unambiguous (2) Investable (3) Measurable (4) Appropriate (5) Reflective of current investment options (6) Specified in advance
INPRS staff completed Bailey Criteria evaluation. As with any analysis, there is room for subjectivity.

Cavanaugh Macdonald
CONSULTING, LLC

Presentation to the INPRS Board

October 30, 2020

Discussion Topics

- Overview of Valuation Results
  - Review of legislative changes
  - Aggregated results
  - Recommended contributions

- Appendix: Detailed Results by Fund
  - Basic valuation results
  - Noteworthy items
  - Preliminary projections

Summary of New Legislation

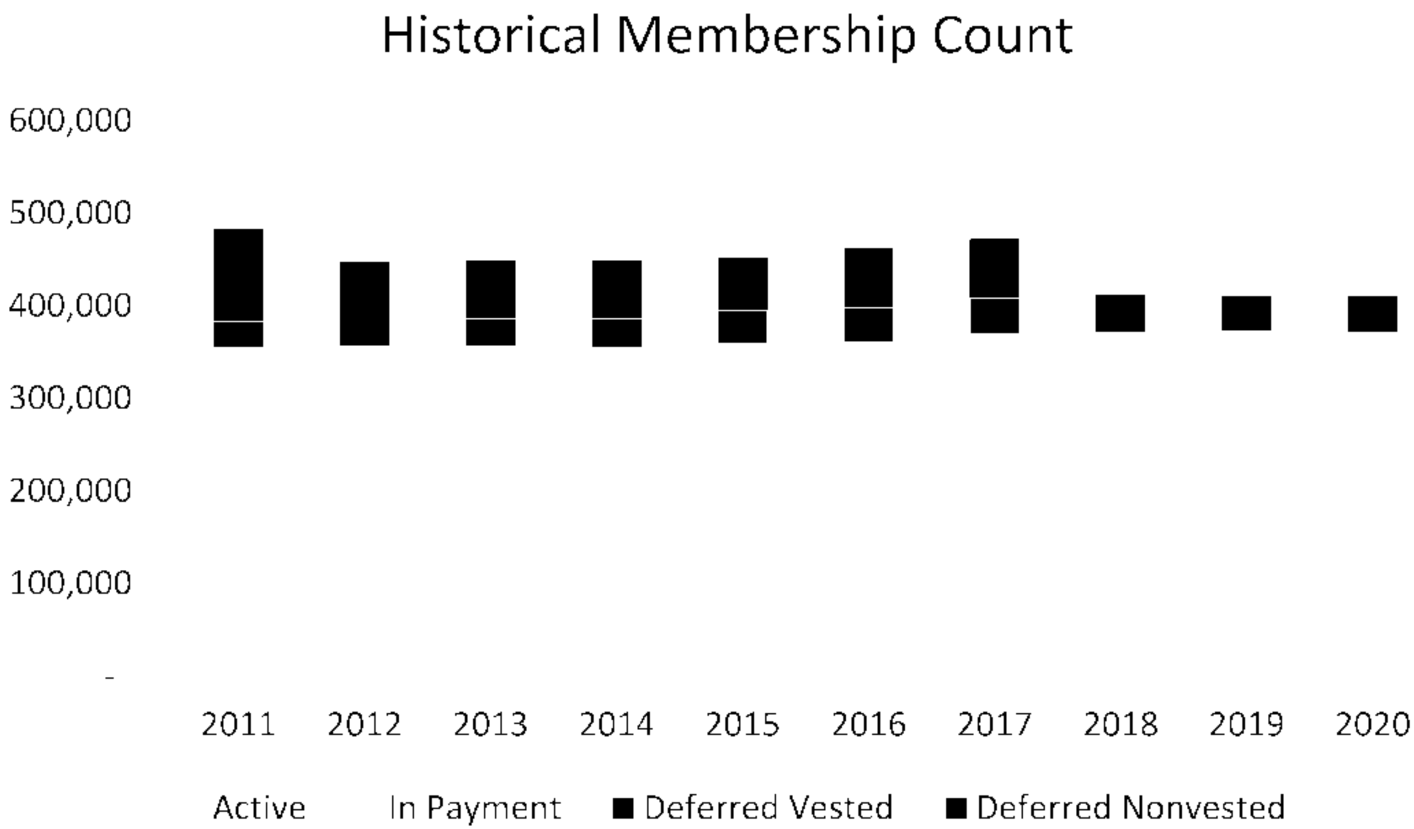
- SEA 181 updated the EG&C plan provisions related to pre-retirement death benefits.
  - Benefit payable was increased to the amount with which the participant would have been entitled had the participant retired with 25 years of service at age 50.
  - Eliminates the 15-year service requirement for active members.
  - If the active death occurs in the line of duty, the survivor annuity is payable as a 100% joint and survivor annuity, in lieu of the 50% joint and survivor annuity.

Funded Status

	June 30, 2019	June 30, 2020
PERF	79.4%	83.3%
TRF '96	101.3	100.9
'77 Fund	98.6	98.3
JRS	91.8	95.3
EG&C	92.3	91.1
PARF	59.0	64.7
LE DB	90.0	95.5
Total Prefunded Plans	**88.1**	**90.6**
TRF Pre-'96	25.7	26.5
All INPRS DB Plans	**67.8**	**70.4**

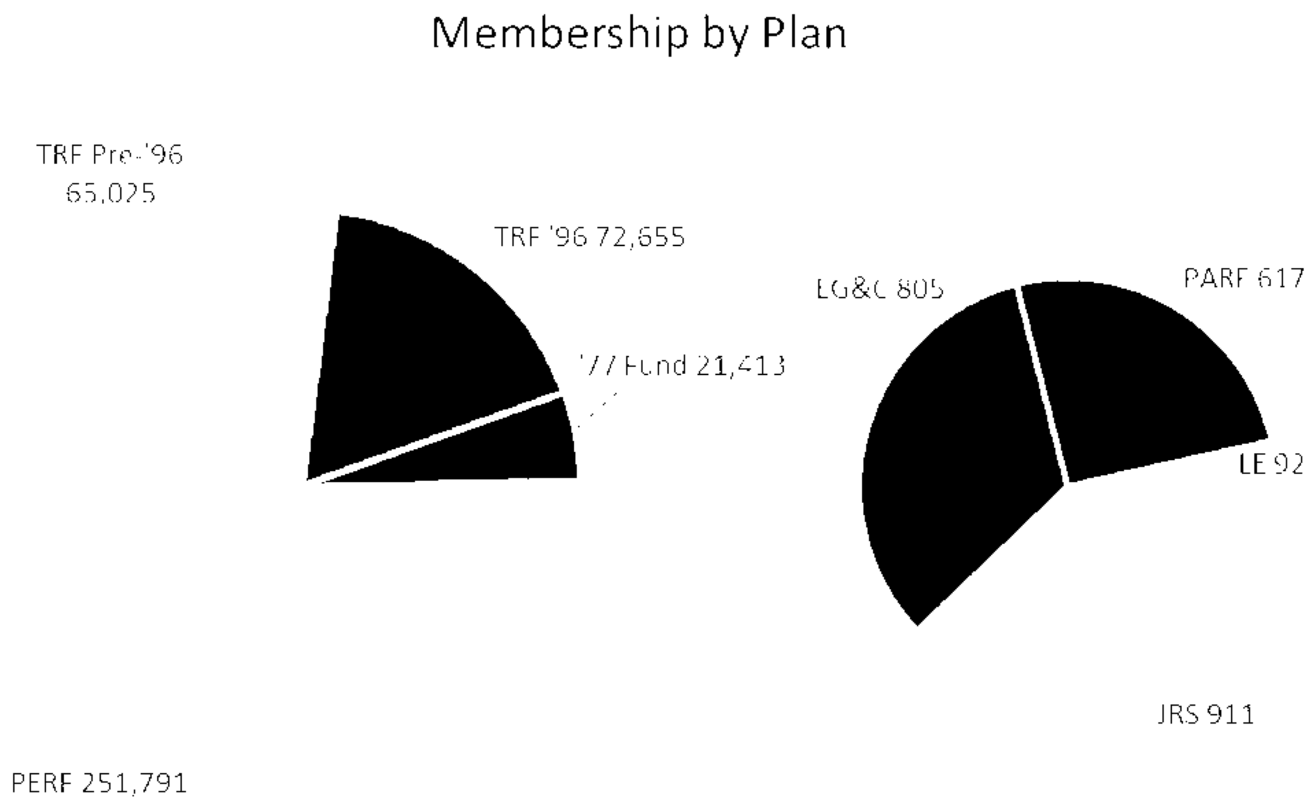
Membership Summary

(Valuation Purposes)



With the separation of the DC accounts in 2018, all PERF and TRF non-vested members are excluded from the valuation.

Membership Summary

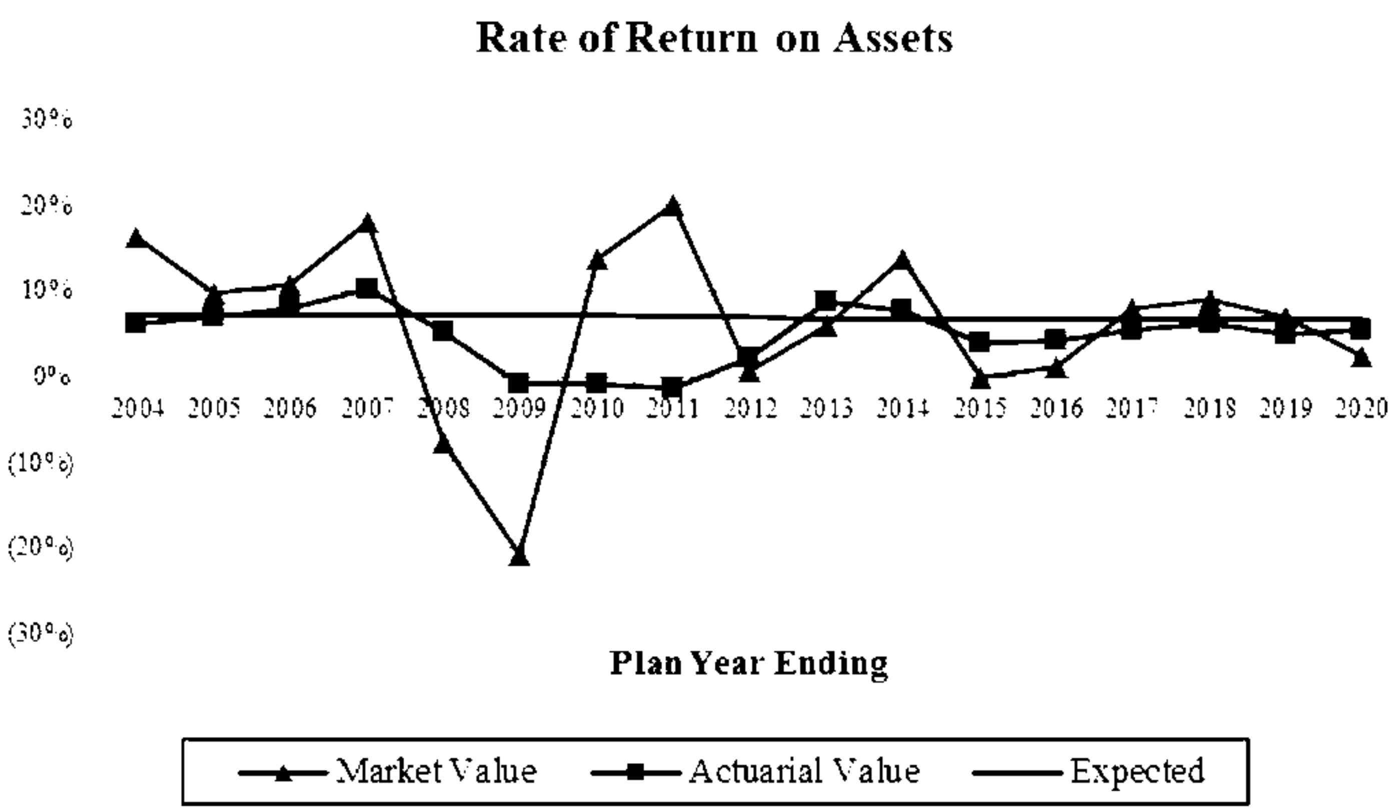


Asset Information

	Market Value	Actuarial Value
Net Assets, June 30, 2019	$ 30,290,007,345	$ 29,955,171,624
- Contributions and Other Receipts	+ 2,017,229,674	+ 2,017,229,674
- Benefit Payments and Refunds	- 2,498,421,115	- 2,498,421,115
- Administrative Expenses	- 31,605,147	- 31,605,147
- Net Investment Income	+ 784,691,027	+ 1,742,414,706
Net Assets, June 30, 2020	$ 30,561,901,784	$ 31,184,789,742
Rate of Return, Net of Expenses	2.5%	5.8%

Defined Benefit plans only

Asset Smoothing Impact



PERF results shown – other plans are generally similar

Liability Information

- Demographic experience - aggregated
  - Total gain – 0.29% of liability
  - Retirement gain - 0.11% of liability
  - Termination gain – 0.01% of liability
  - Disability loss – 0.01% of liability
  - Mortality gain – 0.12% of liability
  - Salary gain – 0.10% of liability
  - New hire loss – 0.23% of liability
  - Other/COLA gain – 0.19% of liability

Change in UAAL

	$ Millions
Unfunded Actuarial Accrued Liability – June 30, 2019	13,062
Expected UAAL – June 30, 2020	12,752
Investment Experience (Gain)/Loss	294
Contributions Above Actuarially Determined Amount	(201)
Liability/Demographic Experience (Gain)/Loss	(124)
Benefit Changes	1
Assumption Changes	(773)
Total Experience (Gain)/Loss	(803)
Unfunded Actuarial Accrued Liability – June 30, 2020	11,949

Base benefits only

2014-2019 Experience Study

- Investment return assumption was not considered, pending ALM study completion
- Assumption Changes in this valuation:
  - Mortality updated based on Society of Actuaries Pub-2010 Tables (new in 2019)
  - General wage inflation updated from 2.5% to 2.75%
  - JRS and '77 Fund COLAs
  - Salary merit increases
  - Retirement rates, including adjustments for reflecting DROP
  - Disability rates

2014 – 2019 Experience Study
($ thousands)

- Accrued Liability (AL) Impact due to Assumption Changes

Plan	Base	Supplemental	Total	% of AL
PERF	(578,559)	(38,271)	(616,830)	(3.7%)
TRF Pre-'96	(163,108)	(7,555)	(170,663)	(1.2%)
TRF '96	(2,208)	2,094	(114)	0.0%
'77 Fund	2,278	N/A	2,278	0.0%
JRS	(24,814)	N/A	(24,814)	(4.0%)
EG&C	(1,412)	(572)	(1,984)	(1.2%)
PARF	(5,012)	N/A	(5,012)	(4.5%)
LE DB	(83)	(4)	(87)	(2.7%)
TOTAL	(772,918)	(44,308)	(817,226)	(1.8%)

Estimated 100% Funded Date
(First Valuation at 100% Funded)

	June 30, 2019	June 30, 2020
PERF	2031	2030
TRF Pre-'96	2052	2051
TRF '96	Attained	Attained
'77 Fund	2021	2029
JRS	2041	2041
EG&C	2023	2025
PARF	2042	2044
LE DB	2021	2021

- TRF Pre-'96 will reach fully funded on the base benefits in 2038.

Contributions

	Base ADC Rate	Surcharge	Total Rate	Policy Rate
PERF	6.89%	0.37%		11.20%
TRF '96	4.32%	0.13%		5.50%
EG&C	9.62%	0.85%		20.75%
'77 Fund			14.67%	17.50%

	Base ADC	Surcharge	Total	Policy*
TRF Pre-'96	$975.0 M	Lottery Proceeds		$975.0 M
JRS			$17.56 M	$17.56 M
PARF			$4.04 M	$4.04 M
LE DB	$182,512	$19,119		$182,512

***These amounts will be recommended to the Legislature for FY 2022.**

Contributions – Supplemental Benefits

- Surcharge needed to fund supplemental benefits for next biennium
  - Effective for the 2021 calendar year based off 2020 results
  - Actuarial valuations assume a COLA of .4%/.5%/.6%
  - Possibility of 13th check is considered

	0.4% COLA 2021 Surcharge	13th Check 2021 Surcharge
PERF	0.37%	0.75%
TRF '96	0.13%	0%
EG&C	0.85%	0%
TRF Pre-'96	$0	$0
LE DB	$19,119*	TBD*

*** Assumes payment on March 31, 2021. 13th check for this group has not been granted in recent years. Can be funded through lottery proceeds or direct appropriations.**

Questions?

INDIANA PUBLIC RETIREMENT SYSTEM

2020 Summary and Recommendations

Andy Blough

Chief Actuary

October 30, 2020

(844) GO-INPRS

inprs.in.gov

INPRS Funded Status as of June 30, 2020 Comparison to June 30, 2019

Indiana Public Retirement System (INPRS)

(dollars in millions)

Pre-Funded Defined Benefit Retirement Plans	Actuarial Valuation as of June 30, 2020		Actuarial Valuation as of June 30, 2019	
	Unfunded Actuarial Accrued Liability	Actuarial Funded Status	Unfunded Actuarial Accrued Liability	Actuarial Funded Status
PERF DB	$2,721.2	**83.3 %**	$3,418.3	**79.4 %**
TRF '96 DB	(56.8)	**100.9 %**	(75.9)	**101.3 %**
'77 Fund	115.6	**98.3 %**	89.3	**98.6 %**
JRS	27.8	**95.3 %**	47.9	**91.8 %**
EG&C	14.6	**91.1 %**	11.6	**92.3 %**
PARF	37.8	**64.7 %**	45.2	**59.0 %**
LE DB	0.1	**95.5 %**	0.3	**90.0 %**
Total Pre-Funded DB Retirement Plans	**$2,860.3**	**90.6 %**	**$3,536.7**	**88.1 %**
TRF Pre-'96 DB	10,260.9	**26.5 %**	10,695.0	**25.7 %**
Total DB Retirement Plans	**$13,121.2**	**70.4 %**	**$14,231.7**	**67.8 %**

PRS

INPRS Funded Status as of June 30, 2020 Comparison to June 30, 2025 Projection

Indiana Public Retirement System (INPRS)

(dollars in millions)	**Actuarial Valuation as of June 30, 2020**		**Actuarial Valuation as of June 30, 2025**	
Pre-Funded Defined Benefit Retirement Plans	**Unfunded Actuarial Accrued Liability**	**Actuarial Funded Status**	**Unfunded Actuarial Accrued Liability**	**Actuarial Funded Status**
PERF DB	$2,721.2	**83.3 %**	$1,708.2	**90.2 %**
TRF '96 DB	(56.8)	**100.9 %**	49.9	**99.4 %**
'77 Fund	115.6	**98.3 %**	119.8	**98.6 %**
JRS	27.8	**95.3 %**	33.5	**95.3 %**
EG&C	14.6	**91.1 %**	(2.4)	**101.2 %**
PARF	37.8	**64.7 %**	29.6	**75.0 %**
LE DB	0.1	**95.5 %**	(0.4)	**120.0 %**
Total Pre-Funded DB Retirement Plans	**$2,860.3**	**90.6 %**	**$1,938.2**	**94.6 %**
TRF Pre-'96 DB	10,260.9	**26.5 %**	8,273.1	**32.9 %**
Total DB Retirement Plans	**$13,121.2**	**70.4 %**	**$10,211.3**	**78.9 %**

PRS

INPRS Funded Status as of June 30, 2020
Interest Rate Sensitivities

Indiana Public Retirement System (INPRS)

(dollars in millions)

	Interest rate @ 5.75 %		Interest rate @ 6.75 %		Interest rate @ 7.75 %	
Pre-Funded Defined Benefit Retirement Plans	**Unfunded Actuarial Accrued Liability**	**Actuarial Funded Status**	**Unfunded Actuarial Accrued Liability**	**Actuarial Funded Status**	**Unfunded Actuarial Accrued Liability**	**Actuarial Funded Status**
PERF DB	$4,625.2	**74.6 %**	$2,721.2	**83.3 %**	$1,126.6	**92.3 %**
TRF '96 DB	1,056.8	**85.9 %**	(56.8)	**100.9 %**	(957.4)	**117.4 %**
'77 Fund	1,165.9	**85.1 %**	115.6	**98.3 %**	(735.4)	**112.4 %**
JRS	96.2	**85.4 %**	27.8	**95.3 %**	(29.8)	**105.6 %**
EG&C	36.7	**80.3 %**	14.6	**91.1 %**	(3.6)	**102.5 %**
PARF	50.7	**57.7 %**	37.8	**64.7 %**	27.0	**71.9 %**
LE DB	0.3	**89.7 %**	0.1	**95.5 %**	0.0	**101.3 %**
Total Pre-Funded DB Retirement Plans	**$7,031.8**	**79.6 %**	**$2,860.3**	**90.6 %**	**$(572.6)**	**102.1 %**
TRF Pre-'96 DB	11,519.2	**24.4 %**	10,260.9	**26.5 %**	9,175.3	**28.8 %**
Total DB Retirement Plans	**$18,551.0**	**62.7 %**	**$13,121.2**	**70.4 %**	**$8,602.7**	**78.4 %**

PRS

INPRS Staff Recommendation Total Employer DB Contribution Rate

Contribution Rate	Recommended Total Contribution Rate
Fiscal Year 2022	
PERF — State	11.20 %
TRF '96 DB	5.50 %
Calendar Year 2022	
PERF — PSD Composite Rate	11.20 %
'77 Fund	17.50 %
EG&C	20.75 %
LE DC	14.20 %

No changes from prior employer rates, pursuant to INPRS Funding Policy

PRS

Estimated two COLAs and 13th Check Costs

$ Millions, all values shown as of 6/30/2021	PERF	TRF Pre-'96	TRF '96	EG&C
0.4% COLA beginning 1/1/2022	$30.4	$39.8	$6.3	$0.3
0.4% COLA beginning 1/1/2023	29.6	37.1	6.5	0.3
Total COLA	$60.0	$76.9	$12.8	$0.6
FY 2022 13th Check	$32.7	$22.8	$3.0	$0.1
FY 2023 13th Check	33.7	23.1	3.1	0.1
Total 13th Check	$66.4	$45.9	$6.1	$0.2
June 30, 2020 SRA Balance	$34.6	$63.0	$7.4	$0.3

PRS

INPRS Staff Recommendations
DB Supplemental Reserve Accounts (SRAs)

Recommendation: do not decrease surcharge rates until FY 22-23 postretirement benefit increases are known

Fund	Calendar 2020 Surcharge Rate	Actuarially Calculated 2021 Surcharge Rate	Recommended Calendar 2021 Surcharge Rate
PERF	0.44%	0.37%	0.44%
TRF '96	0.14%	0.13%	0.14%
EG&C	0.61%	0.85%	0.85%

Recommendation: delegate to the INPRS Executive Director the lottery revenue allocation for the $15 million to be received from February 1, 2021 – July 31, 2021

PRS

FY 2022 & FY 2023 DB Appropriations

Appropriation Amounts ($000's)	2022	2023
	Appropriation	Appropriation
TRF PRE -'96	975,000	1,004,300
JRS *	17,564	18,047
PARF	4,044	4,155
LE DB	183	183
Pension Relief	155,000	152,500

*Includes Court Docket Fees of $7,153

INPRS Staff recommends that the Board request the above appropriation amounts from the General Assembly

PRS

My Choice: DC Contribution Rate

- **As of January 1, 2013, all PERF State new hires may elect to participate in the DB hybrid or My Choice**
- **As of July 1, 2016, PERF political subdivisions may offer My Choice to new members**
- **As of July 1, 2019 TRF '96 began offering My Choice to new members**
- **Overview of My Choice plans' benefits:**
  - Member contribution rate fixed at 3%
  - Employer contribution rate will be the same as DB contribution rate with two components:
    - Crediting rate to the member's My Choice shall be at least 3.0% and not greater than the normal cost of the fund*
    - Any amount not credited to the member's account shall be applied to the Unfunded Actuarial Accrued Liability (UAAL) of the relevant fund.

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My Choice: DC Contribution Rate

	PERF State (FY 2022)		PERF Political Sub.* (CY 2022)		TRF '96 (FY 2022)	
	Prior	**Proposed**	**Prior**	**Proposed**	**Prior**	**Proposed**
Total Normal Cost, Rounded Down to 0.1%	3.2%	3.2%	0.0% - 4.0%	0.0% - 3.9%	5.3%	5.3%
Total Employer Contribution Rate	11.2%	11.2%	11.2%	11.2%	5.5%	5.5%
UAAL Contribution Rate	8.0%	8.0%	7.2%	7.3%	0.2%	0.2%

- Normal cost represents the current year's cost of defined benefit growth due to new service and pay being factored into the benefit calculation.
- An additional 3% member contribution is required. The state pays the member's contribution on behalf of the member, while political subdivisions elect whether or not to pay the contribution on behalf of the member.

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Legislators' Defined Contribution Fund Recommended Contribution Rate

	Approved: LE DC Plan Rate Effective 1/1/2021	Recommendation: LE DC Plan Rate Effective 1/1/2022
State Contribution Rate	11.2%	11.2%
Defined Contribution Rate	3.0%	3.0%
Recommended Contribution Rate	14.2%	14.2%

- Statute states the Board shall use the following rates in determining the LE DC crediting rate:
  - The rate at which the State makes contributions to fund the pension portion of a PERF member's retirement benefit
  - The rate at which the State makes contributions to the Defined Contribution Accounts on behalf of State employees who are members of PERF.

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Recommendations

- INPRS Staff recommends approval of the above
  - Total Employer DB Contribution Rates
  - DB Surcharge Rates for PERF, TRF '96, and EG&C
  - Delegation of $15M of lottery revenue allocation to the INPRS Executive Director
  - LE DC Contribution Rates
  - My Choice Employer and UAAL Rates
    - PERF My Choice - State
    - PERF My Choice - Political Subdivisions
    - TRF My Choice

PRS

INDIANA PUBLIC RETIREMENT SYSTEM

Appendix

PERF

Summary – PERF

- Changes from the Experience Study decreased the UAAL
- Experience largely followed expectations
- Current funding policy leads to reaching 100% funded in 10 years

System Assets – PERF
($ in millions)

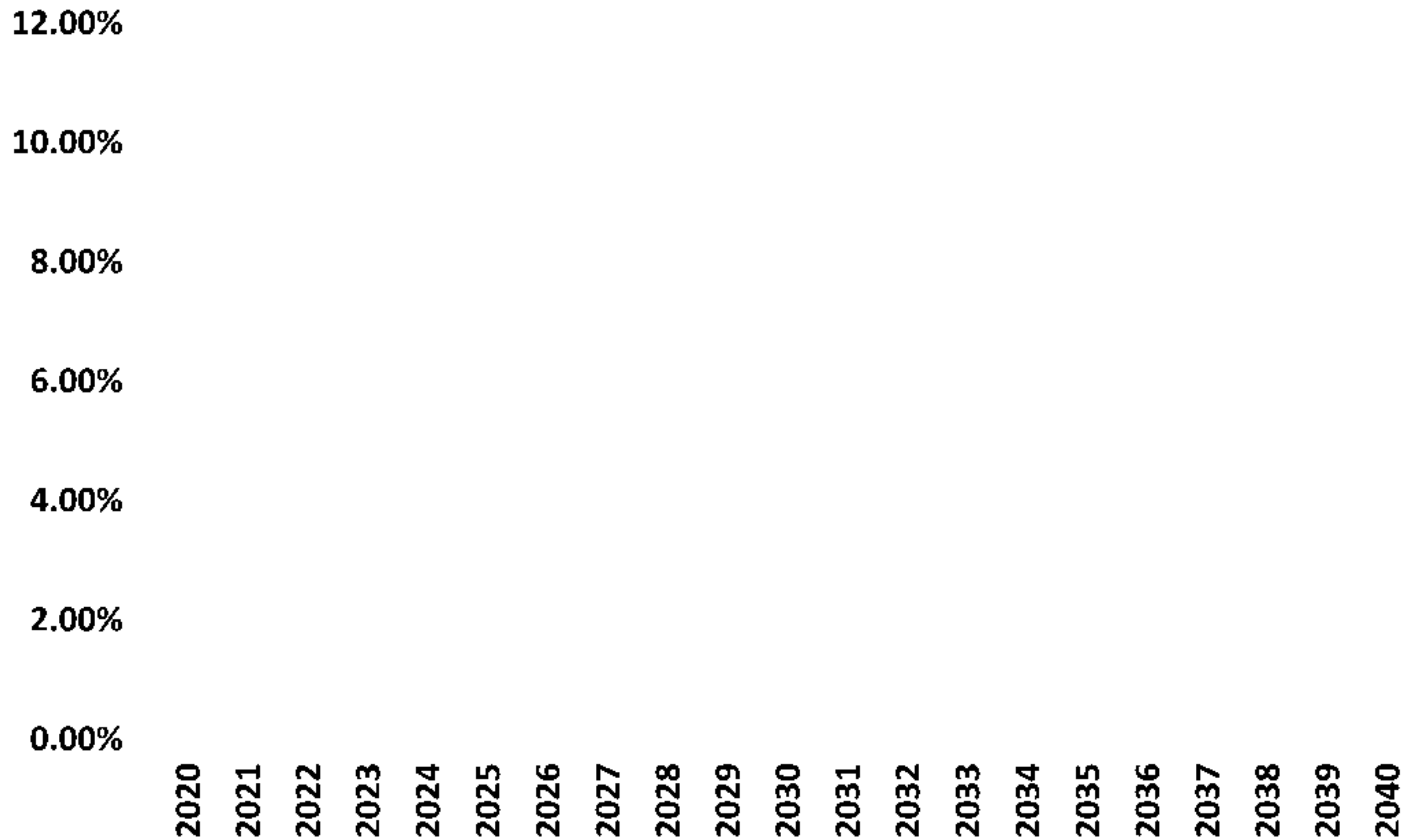
	Market	Actuarial
Assets, 7/1/19	$ 13,271	$ 13,158
▪ Contributions	599	599
▪ Benefit Payments	(925)	(925)
▪ Administrative Expense	(19)	(19)
▪ Investment Income	335	747
Assets, 7/1/20	$ 13,261	$ 13,560
Rate of Return, Net of Expenses	+2.4%	+5.6%

- **Deferred (unrecognized) investment loss at 7/1/20 is $299 million.**
- **Assets include SRA value of assets**

Actuarial Determined Contribution – PERF

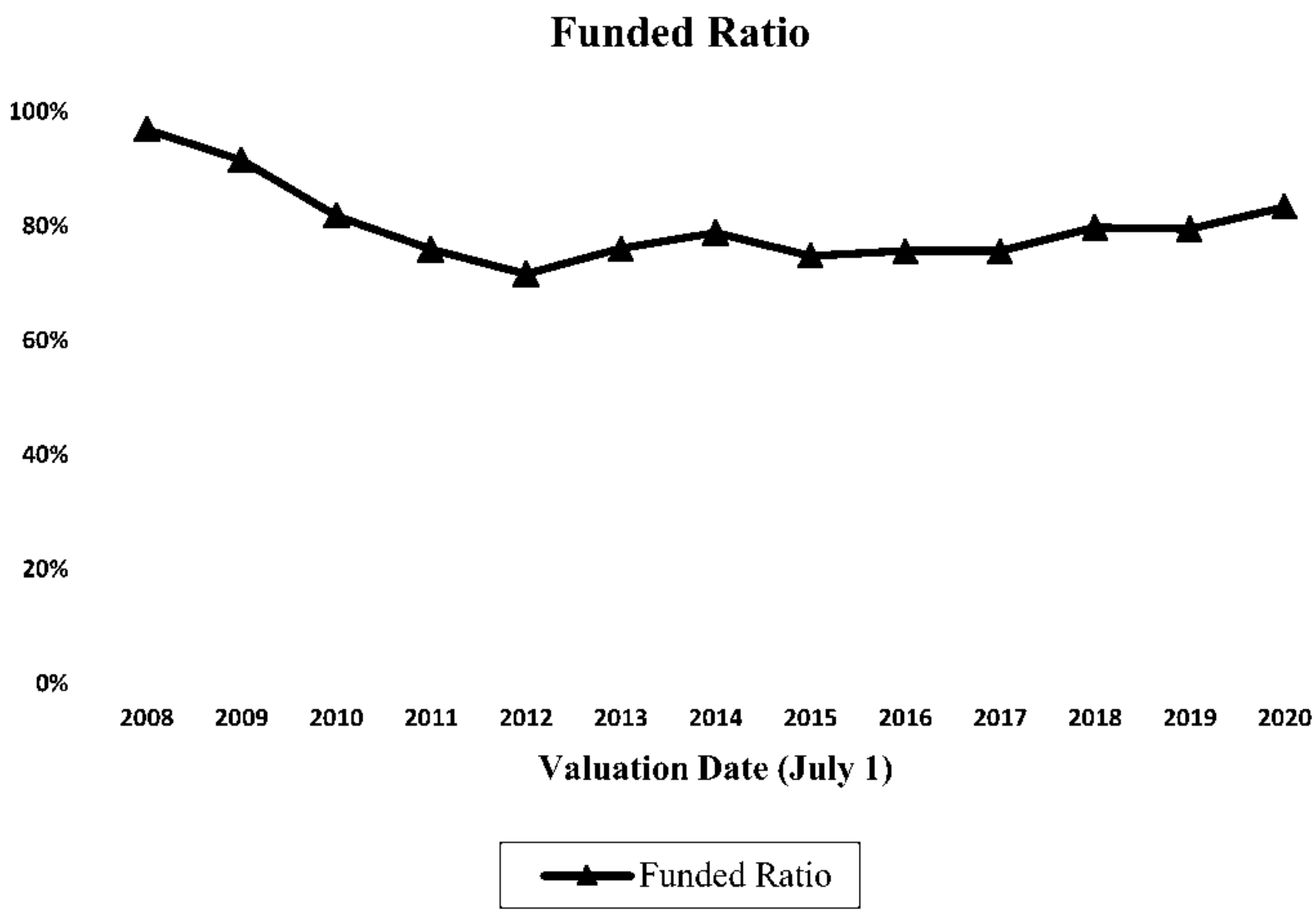
	July 1, 2019	July 1, 2020
Actuarial Contribution Rate		
• Normal Cost	3.60%	3.56%
• Amortization of UAAL	4.47%	3.33%
• Surcharge	0.44%	0.37%
• Total Contribution	8.51%	7.26%
Policy Contribution Rate	11.20%	11.20%

Expected Contribution Rates - PERF



Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets. Based on current funding policy.

Historical Funded Ratio – PERF



Projected Funded Ratio - PERF

Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets.

TRF Pre-'96

Summary – TRF Pre-'96

- Decrease in liability due to assumption changes
- Funding strategy will systematically provide base benefits
  - Lottery proceeds should fund COLAs each biennium.
  - Funding of future COLAs is minimal, so reaching 100% funded on a total basis (with future COLAs) takes many years

System Assets – TRF Pre-'96
($ in millions)

	Market	Actuarial
Assets, 7/1/19	$ 3,759	$ 3,694
▪ Contributions	974	974
▪ Benefit Payments	(1,174)	(1,174)
▪ Administrative Expense	(5)	(5)
▪ Investment Income	107	219
Assets, 7/1/20	$ 3,661	$ 3,708
Rate of Return, Net of Expenses	+2.8%	+6.0%

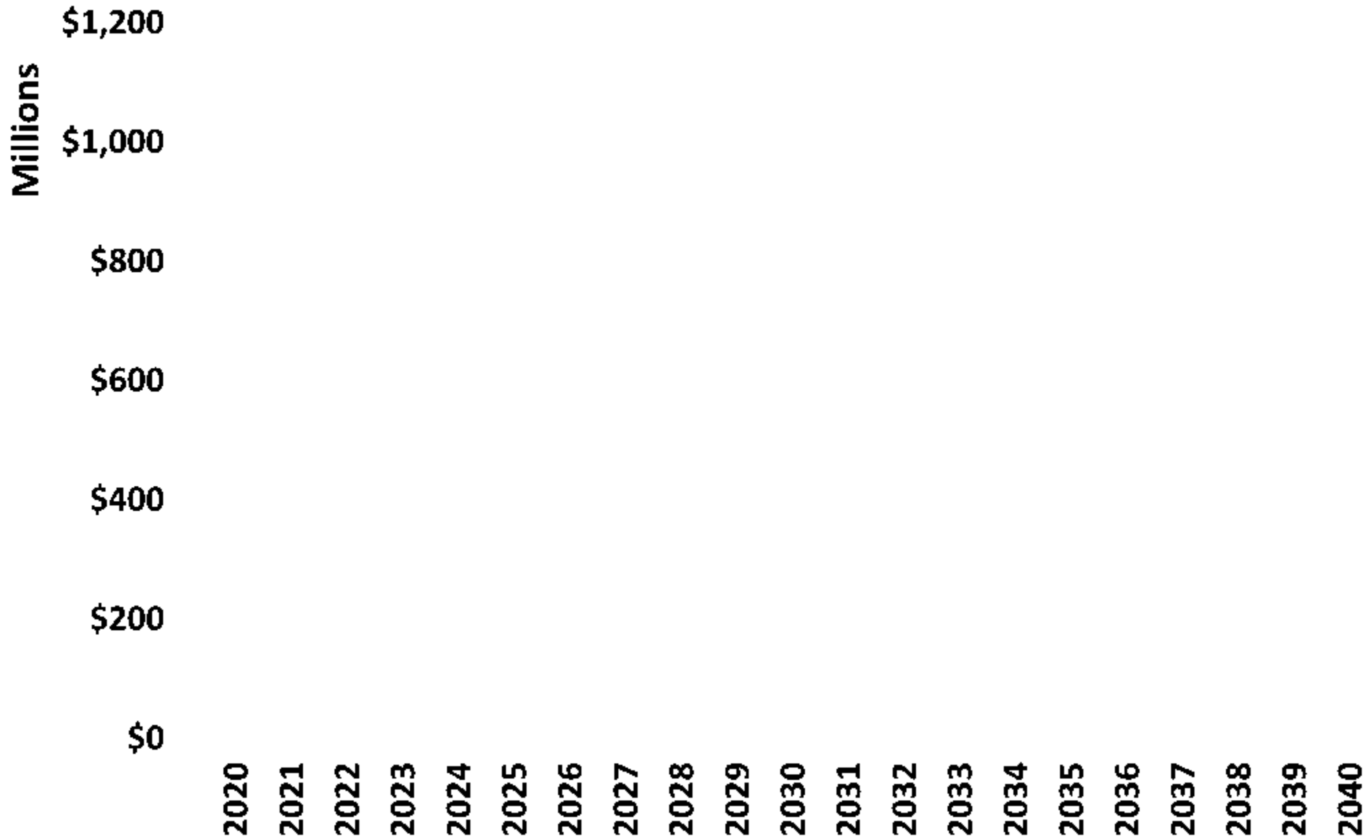
- **Deferred (unrecognized) investment loss at 7/1/20 is $47 million.**
- **Assets include SRA value of assets.**

Actuarial Determined Contribution
TRF Pre-'96

	July 1, 2019	July 1, 2020
Normal Cost	4.75%	4.81%
Actuarially Determined Contribution Rate	134.79%	150.79%
Scheduled Appropriation	$ 919,000,000	$ 946,600,000
Lottery Proceeds for COLA Funding	$ 30,000,000	$ 30,000,000

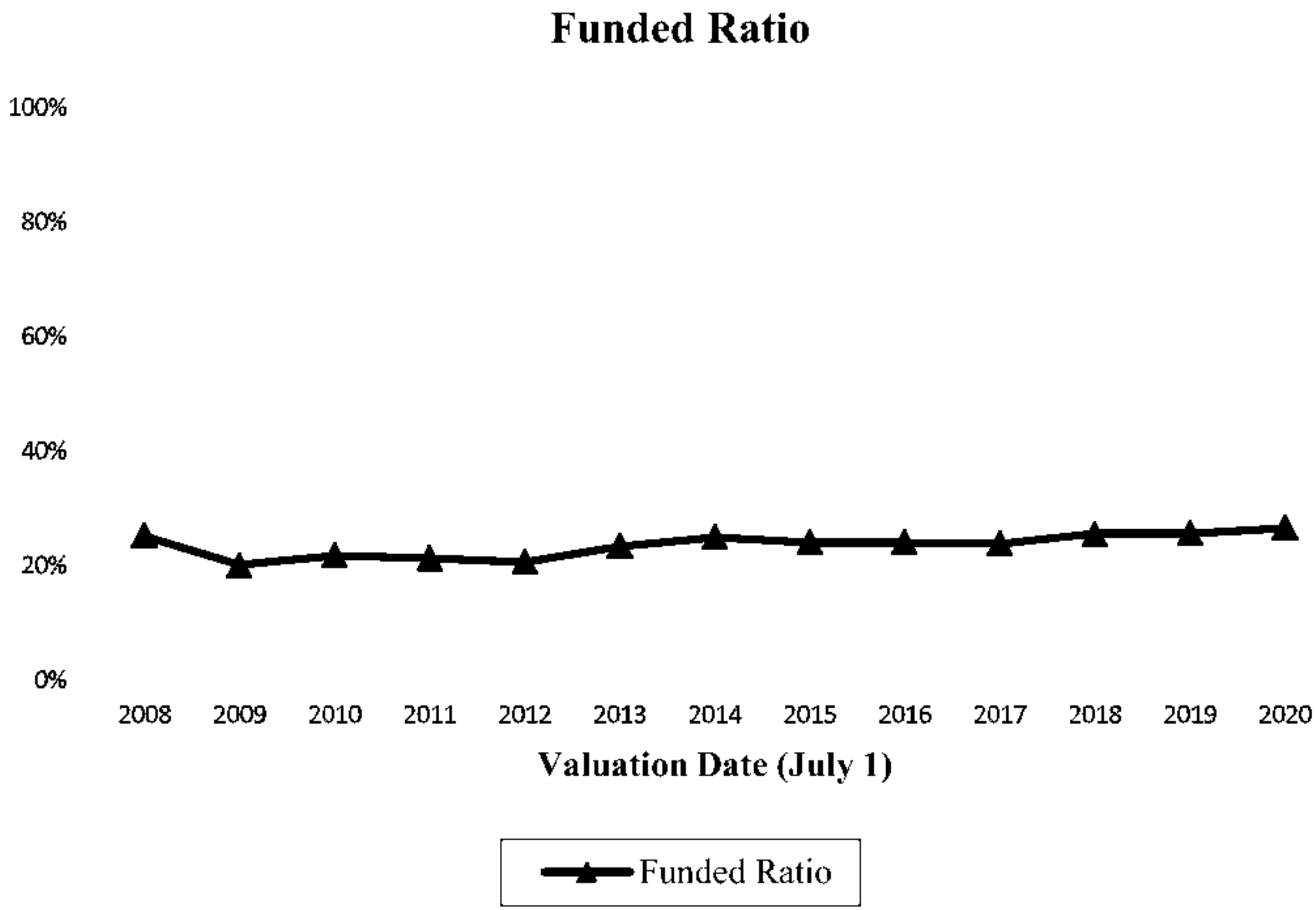
Actuarial contribution rate is not used to develop the actual state appropriations which are based on funding policy and law. Scheduled appropriations for legislative-approved 13th checks are in addition to the amounts shown.

Expected Contribution Amounts
TRF Pre-’96

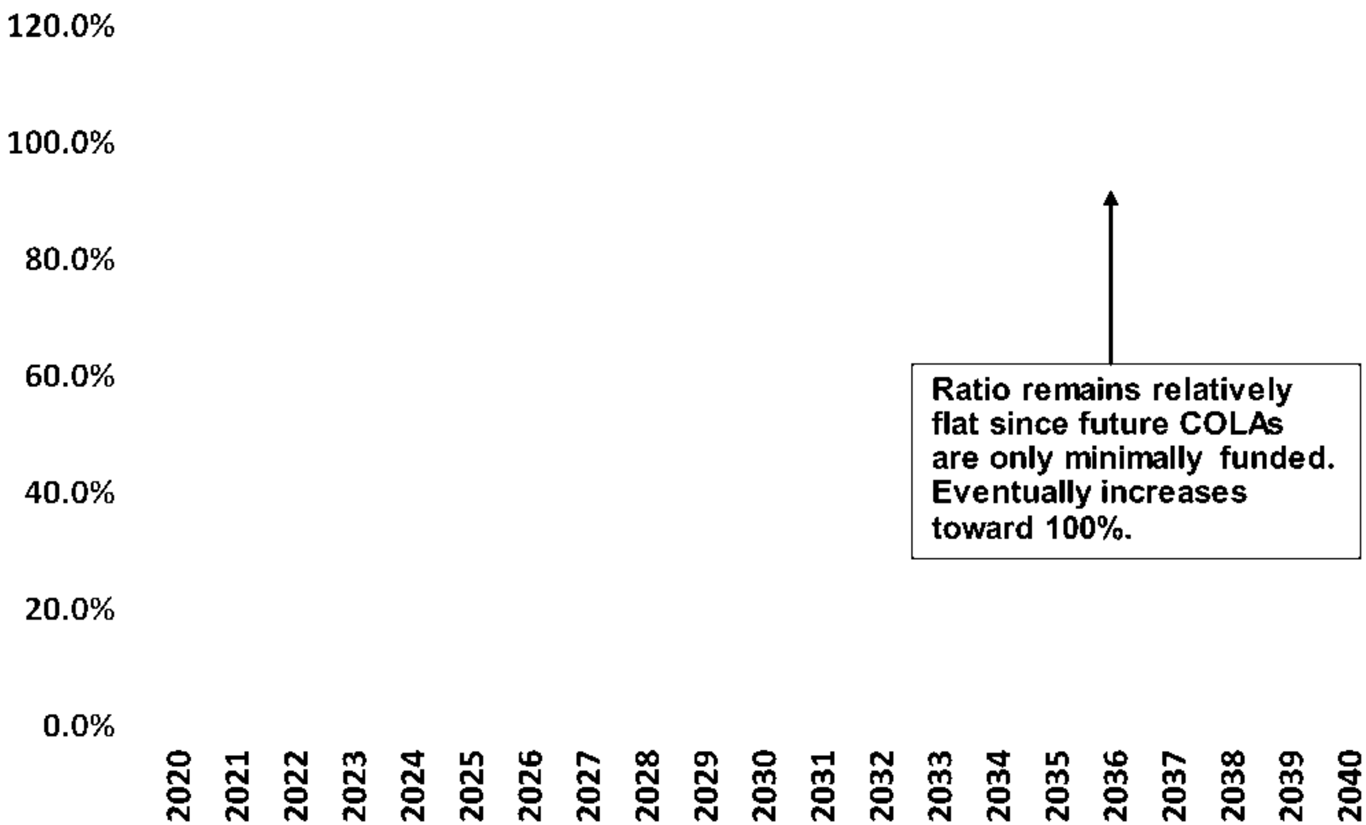


Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets. Based on current funding policy. Includes State appropriations and lottery proceeds.

Historical Funded Ratio – TRF Pre-'96



Projected Funded Ratio - TRF Pre-'96



Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets.

TRF ’96

Summary – TRF '96

- Minimal impact from assumption changes
- The funded ratio exceeds 100%, but there is only a small difference between the employer contribution rate and the normal cost rate
  - Modest adverse experience could result in contribution increases

System Assets – TRF '96

($ in millions)

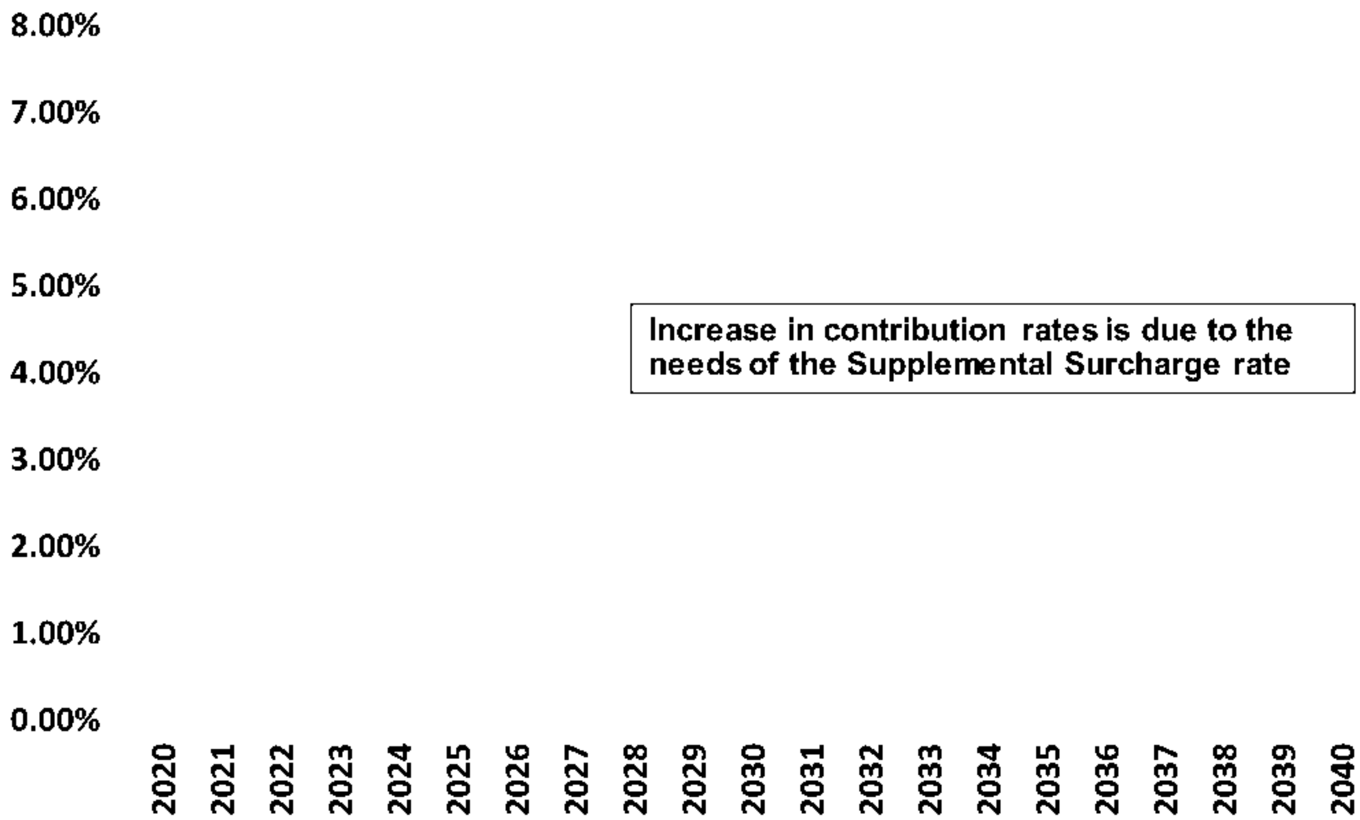
	Market	Actuarial
Assets, 7/1/19	$ 6,124	$ 6,056
▪ Contributions	192	192
▪ Benefit Payments	(143)	(143)
▪ Administrative Expense	(5)	(5)
▪ Investment Income	157	360
Assets, 7/1/20	$ 6,325	$ 6,460
Rate of Return, Net of Expenses	+2.5%	+5.9%

- **Deferred (unrecognized) investment loss at 7/1/20 is $135 million.**
- **Assets include SRA value of assets**

Actuarial Determined Contribution
TRF '96

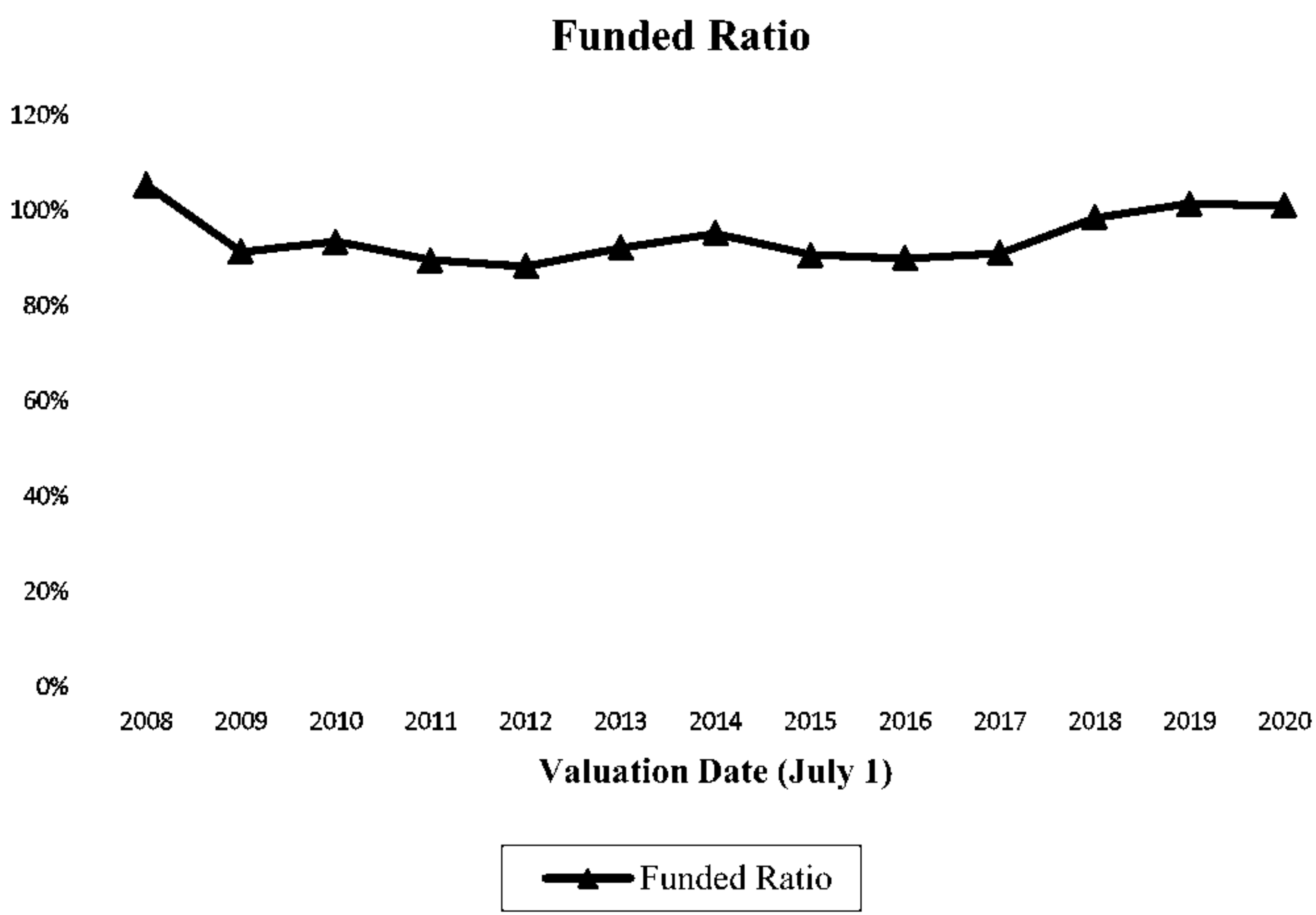
	July 1, 2019	July 1, 2020
Actuarial Contribution Rate		
• Normal Cost	5.04%	5.06%
• Amortization of UAAL	(0.74%)	(0.74%)
• Surcharge	0.14%	0.13%
• Total Contribution	4.44%	4.45%
Policy Contribution Rate	5.50%	5.50%

Expected Contribution Rate
TRF '96

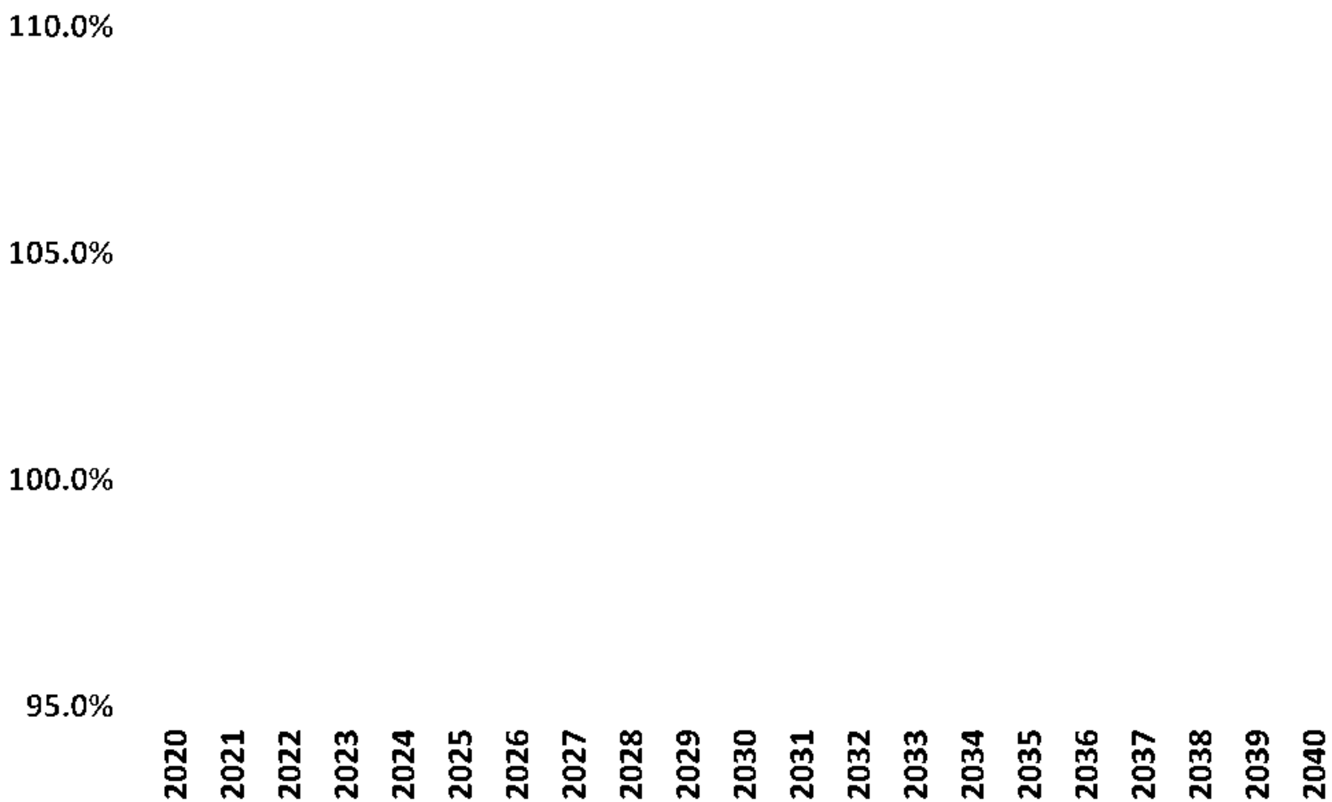


Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets. Based on current funding policy.

Historical Funded Ratio – TRF '96



Projected Funded Ratio - TRF ‘96



Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets.

‘77 Fund

Summary – '77 Fund

- Experience study resulted in an increase in the Normal Cost rate of about 1% of pay

- Steady improvement expected if assumptions are met and no further changes are made

System Assets – '77 Fund

($ in millions)

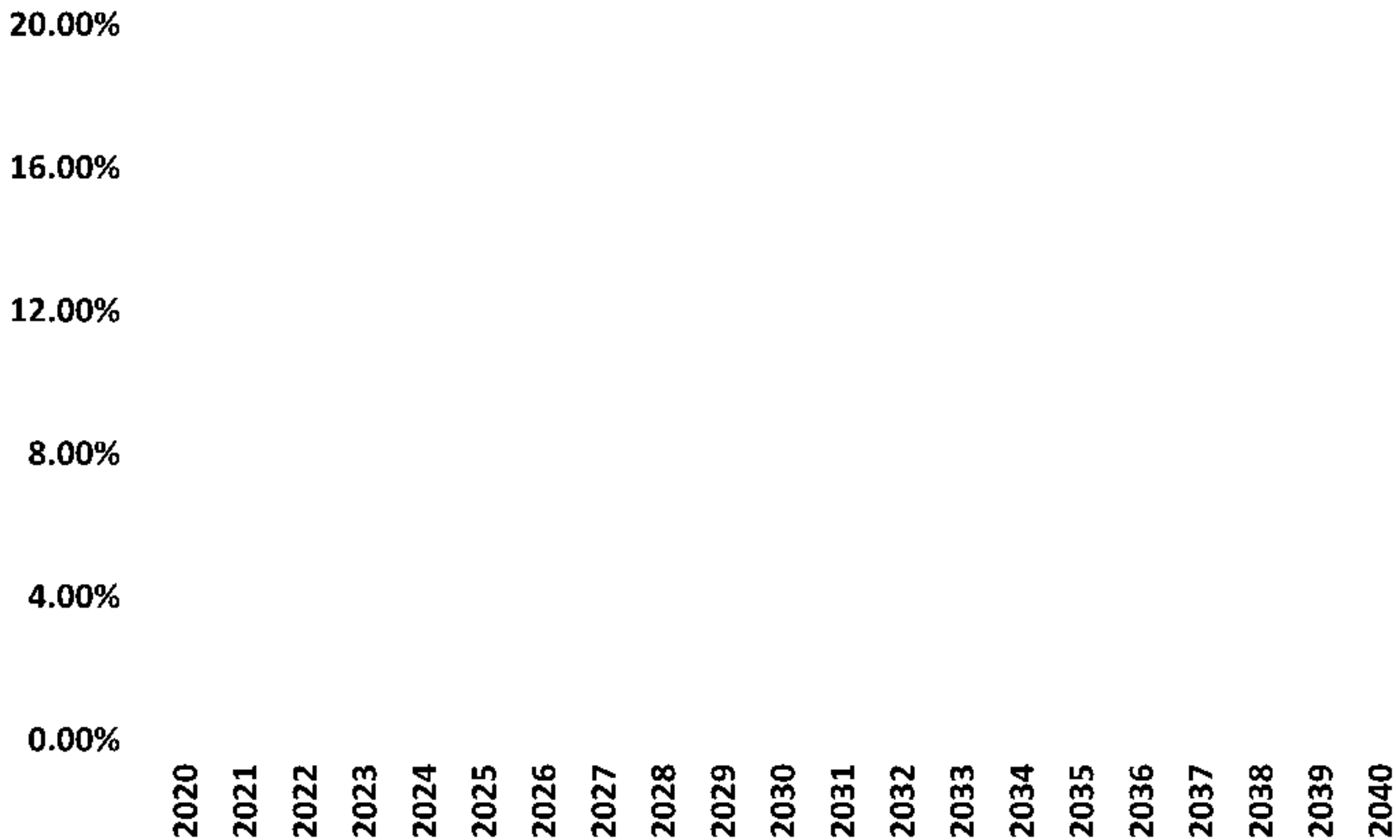
	Market	Actuarial
Assets, 7/1/19	$ 6,380	$ 6,300
▪ Contributions	217	217
▪ Benefit Payments	(216)	(216)
▪ Administrative Expense	(2)	(2)
▪ Investment Income	164	371
Assets, 7/1/20	$ 6,543	$ 6,670
Rate of Return, Net of Expenses	+2.5%	+5.9%

Deferred (unrecognized) investment loss at 7/1/20 is $127 million.

Actuarial Determined Contribution
'77 Fund

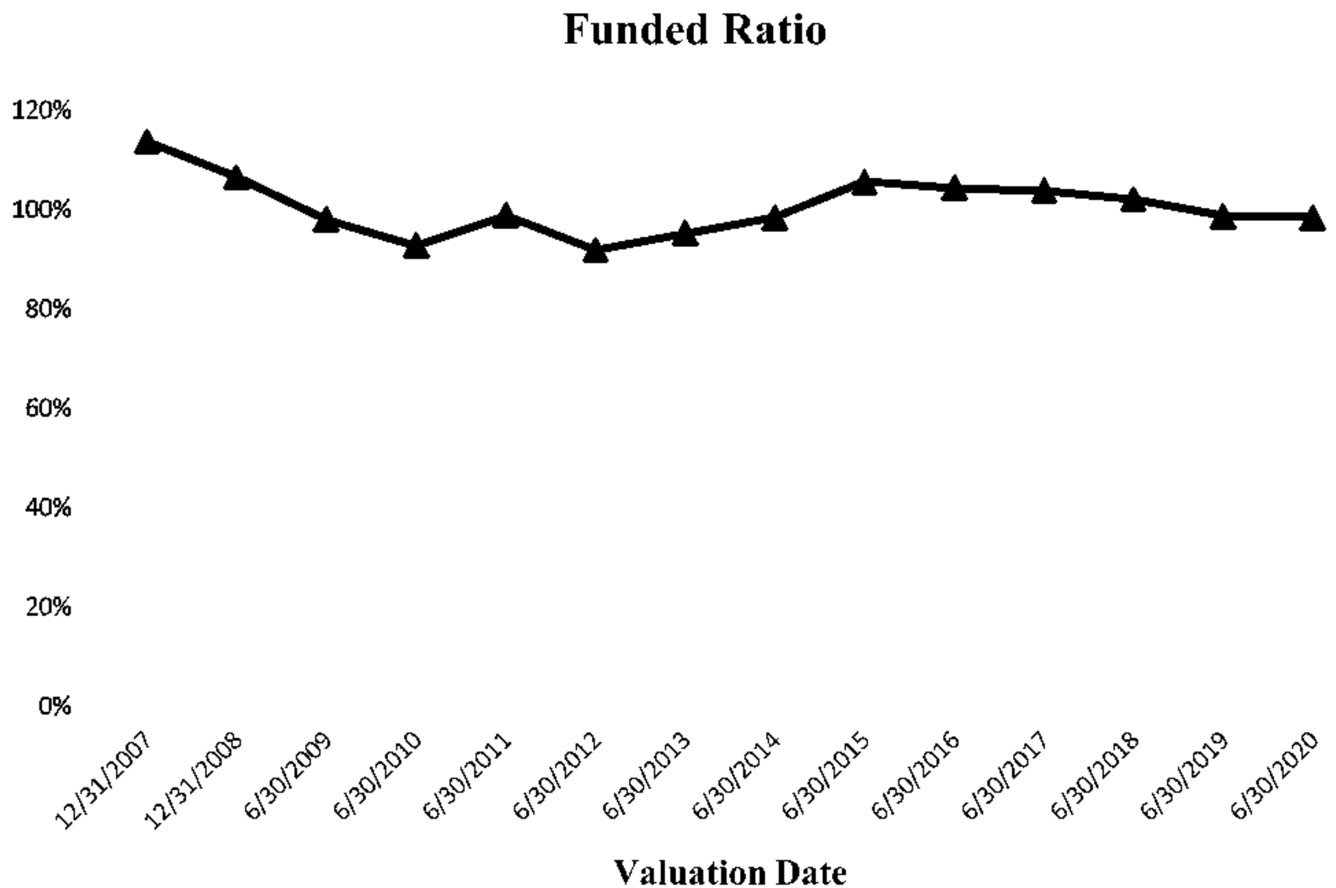
	July 1, 2019	July 1, 2020
Actuarial Contribution Rate		
• Normal Cost	18.30%	19.49%
• Amortization of UAAL	0.87%	1.06%
• Member Contributions	(5.93%)	(5.88%)
• Total Contribution	13.24%	14.67%
Policy Contribution Rate	17.50%	17.50%

Expected Contribution Rates - ‘77 Fund

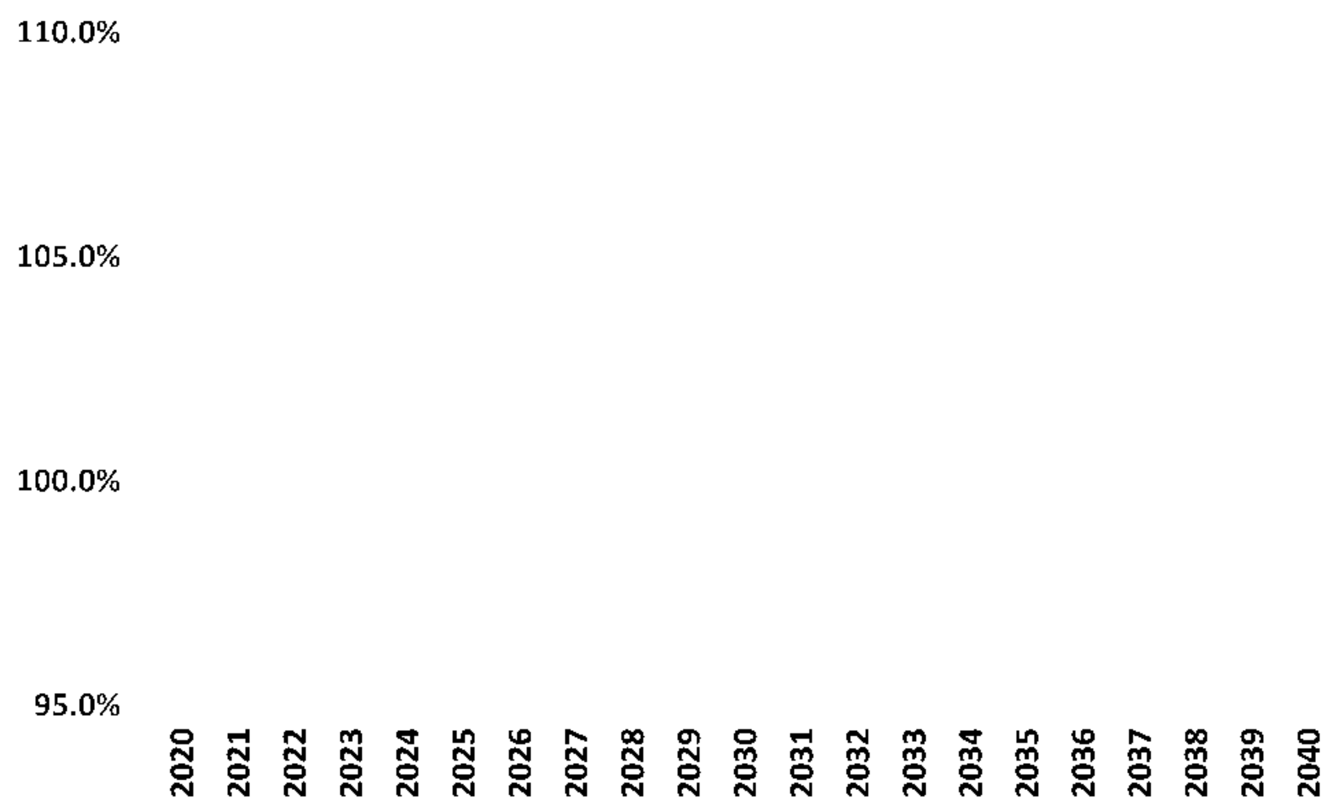


Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets. Based on current funding policy. Employer rate only is shown.

Historical Funded Ratio – '77 Fund



Projected Funded Ratio - ‘77 Fund



Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets.

JRS

Summary – JRS

- New retirement assumptions reduced Actuarial Liability and Normal Cost rate
- Plan continues to remain well funded
- Steady improvement expected if assumptions are met and no changes are made

System Assets – JRS
($ in millions)

	Market	Actuarial
Assets, 7/1/19	$ 545.3	$ 538.6
▪ Contributions	21.7	21.7
▪ Benefit Payments	(26.8)	(26.8)
▪ Administrative Expense	(0.1)	(0.1)
▪ Investment Income	14.0	31.3
Assets, 7/1/20	$ 554.1	$ 564.7
Rate of Return, Net of Expenses	+2.6%	+5.8%

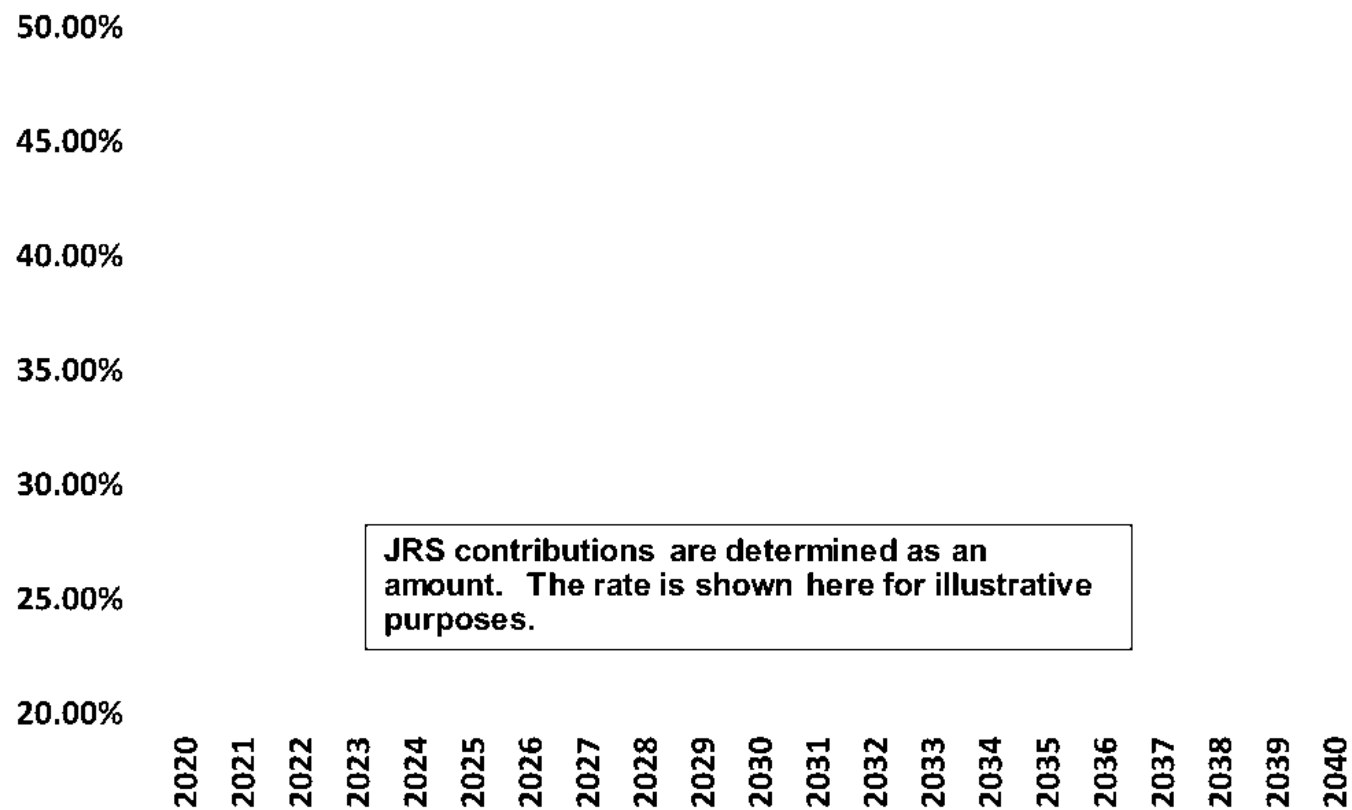
Deferred (unrecognized) investment loss at 7/1/20 is $10.6 million.

Actuarial Determined Contribution - JRS

	July 1, 2019	July 1, 2020
Actuarial Contribution Rate		
• Normal Cost	33.79%	29.89%
• Amortization of UAAL	8.27%	5.33%
• Member Contributions	(6.00%)	(6.00%)
• Total Contribution	36.06%	29.22%
Actuarially Determined Contribution	$ 20,879,520	$ 17,563,885

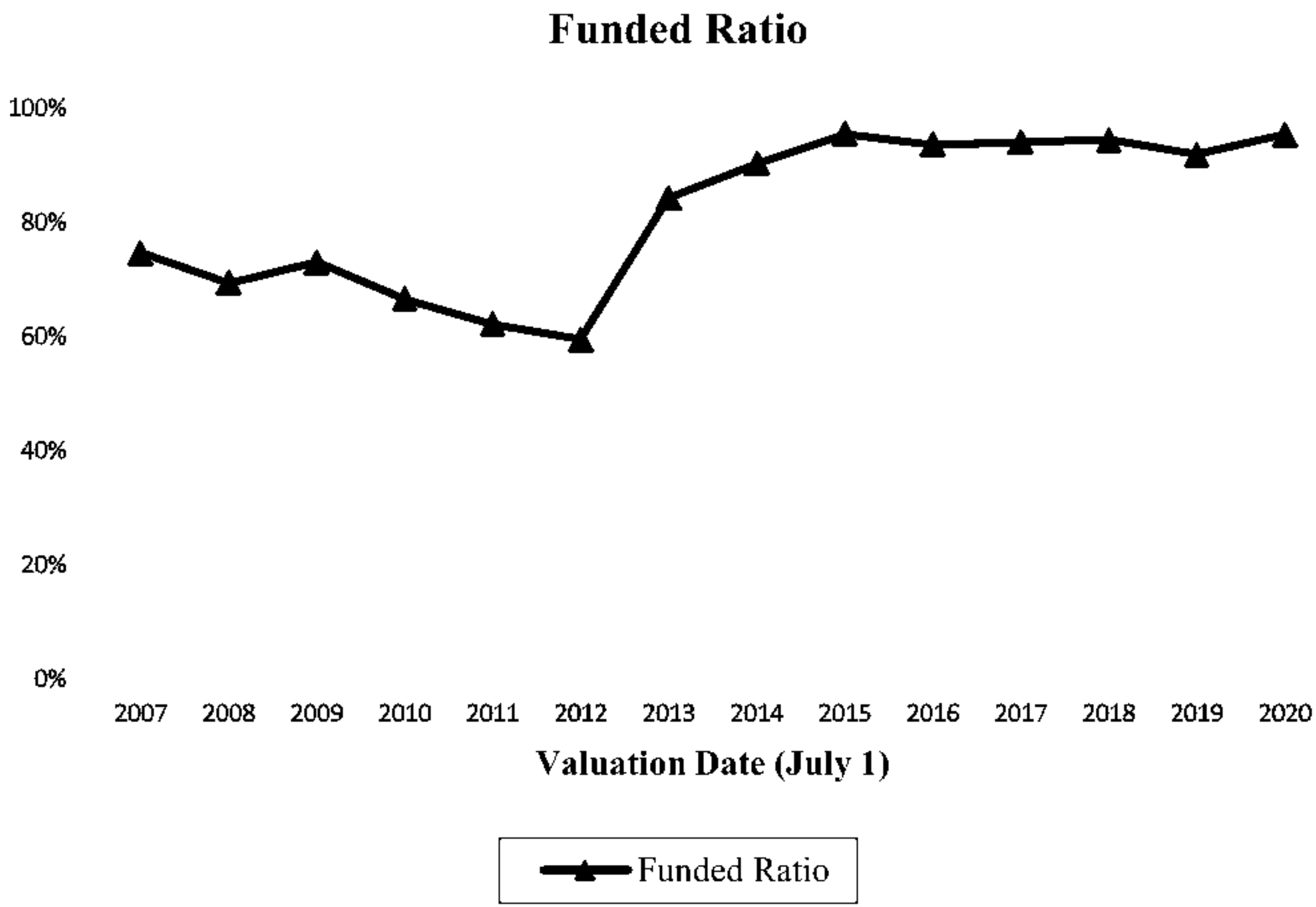
Note that the rates are based on "covered" pay which is for judges with under 22 years of service. These rates are only applied to covered pay in determining the contribution amount.

Expected Contribution Rates - JRS

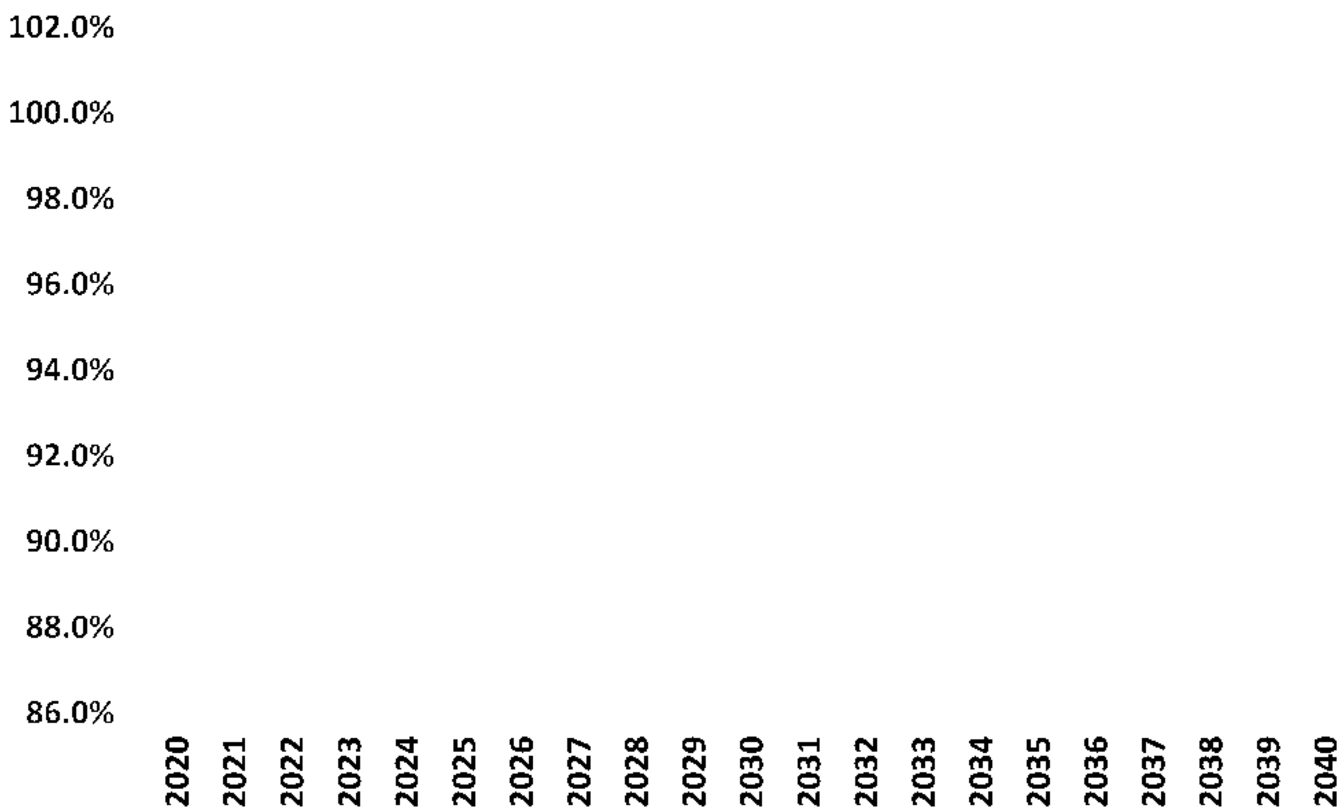


Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets. Based on current funding policy. Employer rate only is shown.

Historical Funded Ratio – JRS



Projected Funded Ratio - JRS



Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets.

PARF

Summary – PARF

- New retirement assumptions reduced Actuarial Liability and Normal Cost rate
- PARF will have more volatility than other plans because it is an offset plan
- Expect slow progress toward 100% funding
  - Amortization of UAAL has one large base with 25 years left and another with 17 years
  - Contributions are set at the actuarial requirement, so there is no extra to accelerate funding

System Assets – PARF

($ in millions)

	Market	Actuarial
Assets, 7/1/19	$ 65.52	$ 64.91
▪ Contributions	5.67	5.67
▪ Benefit Payments	(4.97)	(4.97)
▪ Administrative Expense	(0.07)	(0.07)
▪ Investment Income	1.73	3.75
Assets, 7/1/20	$ 67.88	$ 69.29
Rate of Return, Net of Expenses	+2.5%	+5.6%

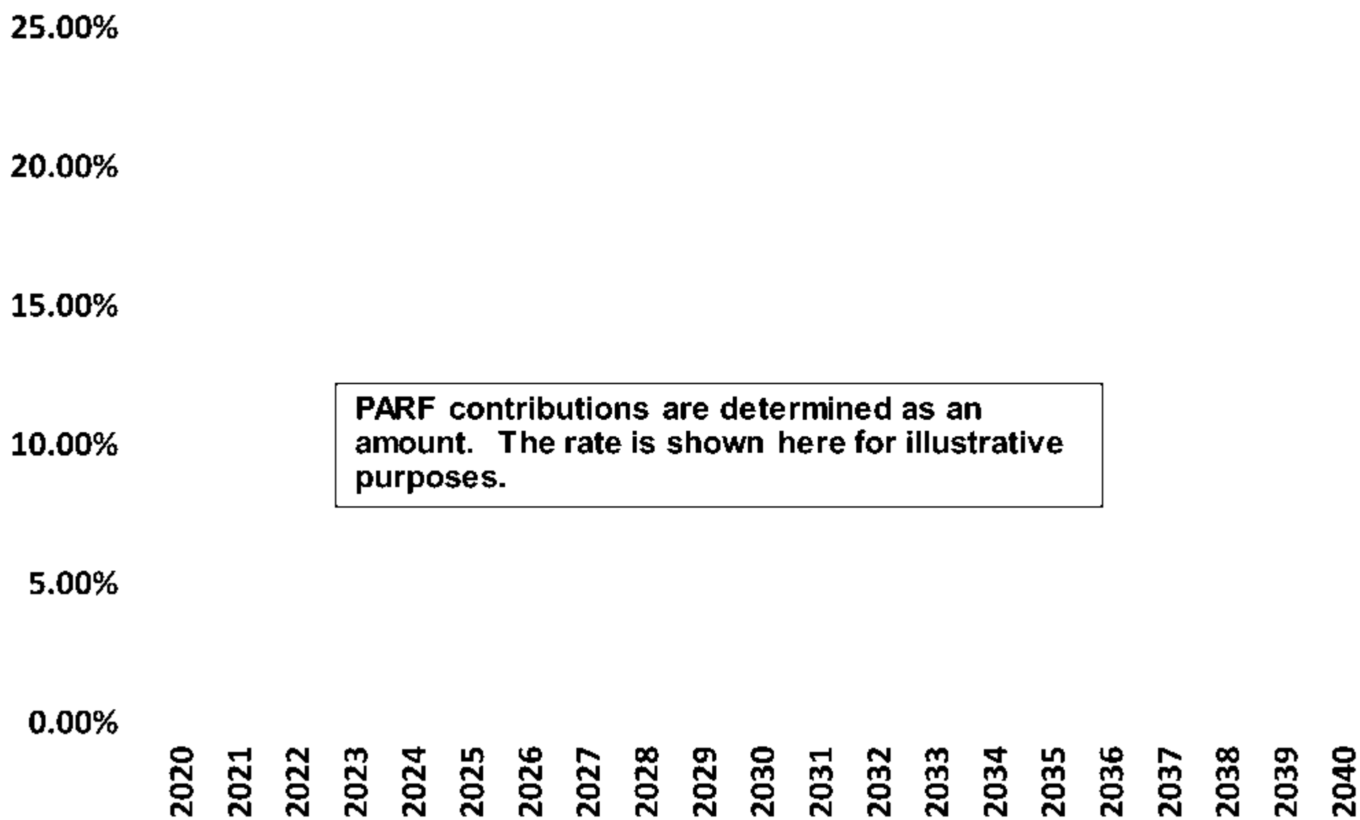
Deferred (unrecognized) investment loss at 7/1/20 is $1,412,643.

Actuarial Determined Contribution - PARF

	July 1, 2019	July 1, 2020
Actuarial Contribution Rate		
• Normal Cost	9.24%	8.73%
• Amortization of UAAL	17.49%	13.59%
• Member Contributions	(6.00%)	(6.00%)
• Total Contribution	20.73%	16.32%
Actuarially Determined Contribution	$ 4,639,177	$ 4,044,194

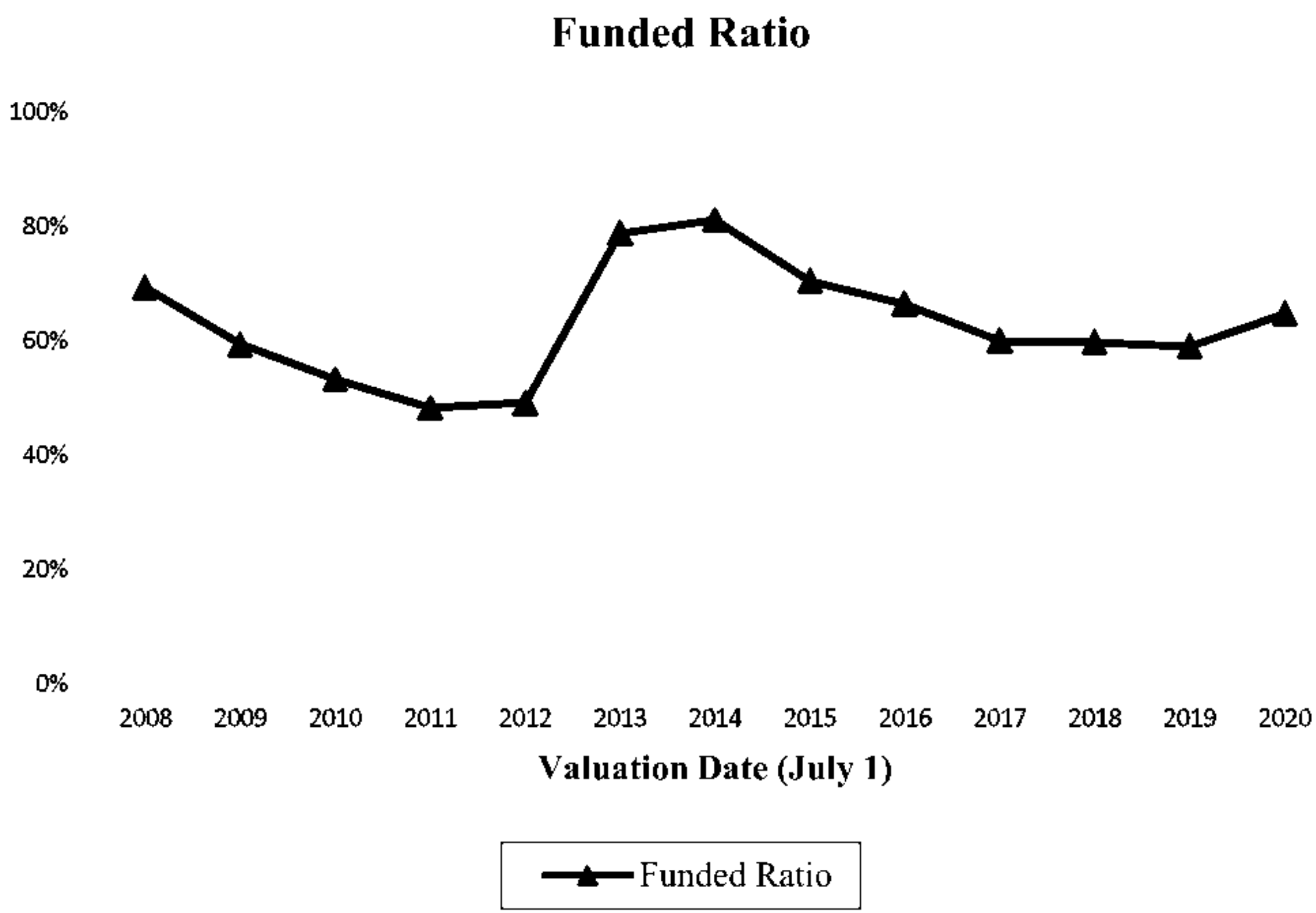
Note that the rates are based on "covered" pay which is for prosecuting attorneys with under 22 years of service. These rates are only applied to covered pay in determining the contribution amount.

Expected Contribution Rates - PARF

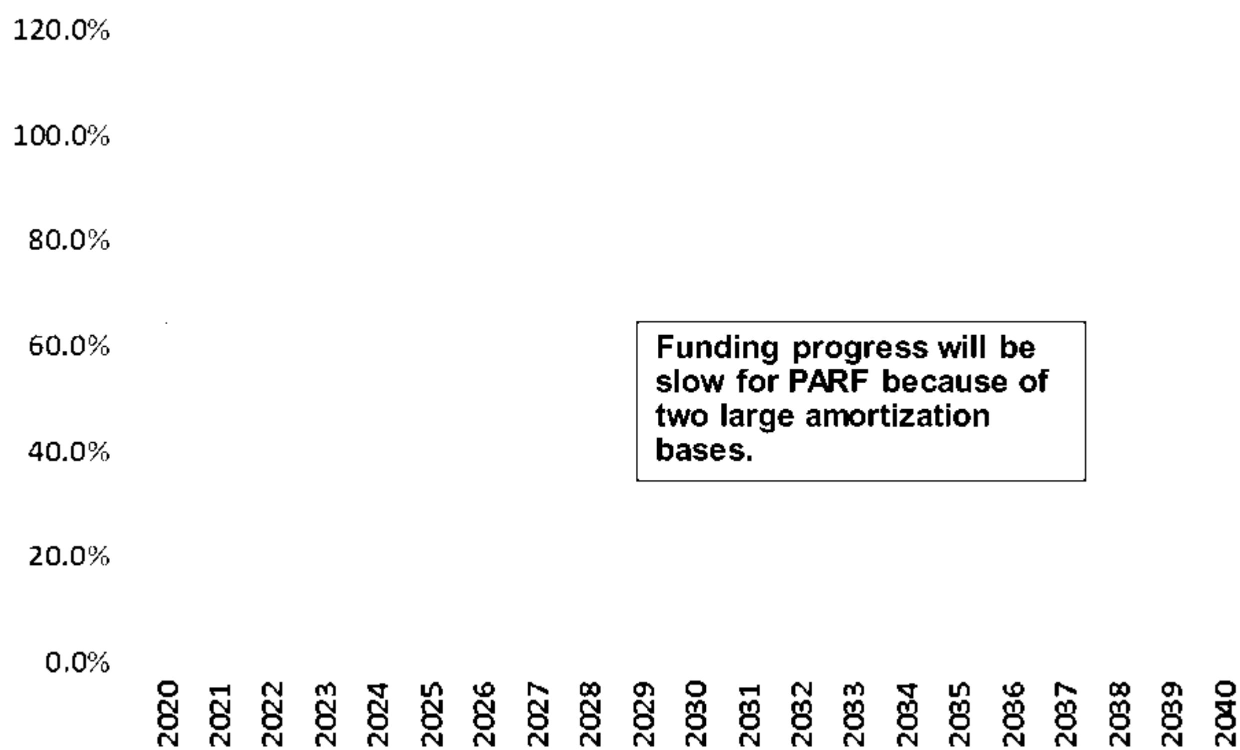


Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets. Based on current funding policy. Employer rate only is shown.

Historical Funded Ratio – PARF



Projected Funded Ratio - PARF



Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets.

EG&C

Summary – EG&C

- New retirement assumptions reduced Actuarial Liability and increased Normal Cost rate
- Funded status remains strong and stable
- Surcharge to fund the anticipated COLA is expected to rise above 1% of pay, so some lottery proceeds will ultimately need to be directed to the Fund
- Salary increases above expectations contributed to an actuarial loss

System Assets – EG&C

($ in millions)

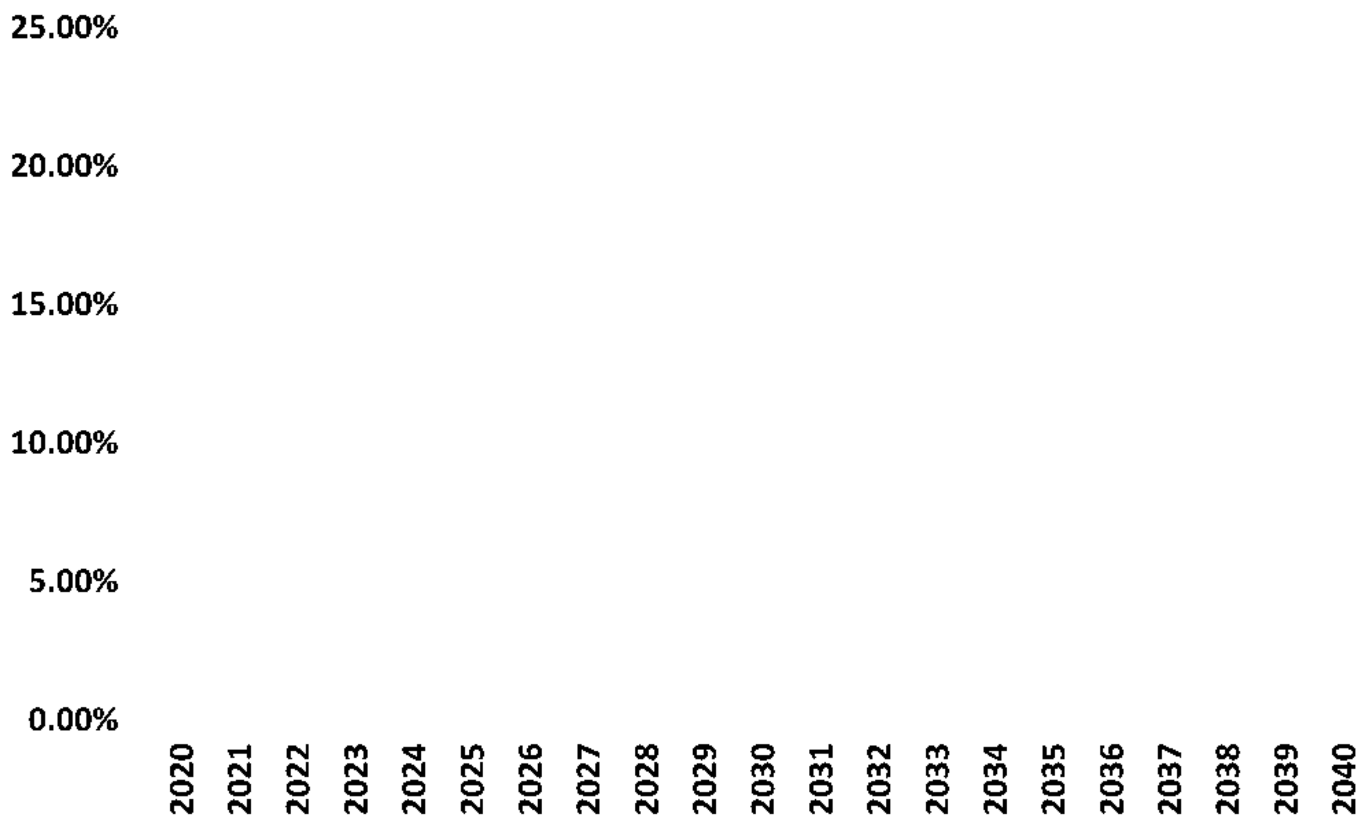
	Market	Actuarial
Assets, 7/1/19	$ 142.11	$ 140.56
▪ Contributions	8.04	8.04
▪ Benefit Payments	(7.37)	(7.37)
▪ Administrative Expense	(0.11)	(0.11)
▪ Investment Income	3.69	8.24
Assets, 7/1/20	$ 146.36	$ 149.36
Rate of Return, Net of Expenses	+2.5%	+5.8%

- **Deferred (unrecognized) investment gain at 7/1/20 is $3,000,783.**
- **Assets include SRA value of assets.**

Actuarial Determined Contribution – EG&C

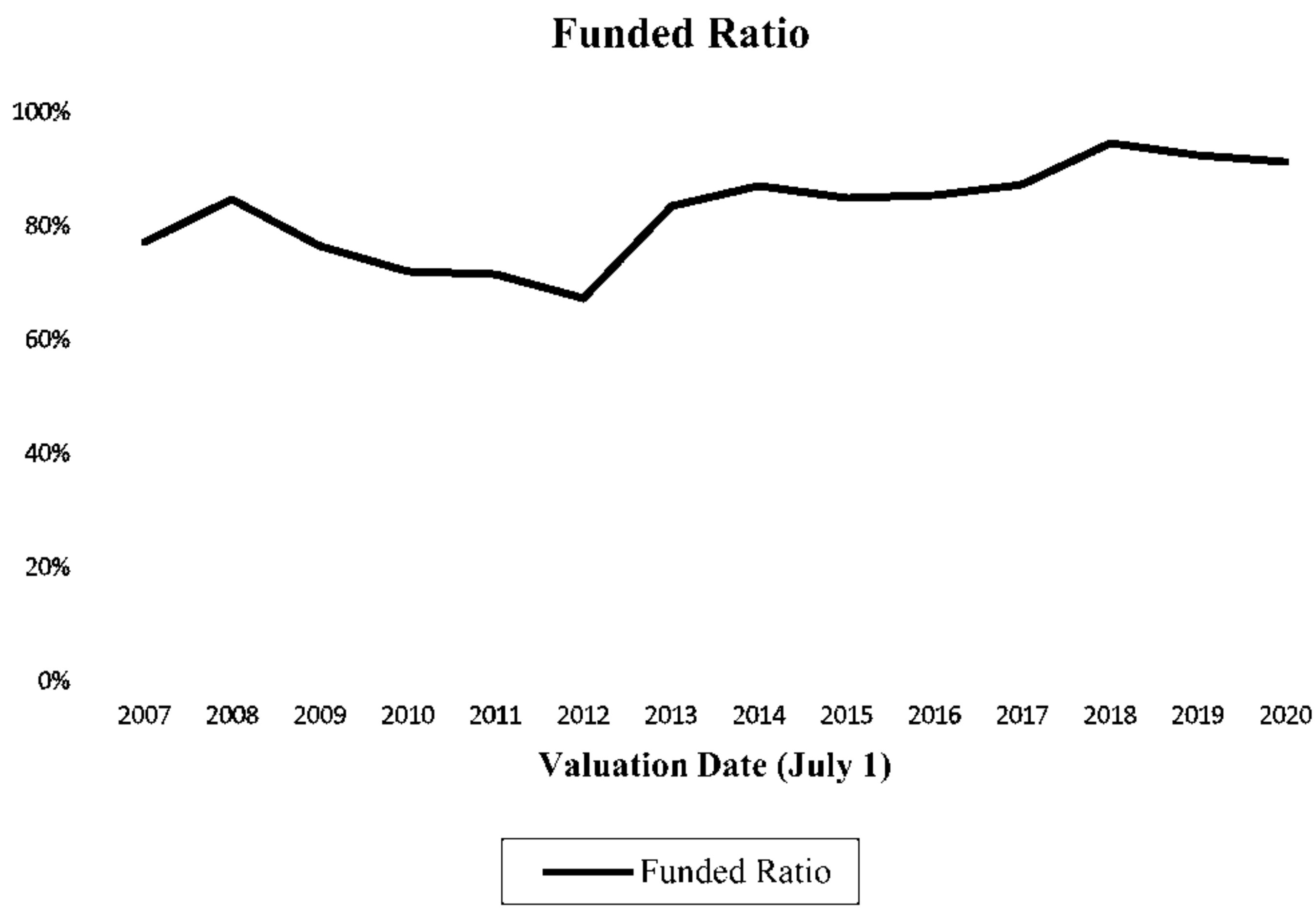
	July 1, 2019	July 1, 2020
Actuarial Contribution Rate		
• Normal Cost	11.09%	11.56%
• Amortization of UAAL	1.29%	2.06%
• Member Contributions	(4.00%)	(4.00%)
• Surcharge	0.61%	0.85%
• Total Contribution	8.99%	10.47%
Policy Contribution Rate	20.75%	20.75%

Expected Contribution Rates - EG&C

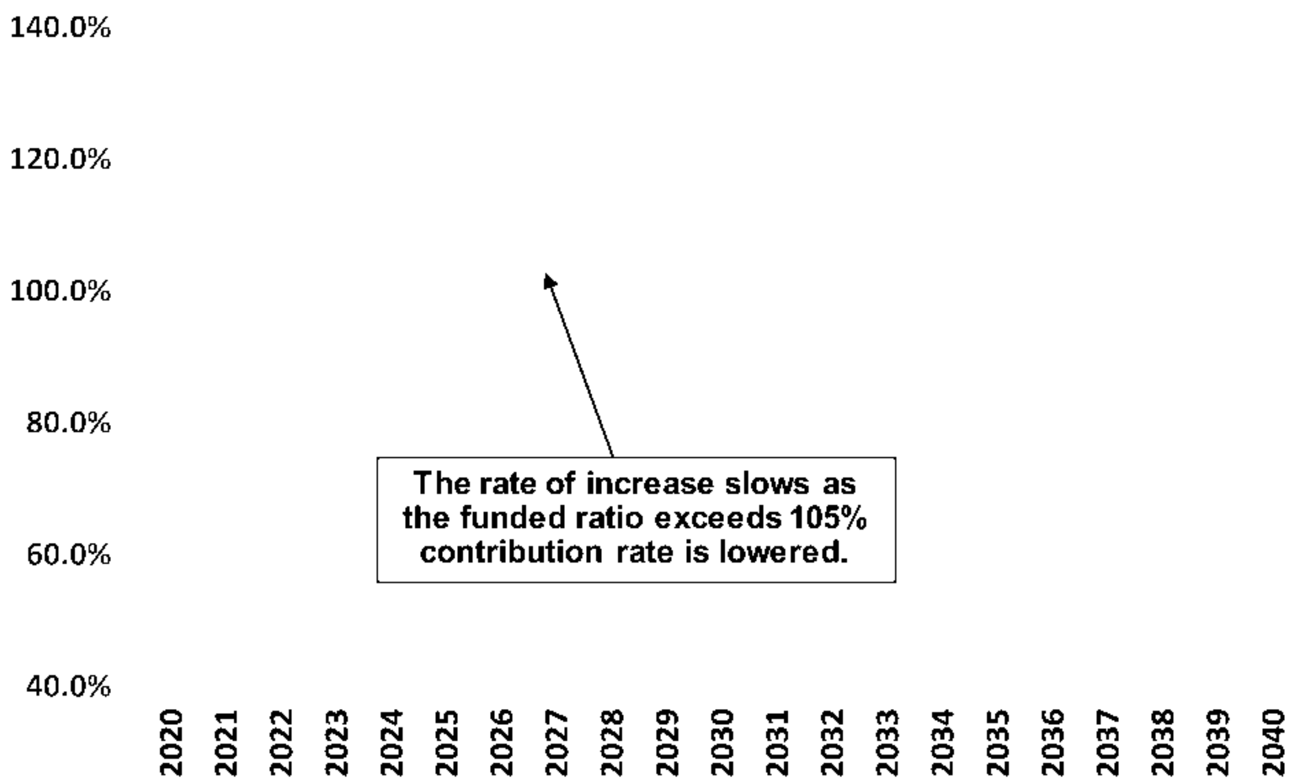


Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets. Based on current funding policy.

Historical Funded Ratio – EG&C



Projected Funded Ratio - EG&C



Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets.

LE DB

Summary – LE DB

- Plan is closed and frozen
- Biggest base is nearly paid off, so plan will be approximately fully funded
- COLA funding options
  - Use lottery proceeds annually
  - Use lottery proceeds when needed
  - Other source of funding
  - Estimated amount needed in 2021 is under $20,000, so simplicity can be considered

System Assets – LE DB
($ in millions)

	Market	Actuarial
Assets, 7/1/19	$ 3.026	$ 3.026
▪ Contributions	0.208	0.208
▪ Benefit Payments	(0.349)	(0.349)
▪ Administrative Expense	(0.038)	(0.038)
▪ Investment Income	0.077	0.139
Assets, 7/1/20	$ 2.924	$ 2.986
Rate of Return, Net of Expenses	+2.6%	+4.8%

Deferred (unrecognized) investment loss at 7/1/20 is $61,789.

Actuarial Determined Contribution – LE DB

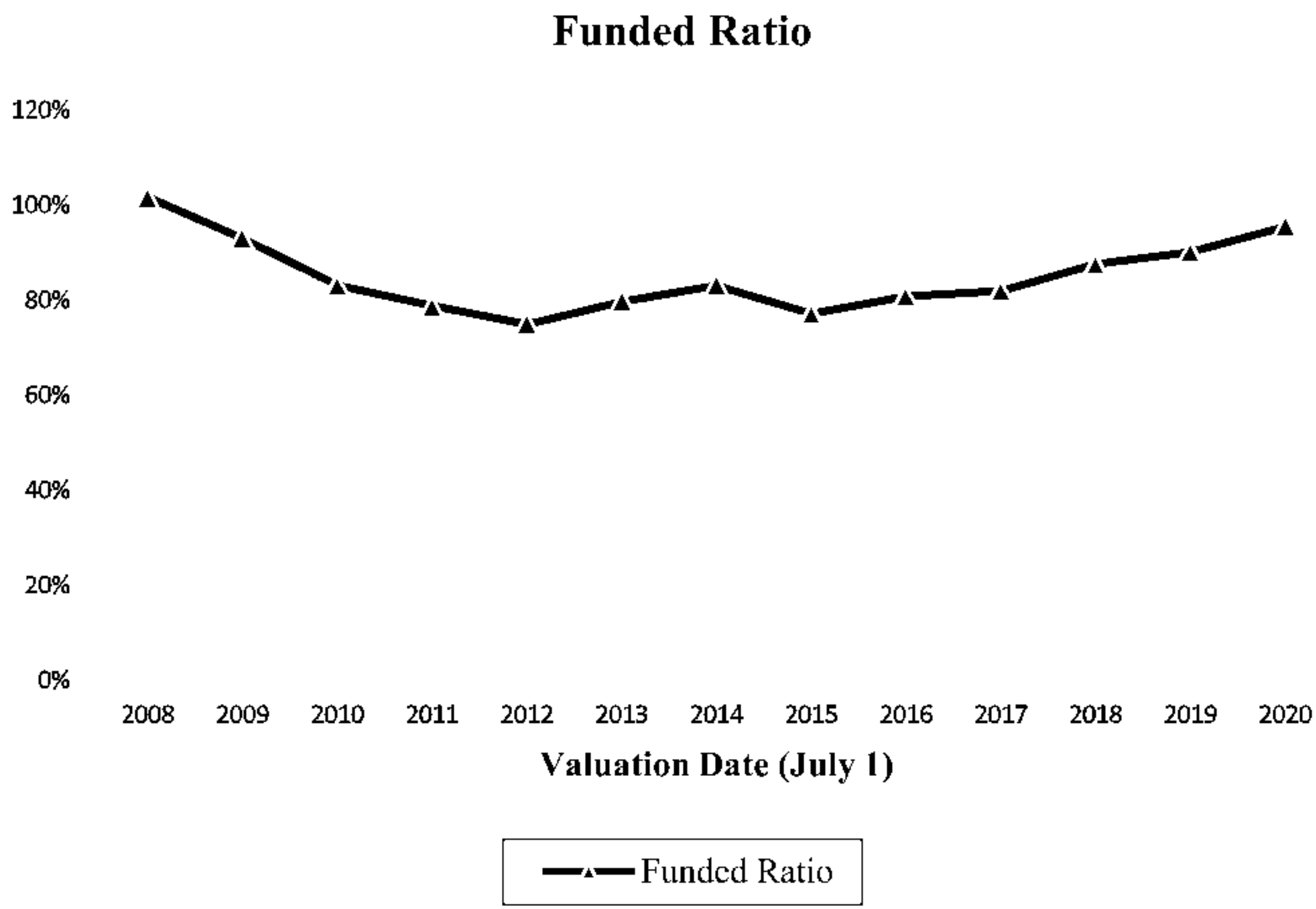
	July 1, 2019	July 1, 2019
Actuarial Contribution Rate		
• Normal Cost	$ 0	$ 0
• Amortization of UAAL	155,810	144,602
• Expenses	37,710	37,910
• Total Contribution	193,520	182,512

Additionally, $19,119 could be allocated from the lottery proceeds to fund future COLAs.

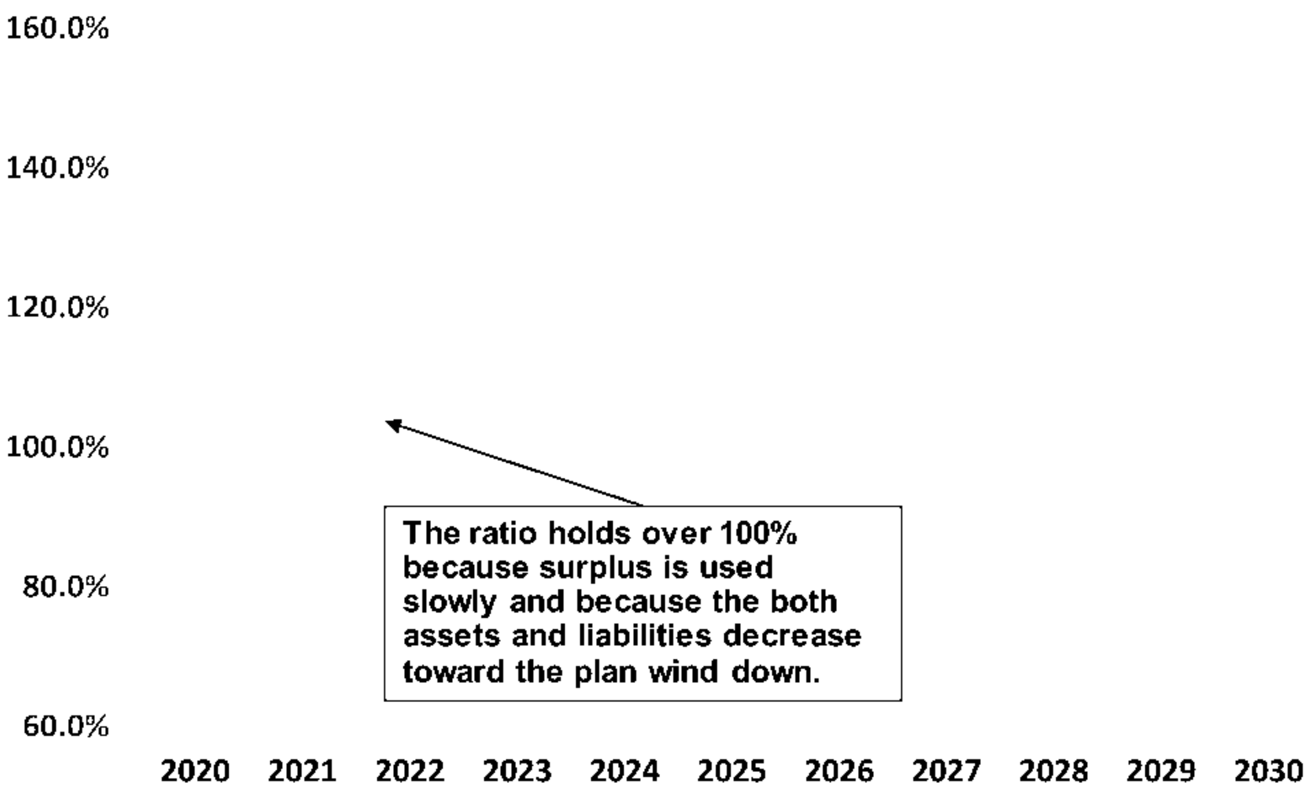
Expected Contribution Rates – LE DB

Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets. Based on current funding policy.

Historical Funded Ratio – LE DB



Projected Funded Ratio – LE DB



Assumes that all actuarial assumptions are met in each future year, including a 6.75% rate of return on the market value of assets.

New Units and Enlargements Effective FY 2020

New Units

- 13 new units joining PERF, 2 joining TRF, and 2 joining the '77 Fund
- At least 41 new positions resulting from these new units
- At least 40 new members resulting from these new units

Enlargements

- 18 current units adding coverage
- At least 26 new positions resulting from these enlargements

Note: New unit counts exclude TRF members since employers must enroll all TRF eligible participants. In addition, new unit and enlargement counts exclude PERF members if the employer indicated that all full time employees are eligible.

One new ‘77 Fund unit is a PERF transfers.

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Withdrawals in FY 2020

Employer	Number of Active PERF Members	Number of Active TRF Members	Effective Date
Lost Creek Township - Vigo County	1		2/1/2020
Posey Township-Washington County	1		12/1/2020
Thurgood Marshall Leadership Academy			6/302019
Northwest IN Health Dept Corp			2/1/2020
Milan Township - Allen County	Soft Freeze		10/1/2019
Theodore Roosevelt College & Career Academy			6/30/2020
Options Charter School of Noblesville			6/30/2020

PERF Enlargements

Employer	Effective Date
Danville Community Schools	5/1/2019
City of Crown Point	5/6/2019
Southern Indiana Development Commission	7/1/2019
Switzerland Co School Corp	7/1/2019
Valparaiso Community Schools	7/1/2019
Sheridan Public Library	7/8/2019
Huntington Co Comm School Corp	8/1/2019
Big Blue River Conservancy District	8/1/2019
Town of Fort Branch	9/1/2019
North Miami Comm Schools	10/1/2019
School City of Hobart	10/1/2019
Oak Hill United School Corp	11/1/2019
Crawford County Community School Corporation	1/1/2020
Town Of Whitestown	2/1/2020
Crown Point Library	3/1/2020
Crown Point Library	4/1/2020
City of Charlestown	6/1/2020
Town Of Newburgh	6/1/2020
Lawrenceburg Community School Corporation	6/1/2020

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PERF New Units

Employer	Effective Date
Carnegie Public Library of Steuben County	2/1/2020
Clark-Pleasant Community School Corporation	10/1/2019
Invent Learning Hub	7/1/2019
Town of Syracuse	9/1/2019
Washington Township - Decatur County	11/1/2019
Sugar Creek Township - Hancock County	1/1/2020
Town of Beverly Shores	1/1/2020
Town of Clay City	1/1/2020
Crawford County Public Library	2/1/2020
Kankakee River Basin and Yellow River Basin Development Commission	1/1/2020
Tri-Township Fire Protection District	5/1/2020
Indianapolis Metropolitan Planning Organization	6/1/2020
Town of Rosedale	6/1/2020

TRF New Units

Employer	Effective Date
Invent Learning Hub	7/1/2019
Dynamic Minds Academy	10/1/2019

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'77 Fund New Units

Employer	Effective Date
Town of Syracuse Police Department	9/1/2019
Middlebury Township Fire Department	1/1/2020

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INDIANA PUBLIC RETIREMENT SYSTEM

Defined Contribution (DC) Member Administrative Fee Update Board Meeting

October 30, 2020

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inprs.in.gov

DC Retirement Plans

- DC Administrative Fees apply to all DC members:
  - PERF
    - Public Employees' Defined Contribution Plan (PERF DC)
    - My Choice: Retirement Savings Plan for Public Employees (PERF MC)-*However, currently, forfeitures cover administrative expenses.
  - TRF
    - Teachers' Defined Contribution Plan (TRF DC)
    - My Choice: Retirement Savings Plan for Teachers (TRF MC)
  - Legislators' Defined Contribution Fund (LE DC)

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DC Administrative Fee Timeline

- March 3, 2017: DC Retirement Plans Member Fee Policy approved by BOT
- October 27, 2017: DC Retirement Plans Member Administrative Fee approved by BOT
- January 1, 2018: INPRS began charging Administrative Fees
- June 30, 2019: First full year of DC expense for analysis
- October 25, 2019: Approval of revised DC Administrative Fee Policy
- October 25, 2019: Approval of increased DC Administrative Fees to begin on January 1, 2020. Fees increased from $36 per year to $45 per year ($3.75 per month)
- Annually in October: Review DC Administrative Fees

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DC Fees

- Current DC fee of $45 per year is adequate to cover DC's share of administrative expense and recordkeeping fees for FY 2021 and to pay down the transition deficit.
- We do not foresee the need to increase DC fees for the next 3-4 years.
- INPRS staff recommends approval to continue DC fees at $45 per year.

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DC Fee Benchmark

INPRS	$3.75	$45.00
2019 NAGDCA Survey (Sourced from 2018 Information)	**Fee Charged**	
All Respondents:		
Typical (50th Percentile)	$7.34	$88.08
25th Percentile	$2.96	$35.56
75th Percentile	$7.71	$92.52
Multi-Employer	$5.81	$69.70
457(b)	$7.65	$91.83
$700 million to $2.5 billion in assets	$5.60	$67.17
Over $2.5 billion in assets	$4.61	$55.27
Over 50K participants	$4.07	$48.87
Has Competing DC plans	$6.74	$80.84
Hoosier S.T.A.R.T (as of October 2020)	$4.82	$57.80

INPRS's DC Administrative Fee is among the lowest of our peers based on the NAGDCA (National Association of Governmental Defined Contribution Administrators) survey information.

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INDIANA PUBLIC RETIREMENT SYSTEM

Master Custody Update

October 30, 2020

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Role of Custodian

- Safekeeping Assets/Securities
- Trade Processing
- Asset Servicing
- Asset/Security Pricing and Valuation
- "Book of Record" Accounting
- Financial, Regulatory, and Performance Reporting
- Compliance Monitoring
- Global Market Documentation
- Tax Reclaims
- Ancillary Services
    - Securities Lending
    - Cash Management
    - Foreign Exchange
    - Alternative Investment Support

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Master Custody Project Timeline

Target Date	Objective	Status
January 2020	INPRS hires Callan LLC to perform Custody Due Diligence Search and Fee Review	Completed
January 2020	Callan and INPRS Staff kickoff Custody Due Diligence project	Completed
January – March 2020	Review existing core requirements, custodian wish list, investment manager survey	Completed
April 2020	Operational Assessment performed virtually with Callan and INPRS Staff	Completed
May - June 2020	Request For Proposal (RFP) draft and internal review	Completed
June 2020	Competitor Asset Servicing Reviews	Completed
June - July 2020	Direct solicitation and minimum requirement acknowledgement	Completed

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Master Custody Project Timeline

Target Date	Objective	Status
July 2020	RFP 20-01 is released to qualifying custodian banks	Completed
August 2020	RFP responses are returned to INPRS Staff and Callan	Completed
August – September 2020	Callan completes evaluation matrix for respondents; INPRS Staff and Callan review evaluation matrix and finalists selected	Completed
October 2020	Virtual finalist presentations and reference checks	Completed
October 2020	Recommend Award to Board	In Progress*
November-December 2020	Execute Contract	Not Started*

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Callan

October 30, 2020

Indiana PRS

Master Custody Due Diligence
Search and Evaluation

Bo Abesamis III
Executive Vice President

Mark Kinoshita
Senior Vice President

Alvaro Vega
Assistant Vice President

Executive Summary

Master Custody Due Diligence

Callan assisted INPRS staff in the due diligence search and fee review for Master Custody Services.

The due diligence process was conducted with utmost care, thoroughness, a focus on fairness to ensure objective solicitation, and with the ability to validate competitiveness of fees and costs.

Define Steps (January 2020 Start Date) and different phases of the search process.

Identify INPRS Evaluation Team and coordinate with internal groups with RFP process.

Solicitation, universe of custodian banks, and evaluation process.

BNY Mellon proposed a compelling custody service solution around unitization, plan accounting, financial reporting, GASB support, investment manager feedback, performance measurement support, alternative investment support, client service and bench strength, depth of resources, and the most competitive fee for the stipulated master custody services required by INPRS.

Callan agrees with INPRS staff in the selection of BNY Mellon as the preferred provider of Master Custody Services.

Master Custody Services Due Diligence

Due Diligence Process

INPRS Custody Profile Assessment

- Catalog Service and Process Requirements
- Virtual Operations Assessment, Best Practice and Custody Workshop
- Structural review of DB, DC, and other Participating Plans
- Investment Manager Feedback

Develop RFP and solicitation approach

- RFP Solicitation and Posting
- Minimum Qualifications
- Timeline

Evaluation Process

- Evaluation Matrix (Core Factors of Differentiation, Service Solution, and Fees/Costs)
- Virtual Finalist Presentations
- Best and Final Offer
- Client Reference

Selection of Preferred Provider

Master Custody Services Due Diligence

Custodian Banks

4 Custodian Banks submitted responses to the RFP

- BNY Mellon, JP Morgan, Northern Trust and State Street Bank

Custody Evaluation Matrix

- Experience
- Client Service
- Financials and Risk Issues
- Custody and Accounting
- DC Support and Daily Valuation
- Systems and Technology
- Alternative Investment Support and Analytics
- Cash Management and Other Services

Fee Evaluation Matrix

- Common set of assumptions
- Fees and Costs

Summary Highlights on Core Factors

All 4 Custodian Banks

- Scale (assets under custody and administration)
- Basic capabilities required (safekeeping, asset servicing and trade processing)

Observations and Analysis of RFP Responses

BNY Mellon – Incumbent, compelling service solution (proven expertise with DB/DC unitized custody, plan accounting, GASB support and financial reporting, alternative investment support and performance analytics), client service, and competitive fees.

JP Morgan – Response was thoughtful and well written, furnished a broad range of services and product deliverables, but lacking proven experience with complex client unitized master custody requirements of INPRS, investment manager feedback was below average, and the most expensive cost proposal for required services.

Northern Trust – Discussion was clear and direct, and focused on how they intend to meet the needs of INPRS, client service approach was noteworthy, relevant experience with DB/DC unitized master custody, and competitive fees.

State Street Bank - Response lacked cohesion and was not prepared properly, product and service deliverables did not convey an organized solution, high client and personnel turnover, and client service approach lacks clarity, but provided competitive fees.

Custody Fees and Costs

Proposed Fees

Custody Bank	BNY Mellon	JP Morgan	Northern Trust	State Street
	$1,100,000	$2,200,000	$1,100,000	$1,096,351

Observations

BNY Mellon and Northern Trust proposed fees were straightforward and costs were similarly competitive at $1.1 million per year.

JPMorgan quoted fees and costs were very expensive compared to the competition at around $2.2 million per year.

State Street calculated fees were in line at around $1.1 million* per year, but certain solutions for alternative investment and performance analytics would require an additional $385,000 per year.

Master Custody Services Due Diligence

Finals

Selected BNY Mellon and Northern Trust for Finals Presentations

Virtual finals presentations concentrated on firm commitments, service solution, client service, multi-asset class support, and understanding of the service structure and requirements.

Observations

The objective of the finalist presentation was to *validate and interrogate* the service solution for the INPRS unitized master custody structure, ability to deliver plan accounting and financial reporting, and alternative investment/analytics support.

INPRS requested BNY Mellon and Northern Trust to submit a "Best and Final Offer" based on the service requirements discussion, specifically the unitized structure required for the DB and DC plans. It was determined that Northern Trust had to confirm if their service solution contemplated certain daily valuation requirements of the DB plan investments for purposes of unitization, and if their proposed fees reflected such requirements.

Best and Final Offer

Custody Bank	RFP Proposed Fees	BAFO Fees
	$1,100,000	**$950,000**
	$1,100,000	**$1,300,000**

Deliberation

Preferred Master Custody Service Provider – BNY Mellon

Incumbent and institutional knowledge of the relationship

Client service approach with commitment to enhance training, operational process efficiencies, and strategic partnership

Integrated accounting and performance platform as required by staff, including alternative investment support

Demonstrated ability to complete required DB/DC Unitization across plans in support of INPRS structure

Compelling value with a competitive fee at $950,000* versus existing $1,250,000 fee.

Board Vote

INPRS Staff recommends retaining BNY Mellon Asset Servicing as custodian for INPRS.

PRS

What gets measured
gets managed

CEM Benchmarking results for the year ended CY 2019

Indiana Public Retirement System
Defined Benefit & Defined Contribution Plan

Sandy Halim, CFA, CPA
Principal
sandy@cembenchmarking.com
www.cembenchmarking.com

CEM Benchmarking

INPRS Defined Benefit - Key takeaways for 2019

Returns

- Your 5-year net total return was 6.6%. This was below the U.S. Public median of 7.5% and below the peer median of 7.5%.
- Your 5-year policy return was 6.0%. This was below the U.S. Public median of 6.9% and below the peer median of 7.0%.

Value added

- Your 5-year net value added was 0.6%. This was above the U.S. Public median of 0.4% and the peer median of 0.4%.

Cost and cost effectiveness

- Your investment cost of 96.4 bps was below your benchmark cost of 101.9 bps. This suggests that your fund was low cost compared to your peers.
- Your fund was low cost because you had a lower cost implementation style and you paid less than peers for similar services.
- Your fund achieved 5-year net value added of 60 bps and excess cost of 2 bps on the cost effectiveness chart.

Cost trend

- Over the past 5 years, your total cost decreased by 15.5 bps because of changes to your investment program:
  - A lower cost asset mix, e.g. decreasing assets in private equity.
  - A lower cost implementation style of increasing use of passive, less fund of funds and more co-investments.

Risk

- Your asset risk of 9.2% was below the U.S. Public median of 10.7%. Your asset-liability risk of 13.1% was below the U.S. Public median of 13.4%.

CEM Benchmarking

This benchmarking report compares your cost and return performance to the 262 funds in CEM's extensive pension database.

- 150 U.S. pension funds participate. The median U.S. fund had assets of $11.5 billion and the average U.S. fund had assets of $25.8 billion. Total participating U.S. assets were $3.9 trillion.

- 66 Canadian funds participate with assets totaling $1.5 trillion.

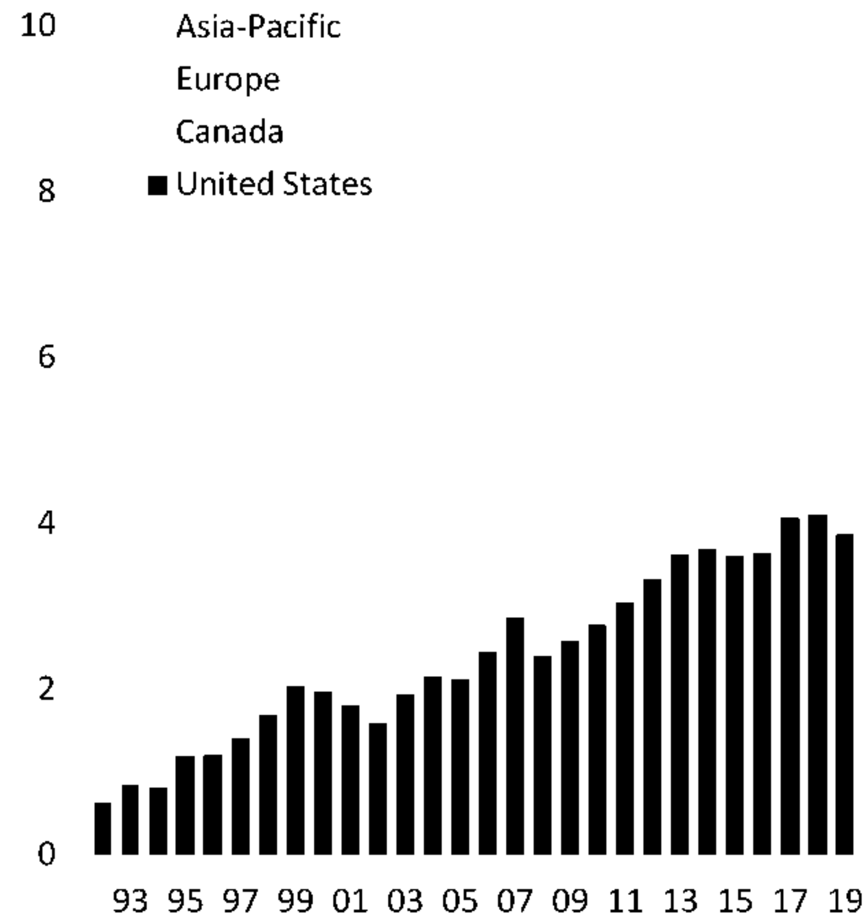
- 36 European funds participate with aggregate assets of $3.3 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the U.K.

- 6 Asia-Pacific funds participate with aggregate assets of $1.0 trillion. Included are funds from Australia, New Zealand, China and South Korea.

- 3 Gulf region funds participate.

The most meaningful comparisons for your returns and value added are to the U.S. Public universe.

Participating assets ($ trillions)

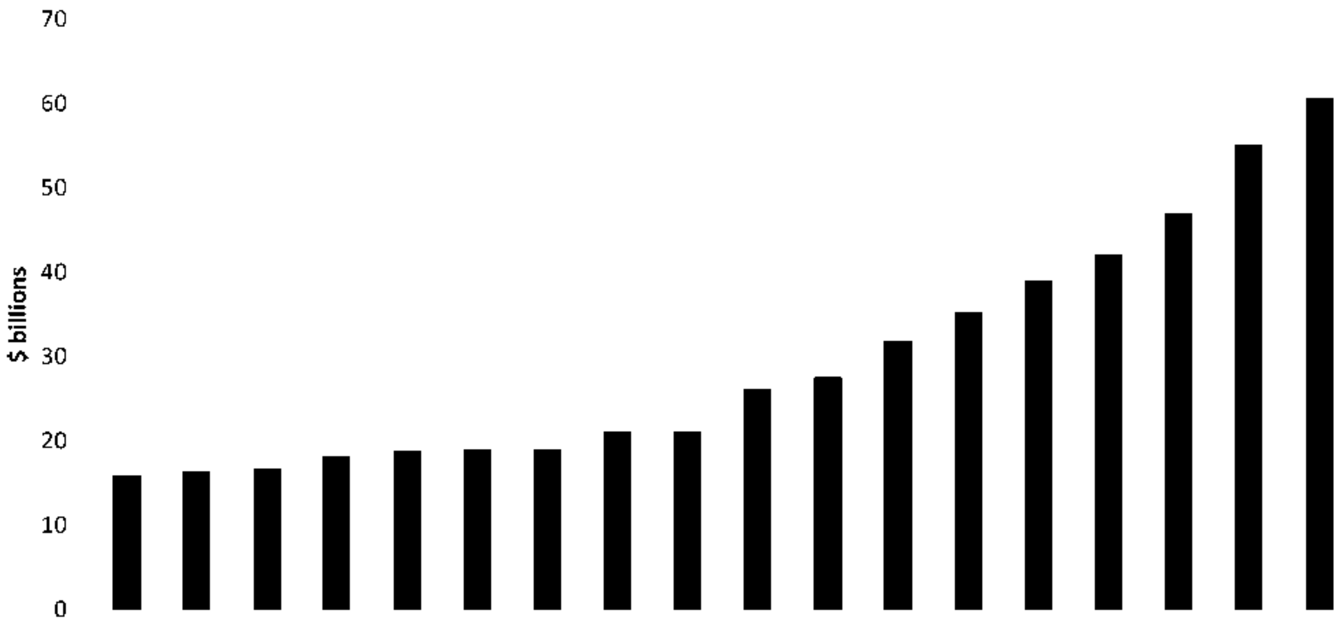


CEM Benchmarking

The most valuable comparisons for cost performance are to your custom peer group because size impacts costs.

Peer group for Indiana Public Retirement System

- 18 U.S. Public sponsors from $16.0 billion to $60.6 billion
- Median size of $23.8 billion versus your $31.9 billion



To preserve client confidentiality, given potential access to documents as permitted by the Freedom of Information Act, we do not disclose your peers' names in this document.

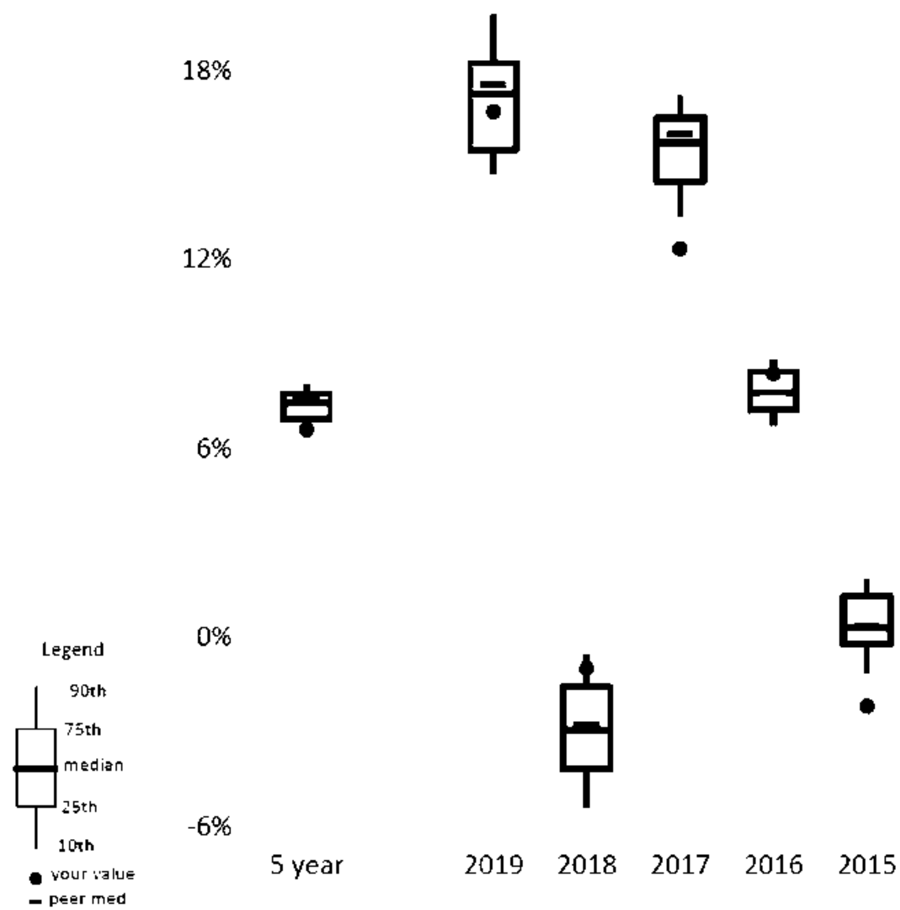
Your 5-year net total return of 6.6% was below both the U.S. Public median of 7.5% and the peer median of 7.5%.

Total returns, by themselves, provide little insight into the reasons behind relative performance. Therefore, we separate total return into its more meaningful components: policy return and value added.

	Your 5-year
Net total fund return	6.6%
- Policy return	6.0%
= Net value added	0.6%

This approach enables you to understand the contribution from both policy mix decisions (which tend to be the board's responsibility) and implementation decisions (which tend to be management's responsibility).

U.S. Public net total returns - quartile rankings



Your 5-year policy return of 6.0% was below both the U.S. Public median of 6.9% and the peer median of 7.0%.

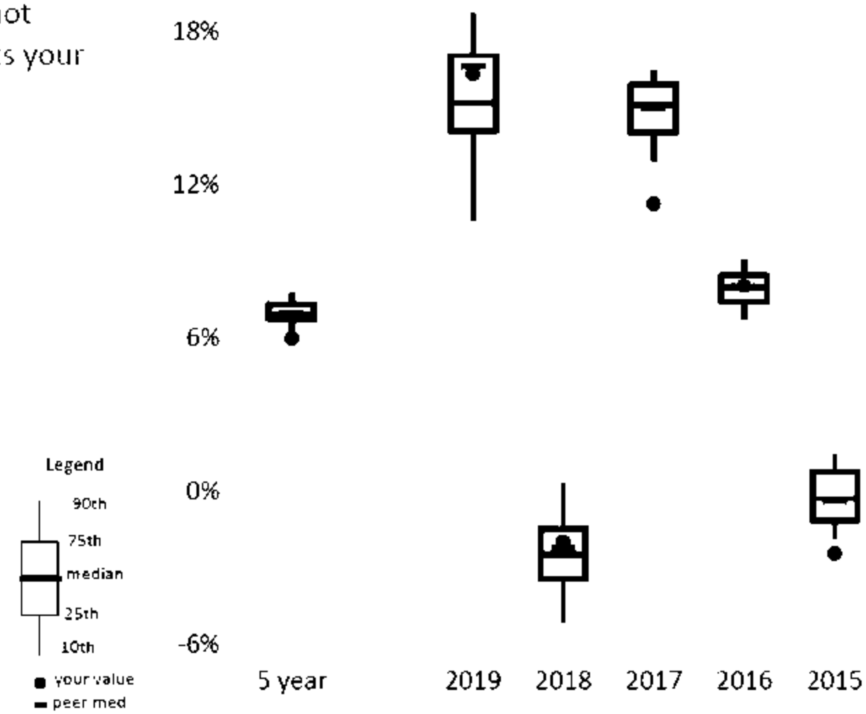
Your policy return is the return you could have earned passively by indexing your investments according to your policy mix.

Having a higher or lower relative policy return is not necessarily good or bad. Your policy return reflects your investment policy, which should reflect your:

- Long term capital market expectations
- Liabilities
- Appetite for risk

Each of these three factors is different across funds. Therefore, it is not surprising that policy returns often vary widely between funds.

U.S. Public policy returns - quartile rankings



To enable fairer comparisons, the policy returns of all participants except your fund were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. If CEM used this same adjustment for your fund, your 5-year policy return would be 5.7%, 0.3% lower than your actual 5-year policy return of 6.0%. Mirroring this, your 5-year total fund net value added would be 0.3% higher.

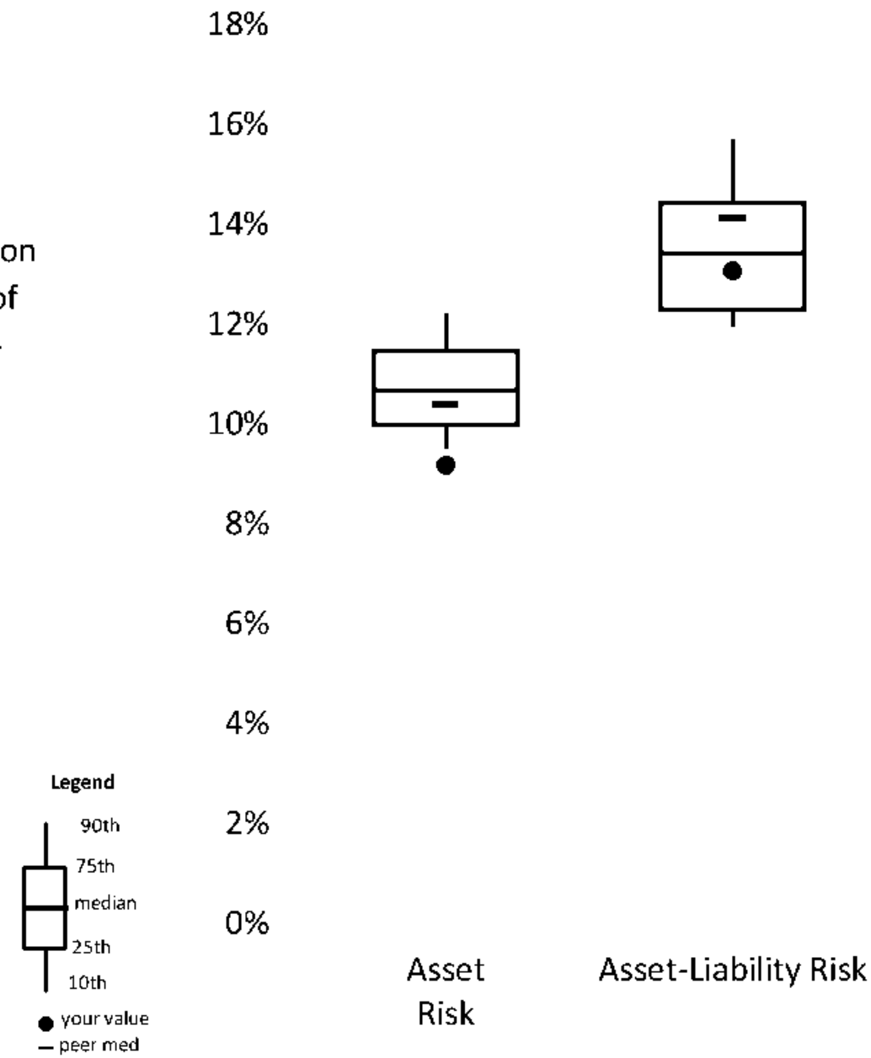
CEM Benchmarking

Both your asset risk and asset-liability risk were below the U.S. Public medians.

Your asset risk of 9.2% was below the U.S. Public median of 10.7%. Asset risk is the standard deviation of your policy return. It is based on the historical variance of, and covariance between, the asset classes in your policy mix.

Your asset-liability risk of 13.1% was below the U.S. Public median of 13.4%. Asset-liability risk is the standard deviation of funded status caused by market factors. It is a function of the standard deviations of your asset risk, your marked-to-market liabilities and the correlation between the two.

U.S. Public risk levels at December 31, 2019

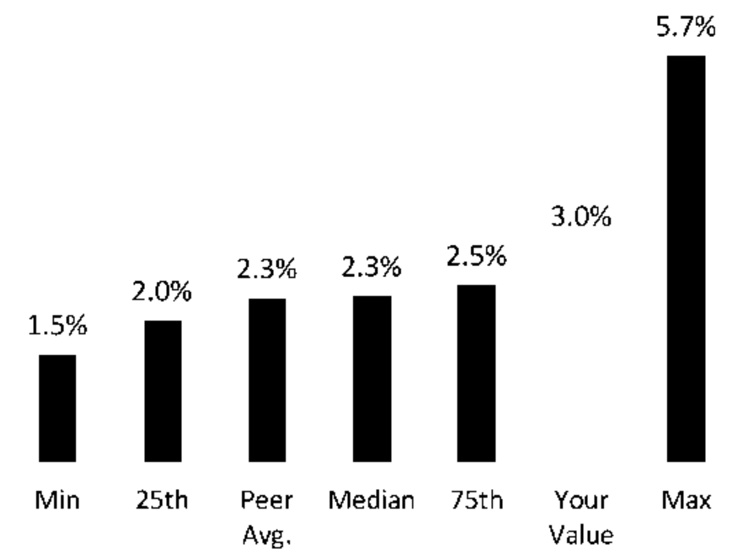


CEM Benchmarking

Your asset risk was less than the U.S. Public median because your policy asset mix benefited from greater diversification.

Diversification reduces risk because when one asset class has a negative return, it might be offset by another asset class with a positive return. The lower the correlation between your policy asset classes, the greater the diversification benefit.

Diversification benefit: U.S. Public universe 2019



Your 5-year policy return of 6.0% was below the U.S. Public median of 6.9% primarily because of the negative impact of:

- Your lower weight in one of the better performing asset classes of the past 5 years, 26% lower weight in Total Stock.
- And your higher weights in some of the poorer performing asset classes of the past 5 years:

  6% higher weight in Hedge Funds.

  11% higher weight in Risk Parity.

  7% higher weight in Commodities.

	5-year average policy mix[1]			5-year bmk. return	
	Your Fund	U.S. Publ Avg.	More/ Less	Your Fund	U.S. Pub Avg.
Total Stock	22%	48%	-26%	8.9%	8.8%
Total Fixed Income	27%	25%	2%	4.5%	3.7%
Hedge Funds	10%	4%	6%	2.5%	3.3%
Risk Parity	12%	1%	11%	5.4%	6.1%
Commodities	8%	1%	7%	-3.2%	-3.3%
Real Estate ex-REITs	7%	8%	-1%	7.9%	8.4%
Other Real Assets[2]	0%	3%	-3%	n/a[3]	n/a[3]
Private Equity	10%	9%	1%	11.2%	7.7%
Private Debt	4%	2%	2%	7.9%	5.3%
Total	100%	100%	0%		

Net value added is the component of total return from active management. Your 5-year net value added was 0.6%.

Net value added equals total net return minus policy return.

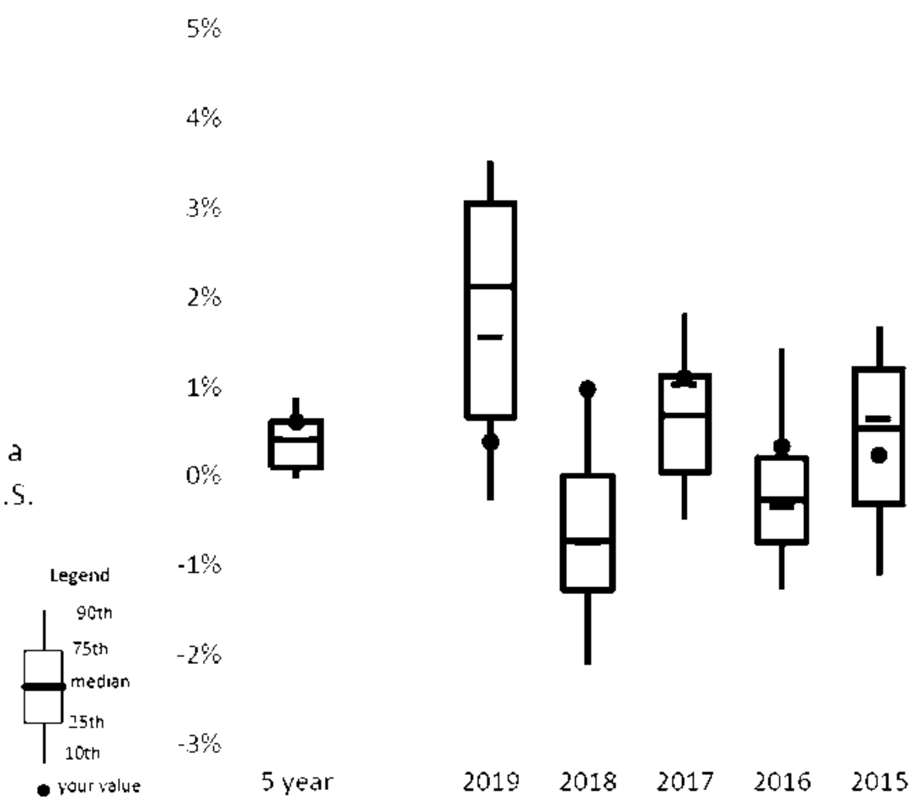
Value added for Indiana Public Retirement System

Year	Net Return	Policy Return	Net value Added
2019	16.7%	16.3%	0.4%
2018	-1.0%	-2.0%	1.0%
2017	12.3%	11.2%	1.1%
2016	8.4%	8.0%	0.3%
2015	-2.2%	-2.4%	0.2%
5-Year	6.6%	6.0%	0.6%

Your 5-year net value added of 0.6% compares to a median of 0.4% for your peers and 0.4% for the U.S. Public universe.

Your 0.6% 5-year value added translates into approximately $0.9 billion of cumulative value added over 5 years, or $0.3 billion more than if you had earned the U.S. Public median of 0.4%.

U.S. Public net value added - quartile rankings



Your value added was impacted by your choice of benchmarks for private equity. CEM suggests using lagged, investable benchmarks for private equity. If your fund used the private equity benchmark suggested by CEM, your 5-year total fund value added would have been 0.3% higher.

CEM Benchmarking

Your total investment costs were $285.7 million or 96.4 basis points in 2019.

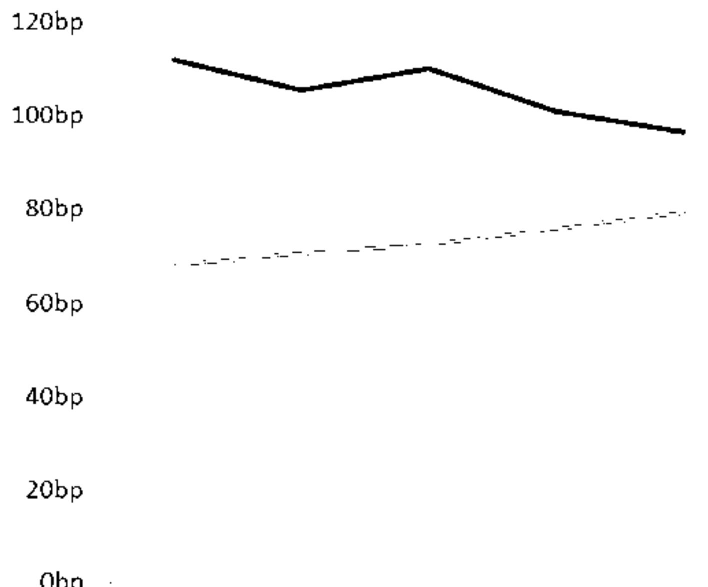
Asset management costs by asset class and style ($000s)	Internal	External Management				
	Overseeing of external	Passive fees	Active base fees	Perform. fees[5]	Total	
Stock - U.S.	417	243	6,466		7,126	
Stock - international	364	486	7,521	2,567	10,938	
Fixed income	392	248	15,025	6,435	22,100	
Commodities	337	1,248	4,071		5,656	
REITs	62	163			225	
Risk Parity	122		11,637		11,759	
Hedge Funds	934		45,483	35,287	81,703	
Real Estate [2]	587		19,671	15,915	36,173	
Private Equity [1 3 4]	1,550		54,854	45,300	101,704	
Private Credit	496		2,765	1,051	4,312	
Derivatives/Overlays		294			294	
Total					281,992	95.1bp
Oversight, custodial and other costs [6]						
Oversight of the fund					1,774	
Trustee & custodial					1,146	
Consulting and performance measurement					353	
Audit					449	
Other					0	
Total oversight, custodial & other costs					3,721	1.3bp
Total investment costs (excl. transaction costs)					285,712	96.4bp

CEM Benchmarking

Over the past 5 years, your total investment costs decreased. In comparison, the U.S. public and peer averages have remained stable or increased.

Trend in total investment cost

Includes private asset performance fees, excludes transaction costs.



	2015	2016	2017	2018	2019
Your fund	111.8	105.4	109.9	100.8	96.4
Peer avg	67.9	70.5	72.4	75.7	79.2
U.S. Public avg	81.1	79.8	81.7	79.7	84.1

Trend analysis is based on 45 U.S. Public funds and 17 peer funds with 5 or more consecutive years of data.

Your cost decreased from 111.8 bps in 2015 to 96.4 bps in 2019 primarily because of asset mix changes and implementation style changes.

	bps	$000s
Investment cost reported in 2015	111.8 bp	$265,943
• Impact of changes in asset mix	(10.0) bp	-$29,728
• Impact of style changes	(7.4) bp	-$22,014
• Impact of paying more/less	2.0 bp	$5,913
• Increase in assets	n/a	$65,598
Investment cost in 2019	96.4 bp	$285,712

Reasons for decrease in costs since 2015 (bps)

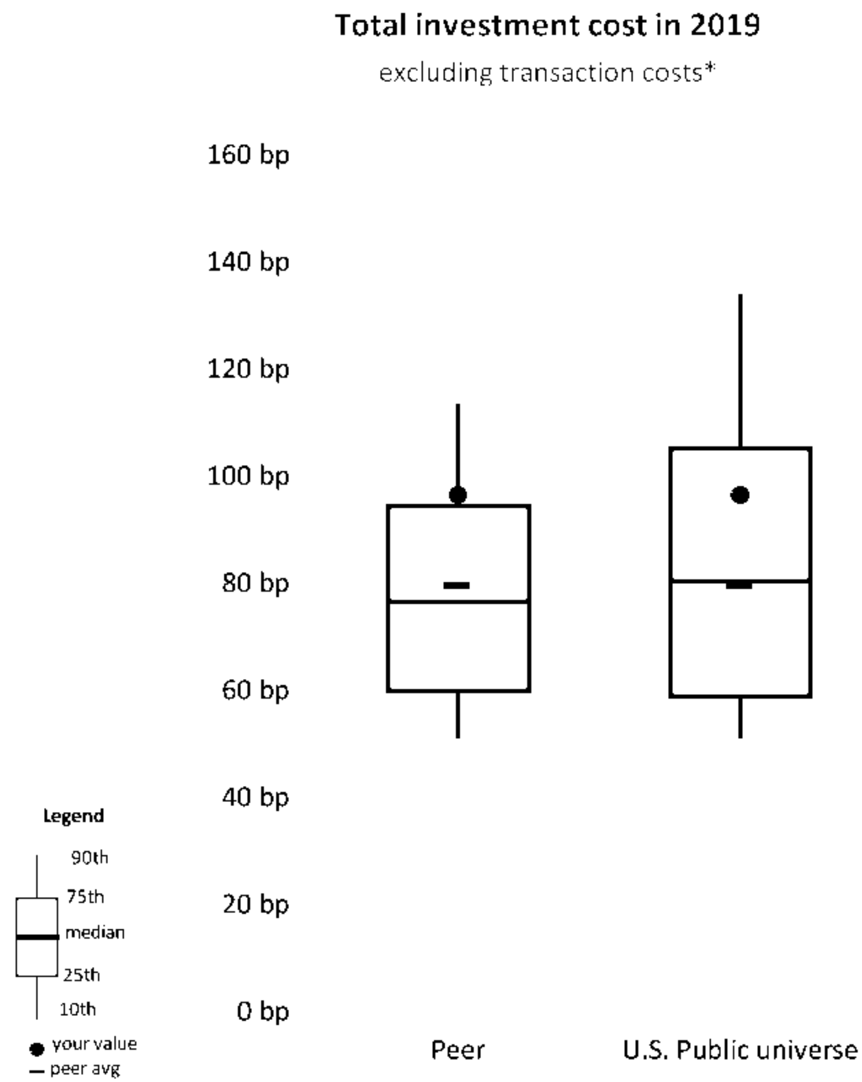
CEM Benchmarking

Your 2019 total investment cost of 96.4 bps was above the peer median of 76.4 bps.

Differences in total investment cost are often caused by two factors that are often outside of management's control:

- Asset mix, particularly holdings of the highest cost asset classes: real estate (excl. REITs), infrastructure, hedge funds and private equity. These high cost assets equaled 27% of your funds assets at the end of 2019 versus a peer average of 20%.
- Fund size. Bigger funds have advantages of scale.

Therefore, to assess whether your costs are high or low given your unique asset mix and size, CEM calculates a benchmark cost for your fund. This analysis is shown on the following page.



CEM Benchmarking

Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was low cost by 5.5 basis points in 2019.

Your benchmark cost is an estimate of what your cost would be given your actual asset mix and the median costs that your peers pay for similar services. It represents the cost your peers would incur if they had your actual asset mix.

Your total cost of 96.4 bp was slightly below your benchmark cost of 101.9 bp. Thus, your cost savings were 5.5 bp.

Your cost versus benchmark

	$000s	basis points
Your total investment cost	285,712	96.4 bp
Your benchmark cost	302,126	**101.9 bp**
Your excess cost	(16,414)	(5.5) bp

CEM Benchmarking

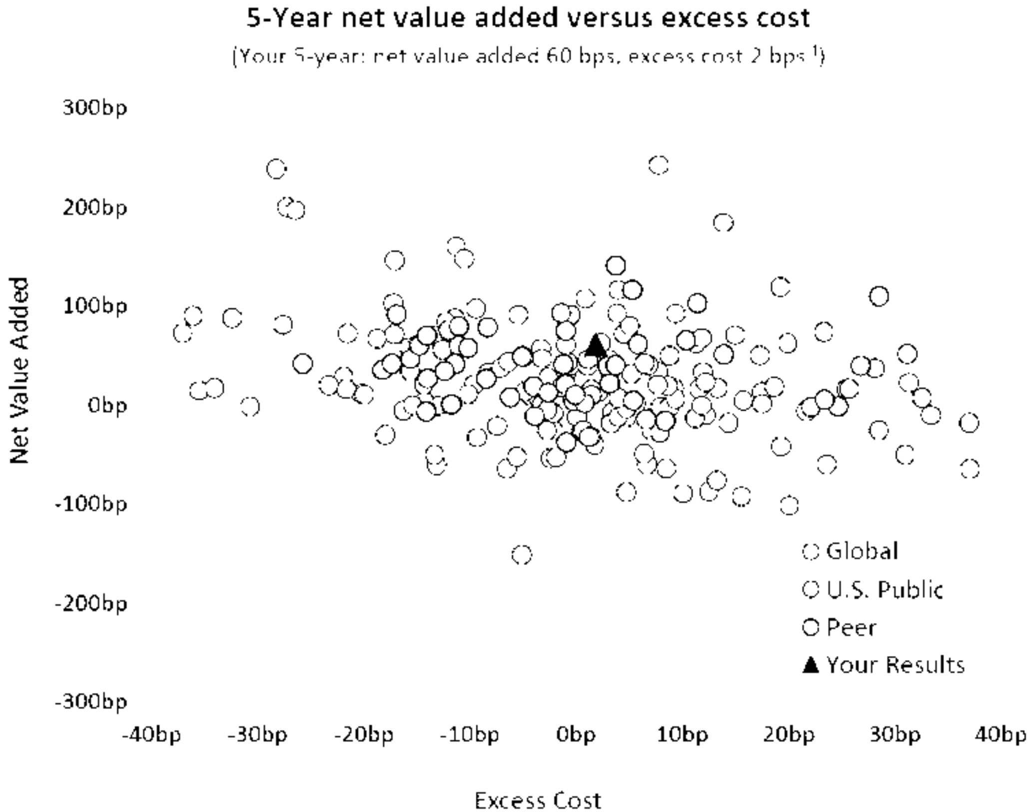
Your fund was low cost because you had a lower cost implementation style and you paid less than peers for similar services.

Reasons for your low cost status

	Excess Cost/ (Savings) $000s	Excess Cost/ (Savings) bps
1. Lower cost implementation style		
• Less active management vs. lower cost passive	(5,448)	(1.8)
• More external management vs. lower cost internal	1,220	0.4
• More LPs as a percentage of external	4,751	1.6
• Less fund of funds	(6,260)	(2.1)
• More co-investment as a percentage of LP/Co	(7,734)	(2.6)
• Less overlays	(429)	(0.1)
	(13,901)	(4.7)
2. Paying less than peers for similar services		
• External investment management costs	(1,529)	(0.5)
• Private asset performance fees	2,161	0.7
• Oversight, custodial & other costs	(3,095)	(1.0)
	(2,463)	(0.8)
Total savings	(16,364)	(5.5)

CEM Benchmarking

Your fund achieved 5-year net value added of 60 bps and excess cost of 2 bps on the cost effectiveness chart.



1. Your 5-year excess cost of 2 basis points is the average of your excess cost for the past 5 years.

	2019	2018	2017	2016	2015	5-year
Net value added	38.0bp	97.0bp	110.0bp	33.0bp	23.0bp	60.3bp
Excess Cost	-5.5bp	1.5bp	9.8bp	1.4bp	n/a	1.8bp

CEM Benchmarking

CEM Benchmarking results for the CYE 2019
INPRS Defined Contribution Plan

CEM Benchmarking

CEM has been helping plan sponsors understand their unique DC plans since 1997.

Our standardized metrics allows you to compare your DC plan offerings to other DC plans, monitor your investment options and understand your differences.

CEM's 2019 DC database consists of 118 U.S. large, blue chip corporate and government plans representing $1,231 billion in assets and 9.4 million participants.

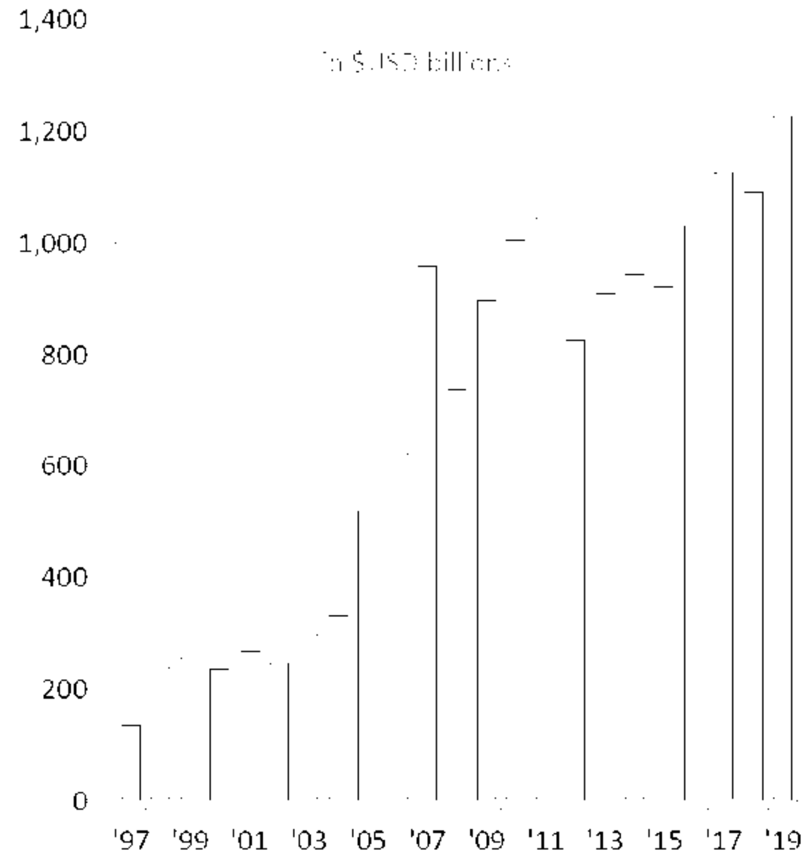
Custom Peer Group

From the universe, we selected a subset of similar sized plans as your custom peer group. Your peer group is comprised of 18 DC plans. Their assets ranged from $3.1 billion to $15.4 billion versus your $5.9 billion.

½ of your peers are public plans, ½ are corporate plans.

Your peer group is used to benchmark your costs.

Participating Defined Contribution Benchmarking Assets



CEM Benchmarking

Your investment line up compared to your peer average and the universe average is shown below.

For more detailed analysis of your fund line up compared to peers and the universe, refer to page 28.

Type and number of investment options

	Your Plan	Peer Average	Universe Average
Stock Employer		0.4	0.7
Stock U.S.	2	4.1	5.3
Stock Non U.S. & Global	1	1.9	2.5
Bonds	2	2.4	2.7
Stable Value & GIC	1	0.8	0.7
Cash, Money Market	1	0.7	0.6
Target Date*	1	0.9	0.9
Balanced		0.6	0.7
Mutual Fund Window		0.1	0.1
Participant Brokerage Account		0.6	0.4
Real, Hedge, Other ex. Loans		0.4	0.8
Total*	8	13.0	15.4

*Target date families are treated as one option. You have 12 target date options compared to a peer average of 10.7 and a universe average of 9.8.

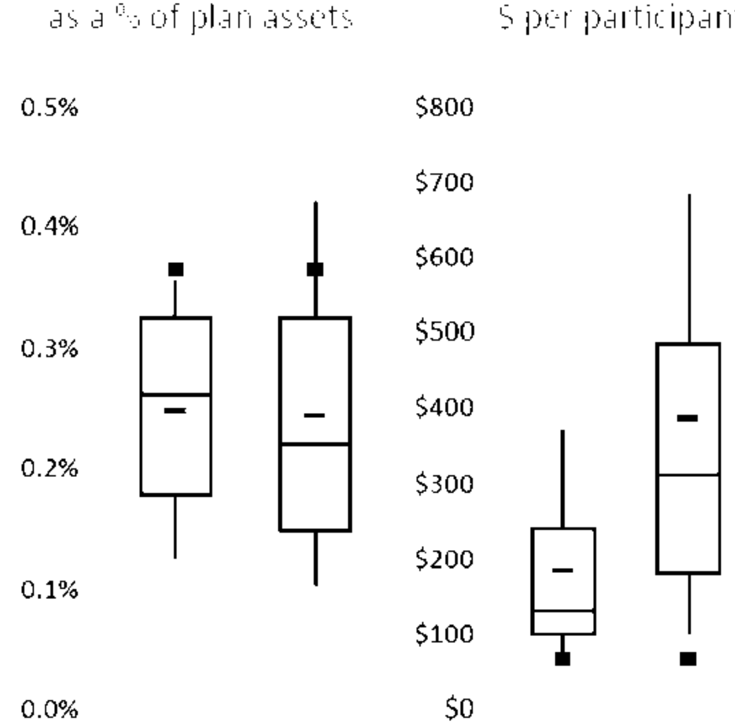
Default option

	Your Plan	Peer Average	U.S. Universe
Balanced		6%	5%
Target Date	Yes	89%	86%
Managed account		0%	2%
Stable Value		0%	0%
Money Market		0%	0%
Other		0%	1%
No default option		6%	6%
Total		100%	100%

Your participants' weighted average total cost was 0.36% of total plan assets or $67 per participant.

Your peers' weighted average total cost was 0.25% of total plan assets or $185 per participant. Differences in costs are often caused by differences in participants' cumulative fund allocation and percentage of indexed assets. A better comparison is to our custom peer based benchmark cost which adjusts for these factors shown on the following page.

Total weighted average plan cost 2019



	Peers	U.S. universe	Peers	U.S. universe
90th %ile	0.36%	0.42%	$368	$682
75th %ile	0.33%	0.33%	$241	$484
Median	0.26%	0.22%	$131	$311
25th %ile	0.18%	0.15%	$99	$179
10th %ile	0.13%	0.10%	$69	$102
Count	18	118	18	118
— Average	0.25%	0.24%	$185	$387
■ Your plan	0.36%	0.36%	$67	$67

Your peer based benchmark cost allows you to understand why your costs are different.

CEM calculates a benchmark cost for your plan based on the median cost your peers pay for similar options. For target date funds, the custom benchmark cost is based on the asset mix of each of your target date funds. Your participants' weighted average cost was 0.36%.

Being high or low cost is neither good nor bad in and of itself. But you should understand where and why you are paying more (or less) than peers and be comfortable that you are receiving value for what you are paying. Reasons for your plan's 0.09% savings are summarized in the table on the right.

Your participants' weighted average

	$000's	%
Total actual cost	$20,382	0.36%
Custom peer-based benchmark cost	$25,682	0.46%
Difference	-$5,299	-0.09%

Reason for difference in actual vs. benchmark cost

Cumulative impact of differnces in:	$000's	%
Fees paid for similar options	-$34	0.00%
Participants' allocation in indexed vs active options (your 87% indexed vs peer 64%).	-$2,477	-0.04%
Fees paid for administrative services (your 0.20% of plan assets vs peer 0.25%).	-$2,738	-0.05%
Assets in mutual fund windows	-$51	0.00%
Total explained	-$5,299	-0.09%

CEM Benchmarking

The table below compares your investment options relative to your peers for cost, and the U.S. universe for performance and risk.

For more detailed analysis, refer to page 51.

Investment Option	Cost 2019				Net Return 2019			Net Return 3-year			Net Value Added 2019			Net Value Added 3-yea			Risk 2019		
	Your Cost	BM Cost	Diff. in Cost	Rank vs. Peer (Low – High)	Your	Univ Med	Rank vs. Univ (Low – High)	Your	Univ Med	Rank vs. Univ (Low – High)	Your	Univ Med	Rank vs. Univ (Low – High)	Your	Univ Med	Rank vs. Univ (Low – High)	Your	Univ Med	Rank vs. Univ (Low – High)
BlackRock - Large Cap Equity Fund	0.01%	0.01%	0.00%	■■■	31.5%	31.5%	■■■■	15.3%	15.2%	■■■	0.0%	0.0%	■■■■	0.0%	0.0%	■■■	–	–	
Various - Small/Mid Cap Equity Fund	0.08%	0.09%	-0.01%		27.5%	27.9%	■	10.9%	11.0%	■■■	-0.5%	0.0%	■	-0.3%	0.0%	■	--	--	
Various - International Equity Fund	0.20%	0.23%	-0.03%	■■■	23.7%	26.8%	■■■	11.1%	11.6%	■■■	2.1%	4.6%	■■■	1.2%	1.6%	■■■	–	–	
Various - Fixed Income Fund	0.11%	0.08%	0.03%	■■■	8.8%	9.0%	■■■	4.2%	4.3%	■■	0.0%	0.3%	■■■	0.2%	0.3%	■■■	–	--	
Northern Trust - Inflation Linked Fixed Income Fund	0.02%	0.03%	-0.01%	■■■	8.4%	8.4%	■■■	3.4%	3.3%	■■■	0.0%	0.0%	■■■	0.0%	0.0%	■■■	–	–	
Galliard - Stable Value Fund	0.28%	0.28%	0.00%	■■■	2.5%	2.5%	■■■	2.1%	2.2%	■■■	0.2%	0.1%	■■■	0.5%	0.4%	■■■	–	–	
BNY Mellon - Money Market Fund	0.10%	0.07%	0.03%	■■■	2.3%	2.3%	■■■	1.8%	1.7%	■■■	0.1%	0.0%	■■■	0.1%	0.1%	■■■	–	--	
Various - INPRS Retirement Fund	0.09%	0.09%	0.00%	■■■	9.8%	14.0%	■	4.7%	6.8%	■	0.1%	0.0%	■■■	0.2%	0.0%	■■■■	4.7%	5.9%	■
Various - INPRS 2010 Fund	0.09%	0.09%	0.00%	■■■	n/a	14.0%		n/a	6.8%		n/a	0.0%		n/a	0.0%		4.8%	5.9%	■
Various - INPRS 2015 Fund	0.09%	0.08%	0.01%	■■■	n/a	14.9%		n/a	7.6%		n/a	-0.1%		n/a	-0.1%		5.8%	6.4%	
Various - INPRS 2020 Fund	0.09%	0.08%	0.01%	■■■	12.4%	17.7%	■	5.9%	8.7%	■	0.2%	-0.1%	■■■	0.3%	-0.1%	■■■■	7.0%	8.0%	■■
Various - INPRS 2025 Fund	0.09%	0.08%	0.01%	■■■	14.8%	19.7%	■	7.0%	9.5%	■	0.3%	0.0%	■■■■	0.3%	0.0%	■■■■■	8.2%	9.1%	■■
Various - INPRS 2030 Fund	0.09%	0.09%	0.00%	■■■	17.0%	21.2%	■	8.2%	10.2%	■	0.3%	0.0%	■■■■	0.3%	0.0%	■■■■■	9.0%	10.3%	■
Various - INPRS 2035 Fund	0.09%	0.09%	0.00%	■■	19.7%	22.7%	■	9.7%	10.8%	■	0.4%	0.0%	■■■■	0.4%	0.0%	■■■■■	10.3%	11.4%	■
Various - INPRS 2040 Fund	0.10%	0.10%	0.00%	■■■	21.8%	24.1%	■	10.4%	11.4%	■	0.6%	0.0%	■■■■	0.4%	0.0%	■■■■■	11.6%	12.6%	■
Various - INPRS 2045 Fund	0.10%	0.11%	-0.01%	■■	22.6%	25.1%	■	10.7%	11.8%	■	0.6%	0.0%	■■■■	0.4%	0.0%	■■■■■	12.3%	13.5%	■
Various - INPRS 2050 Fund	0.10%	0.10%	0.00%	■■	23.0%	25.1%	■	10.8%	11.9%	■	0.6%	0.0%	■■■■	0.5%	0.0%	■■■■■	12.9%	13.5%	■
Various - INPRS 2055 Fund	0.10%	0.11%	-0.01%	■	23.0%	25.1%	■	10.8%	11.9%	■	0.6%	0.0%	■■■■	0.5%	0.0%	■■■■■	12.9%	13.5%	■
Various - INPRS 2060 Fund	0.10%	0.11%	-0.01%	■	23.0%	25.1%	■	10.8%	11.9%	■	0.6%	-0.1%	■■■■■	0.5%	0.0%	■■■■■	12.9%	13.5%	■

In the 'Rank' graphic, one colored square (Low) is a percentile ranking of 0% to 10%, two squares is 10.1% to 25%, three squares is 25.1% to 75%, 4 squares is 75.1% to 90%, and 5 squares (High) is 90.1% to 100%. Highlighting is not applied if there are fewer than 5 observations.

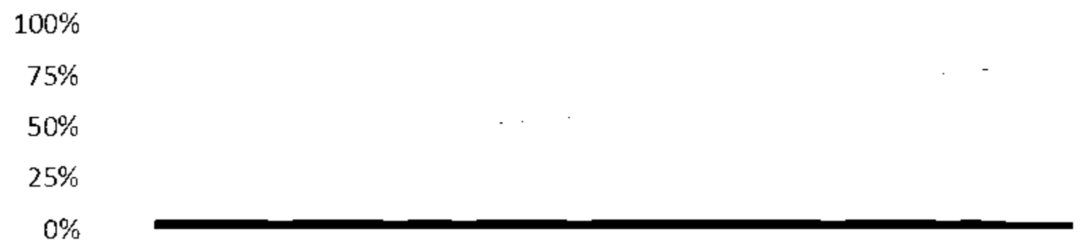
*Risk is only calculated for target dateand balanced funds, as it is calculated based on asset mix.

Your Target Dates had higher allocations to Fixed Income.

TD asset mix 2019 – Your plan

	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	<=10I n
Stock U.S.	46%	46%	46%	44%	42%	37%	32%	29%	23%	18%	11%
Stock Non U.S.	39%	39%	39%	37%	34%	30%	26%	23%	19%	14%	9%
Fixed Income	15%	15%	15%	19%	24%	33%	43%	49%	58%	68%	80%

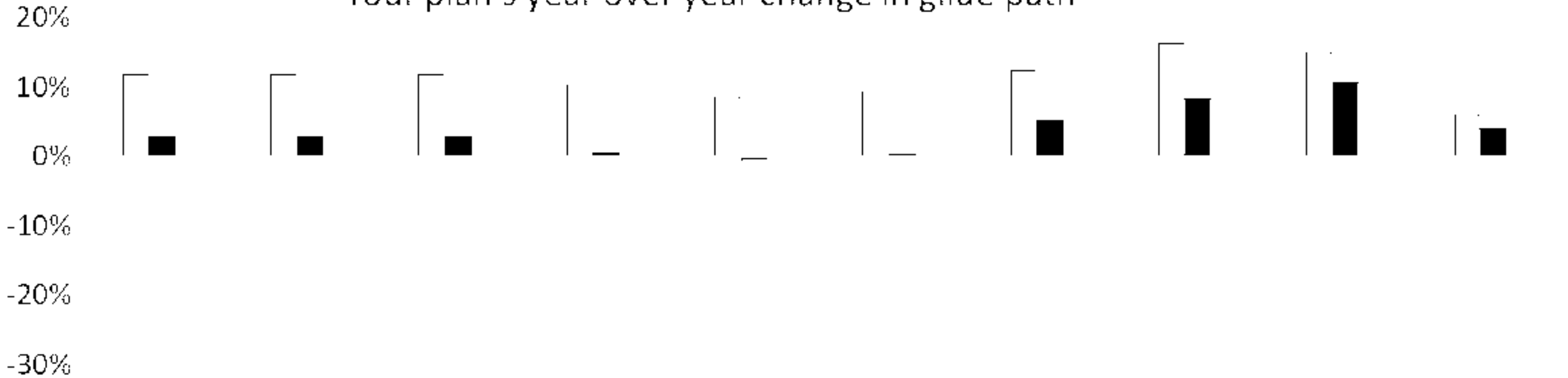
TD asset mix 2019 – Universe average



	2060	2055	2050	2045	2040	2035	2030	2025	2020	2015	<=10I n
Stock U.S.	53%	52%	52%	51%	48%	44%	39%	34%	28%	23%	20%
Stock Non U.S.	36%	36%	36%	36%	33%	30%	26%	22%	18%	15%	12%
Fixed Income	6%	7%	7%	8%	14%	22%	31%	40%	49%	58%	63%
■ Alternatives[1]	4%	5%	5%	5%	5%	5%	5%	5%	5%	4%	4%

You made significant changes to your glide path in 2019. Your fixed income allocation was reduced. Depending on year, lowest reduction was 8%, highest was 26%.

Your plan's year over year change in glide path



	2060	2055	2050	2045	2040	2035	2030	2025	2020	<=2010Inc
Stock U.S.	12%	12%	12%	10%	9%	10%	13%	17%	15%	6%
Stock Non U.S.	3%	3%	3%	1%	-1%	0%	6%	9%	11%	4%
Fixed Income	-15%	-15%	-15%	-11%	-8%	-10%	-18%	-25%	-26%	-10%
Alternatives	-	-	-	-	-	-	-	-	-	-

There were no significant glide path changes noted on the universe average. Largest swings were +/-3%. Asset classes impacted were generally non-US stock, FI and alternatives.

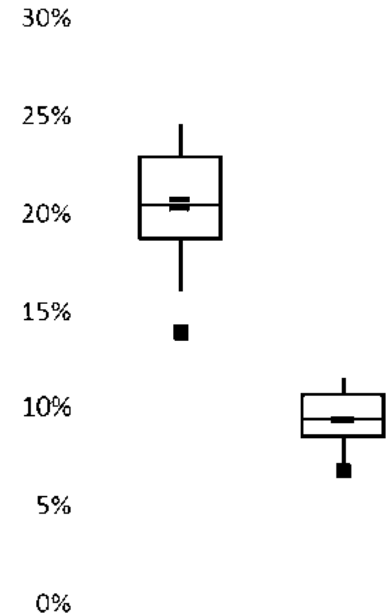
Your participants' total weighted average 3-year net return was 6.8%.

Participants' weighted average total net return measures the change in the average participants' account balance as a result of their collective fund allocations and returns on investment options net of fees.

Participants' 3-year fund allocation

	Your Plan	Peer Average	Universe Average	Your 3-yr net return
Stock U.S.	30%	32%	32%	13.5%
Stock Non U.S. & Global	4%	7%	7%	11.1%
Target Date & Balanced	12%	30%	27%	9.1%
Real, Hedge, Other ex. Loans	0%	1%	1%	-
Stock Employer	0%	4%	10%	-
Bonds	4%	6%	7%	4.1%
Stable Value & GIC	48%	19%	12%	2.1%
Cash, Money Market	1%	2%	3%	1.8%
Total	100%	100%	100%	

Average annualized total net return of plan participants



U.S. universe	2019	3-year
90th %ile	24.5%	11.5%
75th %ile	22.9%	10.7%
Median	20.4%	9.4%
25th %ile	18.7%	8.5%
10th %ile	16.0%	7.1%
Count	116	96
— Average	20.7%	9.5%
— Peer Average	20.2%	9.3%
▪ Your plan	13.9%	6.8%

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INDIANA PUBLIC RETIREMENT SYSTEM

Member & Employer Survey Insights

Member Survey Insights

Do this …

- Satisfy members:
  - Do an excellent job of investing my retirement funds.
  - **Provide excellent customer service to members.**
  - **Work for the long-term stability of the plan to protect members' future benefits.**
  - Inspire confidence that members retirements are secure with INPRS.
  - Work with members to help them reach their retirement goals.
- Build trust:
  - Act ethically.
  - **Work for the long-term stability of the plan to protect members' future benefits.**
  - Earn an excellent reputation.
- Build engagement:
  - Be a trustworthy organization.
  - **Provide excellent customer service to members.**
  - Keep commitments to members.

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Employer Survey Insights

Do this …

- Support employers:
  - Be easy to do business with.
  - Be responsive to employers' needs.
  - ERM System: Ensure user friendliness and functionality.

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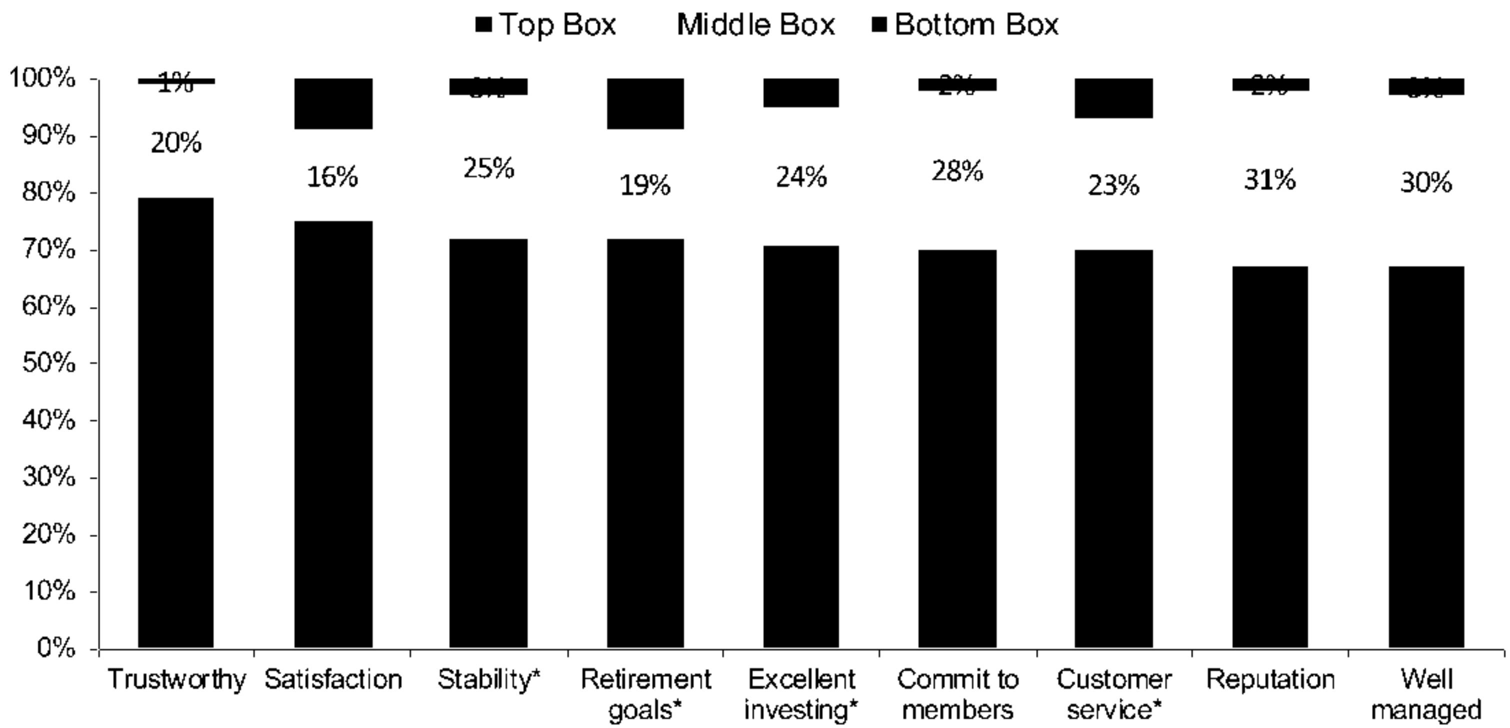
2020 Survey

Core Attributes

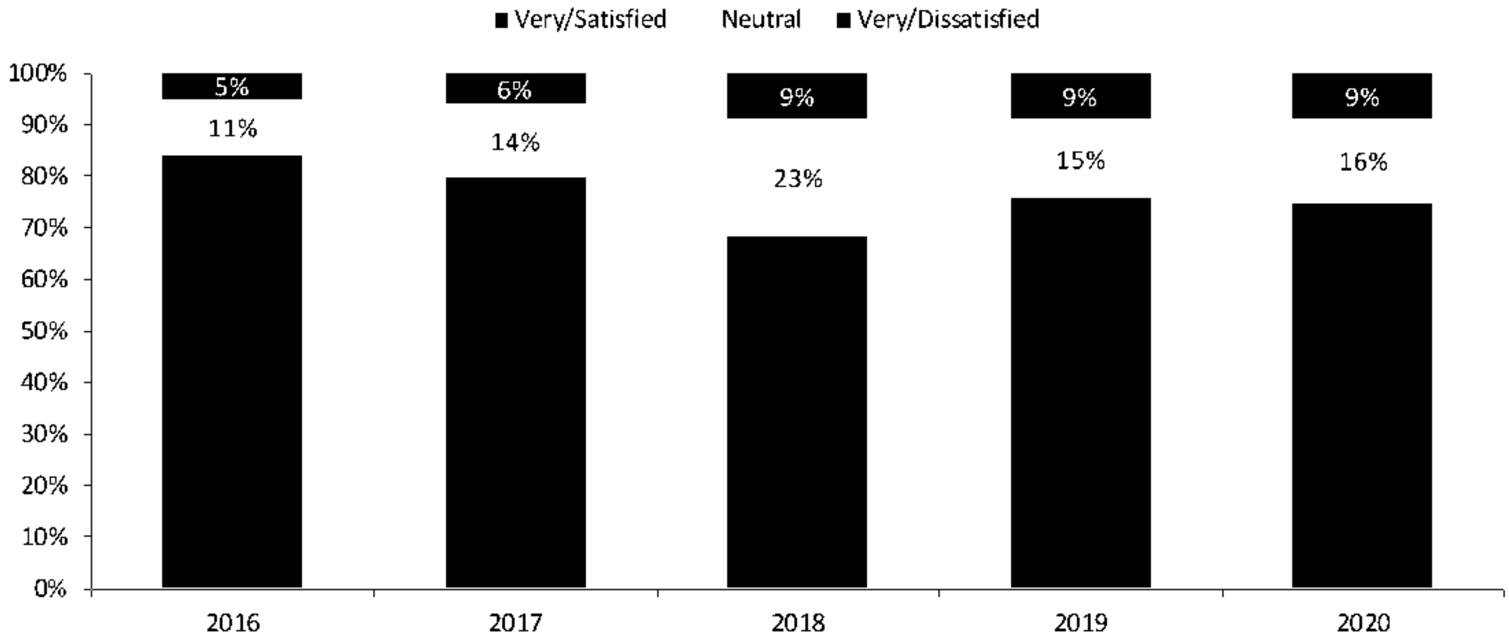
* = Top Satisfaction Drivers



PRS

Core Attribute: Satisfaction

2018 dip associated with Balanced Budget Amendment misinformation



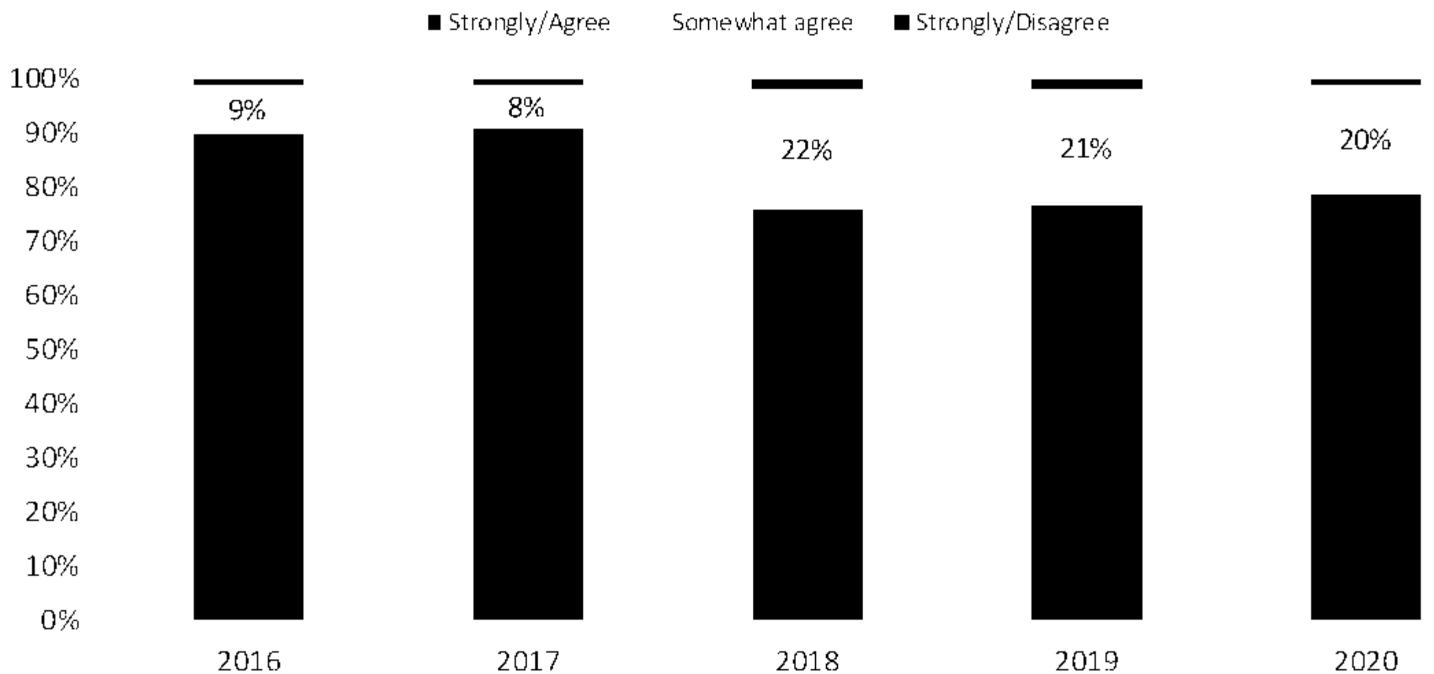
Satisfaction Drivers:

1. INPRS does an excellent job of investing my retirement funds.
2. INPRS provides excellent customer service to members like me.
3. INPRS works for the long-term stability of the plan to protect members' future benefits.
4. I am confident my retirement is secure with INPRS. [Engagement Attribute]
5. INPRS works with members like me to help us reach our retirement goals.

PRS

Core Attribute: Trustworthy

2018 dip associated with Balanced Budget Amendment misinformation.

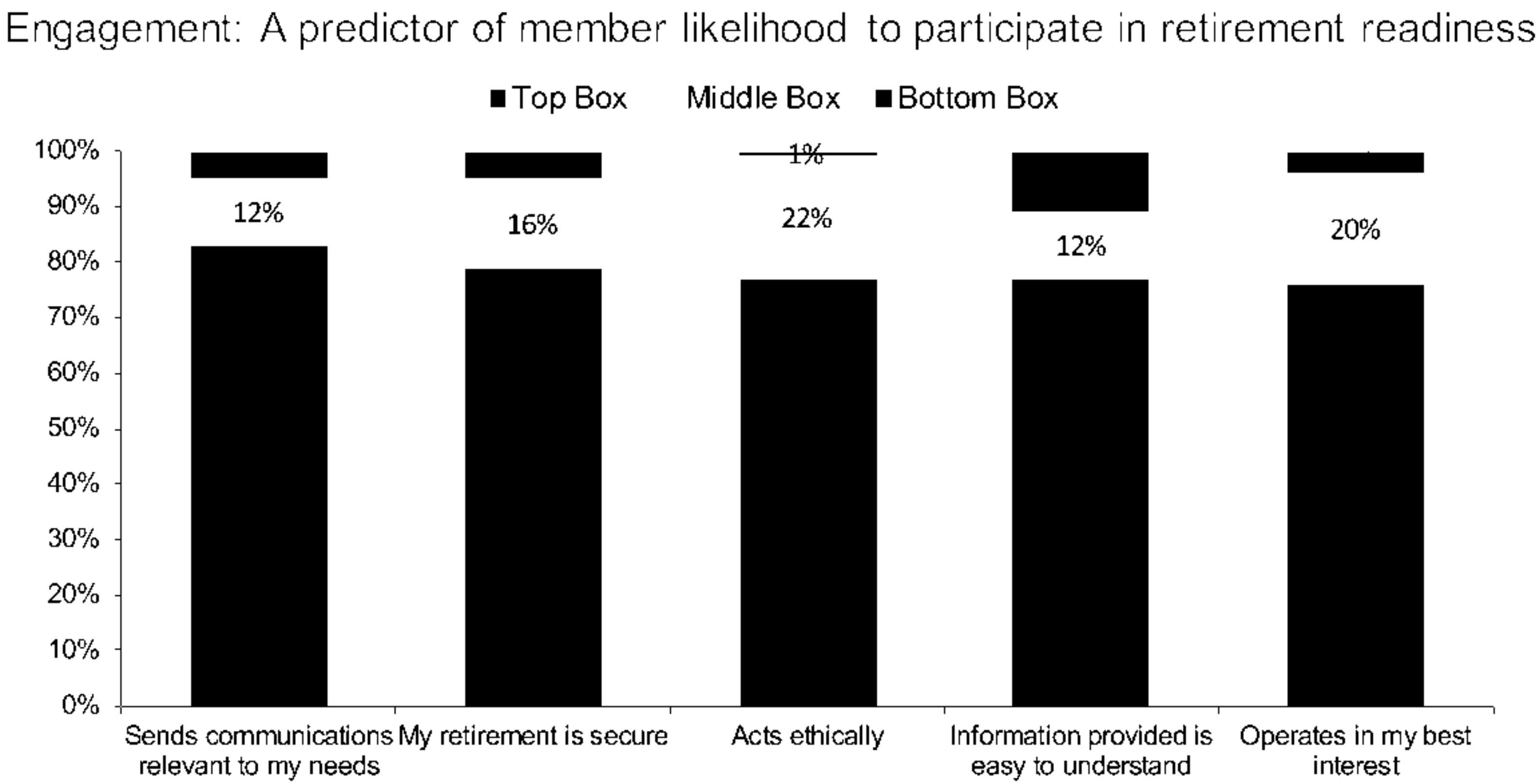


Predicting Trust Model:

1. INPRS acts ethically.
2. INPRS works for the long-term stability of the plan to protect members' future benefits.
3. INPRS has an excellent reputation.

PRS

2020 Engagement Ratings



Predicting Engagement Model:

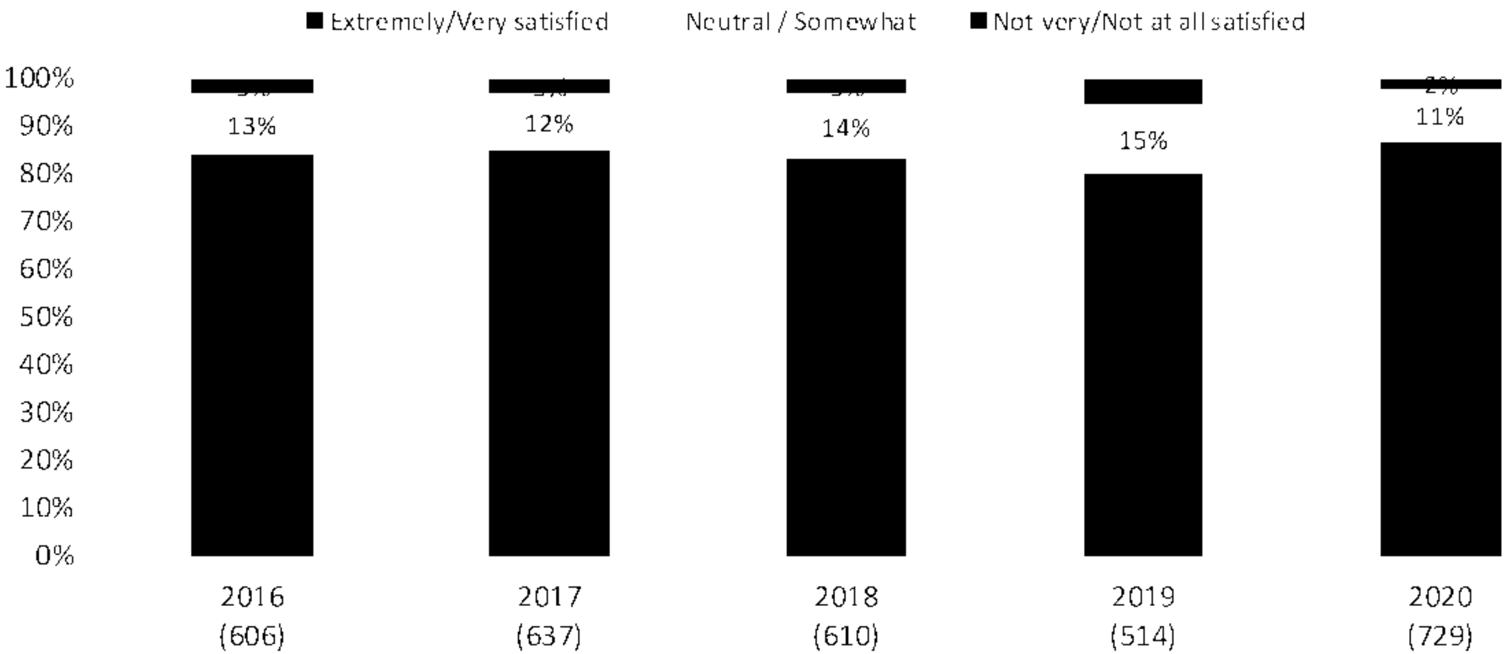
1. INPRS is a <u>trustworthy</u> organization.
2. INPRS provides excellent <u>customer service</u> to members like me.
3. INPRS keeps its <u>commitments to members</u>.

PRS

Annual Survey

Employer Satisfaction

Employer satisfaction has reached an all time high. Dissatisfaction is the lowest it has ever been.



Satisfaction Drivers:

1. Reputation: **Being easy to do business with** and **Being responsive to employers' needs**.
2. ERM System: **User friendliness** and **Functionality**.
3. Moderate drivers: EPPA Group (Telephone), Communication, and the EPPA Group (Email). All increased.

PRS

INDIANA PUBLIC RETIREMENT SYSTEM

Member Investing & Retirement Income Planning

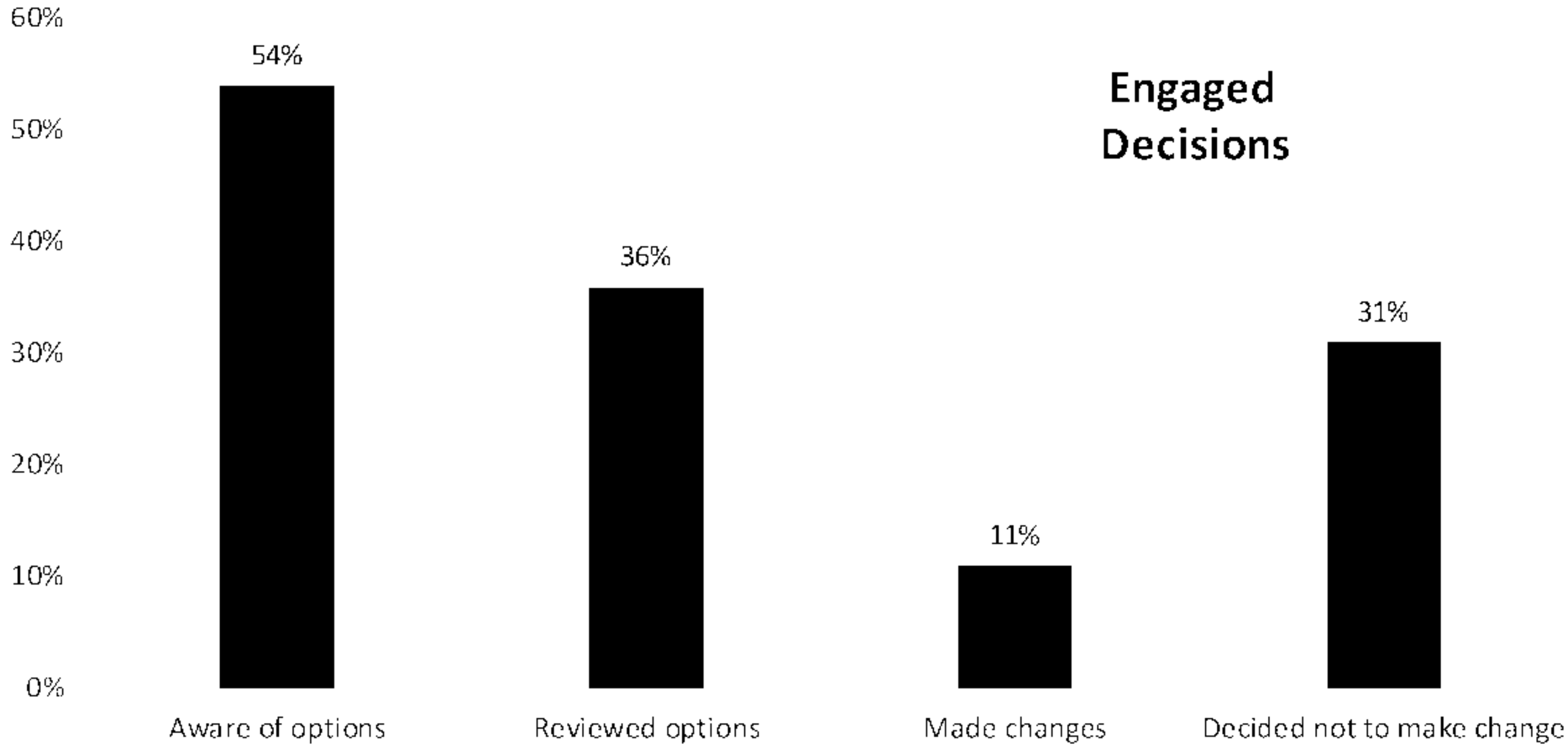
Process Model: Awareness leading to Action

Investment decision model

More than a third of members reviewed investment options in last year

42% made *engaged decisions*

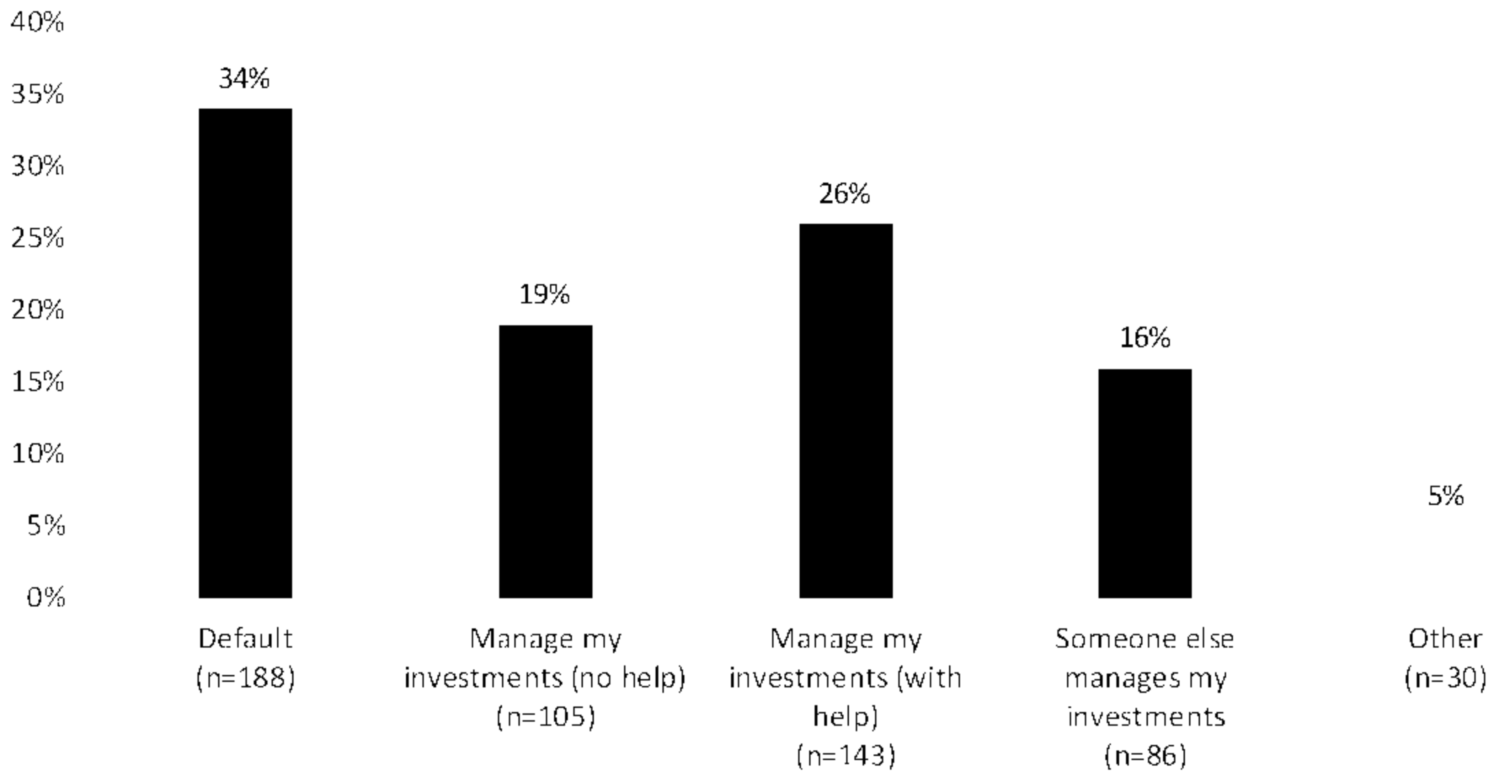
However, nearly half aren't aware of their options



PRS

What type of investor are you?

More than half get no help in investing their DC funds



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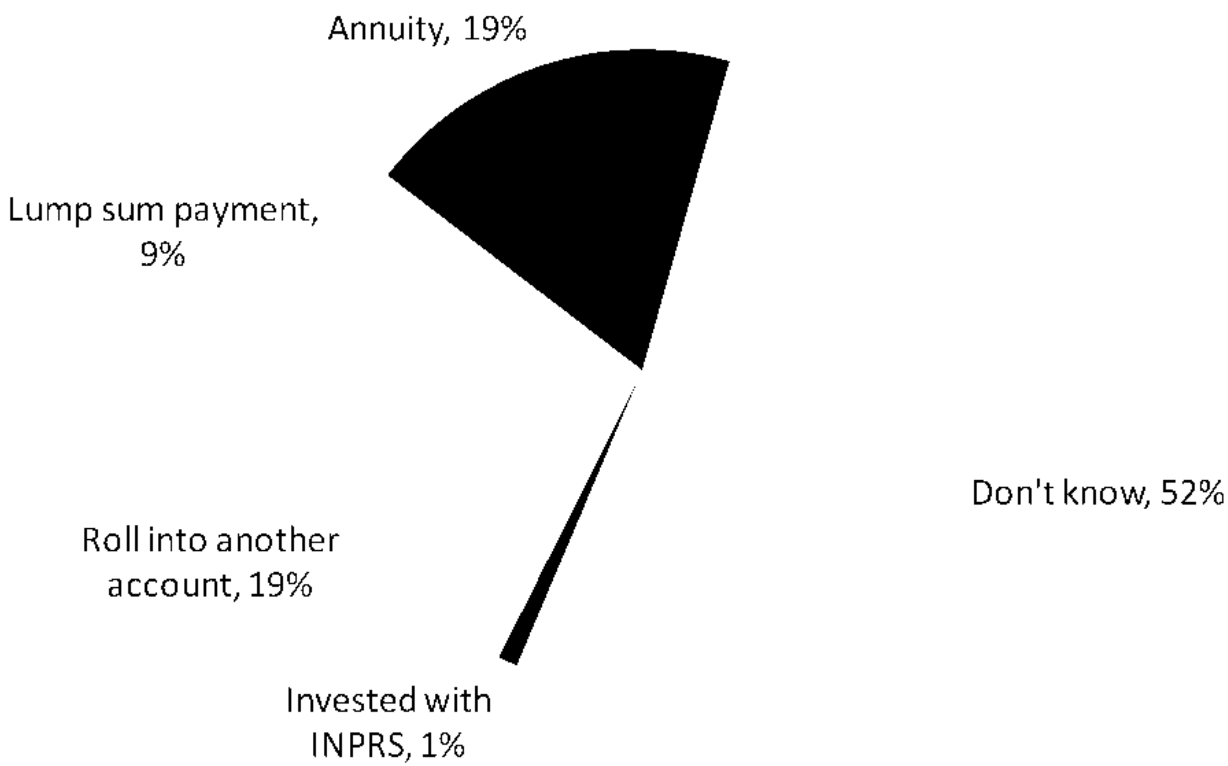
Members within 5 years of retirement

What will you do with your DC account at retirement?

Half don't know what they'll do with DC funds at retirement



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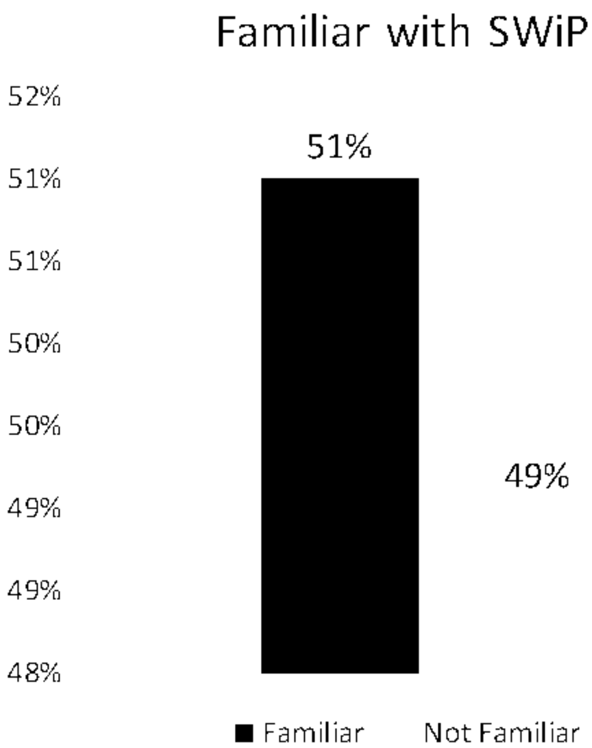
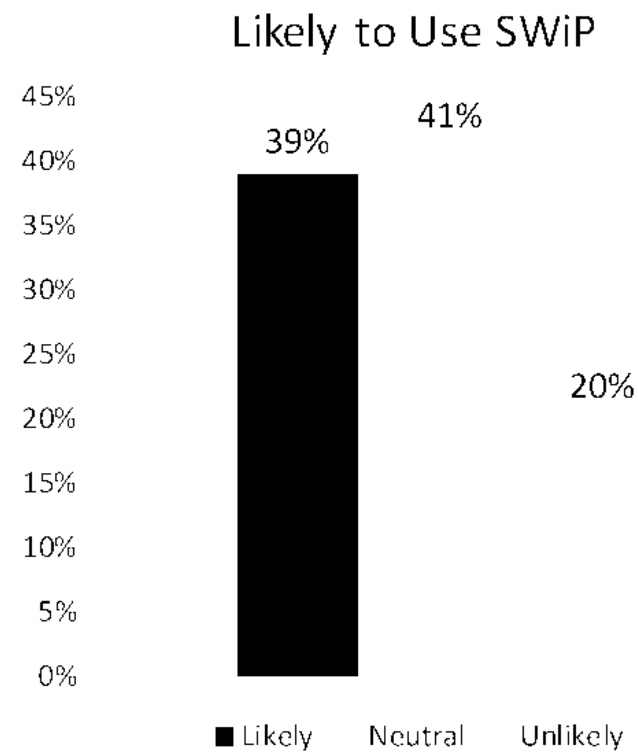
Familiar with systematic withdrawal plans

Significant interest in SWiP as a retirement income option for DC accounts





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INDIANA PUBLIC RETIREMENT SYSTEM

Financial Results

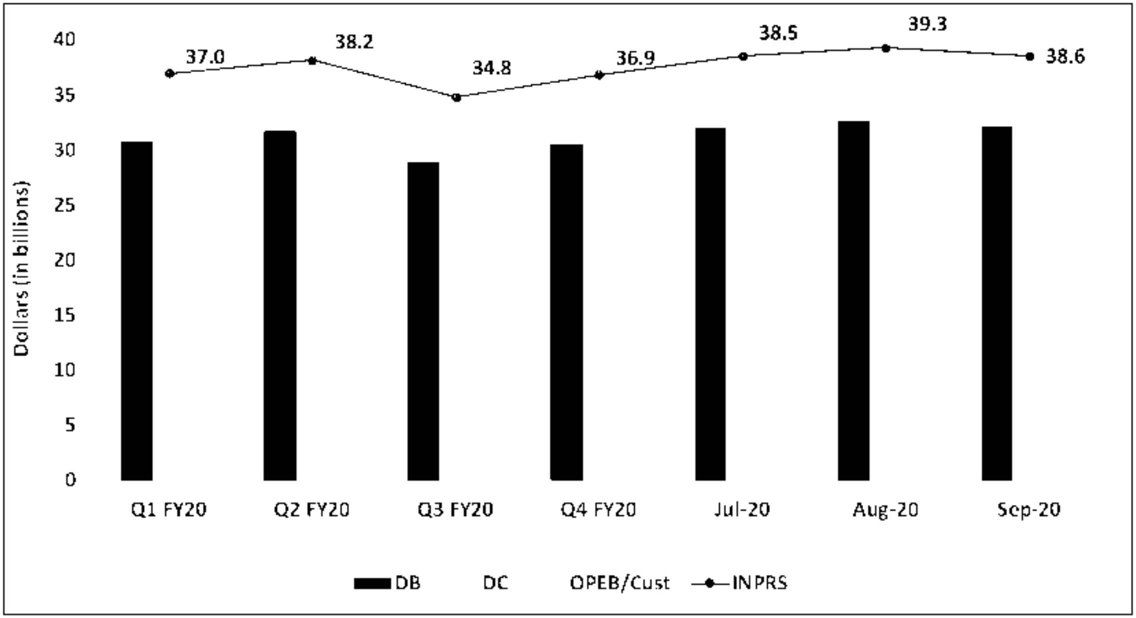
September 2020

Financial Results

(dollars in millions)	Year to Date					
	Actual				vs Budget Fav / (Unfav)	
	DB	DC	OPEB / Custodial	Total	$	%
Fiduciary Net Position - Beginning of Period	$ 30,562	$ 5,826	$ 475	$ 36,863		
Change in Fiduciary Net Position:						
Contributions Received	739	78	106	923	$ 12	1.3 %
Other Additions	6	-	-	6	2	50.0
Net Investment Income	1,541	262	3	1,806	1,347	293.5
Benefit Payouts and Expenses	(689)	(216)	(107)	(1,012)	(31)	(3.2)
Inc/(Dec) in Net Position	**1,597**	**124**	**2**	**1,723**	**$ 1,330**	**338.4 %**
Fiduciary Net Position - End of Period	$ 32,159	$ 5,950	$ 477	$ 38,586		
Change in Net Position %	**5.2 %**	**2.1 %**	**0.4 %**	**4.7 %**		

- **Contributions received** include appropriations and taxes of $583m (DB $481m and OPEB/Custodial $102m).
- **Net change in investments** reflects a total return for DB funds of 4.98% YTD compared to a budget return of 1.69% YTD. The DC YTD return was 4.55%. Yields are preliminary. Performance returns have a different pricing cutoff than the accounting records.
- **Benefit Payouts and Expenses** were unfavorable to budget primarily due to higher than anticipated distributions of contributions and interest for PERF DC and TRF DC, which include CARES Act distributions of $14.8m.

Fiduciary Net Position Detail



- **INPRS's year to date Fiduciary Net Position increased by 4.7% or $1.7b since July 1, 2020.**
- **Defined Benefit year to date Fiduciary Net Position Restricted increased 5.2% or $1.6b** primarily due to the net favorable performance of investment assets.
- **Defined Contribution year to date Fiduciary Net Position Restricted increased 2.1% or $0.1b** primarily due to the net favorable performance of investment assets partially offset by year to date benefit payouts net of contributions.
- **OPEB/Custodial year to date Fiduciary Net Position Restricted increased slightly at 0.4% primarily** due to net investment income.

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Supplemental Reserve Accounts

(dollars in thousands)	Year to date					
	PERF DB	TRF Pre-'96 DB	TRF '96 DB	EG&C	LE DB	SRA Total
Fiduciary Net Position - Beginning of Period	**$ 34,606**	**$ 63,019**	**$ 7,357**	**$ 348**	**$ -**	**$ 105,330**
Contributions:						
Employer	5,621	-	1,168	55	-	6,844
Lottery	-	7,500	-	-	-	7,500
Total Contributions	5,621	7,500	1,168	55	-	14,344
Net Investment Income/(Loss)	1,779	3,077	380	18	-	5,254
Benefit Payouts and Expenses	-	-	-	-	-	-
Net Inc/(Dec) in Net Position	**7,400**	**10,577**	**1,548**	**73**	-	19,598
Ending Fiduciary Net Position Restricted	**$ 42,006**	**$ 73,596**	**$ 8,905**	**$ 421**	**$ -**	**$ 124,928**

Employer Contribution Rates: Jan 2020 - Dec 2020	0.44%	N/A	0.14%	0.61%	N/A

Note: TRF Pre-'96 DB receives $2.5m each month from the Lottery. When postretirement benefit increases are enacted, the necessary funds will be allocated to the LE DB SRA to pay for the benefit.

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Administrative and Investment Expenses

(dollars in millions)	Year to Date			Fiscal Year
		vs Budget Fav/(Unfav)		
Expenses	**Actual**	**$**	**%**	**Budget**
Administrative	$ 9.7	$ 0.4	3.7 %	$ 43.8
Investment:				
Management Fees	54.3	(1.1)	(2.1)	212.2
General Expenses	3.0	0.2	5.7	14.2
Total Investment	57.3	(0.9)	(1.7)	226.4
Total Expenses	**$ 67.0**	**$ (0.5)**	**(0.7) %**	**$ 270.2**

- **Administrative expenses** are favorable to budget primarily due to open positions, third party contractor positions under budget, savings and timing in software and licenses, and savings in data processing.

- **Investment Expenses:**
  - **Management fees** are $(1.1)m unfavorable to budget primarily due to outperformance in absolute return partially offset by accrual differences in fixed income - ex inflation-linked and timing of fees in private markets and real estate.
  - **General Expenses** are favorable primarily due to brokerage commissions and open positions.

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Administrative and Investment Expenses - Detail

(dollars in thousands)	Month		Year to Date		Fiscal Year 2021	
Administrative Expenses	Actual	Fav/(Unfav) vs Budget	Actual	Fav/(Unfav) vs Budget	Budget	vs Prior Year
Personnel Services	$ 2,501	$ 12	$ 4,964	$ 53	$ 23,116	$ (341)
Outside Services:						
Actuarial Services	20	10	64	17	390	72
Outside Counsel	7	(1)	15	1	75	15
Benefit Processing	178	(30)	609	(25)	2,130	(54)
Professional Services	213	25	393	44	2,165	(329)
DC Recordkeeper Fees	537	5	1,592	21	6,528	(278)
Total Professional Services	955	9	2,673	58	11,288	(574)
IT Services	540	26	1,656	127	7,034	181
Communications	47	69	189	71	991	(100)
Operations:						
Training and Travel	1	5	10	2	177	39
Facility / Building	37	35	117	48	606	59
Miscellaneous	12	12	33	12	269	(38)
Depreciation / Amortization	26	1	78	2	319	(8)
Total Operations	76	53	238	64	1,371	52
Total Administrative Expenses	**4,119**	**169**	**9,720**	**373**	**43,800**	**(782)**
Investment Expenses						
External Investment Services:						
DC/RMBA Investment Mgr Fees	509	230	2,063	153	9,015	48
DB/SDBF Investment Mgr Fees	15,726	337	52,237	(1,288)	203,164	(2,554)
Outside Service Fees	721	39	2,172	146	9,198	791
Total External Investment Services	16,956	606	56,472	(989)	221,377	(1,715)
Internal Investment Services:						
Staff and Related Expense	362	33	784	140	5,018	(847)
Total Investment Expenses	**17,318**	**639**	**57,256**	**(849)**	**226,395**	**(2,562)**
Total Expenses	**$ 21,437**	**$ 808**	**$ 66,976**	**$ (476)**	**$ 270,195**	**$ (3,344)**

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INDIANA PUBLIC RETIREMENT SYSTEM

INPRS Investments Update

October 30, 2020

(844) GO-INPRS
inprs.in.gov

Team Imperatives

Defined Benefit ("DB") Imperatives:

- Achieve 6.75% Long Term Rate of Return Assumption
- Achieve the return as efficiently & effectively as possible
- Always have enough cash on hand to pay the bills

Defined Contribution ("DC") Imperatives:

- Provide a simple & diversified default option ("Allocate it for me" – Target Date Funds)
- Provide a simple & diversified menu of stand-alone options ("Allocate it myself" – Core & Specialty)
- Leverage DB asset base to provide low-cost investment options

PRS

As of September 30, 2020

INPRS Highlights

Defined Benefit ("DB")

- INPRS' DB portfolio has returned 4.98% fiscal year-to-date 2021 and 7.51% over the past 5 years.
- INPRS' DB portfolio is outperforming the target benchmark by 0.33% fiscal year-to-date and has outperformed in the 3- and 5-year trailing time periods by 0.56% and 0.61%, respectively.
- The value-add over the target (passive) allocation since 2012 has now surpassed $1 billion.

Defined Contribution ("DC")

- All Target Date Funds continue to outperform their respective benchmarks over the 3- and 5-year trailing time periods.
- All active DC Funds have outperformed their respective benchmarks over the 3- and 5-year trailing time periods, except for the Small/Mid Cap Equity Fund.

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INDIANA PUBLIC RETIREMENT SYSTEM

INPRS Investments Update

Portfolio Review

INPRS Portfolio Update

INPRS Market Values

	9/30/2020	6/30/2020	6/30/2019	6/30/2018	6/30/2017
Defined Benefit Retirement Funds	**$32,249,880,398**	**$30,657,831,037**	**$30,370,572,758**	**$28,475,758,997**	**$26,365,129,280**
Defined Contribution Retirement Funds	**$6,341,354,365**	**$6,205,672,106**	**$5,745,596,849**	**$5,643,721,464**	**$5,250,566,130**
PERF, TRF, & LEDC Plans	*$5,949,090,780*	*$5,828,853,665*	*$5,745,596,849*	*$5,643,721,464*	*$5,250,566,130*
Retirement Medical Benefits Account	*$392,263,585*	*$376,818,441*	*N/A*	*N/A*	*N/A*
Other Funds	**$21,683,690**	**$23,915,102**	**$31,369,394**	**$41,010,999**	**$45,839,758**
Local Public Safety Pension Relief Fund	*$6,232,629*	*$8,290,717*	*$16,184,251*	*$26,167,053*	*$30,859,090*
Special Death Benefit Fund	*$15,451,061*	*$15,624,385*	*$15,185,143*	*$14,843,946*	*$14,980,668*
TOTAL ASSETS	**$38,612,918,453**	**$36,887,418,245**	**$36,147,539,001**	**$34,160,491,460**	**$31,661,535,168**

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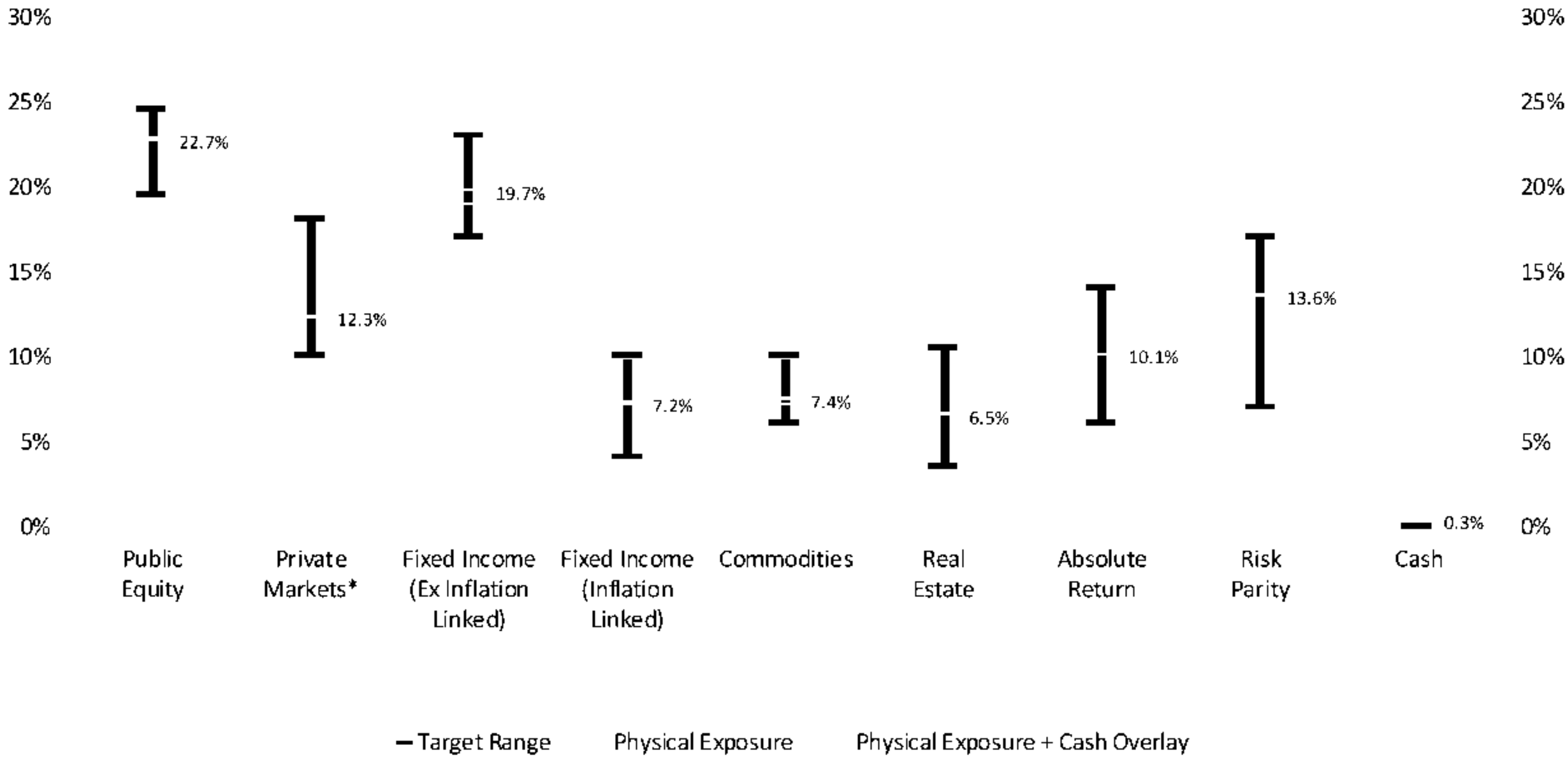
As of September 30, 2020

Defined Benefit Asset Allocation



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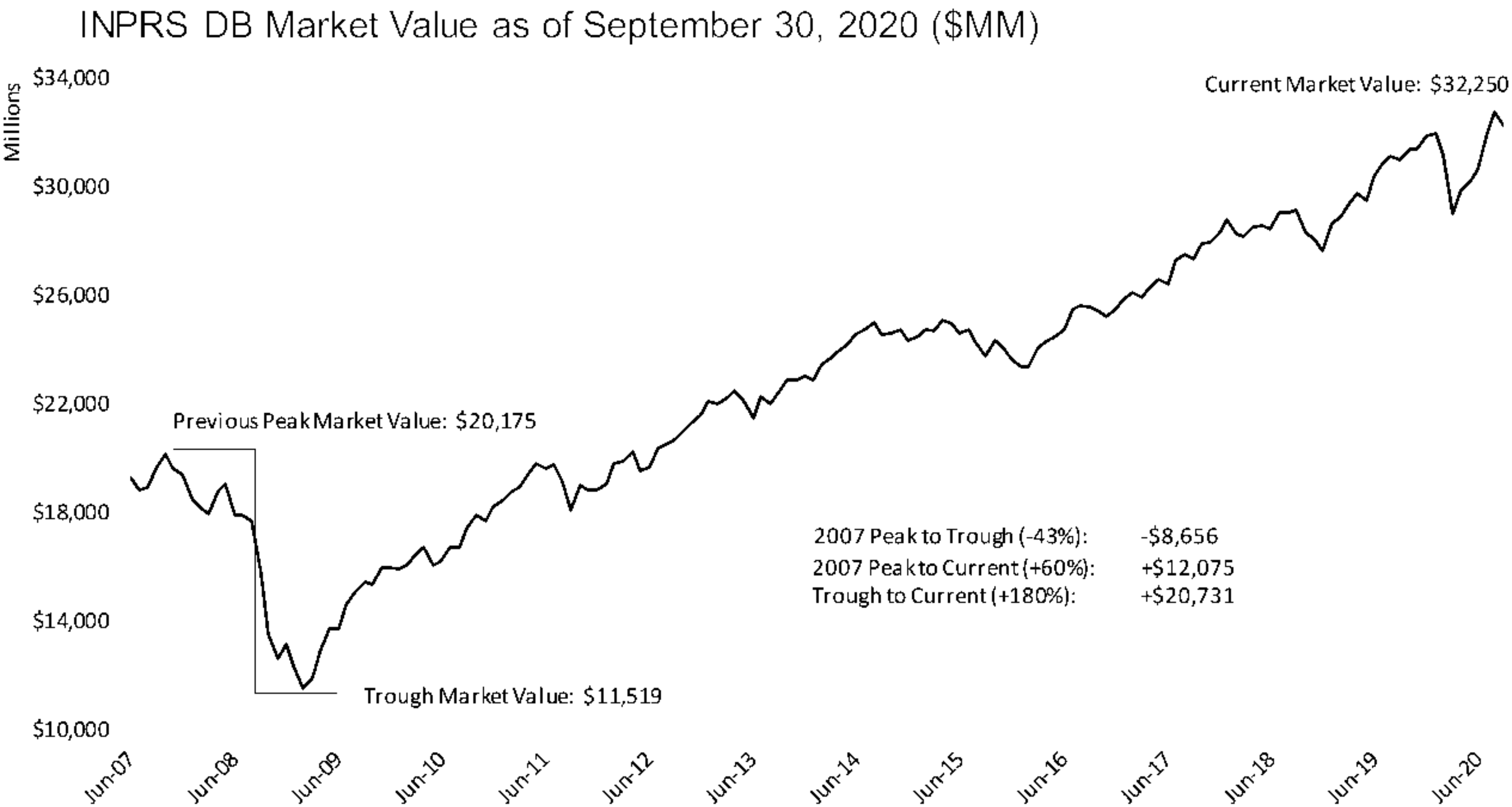
Defined Benefit Performance



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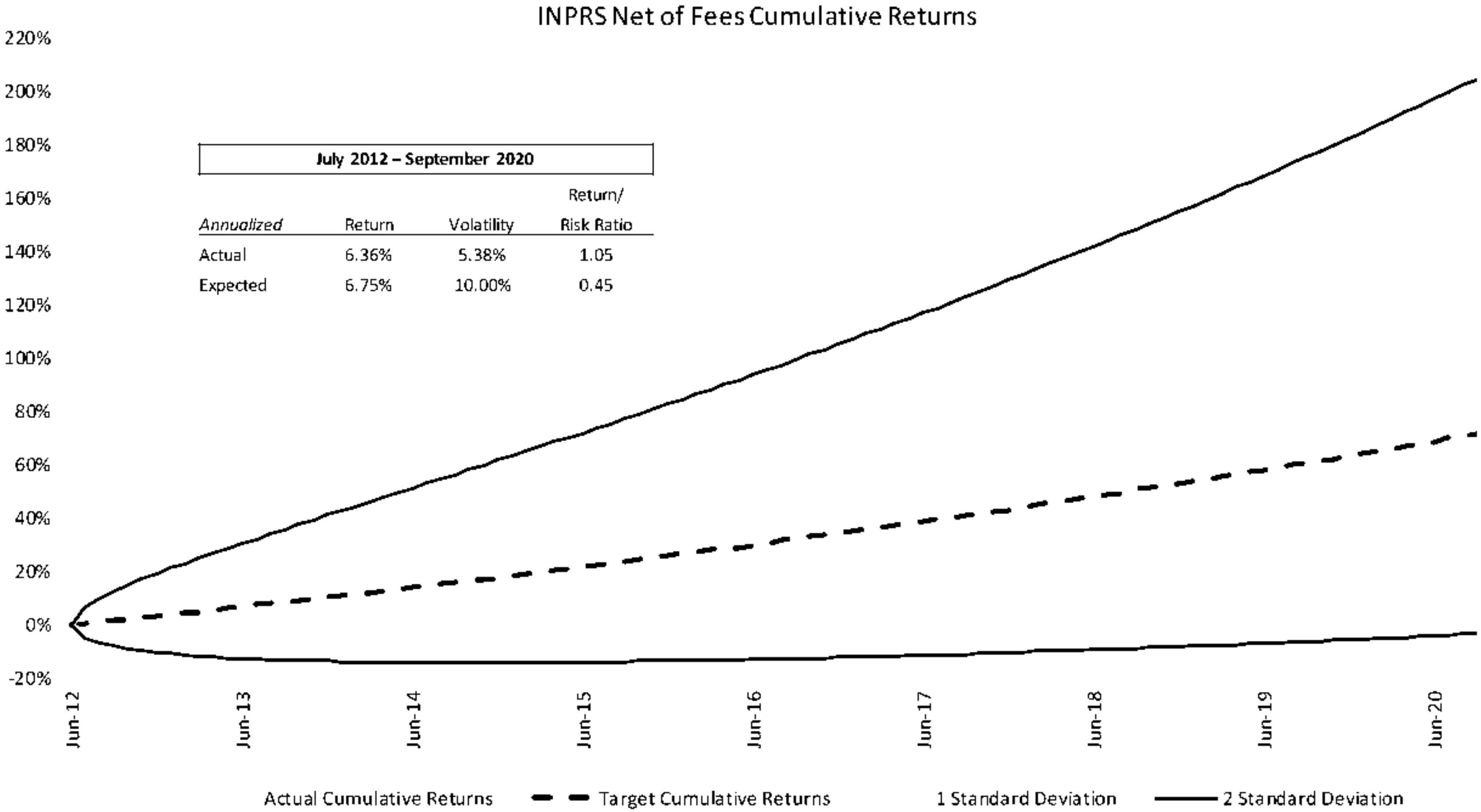
Net of Fees of September 30, 2020

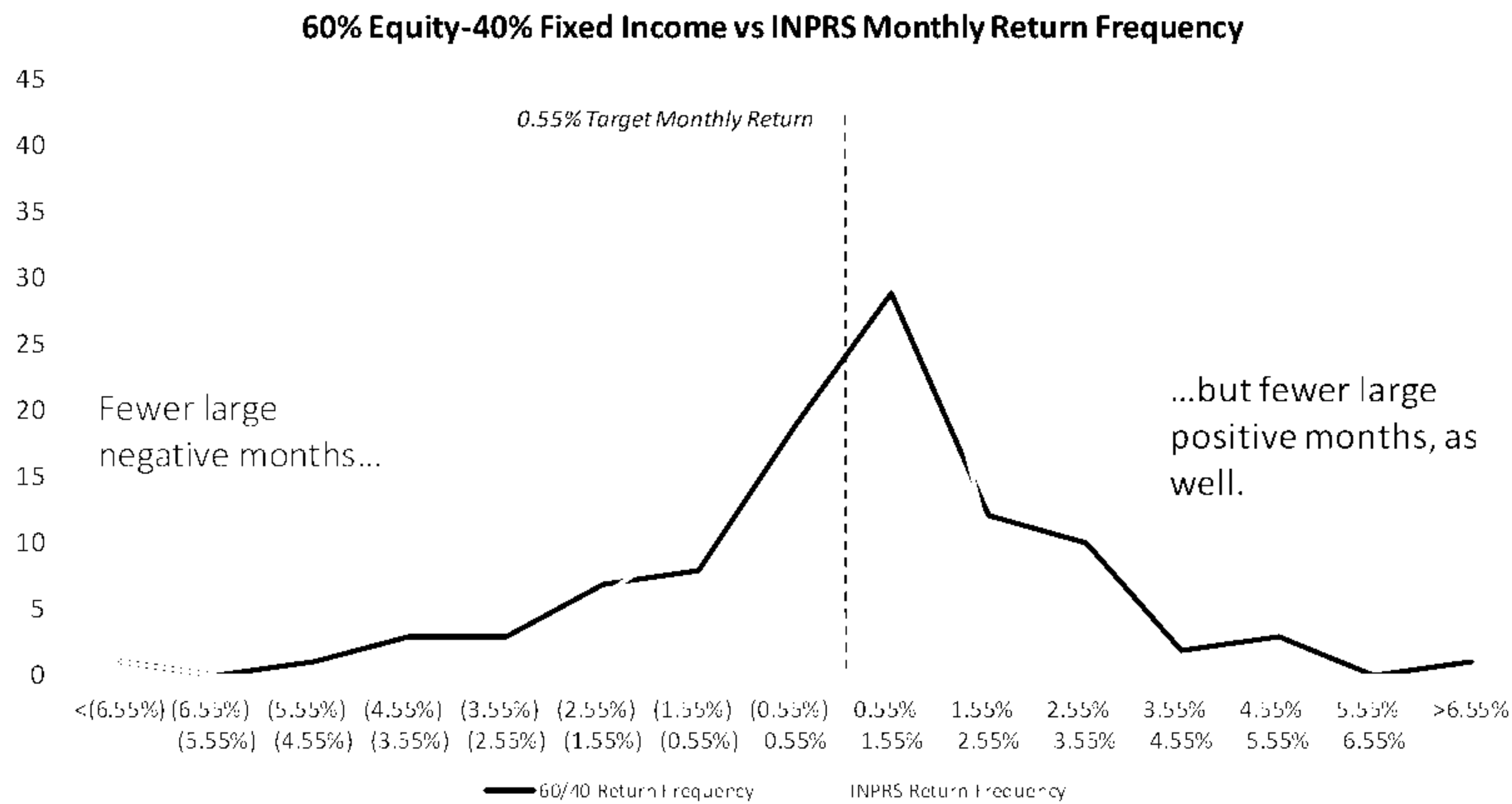
Defined Benefit Performance



July 2012 – September 2020			
Annualized	Return	Volatility	Return/ Risk Ratio
Actual	6.36%	5.38%	1.05
Expected	6.75%	10.00%	0.45

July 2012 – September 2020

Defined Benefit Monthly Return Distribution



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January 2017 – September 2020

Defined Benefit Asset Class Performance

Asset Class	Passive Return 2017	2018	2019	2020 YTD
Equities				
Global	24.0%	-10.1%	26.4%	0.5%
U.S. Large/Mid Cap	21.7%	-4.8%	31.4%	6.4%
U.S. Small Cap	14.7%	-11.0%	25.5%	-8.7%
Developed Mkts. Ex U.S.	27.8%	-14.8%	21.6%	-5.2%
Emerging Mkts.	37.3%	-14.6%	18.4%	-1.2%
Private Markets & Real Estate				
Private Equity[1]	11.4%	23.3%	17.7%	-0.5%
Private Credit[1,2]			7.9%	2.4%
Real Estate - Equity[1]	11.7%	13.7%	11.3%	-0.2%
Real Estate - Debt[1]	5.7%	6.0%	5.4%	-0.5%
Fixed Income - Credit				
Emerging Mkts. Bonds	12.7%	-5.2%	14.3%	-3.4%
Opportunistic Credit[1]	7.7%	0.9%	8.9%	-0.8%
U.S. Long Duration Credit	12.2%	-6.8%	23.4%	8.0%

Asset Class	Passive Return 2017	2018	2019	2020 YTD
Fixed Income - Gov't Bonds				
U.S. Long Duration Gov't	8.5%	-1.8%	14.8%	21.1%
Developed Mkts. Ex U.S. Gov't	2.1%	3.5%	8.3%	4.0%
Inflation-Linked Bonds				
U.S. Long Duration TIPS	9.6%	-7.2%	17.7%	23.3%
Global Inflation-Linked	2.9%	-1.6%	7.9%	7.9%
Commodities				
Bloomberg (Diversified)	1.7%	-11.3%	7.7%	-12.1%
Multi-Asset				
Risk Parity[1]	12.7%	-6.7%	21.2%	3.9%
Absolute Return[1]	6.1%	4.1%	4.4%	0.8%

	2017	2018	2019	2020 YTD	Annualized
INPRS DB	***12.3%***	***-1.0%***	***16.7%***	***2.3%***	***7.9%***
Global 60/40	*15.2%*	*-5.3%*	*19.1%*	*2.7%*	*8.0%*

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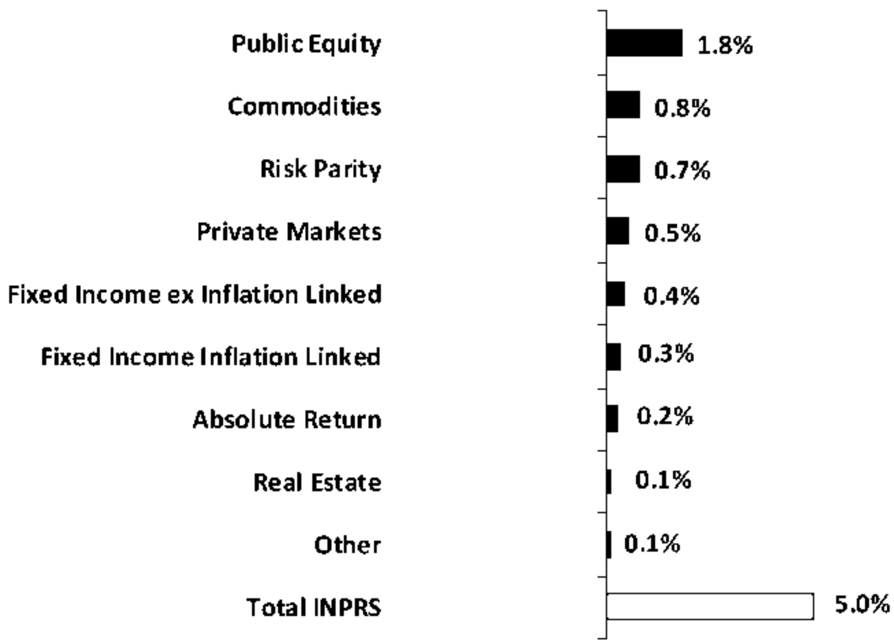
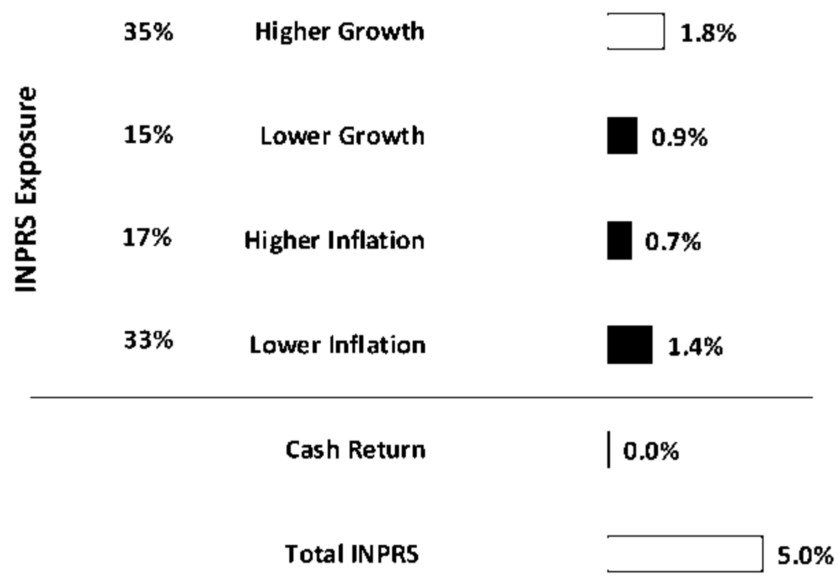
Defined Benefit Performance

Fiscal YTD Performance
Attribution by Asset Class



Fiscal YTD Performance
Attribution by Economic Environment



Net of Fees as of September 30, 2020

Defined Benefit Performance

	Mkt. Value ($MM)	%	Fiscal YTD	Cal YTD	1 Year	3 Year	5 Year	10 Year
Total DB Plan[1]	**32,250**	**100**	**4.98**	**2.31**	**5.69**	**6.97**	**7.51**	**6.35**
Public Equity[3]	**7,327**	**22.7**	**8.14**	**1.80**	**11.52**	**7.47**	**10.95**	**9.27**
Private Markets[4]	**3,972**	**12.3**	**4.46**	**-0.15**	**1.48**	**13.22**	**11.51**	**13.10**
Fixed Income (Ex Inflation Linked)	**6,122**	**19.0**	**2.06**	**8.58**	**8.11**	**7.01**	**6.76**	**5.16**
Fixed Income (Inflation Linked)	**2,329**	**7.2**	**4.30**	**15.17**	**14.25**	**9.73**	**7.35**	**5.30**
Commodities	**2,285**	**7.1**	**11.46**	**-20.93**	**-16.07**	**-4.83**	**-3.57**	**-6.13**
Real Estate	**2,102**	**6.5**	**1.65**	**-0.05**	**2.07**	**7.33**	**8.10**	**9.97**
Absolute Return	**3,253**	**10.1**	**2.45**	**0.75**	**2.42**	**3.72**	**3.57**	**4.36**
Risk Parity	**4,374**	**13.6**	**5.54**	**3.93**	**6.69**	**7.14**	**7.84**	
Cash and Overlay[5]	**474**	**1.5**	**4.44**	**9.83**	**13.11**	**8.54**	**7.93**	**0.77**

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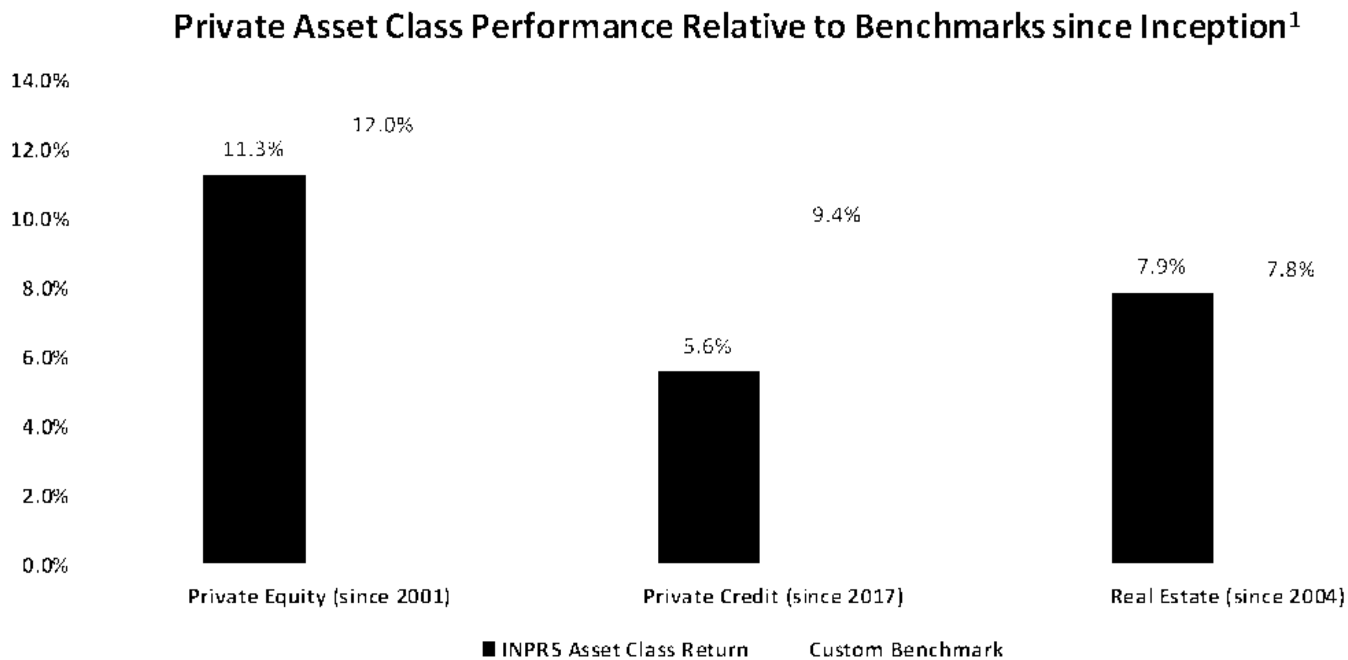
Net of Fees as of March 31, 2020

Private Asset Class Performance



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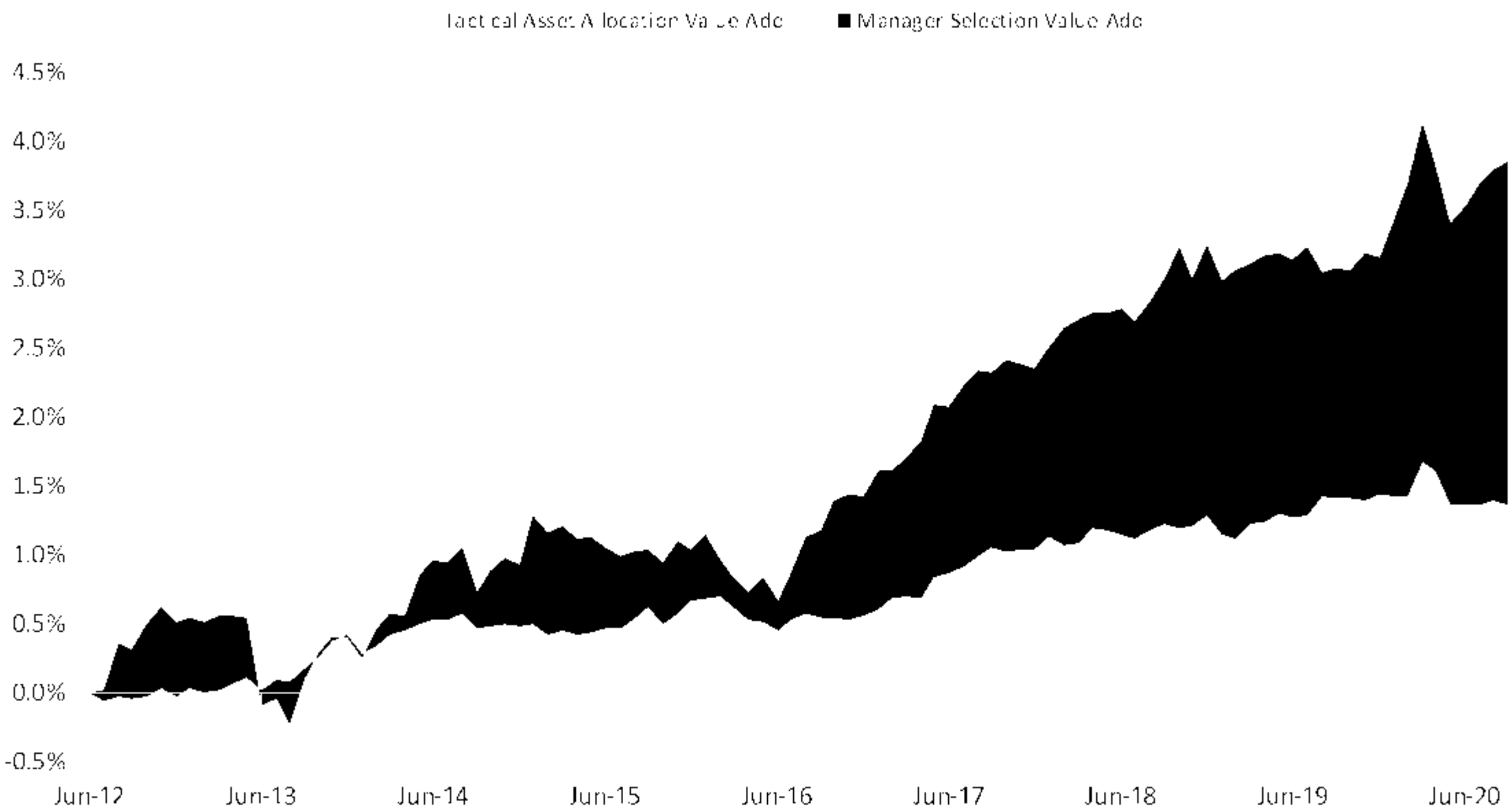
July 2012 – September 2020

"Value Add" to the Defined Benefit Portfolio

Cumulative Excess Returns over the Target Allocation (Net of Fees)



~$1.04 billion of value-add over the target (passive) allocation since 2012

Net of Fees as of September 30, 2020

Defined Contribution Performance

	Market Value ($MM)	% of DC	Fiscal YTD	Cal YTD	1 Year	3 Year	5 Year
Large Cap Equity Index Fund	1,179	18.6	8.93	5.59	15.17	12.29	14.15
Small/Mid Cap Equity Fund	731	11.5	9.44	2.05	11.30	7.48	11.03
International Equity Fund	232	3.7	7.09	-2.79	6.45	2.96	7.89
Fixed Income Fund	206	3.2	1.04	7.45	7.65	5.41	4.62
Inflation Linked Fixed Income Fund	46	0.7	3.12	9.34	10.21	5.93	4.63
Stable Value Fund	2,378	37.5	0.62	1.83	2.46	2.31	2.02
Money Market Fund	62	1.0	0.03	0.50	0.97	1.71	1.30
Target Date Funds[1]	1,115	17.6					
PERF, TRF, & LEDC PLANS	5,949	94					
Retirement Medical Benefits Account[2]	392	6.2	0.62	6.01	6.40		
TOTAL DC ASSETS[3]	6,341	100					

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Net of Fees as of September 30, 2020

Target Date Funds Performance

	Market Value ($MM)	% of Target Date Funds	Fiscal YTD	Cal YTD	1 Year	3 Year	5 Year
2065 Fund	0	0.0	7.27				
2060 Fund	54	4.8	7.28	3.27	11.46	7.32	9.33
2055 Fund	163	14.6	7.28	3.28	11.46	7.32	9.32
2050 Fund	153	13.7	7.28	3.28	11.46	7.32	9.32
2045 Fund	122	10.9	7.00	3.61	11.45	7.32	9.32
2040 Fund	122	10.9	6.69	4.15	11.57	7.33	9.28
2035 Fund	133	11.9	6.09	4.90	11.52	7.31	8.82
2030 Fund	126	11.3	5.50	5.77	11.51	7.08	7.71
2025 Fund	133	11.9	5.14	6.35	11.57	6.77	6.75
2020 Fund	74	6.6	4.52	6.57	10.97	6.36	5.90
2015 Fund	14	1.3	3.91	7.07	10.55		
Retirement Fund	21	1.9	3.22	7.54	9.94	5.88	5.15
TOTAL TARGET DATE FUNDS[1]	1,115	100					

PRS

Net of Fees as of September 30, 2020

Other Funds Performance

	Market Value ($MM)	Fiscal YTD	Cal YTD	1 Year	3 Year	5 Year
Police & Fire Pension Relief	**6**	**0.03**	**0.50**	**0.94**	**1.70**	**1.29**
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Special Death Benefit Fund	**15**	**0.56**	**5.84**	**6.24**	**4.41**	**3.41**
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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Investments/Terminations

Investment	Asset Class	Action	Effective Date[1]	Commitment/ Initial Amount	Description
400 Capital Asset Based Term Fund II LP	Private Markets	New Investment	8/14/2020	$80MM	The fund seeks to take advantage of credit opportunities in the U.S. and Europe. The strategy primarily targets opportunities across residential real estate debt, commercial real estate debt, consumer finance, and specialty finance markets.
Oak Hill Advisors Structured Products Fund II	Fixed Income (ex Inflation-Linked)	New Investment	8/18/2020	$80MM	The fund seeks to capitalize on periods of dislocation in the collateralized loan obligation (CLO) market. The strategy invests opportunistically across CLO debt and equity tranches in the U.S. and Europe, primarily in the secondary market.
Russell Investments	Cash Overlay	Termination	9/15/2020	$412.1MM	The termination is a result of a request for proposal seeking qualified investment managers that can manage the System's cash rebalancing overlay.
Parametric Portfolio Associates	Cash Overlay	New Investment	9/15/2020	$412.1MM	The new investment is a result of a request for proposal seeking qualified investment managers that can manage the System's cash rebalancing overlay.

Manager and Strategy Assessment

What We Look For

- Quality Portfolio Manager(s) & Team
- Team Continuity
- Alignment of Interest
- Competitive Advantage
- Consistent Philosophy
- Repeatable Process
- Robust Operations
- Reliable Client Service
- Strong Performance

Manager Communication

- RFP Every 10 Years
- Annual On-site Visits at Manager's Office
- Manager Meetings at INPRS
- Quarterly Update Calls

Third Party Resources

- **Qualitative**
  - Verus
- **Risk/Performance**
  - Barra
  - Bloomberg
  - BNY Mellon
  - eVestment

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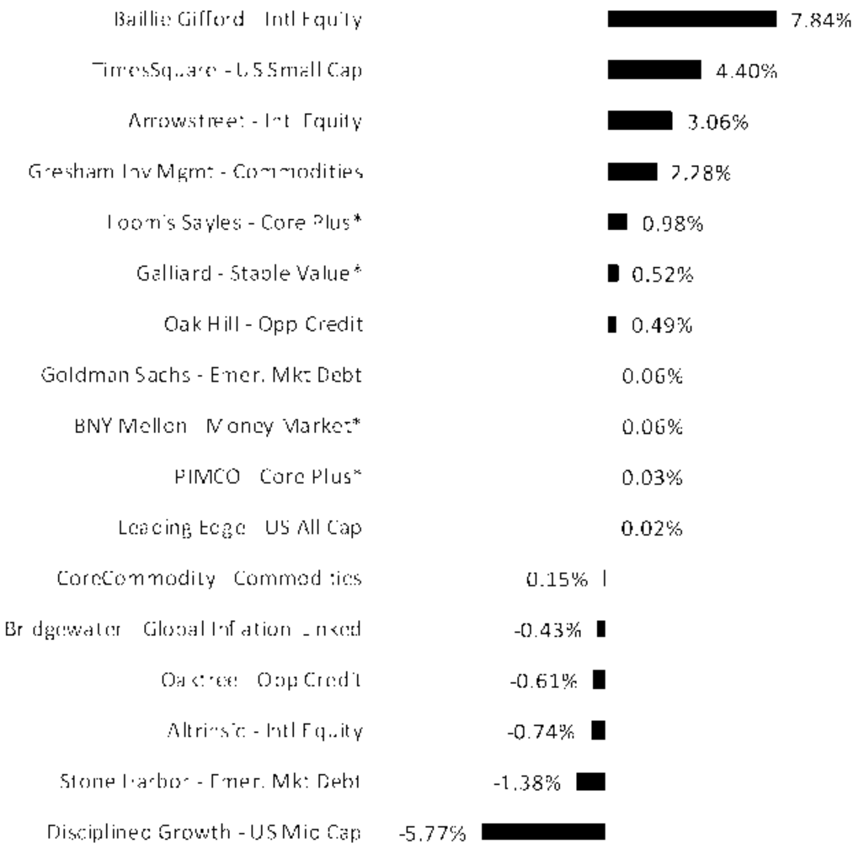
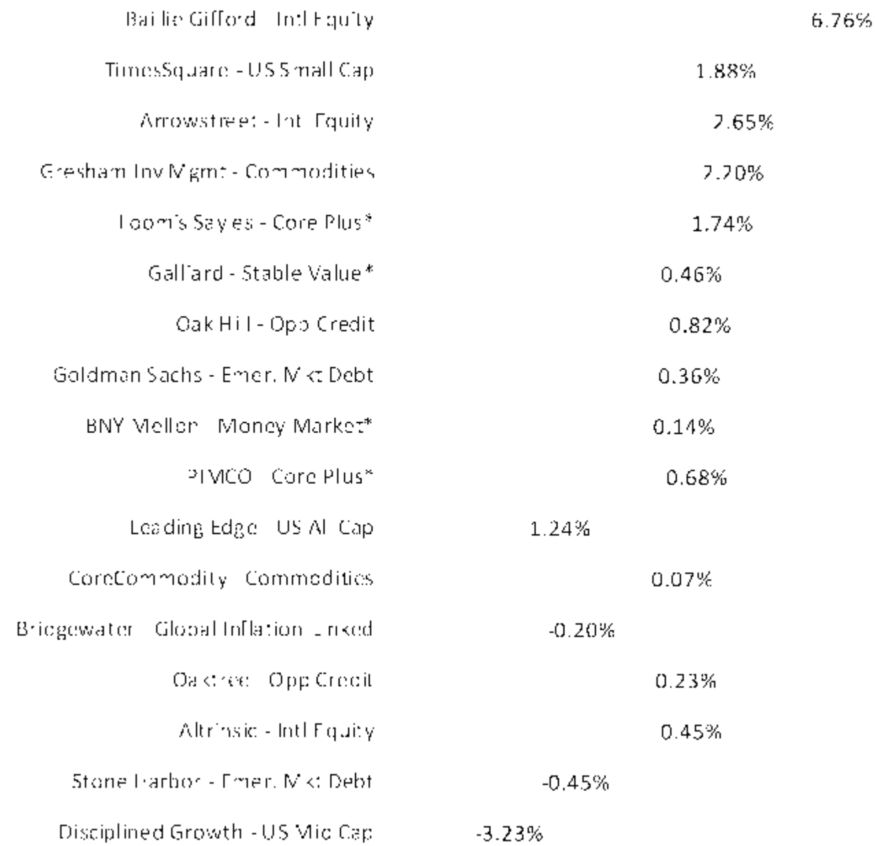
As of September 30, 2020

Active Strategy Performance

3 Yr Excess Return



5 Yr Excess Return



PRS

As of September 30, 2020

Watch List

					Quantitative Factors				Qualitative Factors		
Manager	Asset Class	% of INPRS Assets*	Watch List Effective Date	Investment Inception Date	3 Year Performance	5 Year Performance	Since Inception Performance (>5 years)	Other	Personnel	Investment Strategy or Process	Other
Leading Edge	Public Equity	0.5%	8/31/15	9/1/08	✓	[illegible]	[illegible]	[illegible]	✓	✓	✓
Stone Harbor	Fixed Income	0.9%	5/31/18	6/1/13	[illegible]	[illegible]	[illegible]	[illegible]	✓	✓	✓
Disciplined Growth	Public Equity	1.5%	5/31/19	11/1/12	[illegible]	[illegible]	[illegible]	[illegible]	◻	✓	✓
Oaktree	Fixed Income	1.0%	9/30/19	1/1/15	[illegible]	✓	[illegible]	[illegible]	✓	✓	✓
Bridgewater	Fixed Income	2.7%	3/31/20	11/1/09	[illegible]	[illegible]	✓	[illegible]	✓	✓	✓
CoreCommodity	Commodities	3.3%	3/31/20	7/1/12	[illegible]	✓	[illegible]	N/A	✓	✓	✓
Altrinsic	Public Equity	1.6%	7/31/20	10/1/09	[illegible]	✓	✓	[illegible]	✓	✓	✓

Removals from Watch List

Manager	Asset Class	Effective Date	Reason
PIMCO	Fixed Income	3/31/20	No longer underperforming over 3-year period
Oak Hill	Fixed Income	7/31/20	No longer underperforming over 3-year period

PRS

[illegible]

Stone Harbor

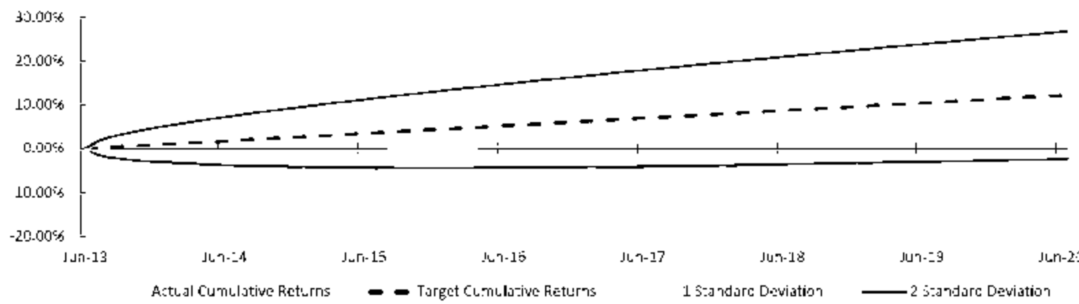
Watch List

Strategy: Active Emerging Market Debt

Performance:

	3-Year	5-Year	ITD
Strategy	0.51%	5.08%	0.93%
Benchmark	*1.89%*	*5.53%*	*2.11%*
Difference[1]	-1.38%	-0.45%	-1.18%

As of September 30, 2020
INPRS Investment Inception: June 1, 2013



Underperformance: Over longer periods, there have been two large detractors from performance. In both local and hard currency, Stone Harbor was underweight duration in the Eurozone periphery leading up to the announcement of the Eurozone QE program. The program announcement supported bond prices (and yields fell), hurting the underweight duration positions. This was most notable in Hungary, which was the largest detractor from the portfolio. Venezuela overweight and issue selection also detracted from performance during the oil fall of 2014 and 2015. They were essentially early to the oil stabilization trade, and it significantly affected performance.

Conviction: Stone Harbor derives over 75% of its business from its emerging market strategies and has established track records in a variety of EM mandates. Given their experience, depth, current construction and outlook, we are comfortable maintaining the relationship despite their underperformance.

PRS

Disciplined Growth

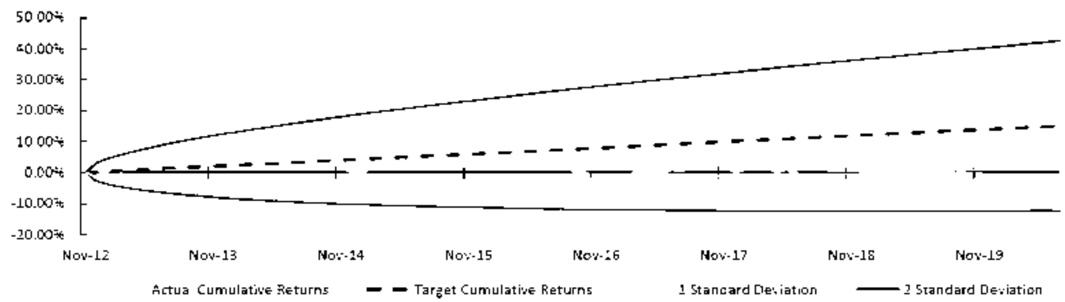
Watch List

Strategy: Active U.S. Mid Cap Growth

Performance:

	3-Year	5-Year	ITD
Strategy	10.46%	12.30%	12.87%
Benchmark	*16.23%*	*15.53%*	*15.45%*
Difference[1]	-5.77%	-3.23%	-2.57%

As of September 30, 2020
INPRS Investment Inception: November 1, 2012



Underperformance: Year-to-date the strategy has underperformed its benchmark index as U.S. equity markets rallied hard following the sharp equity market pull-back during the fourth quarter of 2018. Negative attribution was experienced in a few sectors and individual stock selection also contributed to the underperformance. On an absolute level, benchmark returns experienced over the past three years are historically strong.

Conviction: Disciplined Growth takes a long-term approach to investing. Annual portfolio turnover is typically less than 15%, with some holdings near the ten-year mark. In taking a differentiated, long-term view periods of underperformance are expected. The minimum expected annual return for an individual position is 12%. Inception to date, portfolio performance exceeds this hurdle. The firm is employee-owned, manages only growth strategies and compensation is aligned with the long-term in mind. In late 2019, Nick Hansen was elevated to a lead portfolio manager position, a senior leadership role within the firm.

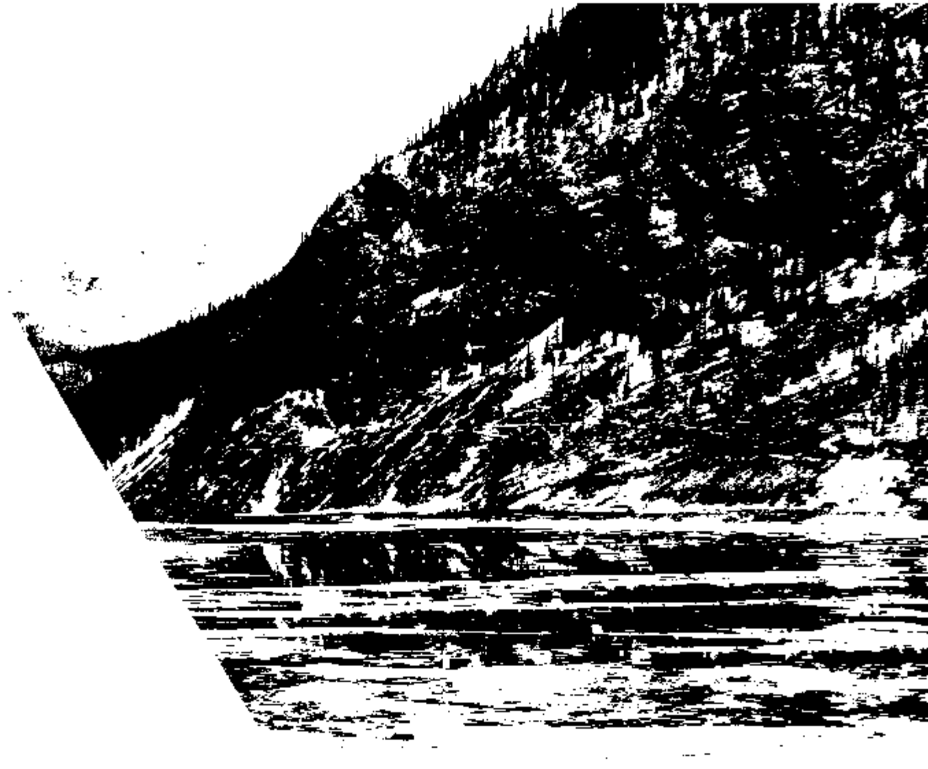
INDIANA PUBLIC RETIREMENT SYSTEM

INPRS Investments Update

Appendix

Verus

PERSPECTIVES



OCTOBER 2020

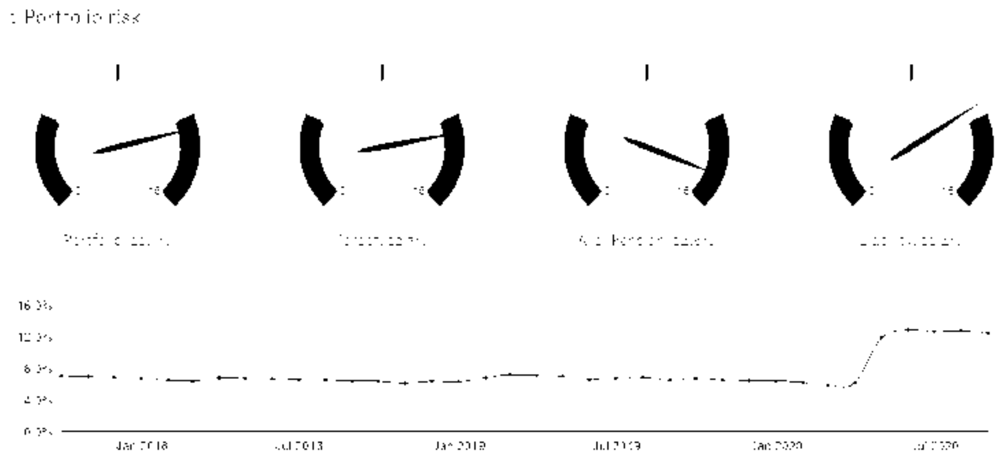
Analysis date: 8/31/2020

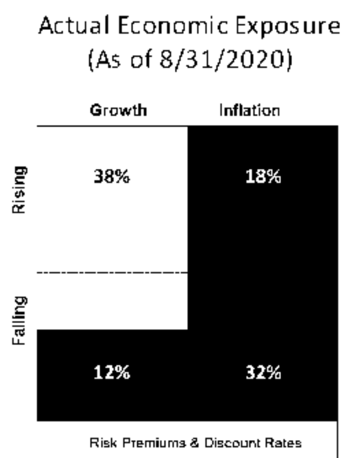
INPRS Board Dashboard

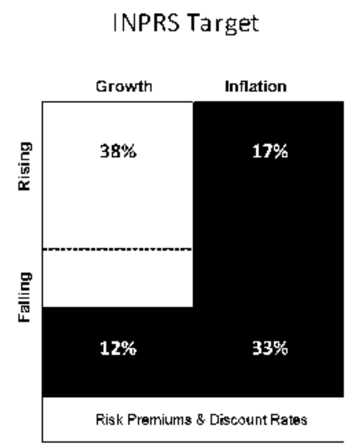
Summary

- Forecasted portfolio risk continues to gradually fall after a sharp increase this year driven by the elevated level of market volatility being incorporated into the risk model
- Economic exposures remain consistent with the recommended target
- Relative to the policy, the portfolio is operating with marginally lower risk - mainly coming from credit and inflation factors
- Liquidity remains healthy with a coverage ratio above 2

Portfolio risk and economic sensitivity

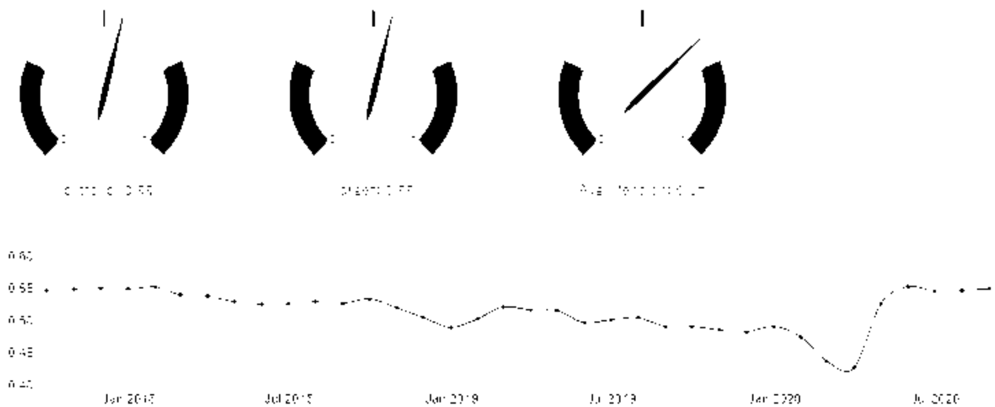




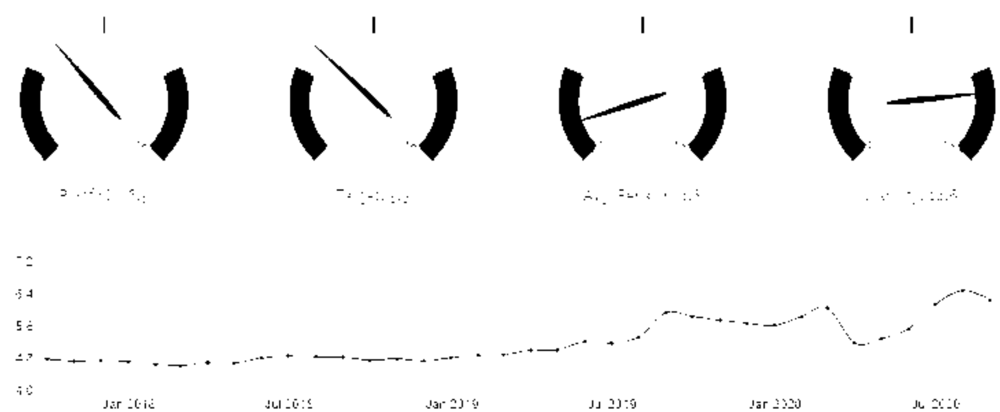


Portfolio beta and duration

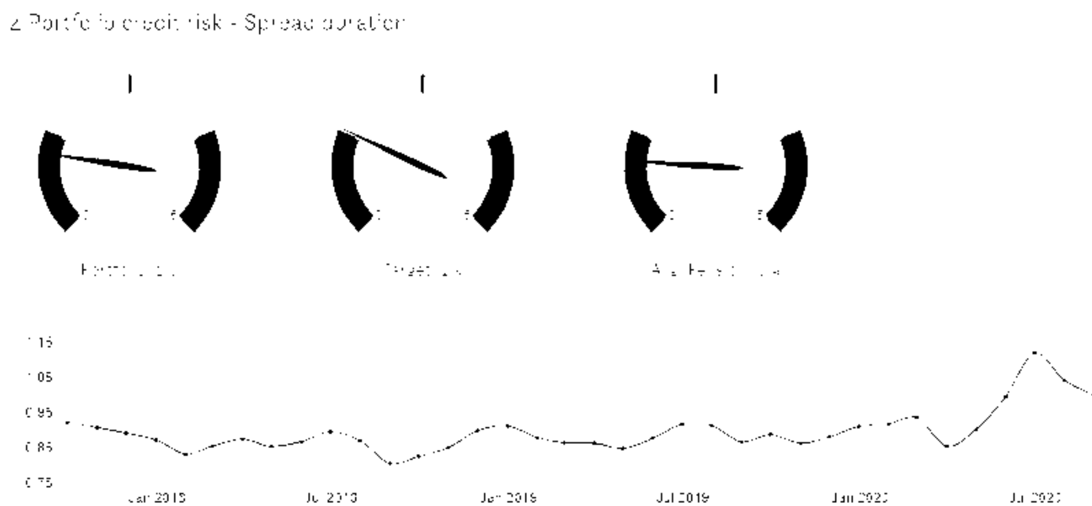
Portfolio equity beta

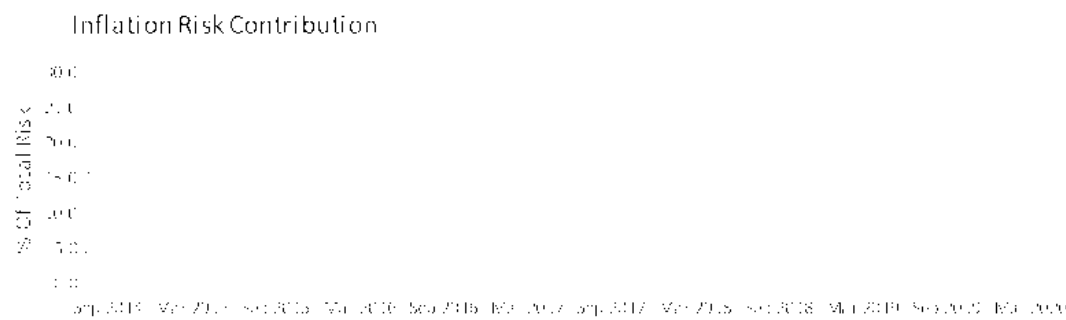


Portfolio interest rate risk - Duration



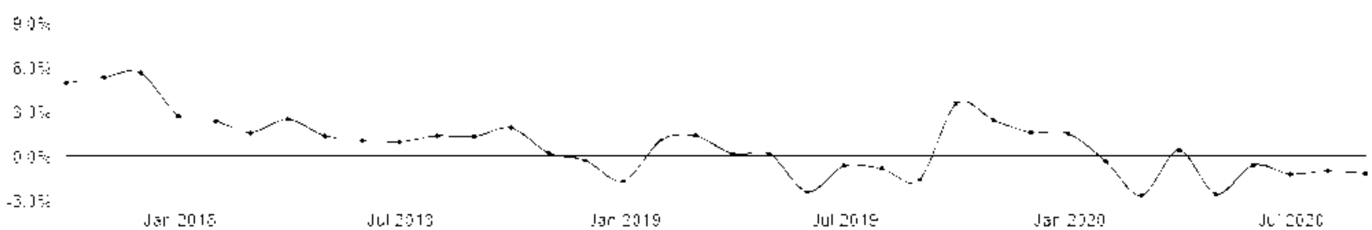
Spread duration and inflation risk





Relative risk factor contribution

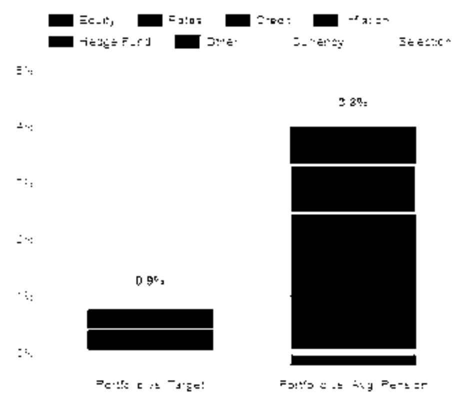
8 Risk factor weight relative to target

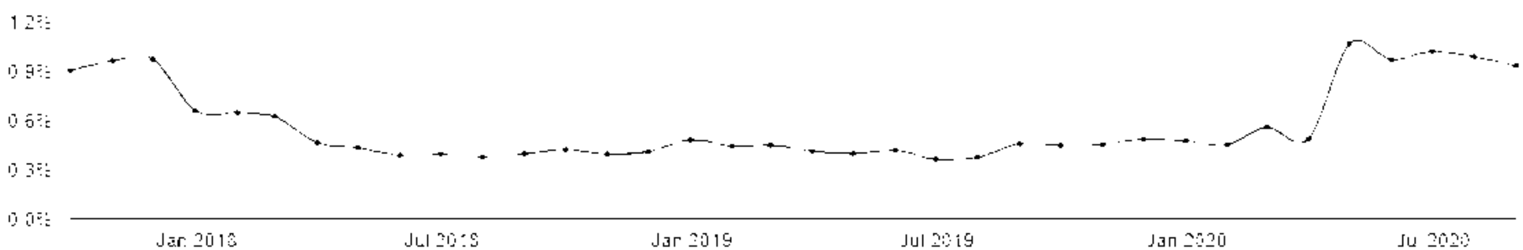


Active risk

Active risk measured the volatility of excess returns between two portfolios. Below we look at the portfolio relative to the target policy and the portfolio relative to an average pension.

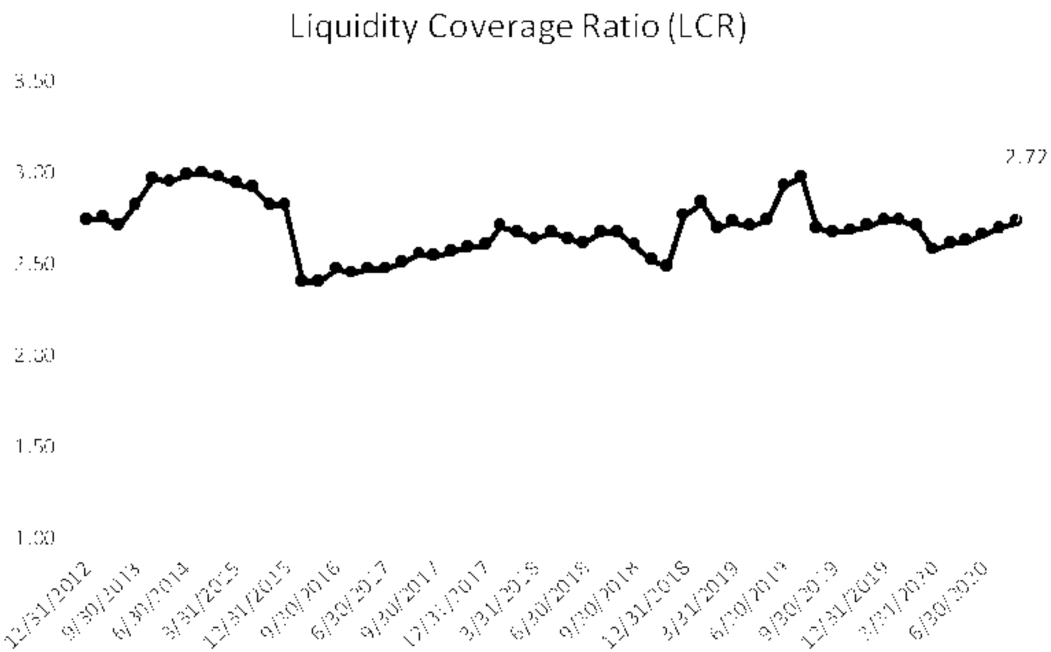
Active risk contribution by risk factor

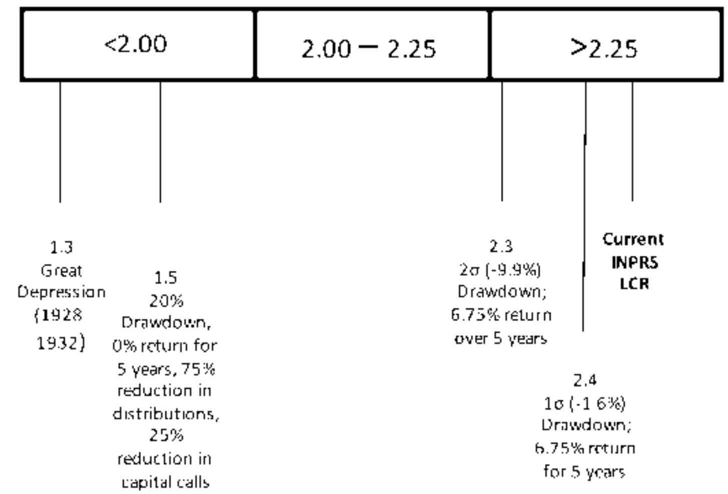




Liquidity Coverage (5-year Projection)

The liquidity coverage ratio measures if the plan has enough liquidity to cover cash-flow needs. Values greater than one indicate there is sufficient liquidity.





Liquid assets + expected cash inflows meet liquidity needs (e.g. retirement payments)

The Formula and additional details are provided in the Appendix

Appendix

Definitions

Portfolio risk: The total risk of an asset, which is the standard deviation of the asset's total return distribution, expressed as a percent.

Portfolio equity beta: Equity risk presented by equity beta to market. Equity beta is a measure describing the sensitivity of portfolio returns with returns of the equity market (MSCI ACWI).

Portfolio interest rate risk – Duration: Interest rate risk presented by duration and dollar movement of portfolios. Duration of a financial asset that consists of fixed cash flows is the weighted average of the times until those fixed cash flows are received (measured in years). It also measures the percentage change in price for a given change in yields (the price sensitivity to yield).

Portfolio credit risk – Spread Duration: Credit risk presented by spread duration and dollar movement of portfolios. Spread duration measures the percentage change in price for a one percentage point change in spreads.

Active risk: Active risk in terms of annual tracking error. Tracking error measures how closely a portfolio follows its benchmark. It is the standard deviation of the difference between the portfolio and benchmark returns.

Definitions

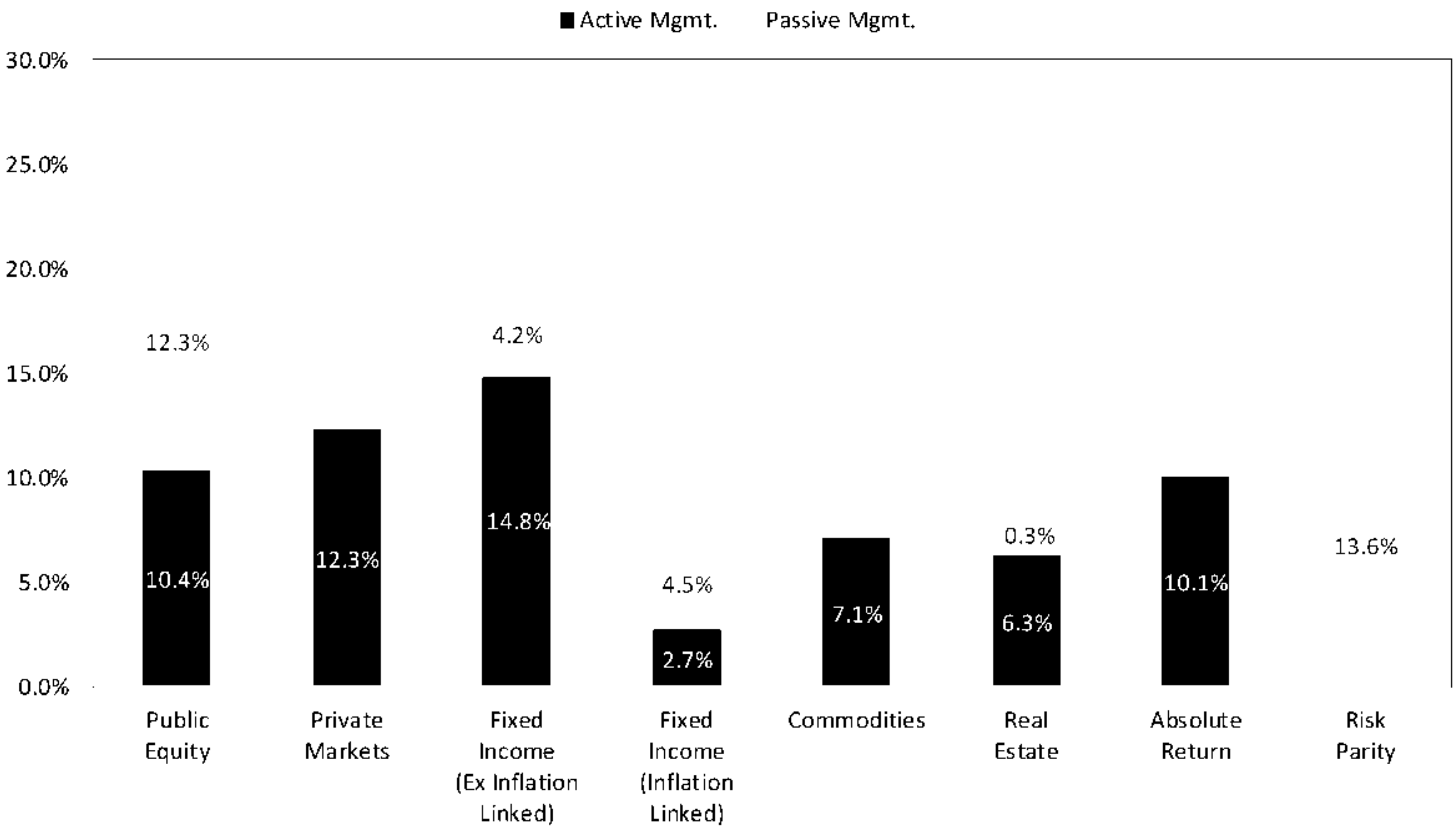
Liquidity Coverage Ratio (LCR):

$$Liquidity\ Coverage\ Ratio\ (LCR) = \frac{\begin{array}{c} Liquid\ Financial\ Assets\ (stressed\ market\ condition) \\ \sum(Distributions\ from\ Illiquid\ Assets) \\ \sum(\frac{Employer}{Employee}\ Contributions) \\ \sum(State\ Appropriations) \\ \sum(Investment\ Income) \end{array}}{\begin{array}{c} \sum(Benefit\ Payments) \\ \sum(Capital\ Calls\ for\ Illiquid\ Assets) \\ \sum(Plan\ Expenses) \end{array}}$$

LCR Value	Implication
<1	The plan will need to sell illiquid assets to cover cash flows
1	The plan has sufficient liquidity to cover all cash flows
>1	The plan will not be required to sell illiquid assets to cover liquidity needs

As of September 30, 2020

Active vs. Passive Management



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INPRS Historical Asset Class Returns

FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	September FY 2021
								Dom Eq +23.58%				Cmmdty +21.96%			Cmmdty +11.46%
				Dom Eq +15.98%	Dom Eq +32.91%			Intl Eq +21.34%				Dom Eq +15.61%	Private Eq +20.85%	TIPS +14.59%	Dom Eq +8.62%
	Intl Eq +31.68%			FI no Tips +15.84%	Intl Eq +30.78%			Private Eq +19.63%			Intl Eq +23.08%	Private Eq +15.97%	FI no Tips +9.99%	FI no Tips +9.62%	Intl Eq +7.48%
	Dom Eq +19.83%			Private Eq +15.79%	Cmmdty +28.87%		Dom Eq +21.05%	Risk Parity +16.69%		FI no Tips +8.94%	Dom Eq +18.70%			LT BENCH +6.75%	Risk Parity +5.54%
Intl Eq +28.52%	Private Eq +19.71%			**INPRS DB +13.81%**	**INPRS DB +19.37%**	Private Eq +11.95%	Intl Eq +15.20%	**INPRS DB +13.73%**			Private Eq +12.71%	**INPRS DB +9.33%**	Risk Parity +8.43%	Dom Eq +5.19%	**INPRS DB +4.98%**
Private Eq +24.11%	**INPRS DB +17.87%**	TIPS +15.53%			Private Eq +18.74%	TIPS +11.07%		Cmmdty +12.79%	Private Eq +10.94%	Private Eq +6.81%		Risk Parity +8.14%	Dom Eq +8.07%	Risk Parity +3.16%	Private Eq +4.79%
Dom Eq +16.41%		LT BENCH +7.00%		Intl Eq +10.70%			Private Eq +11.71%			LT BENCH +6.75%	**INPRS DB +7.98%**	Intl Eq +7.82%	**INPRS DB +7.35%**		TIPS +4.30%
INPRS DB +10.62%	FI no Tips +8.80%			TIPS +10.02%		LT BENCH +6.75%			LT BENCH +6.75%	TIPS +5.36%		LT BENCH +6.75%	LT BENCH +6.75%	**INPRS DB +2.56%**	
LT BENCH +7.00%		Private Eq +4.33%	Cmmdty +12.42%	LT BENCH +7.00%	TIPS +9.02%	FI no Tips +6.67%	LT BENCH +6.75%	FI no Tips +7.05%	Dom Eq	Risk Parity +1.69%	LT BENCH +6.75%	TIPS +5.92%	TIPS +5.66%	Private Eq +1.80%	FI no Tips +2.06%
	LT BENCH +7.00%	FI no Tips +2.98%	LT BENCH +7.00%		LT BENCH +7.00%	Dom Eq +3.34%	**INPRS DB +5.98%**	LT BENCH +6.75%		**INPRS DB**	Risk Parity +4.61%				LT BENCH +1.66%
FI no Tips +1.40%	TIPS +3.89%		FI no Tips +1.69%	Cmmdty +0.06%	FI no Tips +6.56%	**INPRS DB +0.67%**	FI no Tips +0.52%	TIPS +5.37%	FI no Tips +1.54%	Dom Eq	FI no Tips +1.89%	FI no Tips +1.18%	Intl Eq +2.64%	Intl Eq +0.13%	
		Intl Eq -4.95%	TIPS -2.29%				Risk Parity -0.43%		**INPRS DB**		TIPS -0.23%		Cmmdty -8.16%	Cmmdty -26.76%	
TIPS -1.20%		**INPRS DB -7.39%**				Cmmdty -11.71%	TIPS -3.59%		TIPS -0.09%	Intl Eq -	Cmmdty -6.67%				
		Dom Eq -10.90%	Private Eq -19.17%			Intl Eq -14.54%	Cmmdty -4.41%		Intl Eq -	Cmmdty -19.61%					
			INPRS DB -20.23%						Risk Parity -3.14%						
									Cmmdty -30.33%						
			Dom Eq -25.72%												
			Intl Eq -30.67%												

PRS

Only Risk Parity and Public Asset Classes

INPRS Historical Asset Class Returns

FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	September FY 2021
	Intl Eq +29.97%			US HY +26.77%	US Eq +32.36%			US Eq +25.22%							
	EM Bonds +25.50%			Risk Parity +21.67%	Intl Eq +30.26%			Intl Eq +22.28%					EM Bonds 9.38%		US Eq +9.21%
	US Eq +20.05%			US Eq +15.68%	Commodities +25.91%			Risk Parity +16.69%		Global ILBs +9.78%		US Eq +14.77%	US Eq +8.98%		Commodities +9.07%
Intl Eq +28.19%	US HY +11.55%	Commodities +41.56%		EM Bonds +15.48%	Risk Parity +19.84%	Risk Parity +13.26%		US HY +11.73%		Intl Bonds +8.97%		Risk Parity +8.14%	Risk Parity +8.43%	US Tsy. +10.45%	Intl Eq +6.80%
Commodities +18.09%	DB Target +6.75%	Risk Parity +19.87%		Intl Eq +11.49%	EM Bonds +19.67%	US TIPS +11.66%	US Eq +21.48%	Commodities +8.21%		DB Target +6.75%	Intl Eq +20.43%	Intl Eq +7.75%	US HY +7.48%	US TIPS +8.28%	Risk Parity +5.54%
US Eq +9.53%	US Tsy +5.48%	US TIPS +15.09%		US TIPS +9.52%	US HY +15.63%	US Tsy. +9.04%	Intl Eq +13.91%	DB Target +6.75%		US Tsy. +6.22%	US Eq +18.50%	Commodities +7.35%	US Tsy. +7.24%	Intl Bonds +6.79%	US HY +4.60%
DB Target +6.75%	Risk Parity +4.75%	EM Bonds +12.98%	Intl Bonds +8.11%	Global ILBs +7.86%	US TIPS +7.74%	Global ILBs +7.94%	US HY 9.49%	Intl Bonds +4.84%	Global ILBs +8.54%	US TIPS +4.35%	US HY +12.70%	DB Target +6.75%	DB Target +6.75%	DB Target +6.75%	US TIPS +3.03%
US HY +4.80%	Intl Bonds +4.02%	Global ILBs +10.68%	DB Target +6.75%	DB Target +6.75%	DB Target +6.75%	US HY +7.27%	DB Target +6.75%	Global ILBs +4.45%	US Eq +7.29%	US Eq +2.13%	DB Target +6.75%	Global ILBs +2.72%	Global ILBs +5.75%	US Eq +6.52%	DB Target +1.65%
Risk Parity +4.22%	US TIPS +3.99%	US Tsy. +10.33%	US Tsy. +6.47%	US Tsy. +6.67%	Global ILBs +6.10%	Intl Bonds +6.85%	Intl Bonds +1.67%	US TIPS +4.44%	DB Target +6.75%	EM Bonds +1.77%	EM Bonds +6.54%	US HY +2.62%	US TIPS +4.84%	Global ILBs +5.89%	EM Bonds +1.05%
EM Bonds +3.71%	Commodities +2.94%	DB Target +6.75%	Global ILBs +0.91%	Intl Bonds +5.43%	US Tsy. +2.24%	DB Target +6.75%	EM Bonds +1.32%	EM Bonds +3.91%	Intl Bonds +3.59	Risk Parity +1.69%	Risk Parity +4.61%	Intl Bonds +2.13%	Intl Bonds +2.13%	Risk Parity +3.16%	Intl Bonds +0.72%
Global ILBs +0.67%	Global ILBs +0.69%	Intl Bonds +4.30%	EM Bonds +0.52%	Commodities +2.75%	Intl Bonds +0.69%	US Eq +3.84%	Global ILBs +1.20%	US Tsy. +2.04%	US Tsy. +2.31%	US HY +1.62%	Global ILBs +2.95%	US TIPS +2.11%	Intl Eq +0.26%	US HY +0.03%	US Tsy +0.17%
Intl Bonds -0.13%		US HY -2.26%	US TIPS -1.11%			EM Bonds -1.69%	Risk Parity -0.43%		US HY -0.40%	Intl Eq -9.61%	US TIPS -0.63%	US Tsy. -0.65%	Commodities -6.75%	EM Bonds -3.15%	Global ILBs -0.35%
US TIPS -1.64%		Intl Eq -7.46%	US HY -2.40%			Commodities -14.32%	US Tsy. -1.64%		US TIPS -1.73%	Commodities -13.32%	Intl Bonds -2.03%	EM Bonds -1.85%		Intl Eq -4.74%	
US Tsy. -1.68%		US Eq -12.66%	Risk Parity -11.19%			Intl Eq -14.79%	US TIPS -4.78%		Risk Parity -3.14%		US Tsy. -2.32%			Commodities -17.38%	
			US Eq 26.59%				Commodities 8.01%		Intl Eq 4.97%		Commodities 6.50%				
			Intl Eq -30.50%						EM Bonds -15.45%						
			Commodities -47.08%						Commodities -23.71%						

PRS

Custom Benchmarks

- **Asset Allocation + Manager Selection Bmk**: Weights for each asset class benchmark are set by the target asset allocation. The return for Risk Parity, Real Estate, Private Equity, and Private Credit are equal to the asset class returns and not the benchmark.
- **Manager Selection Bmk**: Weights for each asset class benchmark are set equal to the actual weight of the asset class at the end of the month. The return for Risk Parity, Real Estate, Private Equity, and Private Credit are equal to the asset class returns and not the benchmark.
- **Private Markets Custom Bmk:** Made up of two custom benchmarks for Private Equity and Private Credit. 100% Private Equity from July 2008-September 2017 and 96% Private Equity and 4% Private Credit from October 2017-Present. October 2017 marked the inception of Private Credit.
- **Priv Eq Custom Bmk +3.00% Lagged:** Made up of the following components lagged one quarter: 60% Russell 2000 Index, 20% MSCI EAFE Small Cap Price Index, 15% CS US High Yield Index, and 5% CS Western European High Yield Index EUR Hedged plus 3.00%.
- **Priv Credit Custom Bmk +1.50% Lagged:** Made up of the following components lagged one quarter: 50% CS Leverage Loan Index, 33% Wells Fargo BDC Index, and 17% CS Western European Leveraged Loan Index plus 1.50%.
- **Fixed Income Ex Inflation-Linked Bmk:** 25% BB US Long Government, 25% BB Long US Credit, 25% WGBI ex-US 25% Japan Cap (USD Hedged), 7.5% JPM GBI EM, 7.5% JPM EMBI, 4.0% CS Leveraged Loan Total Return Index, 2.5% BofA ML US High Yield Total Return Index, 2.5% BofA ML Non-Financial Developed Markets High Yield Constrained Total Return Index, 1.0% CS Western Europe Leveraged Loan Total Return Index
- **Fixed Income Inflation-Linked Bmk:** 64% ICE BofA ML Treasury Inflation-Linked 15+ years, 36% Custom weighted mix of country indices within the Barclays Capital World Government Inflation-Linked Bond Index, 100% Hedged to USD (Country weights: 40% US, 30% Euroland, 15% UK, 10% Canada, 5% Sweden)
- **Total Commodities Bmk**: An equal weighted blend of the Bloomberg Commodity Index (formerly the Dow Jones UBS Commodity Index) and the S&P GSCI Commodity Index as well as an equal weighted blend of Barclays Global Infl Linked 1-10YR Ex US Ex Italy Hedged Index and Barclays US Treasury Inflation Notes: 1-10 Yr Index. The Total Commodities custom benchmark is weighted at 175% to reflect the behavior of the portfolio relative to elements of commodities exposure and collateral.
- **Real Estate Custom PME Bmk:** Made up of the following components lagged one quarter: 70% FTSE NAREIT All Equity REITS and 30% Barclays CMBS.
- **HFRI Custom Bmk:** 35% HFRI Macro/25% HFRI Relative Value/20% HFRI Event-Driven/12.5% HFRI Fund of Funds/7.5% HFRI Equity Hedge
- **Risk Parity Custom Bmk:** 60% MSCI ACWI Market Net Index (Equity)/ 40% Barclays Global Aggregate (Fixed Income)
- **Cash and Overlay Bmk:** Represents the allocation to sub-asset class targets for the cash overlay starting in April 2016. Prior to that, 3-month LIBOR was the benchmark for the cash account.

PRS

Reporting Currency: USD

Total Performance Summary

TOTAL NET OF FEES

9/30/2020

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
TOTAL DEFINED BENEFIT PLAN	[1] **PR8GCRIF0000**	**32,249,880,398.41**	**100.00**	**-1.19**	**4.98**	**5.69**	**6.97**	**7.51**	**6.35**	**5.96**	**7/1/1992**
6.75% Target rate	*PR8GX0903TAR*			*0.54*	*1.66*	*6.76*	*6.75*	*6.75*	*6.75*	*6.75*	*7/1/1992*
Excess Return				**-1.73**	**3.32**	**-1.07**	**0.22**	**0.77**	**-0.40**	**-0.79**	**7/1/1992**
Target Index	*PR8GX0903PTG*			*-1.26*	*4.65*	*4.85*	*6.41*	*6.90*			*7/1/1992*
Excess Return				**0.06**	**0.32**	**0.84**	**0.56**	**0.61**			**7/1/1992**
Combined PERF TRF BM - 2	*PR8GX09COMP2*			*-1.30*	*4.66*	*4.82*	*6.52*	*7.07*	*6.06*	*5.62*	*7/1/1992*
Excess Return				**0.10**	**0.32**	**0.86**	**0.44**	**0.45**	**0.29**	**0.34**	**7/1/1992**
FTSE Treasury Bill-3 Month	*IX1F00001668*			*0.01*	*0.03*	*1.02*	*1.65*	*1.16*	*0.61*	*2.44*	*7/1/1992*
Excess Return				**-1.20**	**4.95**	**4.67**	**5.32**	**6.36**	**5.75**	**3.52**	**7/1/1992**
TOTAL PUBLIC EQUITY	[2] **PR8GI0010000**	**7,326,929,508.00**	**22.72**	**-3.05**	**8.14**	**11.52**	**7.47**	**10.95**	**9.27**	**5.93**	**1/1/2008**
MSCI All Country World Investable Market Net Index	*IX1F0000972C*			*-3.10*	*8.11*	*9.57*	*6.47*	*9.97*	*8.47*	*4.97*	*1/1/2008*
Excess Return				**0.05**	**0.03**	**1.95**	**1.00**	**0.98**	**0.80**	**0.96**	**1/1/2008**
TOTAL DOMESTIC EQUITY	**PR8GI0100000**	**4,231,102,308.96**	**13.12**	**-3.84**	**8.62**	**13.85**	**10.93**	**12.91**	**12.81**	**8.80**	**2/1/2001**
Russell 3000 Index	*IX1F0001210C*			*-3.64*	*9.21*	*15.00*	*11.65*	*13.69*	*13.48*	*7.02*	*2/1/2001*
Excess Return				**-0.20**	**-0.59**	**-1.15**	**-0.71**	**-0.78**	**-0.68**	**1.78**	**2/1/2001**
Disciplined Growth Mid Growth	PR8F10130002	496,607,014.65	1.54	-3.84	5.45	10.00	10.46	12.30		12.87	11/1/2012
Russell Midcap Growth Index	*IX1F00056628*			*-1.40*	*9.37*	*23.23*	*16.23*	*15.53*		*15.45*	*11/1/2012*
Excess Return				**-2.44**	**-3.93**	**-13.23**	**-5.77**	**-3.23**		**-2.57**	**11/1/2012**
LEADING EDGE EQUITY	**PR8G10020000**	**158,302,917.90**	**0.49**	**-2.35**	**5.85**	**1.14**	**5.61**	**8.67**	**10.84**	**8.49**	**9/1/2008**
Leading Edge Custom	*PR8GX0903LED*			*-2.90*	*5.27*	*-2.27*	*5.59*	*9.91*	*11.65*	*8.99*	*9/1/2008*
Excess Return				**0.55**	**0.58**	**3.41**	**0.02**	**-1.24**	**-0.81**	**-0.50**	**9/1/2008**
RhumbLine Mid Cap Value	PR8F10180002	445,178,513.65	1.38	-2.26	6.38					-11.28	2/1/2020
Russell Midcap Value Index Perf Only	*IX1G00313988*			*-2.27*	*6.40*					*-11.11*	*2/1/2020*
Excess Return				**0.01**	**-0.02**					**-0.16**	**2/1/2020**
RhumbLine Russell Top 200	PR8F10050002	2,837,860,736.55	8.80	-4.19	10.14	20.39	14.36	15.57	14.52	9.69	1/1/2008
Russell Top 200 Index Perf Only	*IX1G00313468*			*-4.20*	*10.16*	*20.35*	*14.34*	*15.60*	*14.50*	*9.37*	*1/1/2008*
Excess Return				**0.01**	**-0.02**	**0.05**	**0.02**	**-0.03**	**0.01**	**0.31**	**1/1/2008**
RhumbLine Small Cap - MTU	PR8F10160002	102,223,566.97	0.32	-4.64	2.58	-14.75	-5.08			2.90	4/1/2016
Russell 2000 Value Index Perf Only	*IX1G00313848*			*-4.65*	*2.56*	*-14.88*	*-5.13*			*3.53*	*4/1/2016*
Excess Return				**0.02**	**0.03**	**0.13**	**0.05**			**-0.62**	**4/1/2016**

Reporting Currency: USD

TOTAL NET OF FEES

9/30/2020

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
TIMESSQUARE SMALL CAP GROWTH	**PR8GITIMES00**	**190,929,559.24**	**0.59**	**-3.01**	**6.21**	**19.60**	**12.58**	**13.30**	**14.08**	**11.96**	**7/1/2002**
Russell 2000 Growth Index Perf Only	*IX1G00313718*			*-2.14*	*7.16*	*15.71*	*8.18*	*11.42*	*12.34*	*9.54*	*7/1/2002*
Excess Return				**-0.87**	**-0.95**	**3.89**	**4.40**	**1.88**	**1.74**	**2.41**	**7/1/2002**
TOTAL INTERNATIONAL EQUITY	**PR8GI0200000**	**3,095,827,199.04**	**9.60**	**-1.94**	**7.48**	**8.89**	**3.98**	**8.83**	**5.74**	**7.43**	**11/1/2003**
MSCI ACWI ex US IMI Net	*IX1F00074857*			*-2.30*	*6.80*	*3.51*	*1.13*	*6.31*	*4.17*	*6.31*	*11/1/2003*
Excess Return				**0.37**	**0.69**	**5.38**	**2.85**	**2.52**	**1.57**	**1.13**	**11/1/2003**
ALTRINSIC ACWI EX U.S.	**PR8GIALTRN00**	**520,272,009.67**	**1.61**	**-2.70**	**2.68**	**-4.60**	**0.43**	**6.68**	**5.29**	**5.23**	**10/1/2009**
MSCI All Country World Ex United States Net Index	*IX1F00269138*			*-2.46*	*6.25*	*3.00*	*1.16*	*6.23*	*4.00*	*4.32*	*10/1/2009*
Excess Return				**-0.24**	**-3.57**	**-7.61**	**-0.74**	**0.45**	**1.29**	**0.91**	**10/1/2009**
ARROWSTREET ACWI EX U.S.	**PR8GIARROW00**	**782,888,807.14**	**2.43**	**-1.45**	**7.24**	**8.28**	**4.22**	**8.88**	**6.54**	**7.00**	**10/1/2009**
MSCI All Country World Ex United States Net Index	*IX1F00269138*			*-2.46*	*6.25*	*3.00*	*1.16*	*6.23*	*4.00*	*4.32*	*10/1/2009*
Excess Return				**1.01**	**0.99**	**5.27**	**3.06**	**2.65**	**2.54**	**2.68**	**10/1/2009**
Baillie Gifford ACWI ex U.S.	PR8F12110002	825,785,864.06	2.56	-1.61	10.78	23.73	9.00	12.99	8.54	10.31	11/1/2003
MSCI All Country World Ex United States Net Index	*IX1F00269138*			*-2.46*	*6.25*	*3.00*	*1.16*	*6.23*	*4.00*	*6.07*	*11/1/2003*
Excess Return				**0.85**	**4.52**	**20.73**	**7.84**	**6.76**	**4.54**	**4.24**	**11/1/2003**
Baillie Gifford EM All Cap	PR8F10190002	191,132,211.12	0.59	-1.22	12.82					12.82	7/1/2020
MSCI Emerging Markets Net Dividend Index	*IX1F00274888*			*-1.60*	*9.56*					*9.56*	*7/1/2020*
Excess Return				**0.38**	**3.26**					**3.26**	**7/1/2020**
BlackRock EM Alpha Tilts	PR8F10200002	187,122,072.13	0.58	-1.75	10.55					10.55	7/1/2020
MSCI Emerging Markets Net Dividend Index	*IX1F00274888*			*-1.60*	*9.56*					*9.56*	*7/1/2020*
Excess Return				**-0.15**	**0.99**					**0.99**	**7/1/2020**
BlackRock World ex U.S.	PR8F12280002	588,625,333.68	1.83	-2.51	5.62	2.44	1.49	6.13	4.99	1.60	12/1/2007
MSCI World Ex USA IMI Net Index	*IX1F0005258C*			*-2.58*	*5.64*	*1.10*	*0.73*	*5.60*	*4.65*	*1.44*	*12/1/2007*
Excess Return				**0.07**	**-0.02**	**1.34**	**0.76**	**0.52**	**0.34**	**0.17**	**12/1/2007**

Reporting Currency: USD

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
TOTAL EX INFL-LINKED BONDS	**PR8GI0500000**	**6,122,437,805.55**	**18.98**	**0.02**	**2.06**	**8.11**	**7.01**	**6.76**	**5.16**	**5.70**	**7/1/1992**
Tot Global Bond Ex Inf Linked	*PR8GX0903GBX*			*0.01*	*1.33*	*6.19*	*6.52*	*6.15*	*4.63*	*5.97*	*7/1/1992*
Excess Return				**0.01**	**0.72**	**1.92**	**0.50**	**0.61**	**0.53**	**-0.26**	**7/1/1992**
TOTAL DEV GLOBAL INT RATES	**PR8GI0530000**	**2,921,240,385.40**	**9.06**	**0.92**	**1.19**	**9.61**	**7.83**			**5.57**	**2/1/2016**
Dev Global Int Rates Custom	*PR8GX0903I53*			*0.73*	*0.57*	*8.76*					*2/1/2016*
Excess Return				**0.19**	**0.63**	**0.84**					**2/1/2016**
PIMCO Long Government	PR8F15770002	1,578,395,394.26	4.89	0.73	1.29	17.52				12.64	9/1/2019
Bloomberg Barclays U.S. Government-Long Term Index	*IX1F00001908*			*0.40*	*0.13*	*16.21*				*12.25*	*9/1/2019*
Excess Return				**0.33**	**1.16**	**1.31**				**0.39**	**9/1/2019**
State St Global Adv Dev Intl	PR8F15710002	1,342,844,991.14	4.16	1.14	1.03	1.70	5.51			4.13	3/1/2016
FTSE WGBI Ex US 25 Pct Japan Cap Hedged Index~	*IX1F00332557*			*1.12*	*1.05*	*1.99*	*5.63*			*4.25*	*3/1/2016*
Excess Return				**0.02**	**-0.02**	**-0.28**	**-0.12**			**-0.12**	**3/1/2016**
TOTAL EMERGING MARKET DEBT	**PR8GI0510000**	**823,831,063.23**	**2.55**	**-2.71**	**1.93**	**1.98**	**1.18**	**5.48**		**0.58**	**4/1/2013**
JP Morgan GBI-Emerging Markets Global Diversified Index	*IX1F00104657*			*-2.02*	*0.61*	*-1.45*	*0.17*	*4.78*		*-1.06*	*4/1/2013*
Excess Return				**-0.70**	**1.32**	**3.42**	**1.01**	**0.70**		**1.64**	**4/1/2013**
JP Morgan Emerging Markets Bond Index GD	*IX1F0000195C*			*-1.85*	*2.32*	*1.29*	*3.49*	*6.15*		*4.61*	*4/1/2013*
Excess Return				**-0.86**	**-0.38**	**0.68**	**-2.31**	**-0.67**		**-4.03**	**4/1/2013**
Goldman Sachs EMD	PR8F15570002	481,814,054.53	1.49	-2.32	2.12	2.09	1.95	5.89		2.87	7/1/2013
JP Morgan GBI-Emerging Markets Global Diversified Index	*IX1F00104657*			*-2.02*	*0.61*	*-1.45*	*0.17*	*4.78*		*-0.09*	*7/1/2013*
Excess Return				**-0.30**	**1.51**	**3.54**	**1.78**	**1.11**		**2.97**	**7/1/2013**
JP Morgan Emerging Markets Bond Index GD	*IX1F0000195C*			*-1.85*	*2.32*	*1.29*	*3.49*	*6.15*		*5.62*	*7/1/2013*
Excess Return				**-0.47**	**-0.20**	**0.80**	**-1.54**	**-0.26**		**-2.74**	**7/1/2013**

Reporting Currency: USD

Account Name / Benchmark Name	Account Number / Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
Oaktree EM Total Return	PR8F15720002	41,970,794.68	0.13	-5.87	-0.79	0.80	-1.23			2.64	10/1/2016
JP Morgan GBI-Emerging Markets Global Diversified Index	*IX1F00104657*			*-2.02*	*0.61*	*-1.45*	*0.17*			*1.91*	*10/1/2016*
Excess Return				**-3.85**	**-1.40**	**2.24**	**-1.40**			**0.73**	**10/1/2016**
JP Morgan Emerging Markets Bond Index GD	*IX1F0000195C*			*-1.85*	*2.32*	*1.29*	*3.49*			*3.77*	*10/1/2016*
Excess Return				**-4.02**	**-3.11**	**-0.50**	**-4.72**			**-1.13**	**10/1/2016**
Stone Harbor EMD	PR8F15560002	300,046,214.02	0.93	-2.91	1.91	1.62	0.51	5.08		0.93	6/1/2013
JP Morgan GBI-Emerging Markets Global Diversified Index	*IX1F00104657*			*-2.02*	*0.61*	*-1.45*	*0.17*	*4.78*		*-0.67*	*6/1/2013*
Excess Return				**-0.89**	**1.30**	**3.07**	**0.34**	**0.30**		**1.60**	**6/1/2013**
JP Morgan Emerging Markets Bond Index GD	*IX1F0000195C*			*-1.85*	*2.32*	*1.29*	*3.49*	*6.15*		*4.83*	*6/1/2013*
Excess Return				**-1.06**	**-0.40**	**0.33**	**-2.98**	**-1.07**		**-3.89**	**6/1/2013**
TOTAL DEV WORLD CORPORATE DEBT	**PR8GI0520000**	**2,377,366,356.90**	**7.37**	**-0.11**	**3.17**	**7.50**	**6.26**	**7.58**		**6.77**	**1/1/2015**
Dev World Corporate Debt Cstm	*PR8GX0903I52*			*-0.40*	*2.60*	*7.06*					*1/1/2015*
Excess Return				**0.29**	**0.57**	**0.44**					**1/1/2015**
Oak Hill Opportunistic Credit	PR8F15670002	337,589,870.73	1.05	1.22	4.43	0.50	4.10	6.24		6.43	2/1/2015
Oak Hill Opportunistic Credit	*PR8GX0903OHC*			*-0.17*	*4.32*	*1.66*	*3.61*	*5.42*		*4.63*	*2/1/2015*
Excess Return				**1.39**	**0.10**	**-1.16**	**0.49**	**0.82**		**1.80**	**2/1/2015**
Oaktree Opportunistic Cr	PR8F15660002	209,647,888.60	0.65	0.79	5.63	-0.67	2.47	4.16		3.46	1/1/2015
Oaktree Opportunistic Credit	*PR8GX0903OTC*			*-0.11*	*4.11*	*1.43*	*3.55*	*5.39*		*4.64*	*1/1/2015*
Excess Return				**0.90**	**1.52**	**-2.10**	**-1.07**	**-1.23**		**-1.18**	**1/1/2015**
Oaktree Opportunistic Cr CLV	PR8F15690002	118,210,770.27	0.37	-0.70	4.03	4.60	3.93	8.36		6.95	2/1/2015
Oaktree Opportunistic Credit	*PR8GX0903OTC*			*-0.11*	*4.11*	*1.43*	*3.55*	*5.39*		*4.61*	*2/1/2015*
Excess Return				**-0.59**	**-0.08**	**3.16**	**0.38**	**2.97**		**2.34**	**2/1/2015**
OHA Structured Products II	PR8F15780002	1,018,307.50	0.00	-6.00						-6.00	9/1/2020
PIMCO Long Credit	PR8F15760002	1,710,899,519.80	5.31	-0.43	2.52	10.07				7.72	9/1/2019
Bloomberg Barclays U.S. Credit-Long Term Index	*IX1F0000489C*			*-0.50*	*1.97*	*9.28*				*7.07*	*9/1/2019*
Excess Return				**0.07**	**0.55**	**0.79**				**0.65**	**9/1/2019**

Reporting Currency: USD

Account Name / Benchmark Name	Account Number / Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
TOTAL INFLATION-LINKED BONDS	**PR8GI0400000**	**2,329,234,022.46**	**7.22**	**-0.26**	**4.30**	**14.25**	**9.73**	**7.35**	**5.30**	**5.65**	**2/1/2003**
Blended Global Inf Benchmark	*PR8GX0903BIM*			*0.23*	*4.41*	*16.52*	*10.26*	*7.68*	*5.36*	*5.63*	*2/1/2003*
Excess Return				**-0.49**	**-0.11**	**-2.28**	**-0.53**	**-0.33**	**-0.06**	**0.03**	**2/1/2003**
Bridgewater Global Infl-Linked	PR8F15510002	871,657,987.02	2.70	-0.12	1.71	2.50	5.72	5.15	5.32	6.10	11/1/2009
Bridgewater Custom BM TIPS	*PR8GX09BWTIP*			*0.21*	*1.74*	*5.72*	*6.14*	*5.34*	*4.35*	*4.62*	*11/1/2009*
Excess Return				**-0.33**	**-0.03**	**-3.21**	**-0.43**	**-0.20**	**0.97**	**1.47**	**11/1/2009**
Northern Trust TIPS	PR8F15100002	1,457,576,035.44	4.52	-0.35	5.92	22.59	12.42	8.90	5.67	6.46	1/1/2001
Northern Trust Custom Blended	*PR8GX0903NTC*			*0.24*	*5.89*	*22.84*	*12.48*	*8.96*	*5.71*	*6.48*	*1/1/2001*
Excess Return				**-0.59**	**0.03**	**-0.25**	**-0.07**	**-0.06**	**-0.04**	**-0.02**	**1/1/2001**
TOTAL COMMODITIES [3]	**PR8GI0800000**	**2,285,210,201.35**	**7.09**	**-3.12**	**11.46**	**-16.07**	**-4.83**	**-3.57**	**-6.13**	**-3.66**	**1/1/2009**
Total Commodities BM	*PR8GX0903COM*			*-3.69*	*7.97*	*-16.80*	*-5.58*	*-4.15*	*-6.59*	*-4.53*	*1/1/2009*
Excess Return				**0.57**	**3.49**	**0.73**	**0.76**	**0.58**	**0.46**	**0.88**	**1/1/2009**
TOTAL DIVERSIFIED COMMODITIES	**PR8GI8100000**	**2,285,274,991.07**	**7.09**	**-3.12**	**11.46**	**-7.08**	**-2.57**	**-1.17**	**-4.42**	**-1.48**	**1/1/2009**
Diversified BM	*PR8GX0903DIV*			*-3.57*	*10.47*	*-5.86*	*-2.99*	*-1.84*	*-5.32*	*-3.06*	*1/1/2009*
Excess Return				**0.45**	**0.99**	**-1.21**	**0.42**	**0.67**	**0.90**	**1.58**	**1/1/2009**
GRESHAM TR	**PR8GI8110000**	**1,236,492,177.59**	**3.83**	**-2.61**	**11.21**	**-4.86**	**-2.04**	**-1.01**	**-4.33**	**-1.40**	**1/1/2009**
Gresham TR	*PR8GX0903GTR*			*-3.62*	*10.94*	*-3.90*	*-2.55*	*-1.65*	*-5.31*	*-3.04*	*1/1/2009*
Excess Return				**1.01**	**0.26**	**-0.95**	**0.51**	**0.64**	**0.98**	**1.64**	**1/1/2009**
Gresham Investment Management	PR8F15030002	287,720,533.21	0.89	-9.38	37.85	-37.00	-23.75	-20.12	-26.47	-21.19	1/1/2009
Bloomberg Commodity Index Total Return	*IX1F00298908*			*-3.35*	*9.07*	*-8.20*	*-4.18*	*-3.09*	*-6.03*	*-3.68*	*1/1/2009*
Excess Return				**-6.03**	**28.77**	**-28.80**	**-19.57**	**-17.03**	**-20.43**	**-17.51**	**1/1/2009**
Northern Trust Col TIPS Greshm	PR8F15110002	948,771,644.38	2.94	-0.34	2.54	7.70	4.53	3.66		1.88	6/1/2012
Bloomberg Barclays U.S. Treasury Inflation Notes: 1-10 Year	*IX1F0001209C*			*-0.35*	*2.51*	*7.75*	*4.56*	*3.66*		*1.83*	*6/1/2012*
Excess Return				**0.01**	**0.03**	**-0.05**	**-0.03**	**0.00**		**0.05**	**6/1/2012**

Reporting Currency: USD

Total Performance Summary

TOTAL NET OF FEES

9/30/2020

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
CORECOMMODITY FOUNDERS I TR	**PR8GI8120000**	**1,048,782,813.48**	**3.25**	**-3.71**	**11.76**	**-12.39**	**-4.22**	**-2.37**		**-6.52**	**7/1/2012**
Core Commodities Founders I TR	*PR8GX0903CCF*			*-3.47*	*9.52*	*-9.68*	*-3.88*	*-2.24*		*-6.08*	*7/1/2012*
Excess Return				**-0.25**	**2.24**	**-2.71**	**-0.34**	**-0.14**		**-0.44**	**7/1/2012**
BlackRock Collat Founders I	PR8F00450002	815,451,302.35	2.53	-0.18	0.61	-1.01				1.86	4/1/2019
BB Barc Gbl Infl Linked 1-10 Yr Ex Us Ex Italy Hedged Idx~	*IX1F00326917*			*-0.17*	*0.64*	*-0.77*				*1.91*	*4/1/2019*
Excess Return				**-0.01**	**-0.03**	**-0.24**				**-0.05**	**4/1/2019**
CoreCommodity Founders I	PR8F15120002	233,331,511.13	0.72	-13.38	41.51	-47.10	-28.05	-24.05		-35.45	7/1/2012
Bloomberg Commodity Index Total Return	*IX1F00298908*			*-3.35*	*9.07*	*-8.20*	*-4.18*	*-3.09*		*-6.88*	*7/1/2012*
Excess Return				**-10.03**	**32.43**	**-38.90**	**-23.87**	**-20.96**		**-28.57**	**7/1/2012**
TOTAL ABSOLUTE RETURN	**PR8GI0600000**	**3,253,480,051.42**	**10.09**	**-0.19**	**2.45**	**2.42**	**3.72**	**3.57**	**4.36**	**3.77**	**9/1/2005**
HFRI Custom	*PR8GX0903HFI*			*-0.72*	*2.74*	*1.01*	*1.83*	*2.63*	*2.47*	*2.46*	*9/1/2005*
Excess Return				**0.53**	**-0.29**	**1.41**	**1.90**	**0.95**	**1.89**	**1.31**	**9/1/2005**
TOTAL EVENT DRIVEN	**PR8GI6100000**	**66,163,507.00**	**0.21**	**0.00**	**4.97**	**1.34**	**-0.37**	**1.60**	**3.91**	**3.81**	**3/1/2009**
King Street Capital	PR8F13060002	66,163,507.00	0.21	0.00	4.97	0.98	0.86	2.14	3.82	4.54	6/1/2009
TOTAL RELATIVE VALUE	**PR8GI6200000**	**1,153,070,098.81**	**3.58**	**0.14**	**1.63**	**4.43**	**4.76**	**3.50**	**3.98**	**4.43**	**9/1/2009**
Aeolus Keystone PF Fund	PR8F13400002	65,309,755.00	0.20	2.54	3.18	2.40	-1.27	-0.77		1.55	5/1/2015
Garda FI Relative Value Opp	PR8F13380002	293,100,814.31	0.91	1.27	4.66	21.53	10.43	8.83		7.87	3/1/2015
OxAM Quant (International)	PR8F13270002	101,578.46	0.00	13.37	10.64	-4.10	0.06	-2.62		0.39	3/1/2013
Palmetto Catastrophe Fund	PR8F13390002	4,413,779.89	0.01	2.31	2.25	10.11	2.73	1.45		2.05	5/1/2015
Tenaron Capital Partners	PR8F13450002	127,273,192.53	0.39	-0.49	-0.56	10.56	8.43			8.43	10/1/2017
Tilden Park Investment Fund	PR8F13360002	205,115,724.10	0.64	0.15	-2.52	-9.19	-0.36	3.14		2.82	3/1/2015
Two Sigma AR Enhanced Fund	PR8F13330002	247,445,753.60	0.77	-2.57	-1.60	-0.23	6.58	7.11		9.49	7/1/2014

Reporting Currency: USD

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
Voloridge	PR8F18092002	103,682,355.91	0.32	0.39	3.68					3.68	6/1/2020
Whitebox Relative Value Fund	PR8F13480002	106,627,145.01	0.33	2.51	9.95	-0.65				-0.65	10/1/2019
TOTAL TACTICAL TRADING	**PR8GI6300000**	**1,030,082,354.79**	**3.19**	**-1.10**	**1.87**	**2.23**	**4.23**	**3.41**	**4.37**	**4.85**	**9/1/2005**
Bridgewater Pure Alpha Fund II	PR8F13220002	173,624,313.00	0.54	-2.75	-0.01	-16.94	-1.68	-0.72		1.16	10/1/2012
Eisler Capital Fund	PR8F13440002	179,105,814.62	0.56	-0.53	1.47	6.71	5.73			5.97	9/1/2017
Kirkoswald Global Macro	PR8F18077002	161,433,257.21	0.50	0.00	0.12					7.62	2/1/2020
Man AHL Crossroads	PR8F13420002	169,993,047.00	0.53	-1.23	1.62	-3.72	2.32			3.43	1/1/2017
Pharo Gaia Fund	PR8F13410002	66,989,125.87	0.21	-2.32	1.65	4.34	4.28			9.08	11/1/2016
Pharo Macro Fund	PR8F13310002	136,142,928.63	0.42	-1.35	2.10	3.96	8.42	6.43		6.70	12/1/2013
Rokos Global Macro Fund	PR8F13430002	142,793,868.46	0.44	0.00	7.12	38.43	13.29			11.04	2/1/2017
TOTAL MULTI STRATEGY	**PR8GI6500000**	**483,679,328.58**	**1.50**	**0.85**	**3.26**	**2.36**	**1.57**	**3.39**	**5.09**	**5.70**	**9/1/2009**
Davidson Kempner International	PR8F13080002	127,797,129.45	0.40	0.92	4.51	3.76	3.91	4.89	5.26	5.74	9/1/2009
DE Shaw Multi Asset Fund	PR8F13290002	90,815,805.36	0.28	0.80	4.18	10.27	5.54	5.61		5.90	7/1/2013
HSCM Bermuda Fund	PR8F13460002	157,402,960.10	0.49	0.54	2.92	5.47				5.95	7/1/2019
Mariner FIDRV	PR8F18082002	107,663,433.67	0.33	1.25	3.53					7.66	3/1/2020
TOTAL FUND OF FUNDS	**PR8GI6400000**	**368,973,303.43**	**1.14**	**0.12**	**3.05**	**0.90**	**3.74**	**4.52**	**5.18**	**3.44**	**10/1/2007**
Blackstone Quarry Fund	PR8F13170002	368,107,340.43	1.14	0.13	3.08	1.01	3.95	5.12	5.91	3.90	10/1/2007
Newport St Elmo II	PR8F13120002	865,963.00	0.00	-3.14	-6.75	-29.64	-25.02	-18.62	-7.73	-6.74	12/1/2009
TOTAL DISTRESSD & SPECIAL SITS	**PR8GI6600000**	**151,511,458.81**	**0.47**	**-0.61**	**7.55**	**-6.29**	**0.99**			**0.92**	**8/1/2017**

Reporting Currency: USD

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
Blackstone Tac Opps I	PR8F17440002	128,182,679.81	0.40	0.00	9.99	-5.23	2.39	5.04		4.15	3/1/2014
Perella Weinberg ABV Opp II	PR8F13150002	3,801,598.00	0.01	-7.03	-13.82	-14.16	-9.97	-15.66	-0.84	-1.41	7/1/2010
Perella Weinberg ABV Opp III	TR8F16040002	19,527,181.00	0.06	-3.45	-3.45	-12.64	-5.26	-4.78		3.85	3/1/2011
TOTAL RISK PARITY	**PR8GI0300000**	**4,373,649,206.89**	**13.56**	**-1.71**	**5.54**	**6.69**	**7.14**	**7.84**		**5.19**	**3/1/2012**
Global 60/40 Benchmark	*PR8GX0903RSK*			*-1.71*	*5.18*	*8.01*	*6.31*	*7.97*		*6.92*	*3/1/2012*
Excess Return				**0.01**	**0.36**	**-1.32**	**0.82**	**-0.12**		**-1.74**	**3/1/2012**
AQR GRP EL Fund 12v	PR8F11040002	1,652,944,341.51	5.13	-1.04	4.97					9.49	5/1/2020
Bridgewater All Weathr II 12v	PR8F11050002	1,956,903,691.17	6.07	-2.50	5.99					5.99	7/1/2020
Panagora Div Risk 12v	PR8F11060002	763,801,174.21	2.37	-1.10	5.68					16.32	4/1/2020
TOTAL PRIVATE MARKETS	**PR8GI9100000**	**3,971,806,626.95**	**12.32**	**0.11**	**4.46**	**1.48**	**13.22**	**11.51**	**13.10**	**11.02**	**12/1/2002**
Private Markets Custom	*PR8GX0903CAF*			*2.54*	*20.18*	*-2.34*	*4.54*	*6.93*	*11.91*		*12/1/2002*
Excess Return				**-2.43**	**-15.72**	**3.82**	**8.68**	**4.58**	**1.19**		**12/1/2002**
TOTAL PRIVATE EQUITY	**PR8GI0900000**	**3,391,839,464.23**	**10.52**	**0.03**	**4.79**	**1.14**	**13.29**	**11.55**	**13.12**	**11.03**	**12/1/2002**
Priv Equity Cus Qtr Lag+300BPS	*PR8GX0903PCR*			*2.59*	*20.30*	*-2.21*	*4.58*	*6.95*	*11.92*	*11.64*	*12/1/2002*
Excess Return				**-2.56**	**-15.51**	**3.36**	**8.72**	**4.60**	**1.20**	**-0.62**	**12/1/2002**
ABRY Advanced Securities	TR8F19000002	90,221.72	0.00	0.00	2.89	-12.17	-10.47	-3.96		8.35	7/1/2011
ABRY Advanced Securities II	PR8F17120002	2,713,431.04	0.01	0.00	6.32	-25.13	-9.52	0.97		5.44	5/1/2011
ABRY Advanced Securities III	PR8F17450002	31,518,201.88	0.10	0.00	21.91	-31.76	-8.01	0.19		-0.33	6/1/2014
ABRY Partners V	TR8F19020002	12,421.20	0.00	0.00	2.50	-8.80	3.54	10.97		9.67	7/1/2011
ABRY Partners VI	TR8F19030002	101,309.45	0.00	0.00	-0.01	5.57	24.59	33.86		30.91	7/1/2011
ABRY Partners VII	PR8F17140002	11,114,023.03	0.03	0.00	6.11	-21.23	-8.34	2.08		6.56	8/1/2011
Abry Partners VIII	PR8F17500002	31,793,801.55	0.10	0.00	9.62	4.52	10.39	8.19		5.51	5/1/2015
Accel-KKR Cap Ptrs CV III	PR8F20050002	12,880,964.00	0.04	0.00	2.43	8.07				7.43	9/1/2019
Accel-KKR Cap Ptrs III (HL)	TR8F19050002	28,118.00	0.00	-0.18	-0.18	-42.92	66.37	46.46		35.38	7/1/2011

Reporting Currency: USD

Total Performance Summary

TOTAL NET OF FEES

9/30/2020

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	Annualized 3 Years	5 Years	10 Years	ITD	Inception Date
Accent Equity 2008	TR8F19060002	284,895.32	0.00	-1.95	8.50	-22.20	-8.72	-3.20		-3.48	7/1/2011
Actis Emerging Markets III	PR8F17000002	1,032,000.00	0.00	0.00	-5.23	-63.99	-42.43	-29.65	-14.19	-15.04	5/1/2008
Advanced Tech Ventures VII	TR8F19070002	179,570.00	0.00	0.00	-7.57	-34.85	-18.26	-16.11		-6.99	7/1/2011
Advanced Tech Ventures VIII	TR8F19080002	3,233,639.00	0.01	5.92	5.92	3.31	-14.52	-10.44		-3.02	7/1/2011
Advent International GPE VI A	PR8F16940002	5,609,612.00	0.02	0.00	18.34	-11.61	-6.29	0.88	10.72	5.17	7/1/2008
Advent International GPE VII B	PR8F17300002	28,026,396.00	0.09	0.00	28.13	5.21	7.01	13.60		14.20	12/1/2012
Aisling Capital II	TR8F19090002	21,553.00	0.00	0.00	56.74	-64.14	680.70	208.99		98.96	7/1/2011
Aisling Capital III	TR8F19100002	272,016.00	0.00	7.81	7.81	-16.68					7/1/2011
AM Pappas Life Sci Ventures IV	PR8F17080002	1,511,686.00	0.00	0.59	0.59	-49.74	-15.86	1.34	22.52	14.07	2/1/2009
American Securities Opp II	TR8F19110002	1,298,127.00	0.00	0.00	35.69	-60.10	-28.65	-17.96		-5.48	7/1/2011
Apax Europe VI	TR8F19130002	811,858.43	0.00	-1.95	13.87	6.51	0.83	7.68		10.99	7/1/2011
Apax Europe VII	TR8F19140002	51,302.26	0.00	-1.95	79.80	-77.31	-42.68	-27.81		-14.05	7/1/2011
Apollo Euro Principal Finance	TR8F19150002	11,949.03	0.00	53.64	63.60	55.37	4.64	10.06		21.08	7/1/2011
Apollo Investment Fund VI	TR8F19160002	95,240.00	0.00	0.00	-0.02	1.99	4.37	1.63		5.30	7/1/2011
Apollo Investment Fund VII	TR8F19170002	654,003.00	0.00	0.00	15.00	-27.60	-15.28	-10.80		4.77	7/1/2011
ARCH Venture Fund VI	PR8F16550002	2,451,979.00	0.01	0.00	41.27	4.45	17.27	0.20	1.69	-1.67	3/1/2004
ARCH Venture Fund VII	PR8F16790002	10,273,154.08	0.03	0.00	41.66	9.45	77.72	35.55	50.45	25.63	10/1/2007
Ares Corp Opportunities III	PR8F16960002	2,443,955.21	0.01	0.00	150.91	77.00	23.03	27.43	25.25	22.57	7/1/2008
Ares Corp Opportunities IV	PR8F17230002	50,559,871.27	0.16	0.00	25.58	31.81	14.05	16.56		8.35	11/1/2012
Austin Ventures X	TR8F19180002	1,316,177.00	0.00	0.00	-0.08	11.50	19.14	11.09		12.57	7/1/2011
Bain Capital Europe Fund III	TR8F19210002	589,372.72	0.00	-1.95	13.45	28.43	9.52	40.40		24.77	7/1/2011
Bain Capital Fund IX	TR8F19220002	322,563.00	0.00	0.00	12.51	-3.87	-7.20	-8.38		2.98	7/1/2011
Bain Capital Fund VII	TR8F19230002	465,338.00	0.00	0.00	153.92	19.32	12.50	12.91		25.59	7/1/2011
Bain Capital Fund VIII	TR8F19240002	3,232.00	0.00	0.00	-2.15	69.21	16.15	9.99		14.33	7/1/2011

Reporting Currency: USD

TOTAL NET OF FEES

9/30/2020

Account Name / Benchmark Name	Account Number / Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	Annualized 3 Years	5 Years	10 Years	ITD	Inception Date
Bain Capital Fund X	TR8F19250002	2,031,245.00	0.01	13.15	13.15	-28.96	-1.74	11.98		10.52	7/1/2011
Bain Capital IX Co-invest	TR8F19260002	138,475.00	0.00	0.00	145.22	-17.38	-20.18	-18.68		-2.30	7/1/2011
Bain Capital VIII Co-Invest	TR8F19270002	3,328.00	0.00	0.00	-2.78	-6.31	-14.42	-5.40		-0.93	7/1/2011
Baring Asia Private Equity IV	TR8F19290002	90,035.00	0.00	0.00	-11.38	-33.85	2.84	4.10		6.81	7/1/2011
Bay Partners XI	TR8F19310002	8,121.01	0.00	0.00	0.00	65.58	8.36	13.23		20.13	7/1/2011
BDCM Opportunity Fund	TR8F19330002	2,750,443.00	0.01	4.01	4.01	42.24	31.89	29.65		25.94	7/1/2011
Bertram Growth Capital II	PR8F16510002	10,027,747.22	0.03	0.00	46.59	195.77	333.25	149.11	67.38	66.67	9/1/2010
Blackfin Financial Serv III	PR8F17099002	1,110,178.24	0.00	-1.95	-17.61					-50.31	12/1/2019
Blackstone Capital Partners IV	TR8F19340002	156,510.00	0.00	0.00	-9.18	-8.21	8.66	7.50		7.80	7/1/2011
Blackstone Capital Partners V	TR8F19350002	269,656.47	0.00	0.00	-4.45	1.86	1.92	3.40		12.67	7/1/2011
Blackstone Capital Partners VS	TR8F19360002	34,766.00	0.00	0.00	36.04	-6.54	-3.75	-0.96		8.53	7/1/2011
Bregal Sagemount II	PR8F17800002	33,010,422.27	0.10	6.68	6.68	16.92	24.77			19.93	3/1/2017
Bregal Sagemount III-B	PR8F17098002	2,183,564.00	0.01	0.00	-13.33					-44.70	1/1/2020
Brentwood Assoc PE IV	PR8F16830002	9,671,094.00	0.03	0.00	5.77	0.51	-12.91	-5.26	11.53	5.25	2/1/2008
Brentwood Assoc PE V	PR8F17410002	42,444,669.33	0.13	0.00	5.50	-2.99	0.19	6.63		5.38	1/1/2014
Brentwood Assoc PE V - Excel.	PR8F17560002	2,088,000.00	0.01	-59.80	-59.80	-62.83	-59.32	-37.38		-32.12	12/1/2014
Brentwood Assoc PE V - MRG	PR8F17490002	124,517.87	0.00	0.00	-88.95	-86.35	-39.88	-23.13		-20.22	8/1/2014
Brentwood Assoc PE VI	PR8F17820002	35,134,208.14	0.11	0.00	14.03	43.30					12/1/2017
Butterfly Fund II	PR8F17860002	53,601,834.00	0.17	0.00	7.12	5.86	-1.87			-6.58	6/1/2017
Caltius Partners III	TR8F19380002	22,737.00	0.00	0.00	2.45	-60.19	11.69	0.33		4.33	7/1/2011
Caltius Partners IV	TR8F19390002	772,649.00	0.00	0.00	0.00	3.96	7.42	11.14		10.17	7/1/2011
Centerfield Capital Ptrs II	TR8F19420002	98,764.00	0.00	-52.30	-52.30	-66.14	-11.44	-2.61		13.17	7/1/2011
Cerberus Institutional Ptrs S3	TR8F19460002	8,727.00	0.00	0.00	-1.54	-7.15	5.10	1.93		8.09	7/1/2011
Cerberus Institutional Ptrs S4	PR8F16640002	9,395,164.00	0.03	0.00	0.05	-20.26	2.95	13.42	11.99	8.05	11/1/2006

Reporting Currency: USD

TOTAL NET OF FEES

9/30/2020

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
Charterhouse Capital Ptrs IX	TR8F19470002	1,686,905.10	0.01	-1.95	7.06	-18.11	-15.84	-11.02		0.25	7/1/2011
Charterhouse Capital Ptrs VIII	TR8F19490002	1,295.78	0.00	-1.95	4.69	194.58	56.80	-24.92		-11.81	7/1/2011
CHP III Cardinal	TR8F19500002	9,375,583.00	0.03	0.00	-2.24	5.13	18.03	14.64		15.51	7/1/2011
CID Capital Opportunity Fund	TR8F19510002	84,159.47	0.00	0.00	-1.14	-5.42	21.02	23.33		31.05	7/1/2011
Clarity China Partners II	PR8F16390002	1,968,538.00	0.01	0.00	5.17	3.54	-7.73	-19.08	-13.31	-12.82	5/1/2010
Coller International Ptrs V	TR8F19550002	274,977.82	0.00	0.00	-12.59	-41.89	-8.66	-9.81		1.53	7/1/2011
Columbia Capital Eq Ptrs IV	TR8F19560002	652,181.00	0.00	0.00	5.96	-6.75	0.95	22.20		19.85	7/1/2011
Credit Suisse Indiana Venture	PR8F17010002	11,361,558.56	0.04	0.00	-8.22	25.66	14.04	-1.00	5.85	1.39	6/1/2008
Crescent Capital VI	PR8F17240002	13,426,463.00	0.04	0.00	3.28	10.06	9.43	9.21		7.48	9/1/2012
Crestview Partners II	PR8F17030002	24,351,167.00	0.08	0.53	0.53	8.93	2.81	9.41	12.13		11/1/2008
Crestview Partners III	PR8F17390002	40,606,704.00	0.13	0.00	2.11	-3.18	13.29	8.28		5.38	3/1/2015
Crestview Partners III - WOW	PR8F17720002	7,232,756.00	0.02	0.00	10.68	-14.76	-31.90			-19.57	4/1/2016
CVC European Equity Partners V	PR8F16970002	8,412,432.79	0.03	32.99	41.61	94.02	68.41	59.19	33.16	24.48	7/1/2008
CVC Strategic Opportunities II	PR8F17990002	3,986,593.17	0.01	-1.95	17.53					40.37	4/1/2020
DCM IV	TR8F19590002	5,820,980.00	0.02	0.00	300.23	616.97	136.70	79.47		31.67	7/1/2011
DCM V	TR8F19600002	1,767,298.00	0.01	0.00	32.67	18.80	3.19	-2.62		13.78	7/1/2011
DCM VI	TR8F19610002	0.01	0.00	9.60	17.46	24.62	3.17	-0.31		3.97	7/1/2011
Elevation Partners	TR8F19620002	7,991.00	0.00	0.00	-12.86	-17.20	-9.94	102.07		95.67	7/1/2011
EnCap Energy Capital Fund IX	PR8F17310002	25,166,779.56	0.08	9.85	-45.97	-56.21	-22.42	-4.90		-8.44	1/1/2013
EnCap Energy Capital Fund V	PR8F16150002	31,164.05	0.00	0.00	-0.31	20.08	-0.10	-28.68	-19.51	-10.48	5/1/2009
EnCap Energy Capital Fund VB	PR8F16160002	13,883.25	0.00	0.00	-9.63	18.26	15.85	739.06	133.77	127.10	5/1/2009
EnCap Energy Capital Fund VI	PR8F16170002	24,057.09	0.00	0.00	33.57	-30.33	880.10	252.56	98.28	95.60	5/1/2009
EnCap Energy Capital Fund VIB	PR8F16180002	18,723.88	0.00	0.00	-35.33	-26.51	866.18	268.15	100.08	95.63	5/1/2009
EnCap Energy Capital Fund VII	PR8F16260002	118,036.00	0.00	20.98	-46.55	-50.42	-23.69	-24.17	-7.22	-1.84	6/1/2009

Reporting Currency: USD

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	Annualized 3 Years	5 Years	10 Years	ITD	Inception Date
EnCap Energy Capital Fund VII	PR8F16880002	1,180,363.00	0.00	20.98	-46.55	-50.42	-23.69	-24.17	-7.49	-8.52	12/1/2007
EnCap Energy Capital Fund VII	PR8F16190002	88,527.00	0.00	20.98	-46.55	-50.42	-23.69	-24.17	-7.22	-1.91	5/1/2009
EnCap Energy Capital Fund VIIB	PR8F16200002	103,024.07	0.00	0.00	10.76	-36.02	-4.26	-13.09	0.24	4.95	5/1/2009
EnCap Energy Capital Fund VIII	PR8F16540002	5,755,230.95	0.02	12.07	-28.17	-49.64	-24.99	-19.84		-8.98	2/1/2011
EnCap Energy Capital Fund X	PR8F17590002	47,352,297.77	0.15	9.18	-29.02	-29.12	-6.30	-3.13		-5.21	4/1/2015
EnCap Energy Capital Fund XI	PR8F17870002	9,702,422.18	0.03	0.00	-1.39	-35.62	-29.00			-27.10	7/1/2017
EnCap Energy Infrastructure	PR8F16210002	6,459,441.00	0.02	6.46	-24.19	-30.19	-11.96	-9.69	22.48	12.63	6/1/2009
EnCap Flatrock Midstream II	PR8F17250002	13,257,105.46	0.04	0.00	4.94	-34.38	-6.33	14.95		7.06	7/1/2012
EnCap Flatrock Midstream III	PR8F17470002	47,950,144.53	0.15	0.00	3.84	-10.87	8.43	16.61		3.67	7/1/2014
EnCap Flatrock Midstream IV	PR8F17960002	25,964,605.21	0.08	0.00	5.02	4.11				-0.90	2/1/2018
EnCap Flatrock Midstream-MODA	PR8F17600002	37,166,738.89	0.12	3.77	3.77	11.98	12.33	6.26		3.47	6/1/2015
Energy Capital Partners I	PR8F16630002	404,530.00	0.00	0.00	24.41	-0.94	-35.88	-29.88	-21.94	-14.22	12/1/2006
Energy Capital Partners II	PR8F16240002	3,250,572.00	0.01	0.00	-8.77	-64.57	-44.97	-29.90	-9.53	-8.16	9/1/2009
Escalate Capital I	TR8F19660002	225,091.00	0.00	0.00	3.60	-14.48	2.47	3.00		7.45	7/1/2011
Falcon Strategic Partners III	PR8F16040002	8,624,696.00	0.03	0.00	2.75	-2.95	-7.29	-0.29	5.61	5.41	4/1/2009
First Reserve Fund XII	TR8F19680002	1,368,660.00	0.00	0.00	-16.16	-43.36	-26.40	-27.06		-15.57	7/1/2011
Forbion Capital II	TR8F19690002	11,955,036.59	0.04	-1.95	6.73	26.37	1.26	37.39		18.27	7/1/2011
Fortress Investment III	TR8F19700002	9,208.55	0.00	1342.01	1342.01	379.62	55.00	31.85		14.71	7/1/2011
Fortress Investment IV	TR8F19710002	644,384.00	0.00	-2.01	-2.01	-29.61	-13.25	-8.17		-4.56	7/1/2011
Fortress Investment V	TR8F19720002	2,975,197.00	0.01	0.14	0.14	-3.53	7.46	0.39		2.58	7/1/2011
Fortress Investment V Co-Inv	TR8F19730002	1,127,471.00	0.00	-1.92	-1.92	-7.75	1.86	-3.84		7.03	7/1/2011
Francisco Ptrs Agility II	PR8F18087002	1,800,000.00	0.01	0.00						0.00	9/1/2020
Gamut Investment Fund I	PR8F17670002	40,249,183.00	0.12	0.00	13.18	-3.74	-3.67			-2.38	2/1/2016
Gilde Buy-Out Fund IV	TR8F19740002	3,068,439.25	0.01	2.10	8.71	-9.75	13.68	15.72		7.40	7/1/2011

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Globespan Capital Partners IV	TR8F19750002	280,834.54	0.00	84.94	84.94	-4.85	13.73	3.51		7.78	7/1/2011
Globespan Capital Partners V	TR8F19760002	2,750,191.00	0.01	0.58	0.58	-6.75	18.54	13.53		16.50	7/1/2011
Green Equity Investors VI	PR8F17170002	104,765,084.00	0.32	0.00	4.19	-2.20	14.73	13.90		11.13	11/1/2012
Greenpark Intl Invest III	PR8F16690002	308,650.86	0.00	-0.64	5.80	124.73	90.48	64.27	22.73	15.08	4/1/2007
GSO Capital Opps I	PR8F17060002	566,568.00	0.00	0.00	10.87	-23.57	-26.01	-21.50	-3.05	0.17	6/1/2008
GSO Capital Opps II	PR8F17180002	10,631,360.00	0.03	5.36	5.36	-23.27	-3.27	-1.39		8.41	3/1/2012
GSO Capital Opps III	PR8F17740002	39,299,250.00	0.12	0.00	6.95	2.15	8.29			7.22	9/1/2016
GSO Capital Opps III Co-Invest	PR8F17770002	8,749,436.00	0.03	0.00	8.87	9.71	10.54			9.96	8/1/2017
GSO Capital Sols III	PR8F17880002	10,279,697.00	0.03	0.00	12.77	-22.35				-2.28	4/1/2018
GSO Capital Sols III Co-Invest	PR8F17940002	981,148.00	0.00	0.00	12.52	2.70				2.43	3/1/2019
GSO Energy Select Opp Fund	PR8F17092002	25,580,349.00	0.08	0.00	19.72	-21.11	-1.63			5.96	11/1/2015
GSO Energy Select Opp Fund II	PR8F18040002	4,422,176.00	0.01	0.00	43.42	13.75				11.86	3/1/2019
GTCR Fund VIII	TR8F19770002	87,619.00	0.00	0.00	-0.24	33.54	56.11	51.52		20.39	7/1/2011
HEARTLAND III COIN	PR8F18080002	5,000,000.00	0.02	0.00	0.00					0.00	7/1/2020
Hellman Friedman Cap Ptrs VI	PR8F16650002	667,366.00	0.00	0.00	30.59	8.35	-5.07	7.76	18.37	14.41	6/1/2007
Hellman Friedman Cap Ptrs VII	PR8F16140002	45,341,486.00	0.14	0.00	18.23	8.73	25.96	30.44		19.85	8/1/2011
Hellman Friedman Cap Ptrs VIII	PR8F17530002	88,287,900.00	0.27	0.00	26.95	9.91	11.52			13.52	9/1/2016
Hellman Friedman IX	PR8F18060002	15,827,169.00	0.05	0.00	10.57					-5.07	4/1/2020
Herkules Private Equity III	PR8F16010002	50,690.53	0.00	-7.25	93824.61	49954.55	821.71	271.61	88.64	68.83	12/1/2008
High Road Capital Partners I	TR8F19800002	3,762,023.00	0.01	5.78	5.78	-3.96	-6.35	-9.45		4.54	7/1/2011
HKW Capital Partners III	TR8F19820002	603,433.00	0.00	3.16	3.16	42.04	39.35	-2.42		4.06	7/1/2011
Horsley Bridge Fund IX	PR8F16920002	83,147,374.00	0.26	19.61	19.61	-1.28	16.47	14.34	18.84	9.84	3/1/2008
Horsley Bridge Fund VIII	PR8F16740002	670,307.00	0.00	11.94	11.94	-18.46	-5.44	5.65	14.40	8.74	3/1/2007
Horsley Bridge Intl IV	PR8F16660002	26,065,817.00	0.08	16.99	16.99	17.35	17.32	12.58	13.33	3.54	3/1/2007

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H2 Equity Partners Fund IV	TR8F19790002	2,977,876.66	0.01	-1.95	4.77	14.13	637.82	260.87		139.94	7/1/2011
Indiana Future Fund I	PR8F17110002	1,221,098.43	0.00	0.00	-1.24	-19.09	-27.03	-8.47	1.30	-4.26	7/1/2003
Indiana Investment Fund A	TR8F19840002	3,405,334.43	0.01	0.00	-1.28	-9.93	17.20	11.19		13.91	7/1/2011
Indiana Investment Fund I	PR8F16590002	3,120,057.69	0.01	0.00	-0.61	4.91	1421.60	420.71	137.26	79.09	7/1/2006
Indiana Investment Fund II	PR8F17340002	91,512,993.30	0.28	0.00	-9.08	-0.27	20.73	18.35		8.91	2/1/2013
iNext Fund	TR8F19850002	9,799,930.98	0.03	0.00	5.22	25.74	26.02	18.78		22.01	7/1/2011
Insight Venture Partners VI	TR8F19870002	33,614.93	0.00	0.00	-16.02	464.19	121.30	65.41		43.65	7/1/2011
Institutional Venture Ptrs XII	TR8F19880002	415,062.00	0.00	100000.00	123988.36	113748.47	1006.78	348.06		134.22	7/1/2011
JFM China Partnership II	PR8F16020002	4,236,371.35	0.01	0.06	-5.32	-17.96	-14.99	-11.29	-8.10	-1.86	1/1/2009
JFM China Partnership II	PR8F16490002	582,933.49	0.00	-11.08	-11.08	-10.42	-12.46	-9.73	-7.28	-3.87	6/1/2010
Khosla Ventures III	TR8F19890002	2,975,715.00	0.01	0.00	-0.23	87.37	99.91	46.55		31.12	7/1/2011
Khosla Ventures Seed	TR8F19900002	1,532,784.00	0.00	0.00	-0.46	4.33	-4.29	-15.17		-3.95	7/1/2011
KPS Special Situations III	TR8F19910002	51,992.86	0.00	0.00	-1.78	333.39	144.75	82.99		53.62	7/1/2011
Landmark Equity Partners XII	TR8F19920002	0.00	0.00								7/1/2011
Landmark Equity Partners XIII	TR8F19930002	114,749.00	0.00	0.00	0.03	-9.49	-17.07	-21.66		-7.03	7/1/2011
Lexington Capital Partners VI	PR8F16580002	3,032,942.00	0.01	0.00	-6.14	-6.27	5.01	4.18	8.85	5.07	12/1/2005
Lexington Capital Partners VII	PR8F16420002	18,782,012.00	0.06	-3.30	-2.51	-5.17	4.40	5.45	10.54	10.84	7/1/2010
Lightyear Fund II	TR8F19940002	13,828.00	0.00	-15.81	-15.81	-8.51	1.41	13.21		11.82	7/1/2011
Lindsay Goldberg III	PR8F16950002	583,481.00	0.00	0.00	1.49	-20.08	-8.69	-1.91	3.18	-18.22	8/1/2008
Lion Capital Fund II	PR8F16800002	2,287,645.54	0.01	8.35	15.39	55.77	-23.72	-9.72	-11.29	-8.99	11/1/2007
MBK Partners Fund II	PR8F16220002	1,668,782.00	0.01	0.00	83.72	-41.56	-25.80	-7.67	8.11	7.95	7/1/2009
Merit Mezzanine Fund IV	PR8F16560002	278,522.02	0.00	27.79	27.79	263609.16	1547.23	553.98	172.22	86.30	1/1/2005
Mill Road Capital	PR8F16890002	4,888,150.00	0.02	0.00	0.00	-27.43	-20.97	-15.12	0.62	-3.15	12/1/2007
Mill Road Capital II	PR8F17290002	46,764,685.19	0.15	0.00	2.71	8.06	1.95	5.60		6.90	12/1/2012

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Natural Gas Partners IX	PR8F16910002	751,993.00	0.00	0.00	6.44	-15.78	53.15	24.19	20.09	12.03	3/1/2008
NB Crossroads Fund XVIII VC	PR8F16680002	9,693,611.00	0.03	-0.40	-0.40	-28.88	-6.76	-5.34	5.35	2.39	3/1/2007
NB Indiana PERF Directed VC	PR8F17020002	81,462,000.00	0.25	0.00	-0.43	0.95	11.19	6.73	8.57	5.07	5/1/2008
New Enterprise Associates XIII	TR8F19980002	8,911,947.68	0.03	0.00	39.44	57.18	13.19	12.62		17.20	7/1/2011
New Mountain Partners III	PR8F16770002	31,970,733.00	0.10	0.00	24.09	12.28	13.61	20.94	16.82	9.42	8/1/2007
New Mountain Partners IV	PR8F17520002	61,915,174.00	0.19	0.00	7.21	14.27	25.24	23.56		21.76	12/1/2014
Oak Hill Capital Partners III	TR8F20570002	1,519,673.96	0.00	0.00	6.43	-6.93	-1.15	4.72		9.87	7/1/2011
Oak Hill Capital Partners II	TR8F20000002	61,510.00	0.00	0.00	-2.25	2.02	1.66	1.01		4.75	7/1/2011
Oak Investment Partners XI	TR8F20580002	796,500.65	0.00	0.00	2.79	-22.05	8.20	7.34		-0.62	7/1/2011
Oak Investment Partners XII	TR8F20030002	695,205.35	0.00	0.00	28.50	10.53	-4.94	-9.03		-3.68	7/1/2011
Oak Investment Partners XIII	PR8F16270002	18,669,366.85	0.06	0.00	-0.04	-25.98	0.86	-1.12	1.15	1.14	9/1/2010
Oaktree Opp XI	PR8F18096002	5,000,000.00	0.02	0.00						0.00	8/1/2020
Oaktree Opportunities VIII	PR8F16440002	1,030,797.00	0.00	0.00	6.41	-12.42	3.01	4.84	6.78	6.56	4/1/2010
Oaktree Opportunities VIIIb	PR8F16450002	4,825,008.72	0.01	0.00	4.18	-20.74	1.92	1.27		3.63	8/1/2011
OCM Asia Principal Opp Fund	PR8F16620002	223,666.00	0.00	0.00	-1.06	-2.42	14.64	-3.68	-0.63	-5.31	10/1/2006
OCM Opportunities Fund V	TR8F20070002	1,198.00	0.00	0.00	-6.04	-28.56	5.43	3.99		5.16	7/1/2011
OCM Opportunities Fund VI	PR8F16570002	1,062.00	0.00	0.00	-49.36	-79.91	-48.69	-59.05	-32.96	-21.32	9/1/2005
OCM Opportunities Fund VII	PR8F16750002	232,333.00	0.00	0.00	-0.39	-18.50	-4.83	-5.82	2.03	1.41	3/1/2007
OCM Opportunities Fund VIIb	TR8F20100002	4,507.00	0.00	0.00	-19.40	-19.94	-4.50	-4.64		-0.23	7/1/2011
Opus Capital Venture Ptrs V	TR8F20120002	3,136,703.00	0.01	7.44	7.44	32.01	16.56	4.74		6.82	7/1/2011
Opus Capital Venture Ptrs VI	TR8F20130002	2,066,653.24	0.01	-1.44	-1.44	-1.34	18.30	-2.90		-4.18	7/1/2011
Pacven Walden Ventures VI	PR8F16670002	5,637,873.00	0.02	0.00	-6.95	-28.88	13.71	15.44	18.68	11.08	2/1/2007
Panda Power Fund II	PR8F17360002	0.00	0.00								8/1/2013
Panda Power Gen Infrastructure	PR8F16480002	0.00	0.00								6/1/2010

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Parthenon Investors IV	PR8F17190002	54,473,234.00	0.17	0.00	5.45	5.58	70.08	60.02		27.19	4/1/2012
Parthenon Investors IV-MTC	PR8F17650002	102,587.00	0.00	0.00	0.00						11/1/2015
Parthenon Investors IV-MTC Agg	PR8F18041002	17,059,432.00	0.05	0.00	0.00	13.73				9.51	5/1/2019
Parthenon Investors V	PR8F17730002	75,301,385.00	0.23	14.05	14.05	16.98	26.26			13.55	1/1/2017
Peninsula Fund V	TR8F20140002	1,487,686.43	0.00	0.00	11.52	9.22	10.27	10.47		9.48	7/1/2011
Platinum Equity Cap Ptrs II	TR8F20160002	385,028.00	0.00	0.00	-26.47	-35.56	-27.80	-10.83		-0.71	7/1/2011
Rho Ventures V	TR8F20170002	2,299,691.00	0.01	0.00	33.83	23.99	22.45	1.79		-7.06	7/1/2011
Rho Ventures VI	TR8F20180002	10,051,671.00	0.03	0.00	1.55	-3.59	4.55	2.89		0.04	7/1/2011
RJD Private Equity Fund II	TR8F20190002	44,613.24	0.00	-6.12	1.73	-16.07	-36.45	-30.82		-14.51	7/1/2011
SAIF Partners IV	PR8F16430002	126,925,462.00	0.39	0.00	-0.70	3.71	4.49	6.02	5.52	5.42	8/1/2010
Sankaty Credit Opps I	TR8F19280002	4,724.77	0.00	0.00	0.00	12.29	-12.93	-11.63		-9.92	7/1/2011
Sankaty Credit Opps II	TR8F20210002	10,994.96	0.00	1.10	5.92	-9.31	7.20	5.22		6.89	7/1/2011
Sankaty Credit Opps III	TR8F20220002	0.01	0.00	0.00	182.60	-7.89	18.85	14.29		11.74	7/1/2011
Sankaty Credit Opps IV	TR8F20230002	98,544.00	0.00	0.00	8.75	-11.47	10.07	6.76		5.19	7/1/2011
Scale Venture Partners III	PR8F17070002	3,331,802.00	0.01	0.00	0.51	-15.86	30.66	16.11	21.83	18.51	5/1/2009
Silver Cup Partners IV	TR8F20240002	807,256.00	0.00	1.85	1.85	-21.07	-25.47	-14.86		-5.02	7/1/2011
Silver Lake Partners II	TR8F20250002	2,609.00	0.00	-0.01	-0.58	-65.58	-33.90	-21.32		-6.56	7/1/2011
Silver Lake Partners III	PR8F16730002	4,680,395.00	0.01	0.00	4.45	-2.01	12.04	18.84	20.80	11.47	8/1/2007
SL SPV II	PR8F15180002	16,569,468.00	0.05	6.10	6.10	7.05				11.81	4/1/2019
Solera Co-Invest	PR8F17680002	27,091,682.38	0.08	-3.62	-3.62	-14.19	10.60			6.69	2/1/2016
Sumeru Eq Ptrs	PR8F17620002	85,123,483.00	0.26	0.00	4.46	36.30	30.26	18.91		18.57	9/1/2015
Sumeru Eq Ptrs II - Buildium	PR8F17780002	458,640.00	0.00	0.00	2.44	238274.08	1574.98			821.36	11/1/2016
Sumeru Eq Ptrs III	PR8F20040002	35,072,766.76	0.11	0.00	3.98	1.04				-3.47	4/1/2019
Sun Capital Partners V	TR8F20270002	1,005,431.00	0.00	-2.36	-2.36	-20.14	-23.72	-17.90		-5.60	7/1/2011

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TA Subordinated Debt Fund II	TR8F20280002	15,791.00	0.00	0.00	100000.00	441686.65	2280.40	672.53		216.17	7/1/2011
TA Subordinated Debt Fund III	TR8F20290002	838,322.00	0.00	0.00	54.29	73.53	46.76	33.36		22.89	7/1/2011
TA X	TR8F20300002	2,020.00	0.00	0.00	-2.42	38.72	22.13	18.03		15.56	7/1/2011
TA XI	TR8F20310002	4,988,735.00	0.02	0.00	130.25	137.15	79.15	55.57		36.80	7/1/2011
TCW Crescent Mezzanine Ptrs V	TR8F20330002	606,607.06	0.00	0.00	13.21	56.24	12.50	9.85		10.73	7/1/2011
Tech Crossover Ventures VII	TR8F20320002	3,079,946.26	0.01	0.00	52.68	59.79	41.44	37.84		32.99	7/1/2011
Technology Partners Fund VIII	PR8F16720002	846,014.00	0.00	0.00	18.34	1.07	-53.01	-38.03	-19.61	-11.88	3/1/2007
Terra Firma Capital Ptrs III	PR8F16700002	2,501,202.27	0.01	-1.95	3.83	14.32	-5.83	-4.77	-1.92	-13.59	6/1/2007
The Resolute Fund II	TR8F20340002	2,425,001.00	0.01	0.00	2.00	-11.58	0.57	1.83		6.89	7/1/2011
The Veritas Cap FD VII LP	PR8F18073002	18,833,359.00	0.06	0.00	-73.48					-73.48	4/1/2020
Third Cinven Fund	TR8F20360002	35,267.71	0.00	-1.95	4.41	7.30	-0.54	-17.88		10.19	7/1/2011
TowerBrook Investors III	PR8F16990002	384,754.83	0.00	0.00	-22.83	-34.61	-15.56	-9.68	1.32	0.23	8/1/2008
TowerBrook Investors IV	PR8F17320002	47,666,325.00	0.15	0.00	6.76	-3.75	11.49	23.26		-18.33	10/1/2013
TowerBrook Investors V	PR8F18020002	7,186,460.00	0.02	0.00	-2.33					-15.01	3/1/2020
TowerBrook Struc Opps II	PR8F18030002	1,624,441.00	0.01	-7.54	-7.54					-7.54	3/1/2020
TPG Partners IV	TR8F20380002	59,691.00	0.00	0.00	-1.40	-56.35	-38.78	-26.07		-8.07	7/1/2011
TPG Partners V	TR8F20390002	54,554.00	0.00	0.00	20.34	-39.47	-13.49	-6.48		5.05	7/1/2011
TPG Partners VI (10)	TR8F20400002	1,638,062.00	0.01	0.00	-0.61	-16.04	-4.00	-0.32		7.24	7/1/2011
TPG Partners VI (20)	TR8F20410002	3,276,438.00	0.01	0.00	-0.61	-16.04	-4.32	-0.53		7.47	7/1/2011
Trilantic Capital Partners IV	TR8F20420002	307,037.00	0.00	0.00	4.25	-28.20	-13.88	-5.03		4.93	7/1/2011
Trinity Ventures IX	TR8F20430002	38,733.00	0.00	0.00	-39.59	-38.06	-25.84	-9.61		-0.07	7/1/2011
Trinity Ventures X	TR8F20440002	4,180,429.99	0.01	0.00	14.03	-8.44	0.76	-2.21		9.04	7/1/2011
Triton Fund III	PR8F16060002	11,597,944.23	0.04	-1.95	6.42	-0.92	4.08	26.68	13.02	11.10	12/1/2009
True Ventures I	TR8F20450002	1,799,361.25	0.01	0.00	-0.01	-11.52	-0.39	-1.98		7.05	7/1/2011

Reporting Currency: USD

Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	Annualized 3 Years	5 Years	10 Years	ITD	Inception Date
True Ventures II	TR8F20460002	2,835,851.00	0.01	0.00	0.12	-15.67	23.21	-9.09		21.69	7/1/2011
TSG6	PR8F17160002	12,061,327.00	0.04	23.26	23.26	2.60	11.76	16.26		23.90	7/1/2012
TSG7 A	PR8F17630002	44,297,535.00	0.14	0.00	2.48	5.26	10.60			2.25	3/1/2016
TSG7 B	PR8F17640002	8,426,633.00	0.03	0.00	11.21	7.14	-5.18			-12.44	1/1/2016
Veritas Capital IV	TR8F20370002	2,126,967.00	0.01	0.00	23.77	-1.14	32.89	27.24		23.40	7/1/2011
Veritas Capital V	PR8F17510002	155,988,018.00	0.48	0.00	8.78	20.33	35.10	23.76		22.12	6/1/2015
Veritas Capital V - Verisk	PR8F17750002	75,069,595.00	0.23	-5.11	-5.11	54.16	95.88			57.84	5/1/2016
Veritas Capital VI	PR8F17810002	129,906,327.00	0.40	0.00	13.92	28.36	20.44			14.87	6/1/2017
Vestar Capital Partners V	TR8F20470002	570,522.00	0.00	0.00	8.43	-5.54	-5.11	5.99		3.50	7/1/2011
Vintage Venture Partners III	TR8F20480002	2,323,670.00	0.01	6.44	6.44	18.21	6.75	2.67		9.78	7/1/2011
Vision VII	TR8F20490002	1,417,307.01	0.00	-1.95	-0.13	-15.90	-21.35	-8.34		-1.68	7/1/2011
Vista Co-Investment Fund	PR8F17430002	122,659,228.00	0.38	0.00	3.01	-2.47	3.86	9.40		8.57	8/1/2014
Vista Equity Partners Fund III	PR8F16810002	2,584,221.00	0.01	0.00	7.15	-16.07	-23.22	-13.51	7.57	8.77	10/1/2007
Vista Equity Partners Fund IV	PR8F17150002	31,757,745.00	0.10	0.00	9.13	-11.75	0.68	7.95		10.55	11/1/2011
Vista Equity Partners Fund V	PR8F17480002	54,230,898.00	0.17	0.00	9.03	1.23	28.44	21.80		17.17	9/1/2014
Vista Equity Partners Fund VI	PR8F17690002	101,716,298.00	0.32	0.00	22.35	21.55	22.44			14.71	6/1/2016
Vista Foundation Fund II	PR8F17380002	51,611,587.00	0.16	0.00	7.62	-2.40	19.36	16.24		8.18	12/1/2013
Vista Foundation Fund III	PR8F17700002	72,153,305.00	0.22	0.00	14.20	38.61	18.73			7.36	7/1/2016
Vista Foundation Fund IV	PR8F19010002	865,571.00	0.00	0.00	-49.67					-49.67	6/1/2020
VSS Structured Capital II	TR8F20510002	297,026.00	0.00	0.00	23.23	27.82	17.24	12.52		27.08	7/1/2011
Warburg Pincus Private Eq VIII	TR8F20520002	27,522.00	0.00	0.00	6.12	-38.03	-28.05	-12.43		-4.58	7/1/2011
Warburg Pincus Private Eq X	PR8F16710002	6,856,997.00	0.02	0.00	85.03	56.50	35.69	23.10	18.53	9.69	10/1/2007
Warwick Bacchus	PR8F17890002	29,277,955.00	0.09	-11.21	-11.21	-10.45	18.78			17.21	7/1/2017
Warwick Partners III	PR8F17710002	53,155,642.46	0.16	0.00	-2.01	-12.90	-2.23			6.60	4/1/2016

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Wayzata Opportunities Fund II	PR8F16980002	511,733.00	0.00	0.00	26.02	14.19	40.27	30.90	24.86	23.07	10/1/2008
Weston Presidio Capital V	TR8F20540002	388,888.86	0.00	0.00	14.05	8.92	21.83	53.53		41.77	7/1/2011
White Deer Energy	PR8F16230002	2,080,580.00	0.01	-3.83	-3.83	-38.22	-19.82	-12.26	-0.25	-21.36	10/1/2009
White Deer Energy II	PR8F17350002	17,652,261.00	0.05	0.00	3.90	-44.20	-19.74	-9.94		-19.37	3/1/2013
White Deer Energy III	PR8F17930002	16,678,592.00	0.05	0.00	-26.54	-28.54				4.61	3/1/2018
White Deer Energy III NEP Co	PR8F17980002	6,552,543.00	0.02	0.00	-29.50	-30.27				20.03	3/1/2018
WLR Recovery Fund IV	PR8F16840002	1,768,070.00	0.01	0.00	11.64	-24.96	-16.82	-11.30	-2.04	-0.92	11/1/2007
Xenon V	TR8F20560002	1,985,882.78	0.01	-1.95	0.39	-16.68	-3.56	2.77		6.98	7/1/2011
York Special Opportunities	PR8F16930002	3,083,161.00	0.01	0.00	2.30	-0.77	0.51	-1.11	5.62	-0.90	8/1/2008
York Special Opportunities II	PR8F17400002	47,328,581.00	0.15	0.00	20.48	-16.63	10.75	5.07		8.08	6/1/2014
York Special Opportunities III	PR8F56010002	4,180,701.00	0.01	0.00	-41.64					-41.64	5/1/2020
TOTAL PRIVATE CREDIT	**PR8GI0910000**	**584,967,162.72**	**1.81**	**0.57**	**2.30**	**4.34**	**9.89**			**9.89**	**10/1/2017**
Prvt Credit + 150 qtr lag	*PR8GX0903PCC*			*0.94*	*16.84*	*-6.06*					*10/1/2017*
Excess Return				**-0.37**	**-14.54**	**10.40**					**10/1/2017**
Carlyle CDL 2018-1	PR8F18000002	162,903,858.00	0.51	0.00	4.18	4.70				5.63	6/1/2018
Crescent Euro Specialty Len II	PR8F18071002	17,452,207.00	0.05	0.00	7.22	2.94				2.08	2/1/2019
HPS Brickyard Direct Lending	PR8F17950002	69,197,192.01	0.21	2.04	3.03	4.84				-7.15	6/1/2018
HPS Specialty Loan Inst Fund	PR8F17920002	67,887,790.13	0.21	0.63	1.45	2.96	11.51			11.51	10/1/2017
ICG Revolving Cr Facilities	PR8F17093002	730,109.00	0.00	-18.87	-11.67					131.02	11/1/2019
ICG Senior Debt Partners	PR8F17094002	28,779,123.00	0.09	0.88	0.76	6.11				6.11	10/1/2019
KKR RE CREDIT OPP II	PR8F17095002	31,472,983.11	0.10	0.00	-7.00					-8.32	4/1/2020
Pathlight Capital I	PR8F70080002	44,252,225.00	0.14	0.00	1.62	11.55				6.68	3/1/2019
SCP Private Corporate Lending	PR8F17096002	6,979,635.44	0.02	0.00	4.36					6.29	12/1/2019
TSSP TAO Contingent	PR8F18010202	16,531,271.00	0.05	5.19	5.19						8/1/2019

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Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
TSSP TAO 4	PR8F18010102	12,934,242.00	0.04	5.16	5.16	11.35				8.89	1/1/2019
Waterfall Victoria	PR8F18091002	70,102,750.00	0.22	0.00	0.25					0.25	6/1/2020
400CM Asset Based Term II	PR8F15790002	55,743,777.03	0.17	0.00						0.00	8/1/2020
TOTAL REAL ESTATE	**PR8GI0700000**	**2,101,723,084.85**	**6.52**	**-0.12**	**1.65**	**2.07**	**7.33**	**8.10**	**9.97**	**5.98**	**8/1/2005**
Real Estate Custom PME	*PR8GX0903REC*			*2.15*	*10.40*	*-2.45*	*4.21*	*6.07*	*8.97*	*6.97*	*8/1/2005*
Excess Return				**-2.26**	**-8.75**	**4.52**	**3.12**	**2.03**	**1.00**	**-0.98**	**8/1/2005**
TOTAL CORE EQ (INCL PUBLIC RE)	**PR8GI7010000**	**916,633,418.98**	**2.84**	**-0.38**	**0.44**	**4.34**	**7.74**	**8.67**	**10.29**	**6.06**	**12/1/2005**
Angelo Gordon Net Lease IV	PR8F18072002	16,634,606.00	0.05	0.00	2.94	10.90				10.02	9/1/2019
BlackRock REIT	PR8F12180002	85,783,170.35	0.27	-3.79	4.39	8.90	15.11			16.00	7/1/2016
Blackstone Property Partners	PR8F17540002	126,871,078.00	0.39	0.00	-0.71	0.89	5.51	7.49		7.21	12/1/2014
Carlyle Property Investors	PR8F18090002	104,766,954.42	0.32	0.00	2.06	4.77				3.80	7/1/2019
Columbus Post Office Land	TR8F17100002	570,004.00	0.00	1.77	3.58	10.15	10.80	10.93		10.58	10/1/2011
Greenfield Partners	PR8F17210002	35,960.00	0.00	-11.18	-11.18	-55.00	-31.86	-21.75		-9.60	4/1/2012
Harrison St Core Property Fund	PR8F17260002	184,256,345.00	0.57	0.00	0.00	6.24	7.57	8.55		8.99	2/1/2013
One North Capitol Building	TR8F17070002	10,196,095.60	0.03	0.52	2.55	13.12	5.90	9.16	11.93	11.61	12/1/2009
Prologis Targeted USLF	PR8F18075002	74,997,996.85	0.23	0.00	-1.72					0.48	1/1/2020
Rockpoint Growth Income RE II	PR8F17790002	53,682,299.00	0.17	0.00	2.03	3.19	9.09				3/1/2017
Stockbridge Smart Markets Fund	PR8F17270002	258,838,909.76	0.80	0.00	-1.05	3.02	6.05	7.50		8.92	12/1/2012
TOTAL VALUE ADD EQUITY	**PR8GI7020000**	**183,125,646.74**	**0.57**	**0.00**	**-2.38**	**2.64**	**16.40**	**15.67**	**14.71**	**13.35**	**5/1/2004**
Abacus Multi-Family Ptrs III	PR8F17570002	2,986,796.00	0.01	0.00	-1.20	26.62	29.07	25.71		3.22	3/1/2015
Abacus Multi-Family Ptrs IV	PR8F17840002	36,886,190.57	0.11	0.00	3.35	-1.43	11.65			6.27	6/1/2017
Exeter Industrial Value III	PR8F17460002	23,414,003.34	0.07	0.00	6.27	7.83	213.01	111.76		85.81	9/1/2014

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Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	3 Years (Annualized)	5 Years (Annualized)	10 Years (Annualized)	ITD	Inception Date
Harrison St Real Estate Ptrs	PR8F16470002	223,299.00	0.00	0.00	-2.97	-57.93	-26.06	-10.75	1.23	1.23	10/1/2010
Harrison St Real Estate Ptrs V	PR8F17550002	57,817,854.00	0.18	0.00	0.63	12.29	13.25	10.14		6.66	3/1/2015
Noble Hospitality IV Income	PR8F17910002	7,731,742.00	0.02	0.00	-46.43	-53.21				-71.05	10/1/2018
Noble Hospitality IV Value Add	PR8F17900002	3,313,684.00	0.01	0.00	-15.22	-25.15				-69.03	10/1/2018
Realty Associates Fund VIII	TR8F17040002	0.00	0.00								5/1/2007
Stockbridge Value Fund II	PR8F17420002	21,092,918.27	0.07	0.00	0.08	16.48	15.73	14.99		13.74	1/1/2015
Stockbridge Value Fund III	PR8F17850002	29,659,159.56	0.09	0.00	-0.68	4.01				0.11	4/1/2018
TOTAL OPPORTUNISTIC EQUITY	**PR8GI7030000**	**328,068,649.62**	**1.02**	**-0.31**	**1.37**	**-3.95**	**5.03**	**6.80**	**13.85**	**-8.91**	**2/1/2004**
Asana Partners Fund II	PR8F18042002	9,222,600.12	0.03	0.00	-3.97	-39.66				-52.57	4/1/2019
Blackstone RE Partners IX	PR8F18070002	21,691,359.08	0.07	0.00	6.76	3.36				3.10	9/1/2019
Blackstone RE Partners VI	PR8F16900002	3,922,676.11	0.01	-1.08	-1.08	-7.88	8.34	10.46	16.44	-6.81	2/1/2008
Blackstone RE Partners VII	PR8F17200002	38,744,985.57	0.12	0.00	-8.17	-17.22	1.99	5.02		13.29	4/1/2012
Blackstone RE Partners VIII	PR8F17580002	74,177,155.74	0.23	0.00	3.31	6.04	10.09	12.13		11.72	8/1/2015
China Car Parks Investment II	PR8F17970002	31,474,633.00	0.10	0.00	12.95	20.05				15.17	1/1/2018
JDM Partners Opportunity I	TR8F17090002	16,316,028.00	0.05	0.00	-1.97	-20.10	-3.68	-0.90	5.65	5.17	4/1/2010
Related Real Estate Fund II	PR8F17610002	37,465,178.00	0.12	0.00	3.03	4.66	9.26			2.27	12/1/2015
Related Real Estate III	PR8F18079002	3,400,512.00	0.01	0.00						15.80	8/1/2020
Rockpoint Real Estate Fund V	PR8F17660002	38,086,468.00	0.12	0.00	1.71	-8.10	5.91			9.09	1/1/2016
Rockpoint Real Estate Fund VI	PR8F18043002	7,638,190.00	0.02	0.00	0.78						9/1/2019
Walton Street Real Estate VI	PR8F17050002	23,600,574.00	0.07	0.41	0.41	-10.46	-0.71	0.08	9.75	-15.46	4/1/2009
Walton Street Real Estate VII	PR8F17220002	22,328,290.00	0.07	-4.53	-4.53	-17.54	-4.96	1.53		5.84	6/1/2013
TOTAL CORE DEBT	**PR8GI7110000**	**160,381,030.31**	**0.50**	**-0.03**	**1.18**	**4.46**	**5.61**	**5.76**	**6.21**	**7.58**	**4/1/2009**

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Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	Annualized 3 Years	5 Years	10 Years	ITD	Inception Date
ICG Sale and Leaseback Fund I	PR8F18074002	12,749,220.31	0.04	-0.38	-0.38	40.98				40.98	10/1/2019
Mesa West Core Lending Fund	PR8F17370002	147,631,810.00	0.46	0.00	1.32	5.04	6.30	6.47		6.24	12/1/2013
TOTAL VALUE ADD DEBT	**PR8GI7120000**	**391,757,142.85**	**1.21**	**0.00**	**5.51**	**-0.01**	**2.97**	**5.37**	**7.43**	**6.98**	**12/1/2009**
H2 Capital Partners Management	PR8F16380002	266,987,675.85	0.83	0.00	7.28	-4.37	-0.74	2.92	5.59	5.50	2/1/2010
Mack Claros Mortgage Trust	PR8F18050002	75,000,000.00	0.23	0.00	2.26	9.20				7.67	9/1/2018
Mesa West RE Income Fund IV	PR8F17760002	45,047,097.00	0.14	0.00	1.57	7.90	7.31			5.39	3/1/2017
West River Capital	TR8F17050002	4,722,370.00	0.01	0.00	0.45	2.58	12.49	12.44	11.90	13.15	4/1/2010
TOTAL OPPORTUNISTIC DEBT	**PR8GI7130000**	**5,049,941.35**	**0.02**	**0.00**	**7.74**	**-1.28**	**-5.41**	**-5.42**	**3.00**	**5.36**	**8/1/2008**
Blackstone Co-Investment	PR8F16530002	0.00	0.00								9/1/2010
Colony Distressed Credit Fund	PR8F17040002	232,019.00	0.00	0.00	-2.73	-16.94	-16.71	-12.68	-1.85	0.42	8/1/2008
Lone Star Fund VI	PR8F16280002	4,817,922.35	0.01	0.00	8.30	7.10	2.68	0.92	3.98	8.07	12/1/2009
TOTAL OTHER REAL ASSETS	**PR8GI0710000**	**116,707,255.00**	**0.36**	**1.80**	**7.08**	**5.53**				**6.62**	**5/1/2018**
Brigade ABS Fund I	PR8F18010002	116,707,255.00	0.36	1.80	7.08	5.53				6.62	5/1/2018
TOTAL CASH AND OVERLAY [4]	**PR8GCASH0000**	**473,817,672.91**	**1.47**	**-0.04**	**4.44**	**13.11**	**8.54**	**7.93**		**5.21**	**7/1/2012**
Cash and Overlay Benchmark	*PR8GX0903CCO*			*-1.56*	*4.69*	*6.81*	*6.95*	*7.00*		*4.21*	*7/1/2012*
Excess Return				**1.52**	**-0.25**	**6.30**	**1.59**	**0.93**		**1.00**	**7/1/2012**
Parametric	PR8F12330002	80,388,448.16	0.25	1.84						1.84	9/1/2020
Reallocation	PR8F12210002	391,142,115.40	1.21	0.01	0.03	0.81	1.68	1.27	0.77	2.93	1/1/1997
Russell Rebalancing Overlay	PR8F12290002	298,702.12	0.00	-4.00	22.35	54.45				52.86	8/1/2019

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Account Name Benchmark Name	Account Number Benchmark Number	Market Value	% of Total	Month	Fiscal YTD	1 Year	Annualized 3 Years	5 Years	10 Years	ITD	Inception Date
Securities Lending Income	PR8F10040002	1,988,407.23	0.01	6.62	27.51	99.73					7/1/2005

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1	PR8GCRIF0000	TOTAL DEFINED BENEFIT PLAN	Consolidated returns prior to and including June 30, 2011 are calculated based on BNY Mellon using the mont market values supplied by the prior custodian along with BNY Mellon calculated beginning adjusted market values. beginning adjusted market values assume all cash flows occurred on the first day of the month. Doing so provide reasonably accurate depiction of the historical return streams. All history through 12/31/2011 represents compos returns for the legacy TRF and PERF Plans combined using dymanic market weights each month and will reported under the single Total CRIF Structure going forward.
2	PR8GI0010000	TOTAL PUBLIC EQUITY	All history through 12/31/2011 represents composite returns for the legacy TRF and PERF asset class composi combined using dymanic market weights each month and will be reported under the single Total CRIF structure go forward. The composite return streams for the legacy TRF and PERF Global Equity Components began 1/2 (TRF) and 4/2010 (PERF) and the blended history created using these two composite return streams has an incept date of 1/2008 to represent the data that was provided by the prior custodian.
3	PR8GI0800000	TOTAL COMMODITIES	Total Commodities custom benchmark is an equal weighted blend of the Bloomberg Commodity Index (fomerly the Dow Jones UBS Commodity Index) and the S&P GSCI Commodity Index as well as an equal weighted blend of Barclays Global Infl Linked 1-10YR Ex US Ex Italy Hedged Index and Barclays US Treasury Inflation Notes: 1-10 Yr Index. The Total Commodities custom benchmark is weighted at 175% to reflect the behavior of the portfolio relative to elements of commodities exposure and collateral.
	PR8GI0800000	TOTAL COMMODITIES	Core Commodities manager accounts funded 6/29/12, at an account level the performance is suppressed for the month of June 2012. The Core Commodities manager accounts are included in asset class composite performance for the month of June 2012 (per assigned membership).
4	PR8GCASH0000	TOTAL CASH AND OVERLAY	The Cash and Overlay custom benchmark has an inception date of July 2012 and is comprised of the BofA Merrill Lynch 3 Month US Treasury Bill through March 2016. Beginning April 2016 the benchmark is the Cash Overlay custom benchmark (see the Cash Overlay Custom Benchmark footnote for composition notes). Benchmark history through 12/31/2011 represents composite returns for the legacy TRF and PERF Dynamic Polic combined using dynamic market weights each month and will be reported under the single Total CRIF structure go forward. Risk Parity Program Benchmark has been neutralized since its April 2012 inception date. Adjusted to exclude the 10% allocation to Risk Parity Program Prior to 3/1/2012 the benchmark return history represents the MSCI EAFE IMI Index, all periods after 3/1/2012 will use the MSCI World ex US IMI Index The Cash Overlay Custom Benchmark is made up of the following components, where components are listed by Asset Class/Weight/Market Index: Global Public Equity/30%/MSCI ACWI IMI Hedged, Global Private Equity/14.1%/Russell 3000, Commodities/11.2%/50% GSCI & 50% BCOM, US Fixed Income/17.6%/50% Barclays Long Gov & 50% Barclays Long Credit, Intl Fixed Income/14.1%/Citigroup WGBI ex US 25% Cap Japan Hedged, Alt Fixed Income/12.0%/Barclays US Aggregate All history through 12/31/2011 for the Global Private Equity, Global Bonds, Global Bonds ex. Inflation, Real Estate,

END NOTES

9/30/2020

Commodities, and Absolute Return Composites represents composite returns for the legacy TRF and PERF asset class composites combined using dynamic market weights each month and will be reported under the single Total CRIF structure going forward.

Risk Parity has been neutralized since its April 2012 inception date.

The Private Equity custom public market equivalent is made up of the following components lagged one quarter: 60% Russell 2000, 20% EAFE Small Cap, 15% CS High Yield, and 5% CS Western European High Index (Hedged) plus a 300 bps premium.

The Real Estate custom public market equivalent is made up of the following components lagged one quarter: 70% FTSE NAREIT All Equity REITS and 30% Barclays CMBS.

PRS

INDIANA PUBLIC RETIREMENT SYSTEM

Executive Director Report

October 30, 2020

Steve Russo

- Pension Management Oversight Committee
- Balanced Scorecard

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inprs.in.gov

Pension Management Oversight Committee

- September 23, 2020
  - ✓ INPRS Annual Update
  - ✓ COVID-19 Emergency Response Report
  - ✓ INPRS Legislative Proposals
  - ✓ Judges' Fund Service Purchase Fiscal Analysis
  - ✓ '77 Fund First Class Officer Salary Spiking
- October 14, 2020
  - ✓ Local Pension Plan Report
  - ✓ INPRS China Investment Review
  - ✓ Chief Public Defender Pension Benefit Review
  - ✓ Supplemental Reserve Accounts Discussion
  - ✓ Unanimous approval of INPRS Legislative Proposal (PD 3381)

PRS

Pension Management Oversight Committee PD 3381

- Governors' and Surviving Spouse Pension Plan transfer from Auditor of State to INPRS with benefit payments to be made from PERF
- Retirement Medical Benefit Account (RMBA) clarifications
  - Definition of "retired participant"
  - Actuarial valuation and reporting requirements
- Volunteer firefighter PERF DC – years of service disregarded for other covered employment
- Standardizing and clarifying member interest crediting rates
- '77 Fund and Judges' System repayment conditions of prior withdrawals upon becoming a member again at a later date.

PRS

Indiana Transparency Portal

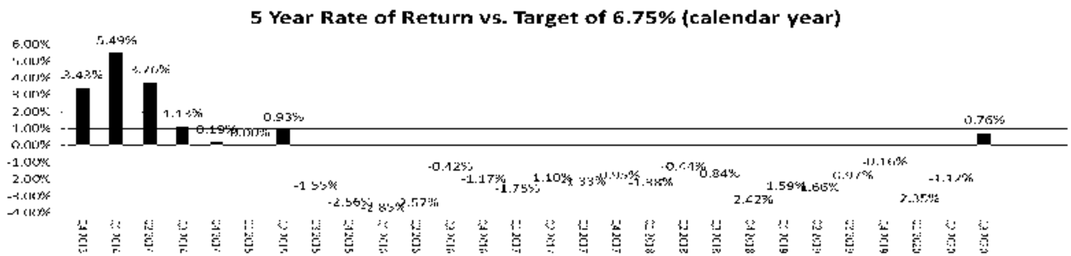
5-year Rate of Return: Defined benefit portfolio return is above the 6.75% target

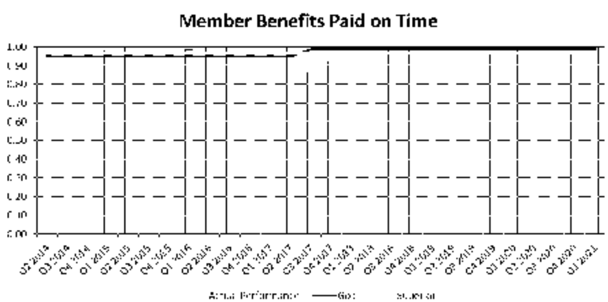
Member Benefits Paid on Time: Q1 of FY2021 continues to perform above target

Member & Employer Satisfaction: Annual Satisfaction is green; Quarterly Member Satisfaction continues to be positive

Actuarial Determined Contributions (ADC) Status: Employers paid above target at 112.4% in FY20 & 116.6% in FY 19

Funded Status—Prefunded Plans: Stable funded status FY20 was 90.6%, FY19 88.1%, FY18 88.3%; FY17 86.3%





PRS

Balanced Scorecard Escalated Measures

Number of Yellow or Yellow Audit Finding Action Plans

- Three findings found during the Logical Access/Segregation of Duties Review were not remediated as originally planned.

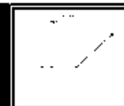
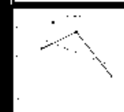
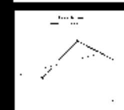
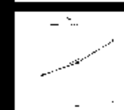
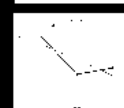
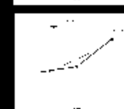
- Revised target date for remediation is 12/31/2020.

PRS

INPRS Working Balanced Scorecard

Date: October 20, 2020

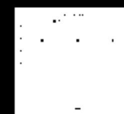
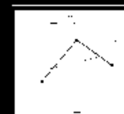
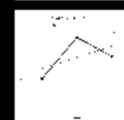
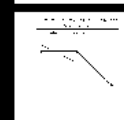
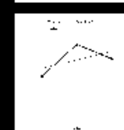
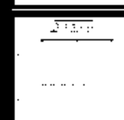
Reporting Period: September 2020

Strategic Goal	E-Staff Champion	Type	Measure	Target	Actual & Escalation Status	Trend (Last 3 Reporting Periods)	FYE 2020	FYE 2019	FYE 2018	Update Frequency
Customer										
We're Trusted to Pay	D. Grotz	Lag	Funded Status -- Prefunded Plans	Positive Trend & ≥ 80%	90.6%		90.6%	88.1%	88.3%	Annually
Goal 2: Deliver a quality member experience.	J. Hutson	Lag	Member Satisfaction: Call Center	>76.1	80.1%		81.6%	78.4%	--	Monthly
	J. Hutson	Lag	Member Satisfaction: Recent Retiree	>74.8	81.3%		75.1%	74.0%	--	Monthly
	J. Hutson	Lag	Member Satisfaction: Website	>83.2	93.8%		92.1%	89.3%	--	Monthly
	S. Barley	Lag	Member Satisfaction: Counseling	>93.3	99.0%		96.1%	96.3%	--	Monthly
	S. Barley	Lag	Member Satisfaction: Workshops	>90.0	100.0%		90.0%	95.8%	--	Monthly
Goal 3: Engage members through effective communication, education and collaborative relationships.	J. Hutson	Lag	CEM Member Engagement Survey	Top 1/3 of participating plans	New Metric	First report in October 2020; report in Nov	--	--	--	Biannually

INPRS Working Balanced Scorecard

Date: October 20, 2020

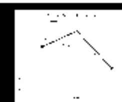
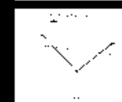
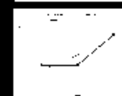
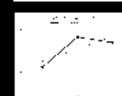
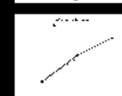
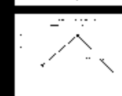
Reporting Period: September 2020

Strategic Goal	E-Staff Champion	Type	Measure	Target	Actual & Escalation Status	Trend (Last 3 Reporting Periods)	FYE 2020	FYE 2019	FYE 2018	Update Frequency
Goal 4: Deliver a quality employer experience.	D. Grotz	Lag	Employer Contributions	≥ 95%	**97.0%**		96%	96%	97%	Monthly
Goal 5: Achieve the Defined Benefit (DB) target rate of return within accepted risk, cash flow and cost constraints.	D. Grotz	Lag	Actuarial Determined Contributions (ADC)	100%	**112.4%**		112.4%	116.6%	109.7%	Annually
	S. Davis	Lag	Defined Benefit Rate of Return Since 2012	Within 1 Std. Dev.	**68.31%**		58.45% Within 1 Std.Dev	46.96% Within 1 Std.Dev	43.98% Within 1 Std.Dev	Monthly
	S. Davis	Lag	Percent of DB Market Value with Fees at or Below Median Peer Fee	≥ 50%	**59%**		59%	68%	68%	Annually
	S. Davis	Lead	Minimum FY Investments Return	Levels to keep employer contributions: PERF -25%; TRF'96 -19%; '77 Fund -18%	**4.98%**		2.55%	7%	9%	Monthly
Goal 6: Provide competitive Defined Contribution (DC) investment options and services.	S. Davis	Lag	DC Investment Options (Five Year Performance Relative to Benchmark)	≥ 82%	**94%**		94%	94%	88%	Quarterly

INPRS Working Balanced Scorecard

Date: October 20, 2020

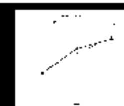
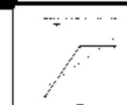
Reporting Period: September 2020

Strategic Goal	E-Staff Champion	Type	Measure	Target	Actual & Escalation Status	Trend (Last 3 Reporting Periods)	FYE 2020	FYE 2019	FYE 2018	Update Frequency
Process										
Goal 2: Deliver a quality member experience.	S. Barley	Lag	Member Benefits Paid on Time	> 98.5%	99.0%		99.70%	98.90%	99.20%	Monthly
	S. Barley	Lag	CEM Service Score	≥ 75th Percentile	95.64		93rd Percentile	93rd Percentile	92nd Percentile (90.7)	Monthly
Goal 4: Deliver a quality employer experience.	S. Barley	Lag	Annual Employer Satisfaction	>80%	88%		88%	80%	80%	Annually
	S. Barley	Lag	Quarterly Employer Satisfaction	>80%	87.0%		88.3	--	--	Quarterly
Goal 7: Ensure a value based and competititve operating cost structure.	D. Grotz	Lag	Cost per Member	< 50th Percentile	42nd Percentile $76.73		$76.73	$78.58	$82.38	Annually
	D. Grotz	Lag	Performance to Budget	Favorable Variance ≥ $0	$0.6M		$1.8M	$4.4M	$4.4M	Monthly
	C. Drummer	Lag	Strategic Projects on Time	≥ 85%	88.0%		89%	96%	96%	Monthly
Goal 9: Advocate for legislative and regulatory policies needed to achieve strategic goals.	T. Green	Lag	Impact of Pending Code Changes	Low	Low		Low	Low	low	Monthly

INPRS Working Balanced Scorecard

Date: October 20, 2020

Reporting Period: September 2020

Strategic Goal	E-Staff Champion	Type	Measure	Target	Actual & Escalation Status	Trend (Last 3 Reporting Periods)	FYE 2020	FYE 2019	FYE 2018	Update Frequency
Learning & Growth										
Goal 1: Foster a culture where an engaged workforce advances the organization's objectives.	D. Grotz	Lag	Employee Engagement	>3.7	4.00		n/a	n/a	4	Annually
[redacted]										
Goal 8: Proactively manage risk.	K. Hall (interim)	Lag	Unmodified Audit Opinion from External Auditor	Yes	Yes		Yes	Yes	Yes	Annually
	K. Hall (interim)	Lead	Number of Yellow or Red Audit Finding Action Plans	0	3		0	0	0	Monthly
	T. Green	Lag	Compliance Red Flags	0	0		0	0	0	Quarterly

DRAFT ORDER OF BUSINESS
Board of Trustees Meeting
Indiana Public Retirement System
One North Capitol, Indianapolis, IN 46204
1st Floor Conference Room

December 11, 2020
9:00 A.M. – 1:00 P.M.

I. Executive Session

The Board of Trustees of the Indiana Public Retirement System will meet in Executive Session prior to the regularly scheduled Board meeting to discuss strategy implementation of security systems pursuant to IC 5-14-1.5-6.1(b)(2)(C)

Public Meeting To Begin at 10:00 AM

II.	**Approve Minutes From October 30, 2020 Board of Trustees Meetings**	**(Tab 1)**	**Vote**
III.	**Unfinished Business**		
IV.	**Required Business**		
	• Election Of Board Officers	**(Tab 2)**	**Vote**
	• Annual Independent External Audit Review	**(Tab 3)**	
	• Annual Defined Contribution (DC) Funds Review	**(Tab 4)**	
V.	**New Business**		
	• Financial Update	**(Tab 5)**	
	• Compliance Update	**(Tab 6)**	
	• Investments Update	**(Tab 7)**	
	• Executive Director Report	**(Tab 8)**	
VI.	**Proposed 2020 Board Meeting Schedule**	**(Tab 9)**	**Vote**
VII.	**Preliminary Agenda for February 21, 2020 Meeting**	**(Tab 10)**	
VIII.	**Board Education**	**(Tab 11)**	
IX.	**Other business as requested by the Board**		
X.	**Adjournment**		

Proposed INPRS Board Meetings for 2021

February 26, 2021 (Friday)	10 AM – 2 PM
May 7, 2021 (Friday)	10 AM – 2 PM
June 25, 2021 (Friday)	10 AM – 2 PM
September 10, 2021 (Friday)	10 AM – 2 PM
October 29, 2021 (Friday)	10 AM – 2 PM
December 10, 2021 (Friday)	10 AM – 2 PM