

Teachers' Retirement System

of the State of Kentucky



Gary L. Harbin, CPA
Executive Secretary

Public Pension Oversight Board

Aug. 26, 2018

Presented by ~~Dean Barnes~~,
Deputy Executive Secretary
& General Counsel



<https://trs.ky.gov/contracts/>

Teachers' Retirement



System Kentucky

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Contracts

Pursuant to Senate Bill 2 of the 2017 Regular Session of the General Assembly, contracts are posted on this page. *This page is under construction.*

Contracts are listed either under the heading of Investments or General.

Member Login



Investments

Pension

Fixed Income

[Galliard Capital Management Core Fixed Income](#)
[Ft. Washington Core Fixed Income](#)

Domestic Equity

[Ft. Washington Focused Equity](#)
[State Street US Premier Growth Equity](#)
[Todd Asset Intrinsic Value Opportunity](#)
[Todd Asset Large Cap Intrinsic Value](#)
[UBS Alpha Equity](#)
[UBS Value Oriented](#)
[Wellington Large Cap Equity](#)
[Wellington Mid Cap Equity](#)
[Wellington Small Cap Equity](#)

International Equity

[Baillie Gifford EAFE Fund](#)
[Baring All Country World Ex-US](#)
[Blackrock MSCI ACWI Ex-US IMI Index](#)
[Todd Asset International Intrinsic Value](#)
[Todd Asset International Intrinsic Value Opportunity](#)
[UBS All Country World Ex-US Equity](#)

Additional Categories

[Baring European Loan Fund](#)
[Columbia High Yield Fund](#)
[Ft. Washington High Yield Bond Fund](#)
[Marathon TRS Credit Fund](#)
[Shenkman Capital Management](#)

Medical

Domestic Equity

[Ft. Washington Focused Equity](#)

International Equity

[Blackrock MSCI ACWI IMI Index Fund B](#)

Additional Categories

[Columbia High Yield Fund](#)
[Ft. Washington High Yield Bond Fund](#)
[Marathon TRS Credit Fund](#)
[Shenkman Capital Management](#)

Life Insurance

International Equity

[Blackrock ACWI Ex-US IMI Index](#)
[Marathon TRS Credit Fund](#)
[Ft. Washington Focus Equity](#)

Confidential and Proprietary Contracts

[Listing \(published Aug. 10, 2018\)](#)

Analytical, Professional, Research and Technical Services Contracts

[Abel Noser](#)
[Aon \(investment consulting\)](#)
[Bank of New York Mellon \(analytics\)](#)
[Bank of New York Mellon \(securities lending\)](#)
[BCA Research](#)
[Berman DeValerio](#)
[Bevis Longstreth](#)
[Burgiss](#)
[CFRA](#)
[CreditSights](#)
[Cusip](#)
[FactSet](#)
[George Philip](#)
[Hagens Berman Sobol Shapiro](#)
[Ice Miller \(investment\)](#)
[Investment Metrics](#)
[Segalrogerscasey](#)
[Standard & Poor's](#)

Cash Flow Update

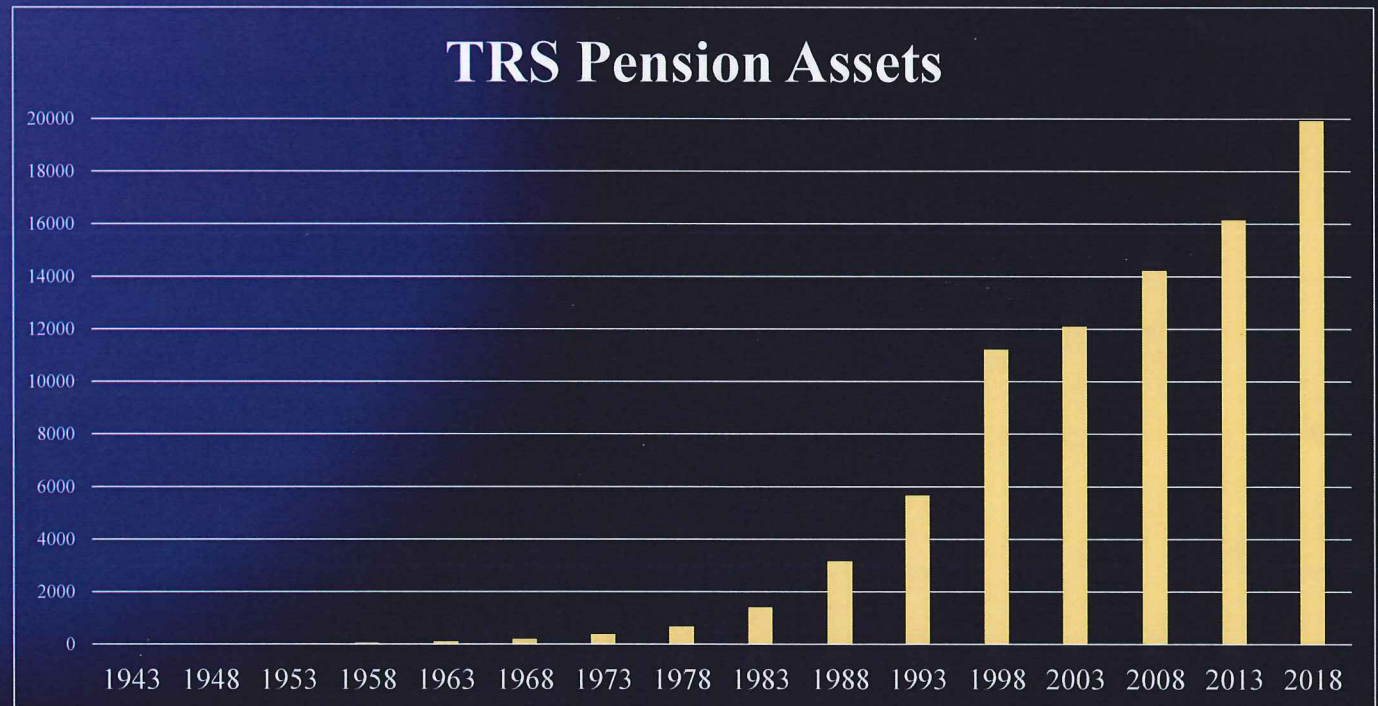
Pension Fund	FY 2018	FY 2017
Cash Inflows		
Member Contributions	309,860,000	313,625,400
State/Employer Matching Contributions	570,570,000	562,182,400
Additional Budget Funding toward ADEC	474,720,000	498,537,600
Investment Income (Net of Investment Expense)	376,450,000	308,706,200
Total Cash Inflows	1,731,610,000	1,683,051,600
Cash Outflows		
Benefit Payments/Refunds	2,035,690,000	1,944,917,400
Administrative Expense	11,390,000	10,313,700
Other		
Total Outflows	2,047,080,000	1,955,231,100
Net Cash Flow Before Asset Gain/(Losses)	(315,470,000)	(272,179,500)
Realized Investment Gains (or Losses)	822,410,000	721,670,400
Unrealized Investment Gains (or Losses)	<u>488,500,000</u>	<u>1,445,376,200</u>
	1,310,910,000	2,167,046,600
Net Plan Assets (End of Period)		18,707,699,025
Market Value of Investment Assets	19,802,700,000	18,511,631,670

Preliminary and unaudited

Record Assets

**Assets of
about \$21
billion**

In pension, health
insurance & life
insurance trusts



Dollars in millions (FY 2018 – preliminary/unaudited)

INVESTMENT PERFORMANCE

TRS PENSION RETURNS

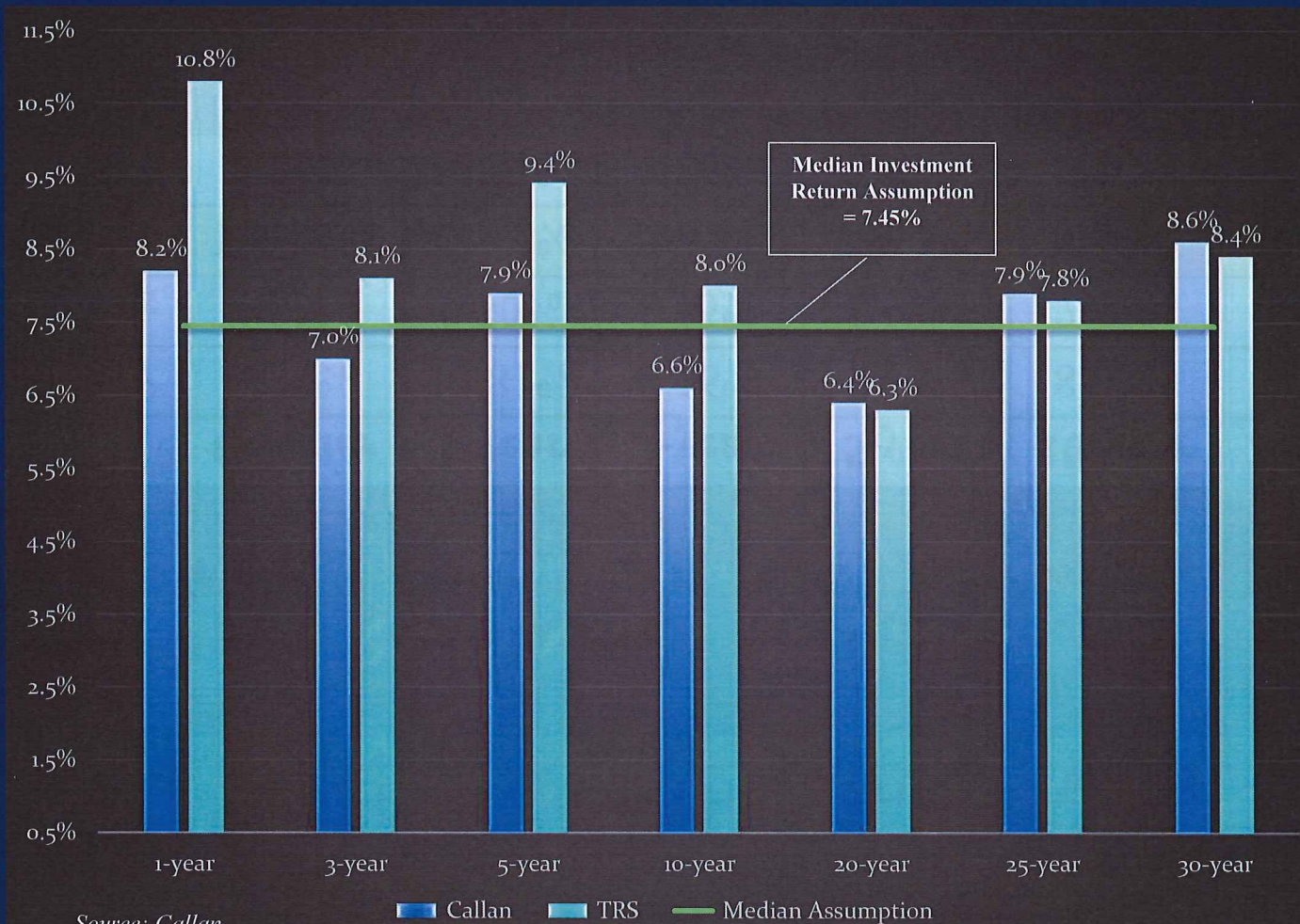
AS OF JUNE 30, 2018

	Quarter	1-year	3-year	5-year	10-year	20-year
Gross	1.39%	10.81%	8.16%	9.44%	8.02%	6.27%
<i>Benchmarks</i>	1.33%	9.30%	8.15%	8.98%	7.48%	N/A
<i>Rankings</i>	Top 26%	Top 2%	Top 8%	Top 8%	Top 2%	N/A
Net	1.25%	10.51%	7.86%	9.22 %	7.80%	6.14%

30-year compounded gross return

8.39%

Callan Associates reports median annualized public pension investment returns for periods ended June 30, 2018



TRS Approach

- TRS never has used placement agents.
- TRS has not used hedge funds.
- All fees disclosed in annual report and quarterly on website.
- TRS has fiduciary duty in procurement.

Private Equity

- Regulated by the Securities and Exchange Commission
- All private equity fees paid by TRS are disclosed in annual report and quarterly on website.
- Alternatives are less than 7 percent of TRS portfolio
 - Private Equity is less than 5 percent
 - Has provided some of the best returns of any asset class

Private Equity

Recent TRS private equity net returns

2012	9.7%
2013	8.7%
2014	18.6%
2015	11.7%
2016	5.0%
2017	11.7%
2018	19.0%



Basic Actuarial Assumptions

Assumed investment rate of return 7.5%
Projected wage (teacher salaries) increase. 3.5%



Basic Actuarial Assumptions

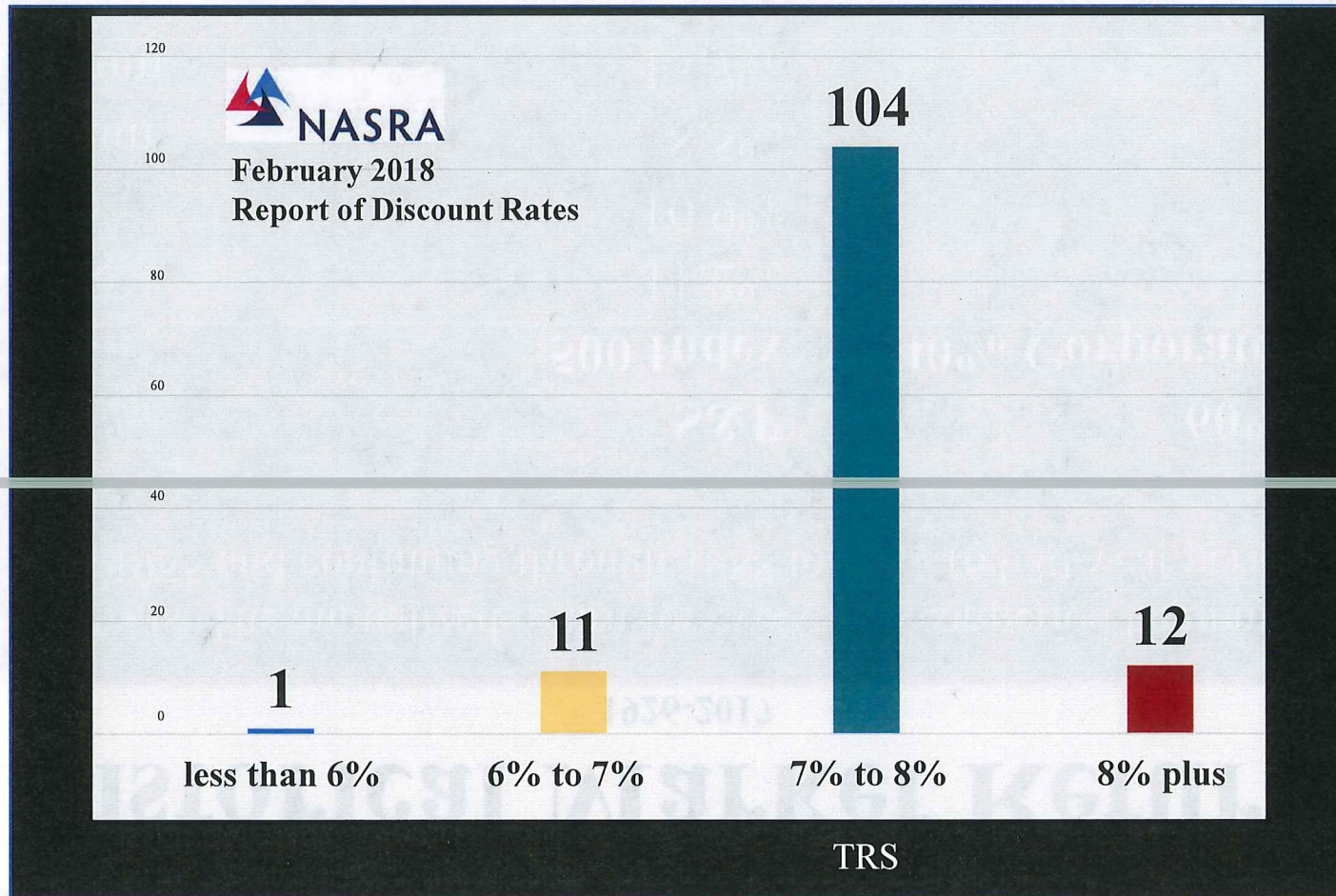
- Assumptions are long-term estimates so short-term fluctuations are expected.
- Most powerful assumption is investment return assumption
- Ongoing analysis of assumptions includes:
 - Peer system comparison
 - Long-term historical information
 - Modeling using market assumptions
 - Recent experience



Assumption Reviews

- 2015 Actuarial Audit and 2016 Experience Study both supported 7.5% Assumed Rate
- Changes from 2016 Experience Study
 - Price Inflation lowered from 3.5% to 3%
 - Wage Inflation (teacher's salaries) lowered from 4% to 3.5%

Peer Comparison



Historical Market Returns

1926-2017

What this is: The annualized return for every 30-year period beginning with 1926 to 1955 and continuing through 1988 to 2017 (63 30-year periods).

	S&P 500 Index	60% S&P/ 40% Corporate Bonds
Average	11.2%	9.1%
Median	10.9%	8.9%
Minimum	8.5%	6.6%
Maximum	13.7%	12.1%

Sources: Dimensional Fund Advisors (using Standard & Poor's Index Services Group & Morningstar Ibbotson SBBI Yearbook)

Current TRS Return Assumption: 7.5%

Historical Price Inflation

1926-2017

For All 30-year Periods	Rate
Average	3.8%
Median	3.6%
Minimum	1.4%
Maximum	5.4%

Source: U.S. Consumer Price Index

Current TRS Price Inflation Assumption: 3%

Modeling Using Market Assumptions

Horizon Survey 2017 Assumptions

Asset Class	Asset Allocation Target	Projected Return
U.S. Large Cap Equity ¹	37.4%	7.8%
U.S. Small Cap Equity ¹	2.6%	8.4%
Developed Int'l Equity ²	16.5%	7.6%
Emerging Markets Equity ²	5.5%	8.7%
Fixed Income – Inv. Grade	15.0%	4.4%
Real Estate	7.0%	6.7%
Private Equity	7.0%	10.1%
Additional Category: High Yield	2.0%	6.2%
Other Additional Categories ³	5.0%	5.7%
Cash	2.0%	3.2%
Total TRSK⁴	100.0%	7.7%

¹ Domestic mid cap equity is modeled as 80% domestic large cap equity and 20% domestic small cap equity

² International equity is modeled as 75% developed markets and 25% emerging markets

³ Other Additional Categories is modeled as 50% high yield and 50% bank loans

⁴ Inflation rate assumption is 2.4%

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Current TRS Return Assumption: 7.5%



Teachers' Retirement System
of the State of Kentucky

*Our Members
Come First!*

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502-848-8500

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Protecting & Preserving Teachers' Retirement Benefits

