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The Ohio Retirement Study Council

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OHIO RETIREMENT STUDY COUNCIL

Comparative Performance Study
Period ending 12/31/2004

Introduction

Evaluation Associates is pleased to present to the Council the most recent results of our ongoing, semi-annual comparative study of the performance of the five Ohio Statewide pension funds pursuant to Section 171.04 of the Revised Code. This is the twelfth report we have prepared pursuant to this authority. The purpose of this comparative report is to provide the framework for dialogue with the retirement systems and to assist the Council in meeting its oversight responsibilities. This report reflects investment performance for all five retirement systems over the ten year period beginning Jan. 1, 1995 and ending Dec. 31, 2004.

An important value of this type of report is its ability to provide an “apples to apples” comparison of the systems’ investment results. Such a comparison is possible, since all of the systems are subject to the same investment standards and restrictions and have been so from their inception. In light of the fact that rate of return calculations are extremely sensitive to time period differences, it is critical that any comparative study be done with a consistent time frame, as was done in this report.

As is common practice when examining pension fund results we make reference, throughout the report, to such things as quartile rankings and universe comparisons. The universes used for comparative purposes in the body of the report are those of the Russell Mellon Trust Universe Service. The comparisons are formulated by pooling data from a wide range of investment consulting firms and they provide a statistically valid measure of results relative to a large sample.

While the entire measurement period for this report, as mentioned above, is ten years, certain exhibits contained within the report reference shorter periods. When a shorter period is used for comparison purposes it is because that particular exhibit refers to a standard comparative reference period such as the past three or five years.

In order to put performance in the proper context, it is important to understand the historical evolution of the investment restrictions imposed on the funds by statute. Prior to 1993 and the passage of S.B. 43, the investment authority of the funds was severely limited. Only 35% of each fund’s assets could be invested in common stock and individual stock purchases were limited to domestic securities specified by a legal list. S.B. 43 expanded the legal list to include American Depository Receipts (ADRs), commingled stock investment funds, derivative instruments and real estate investment trusts (REITs). More importantly, the act permitted the funds to invest up to 50% of their total assets in U.S. stock and 10% in foreign stocks, bonds, and other obligations.

In March 1997, S.B. 82 abolished the legal list and adopted the “prudent person rule.” The funds’ investment authority under this act is expanded to allow any individual investment, so long as the overall portfolio is diversified. This allows for responses to changes in the economy and investment markets and reliance on professional investment managers and economic advisors to guide the decision making process. Along with this expansion of investment authority, however, comes the requirement of prudence and

diligence in the development of guidelines, benchmarks, and objectives, and importantly, mandates ongoing monitoring by those with fiduciary responsibility.

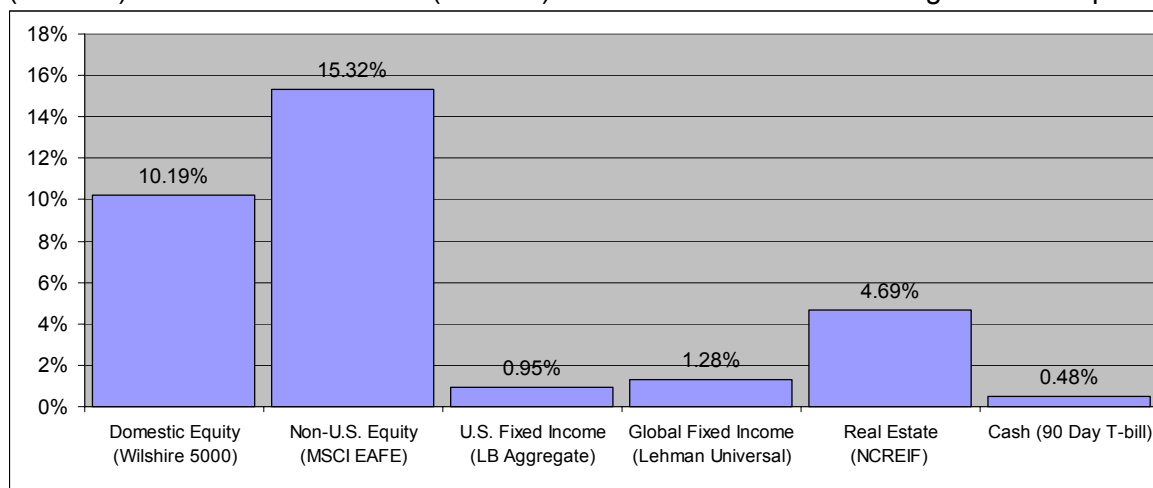
The majority of pension assets, in both the public and private sector, are managed with “prudent person” guidelines, which is to say largely without minimums or maximums placed on individual asset classes or securities. This approach, currently in place in the Ohio systems, is the optimal way to manage fund assets. It gives each fund the ability to develop an asset allocation strategy that is likely to maximize expected return while minimizing risk, all relative to the need to fund future obligations. Such an approach is fully consistent with the primary mandate of any pension fund – management that is in the best interest of plan participants.

Our findings may be summarized as follows:

- The six months ending 12/31/2004, the period since our last report, were positive for the systems. All experienced positive results, ranging from 8.02% (HPRS and SERS) to 9.21% (STRS). PERS, SERS and STRS outperformed their respective policies for the six-month period, while HPRS and OP&F slightly lagged their policies. STRS, PERS and OP&F also ranked above the median public retirement system in a broad universe of such funds. The top-performing fund for the six months was STRS (40th percentile). The other funds ranged from the 43rd percentile (PERS) to the 77th percentile (SERS).
- All systems have now outperformed their respective policy benchmarks for the past three years. For the trailing five-year period, all systems outpaced their respective policy benchmarks except for PERS, which slightly trailed its policy index by only 3 basis points.
- Long-term ten-year results have improved as a result of strong gains in 2004. All plans have ten-year returns that are above their actuarial interest rate assumptions.

Market Environment

The fourth quarter produced positive investment results for the six major asset classes. The best returns were in non-U.S. equity and domestic equity, with a 15.32% and 10.19% gain respectively. Real estate was up at 4.69%, followed by global fixed income (+1.28%) and U.S. fixed income (+0.95%). Cash returned 0.48% during the fourth quarter.



Median Fund Returns

The median fund in the Russell Mellon public fund database returned 8.39% in the fourth quarter and 12.47% in 2004. A hypothetical fund with a 60% allocation to the Wilshire 5000 and a 40% allocation to the Lehman Brothers Aggregate Bond Index would have returned 6.45% for the quarter and 9.25% over the last year.

Universe Medians Performance Summary Periods ending December 31, 2004

	<u>One Quarter</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>Ten Years</u>
Fund Sponsor					
Public Fund Universe	8.39%	12.47%	8.33%	3.95%	10.46%
Corporate DB Universe	8.15%	11.85%	7.46%	3.62%	10.72%
Education Eleemosynary Universe	8.33%	12.42%	7.69%	4.06%	11.24%
Taft-Hartley Universe	7.47%	11.07%	7.35%	4.18%	10.34%
All Fund Universe	8.09%	11.94%	7.57%	3.91%	10.77%
60% Wilshire 5000 / 40% LB Aggregate	6.45%	9.25%	6.10%	2.56%	10.60%

Asset Allocation

- **Comparison of Policy Asset Allocation:**
A well diversified asset allocation is the key investment decision that retirement fund Boards make based on risk tolerance, the pension liability structure and the funding costs of each fund. Asset allocation policy varies across funds for this reason.
- **Total Fund Return vs. Policy Benchmark:**
Investment returns and the variation or volatility of returns are primarily determined by the policy asset allocation.
- **Long Term Return:**
The primary objective of investment performance for each fund is to meet or exceed the respective policy benchmarks over a reasonable time period. Funds also seek to exceed the actuarial interest rate over a longer time horizon.
- **Peer Rankings:**
In comparing rankings of fund performance in peer universes, asset allocation differences need to be considered.

Comparison of Policy Asset Allocation

	US Equity	Intl Equity	Fixed Income	Real Estate	Alternative Investment	Cash
PERS	46.0%	20.0%	23.0%	9.0%	1.0%	1.0%
STRS	45.0%	20.0%	23.0%	9.0%	2.0%	1.0%
OP&F	48.0%	20.0%	23.0%	8.0%	1.0%	0.0%
SERS	46.0%	16.0%	23.0%	10.0%	3.0%	2.0%
HPRS	48.0%	15.0%	25.0%	12.0%	0.0%	0.0%

Evaluating Funds

- The most appropriate benchmark for evaluating the performance of each of the Ohio funds is the blended index contained in their respective investment policy statements. The investment policy statement contains information about the investment objectives and investment constraints that are specific to each fund based upon such factors as the funds' liquidity needs and the age of the workforce they employ.
- There are two investment objectives: (1) a return that matches the cash flows of pension assets and liabilities and (2) the amount of risk the fund is willing and able to tolerate. These objectives are constrained by time horizon, liquidity needs, and government regulations.
- The investment policy statement guides the funds' asset allocation decisions. Asset allocation is very important because some studies show that 95% of the variance in returns is explained by this decision alone. Therefore, Ohio fund returns should be compared against returns from organizations with similar asset allocations.
- Performance of each of the Ohio funds should first be measured against each fund's own policy benchmark return (the return of the specified target policy mix), and secondarily, against the peer group.
- A comparison of the returns of the Ohio funds against one another is a valid exercise. It must be done, however, while keeping in mind any differences in the individual funds' policy allocations and the level of risk tolerance implied by those allocations.

Executive Summary

Total Fund Returns

The table below displays total fund results for all of the systems, comparing each fund's return to its own benchmark return. The tables that follow repeat the same comparison on an individual asset class basis.

Total Fund Return vs. Policy Benchmark						
Fund		<u>One Quarter</u>	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>
PERS						
	Actual	8.91%	9.16%	12.51%	7.99%	3.60%
	Policy	8.48%	8.99%	12.39%	7.73%	3.63%
	Difference	0.43%	0.17%	0.12%	0.26%	-0.03%
STRS						
	Actual	8.35%	9.21%	13.23%	7.61%	2.78%
	Policy	7.87%	8.55%	11.96%	6.96%	2.51%
	Difference	0.48%	0.66%	1.27%	0.65%	0.27%
OP&F						
	Actual	8.74%	9.00%	13.25%	8.45%	3.93%
	Policy	8.60%	9.05%	12.83%	8.37%	2.93%
	Difference	0.14%	-0.05%	0.42%	0.08%	1.00%
SERS						
	Actual	7.77%	8.02%	11.69%	6.68%	2.66%
	Policy	7.30%	7.76%	11.48%	6.35%	2.32%
	Difference	0.47%	0.26%	0.21%	0.33%	0.34%
HPRS						
	Actual	7.25%	8.02%	12.11%	8.66%	4.31%
	Policy	8.22%	8.40%	12.20%	7.08%	2.97%
	Difference	-0.97%	-0.38%	-0.09%	1.58%	1.34%

All returns are for periods ending 12/31/2004. Returns for periods longer than one year are annualized.

- PERS: The six-month return for the total fund has outpaced the policy index by 0.17%. In 2004, the total fund outperformed its policy index by 12 basis points and the fund is also outperforming over the three-year period, by 0.26% on an annual basis.
- STRS: The six-month return for the total fund outperformed its policy index by 0.66% and 1.27% in 2004. The three-year return is outperforming the policy by 0.65%, and the five-year return is outperforming the policy by 0.27%.
- OP&F: OP&F slightly underperformed its policy index by 0.05% over the last six months, but outperformed in 2004 by returning 42 basis points over its policy index. Longer term, the fund is outperforming its policy index for the three-year period by 0.08% annually and for the five-year period by 1.00% annually.
- SERS: The total fund has outperformed its policy index return by 0.26% during the past six months and 0.21% in 2004. Over the longer term, the fund has outperformed its policy index. For the three-year period, it leads the policy by 0.33% annually, and for the five-year period the fund is outperforming its policy by 0.34% annually.
- HPRS: The six-month return for the total fund has underperformed the policy index by 38 basis points. In 2004, the total fund modestly lagged its policy index by 9 basis points; however, the total fund has outperformed for the longer time periods, outpacing the policy index by 158 basis points for three years and 134 basis points for five years.

Domestic Equity Returns

Domestic Equity Return vs. Policy Benchmark					
<u>Fund</u>	<u>One Quarter</u>	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>
PERS					
Actual	10.21%	7.99%	11.99%	4.90%	-0.61%
Policy	10.15%	8.06%	11.95%	4.79%	-0.88%
Difference	0.06%	-0.07%	0.04%	0.11%	0.27%
STRS					
Actual	10.09%	8.13%	11.95%	4.30%	-1.07%
Policy	10.16%	8.07%	11.95%	4.67%	-0.96%
Difference	-0.07%	0.06%	0.00%	-0.37%	-0.11%
OP&F					
Actual	10.03%	7.97%	13.11%	5.65%	1.15%
Policy	10.33%	8.37%	12.62%	5.48%	-1.42%
Difference	-0.30%	-0.40%	0.49%	0.17%	2.57%
SERS					
Actual	9.74%	7.45%	11.73%	4.96%	-1.08%
Policy	10.16%	8.06%	11.95%	4.80%	-1.16%
Difference	-0.42%	-0.61%	-0.22%	0.16%	0.08%
HPRS					
Actual	10.45%	8.82%	14.74%	8.64%	1.84%
Policy	10.48%	8.24%	12.73%	5.87%	0.46%
Difference	-0.03%	0.58%	2.01%	2.77%	1.38%

All returns are for periods ending 12/31/2004. Returns for periods longer than one year are annualized.

The domestic equity market experienced a strong fourth quarter. On an absolute basis, HPRS outpaced other plans by returning a 10.45% return during the quarter. On an absolute and relative basis, HPRS had the best result with a 14.74% return, which exceeded its equity benchmark by 201 basis points in 2004. HPRS also significantly outpaced other plans for the longer time periods.

Fixed Income Returns

Fixed Income Return vs. Policy Benchmark						
Fund		One Quarter	Two Quarters	One Year	Three Years	Five Years
PERS						
	Actual	1.47%	5.04%	5.25%	6.85%	8.11%
	Policy	1.28%	4.78%	4.95%	6.85%	8.16%
	Difference	0.19%	0.26%	0.30%	0.00%	-0.05%
STRS						
	Actual	1.52%	4.84%	5.03%	7.23%	8.71%
	Policy	1.28%	4.78%	4.96%	6.85%	7.94%
	Difference	0.24%	0.06%	0.07%	0.38%	0.77%
OP&F						
	Actual	2.10%	5.87%	6.65%	8.11%	9.34%
	Policy	0.95%	4.18%	4.34%	6.20%	7.71%
	Difference	1.15%	1.69%	2.31%	1.91%	1.63%
SERS						
	Actual	1.25%	4.48%	4.89%	6.98%	8.50%
	Policy	0.95%	4.18%	4.34%	6.20%	7.71%
	Difference	0.30%	0.30%	0.55%	0.78%	0.79%
HPRS						
	Actual	-0.41%	5.42%	5.61%	7.66%	8.49%
	Policy	0.95%	4.18%	4.34%	6.20%	7.71%
	Difference	-1.36%	1.24%	1.27%	1.46%	0.78%

All returns are for periods ending 12/31/2004. Returns for periods longer than one year are annualized.

*This policy is an artificial composite benchmark created by EAI and is not the official benchmark used by OP&F.

Fixed income returns were positive for all of the funds for the fourth quarter with the exception of HPRS, which returned a negative 0.41% return. OP&F had the best fourth quarter return (+2.10%) followed by STRS (+1.52%), PERS (+1.47%) and SERS (+1.25%). In 2004, OP&F's fixed income return led all plans with a 6.65%. For the five-year period, OP&F again had the highest return (+9.34%).

International Equity Returns

International Equity Return vs. Policy Benchmark					
Fund	One Quarter	Two Quarters	One Year	Three Years	Five Years
PERS					
Actual	15.14%	16.31%	21.31%	13.41%	-0.69%
Policy	15.37%	16.47%	20.91%	13.14%	-0.26%
Difference	-0.23%	-0.16%	0.40%	0.27%	-0.43%
STRS					
Actual	13.30%	16.34%	20.28%	12.65%	0.46%
Policy	12.54%	14.48%	18.70%	9.55%	-1.09%
Difference	0.76%	1.86%	1.58%	3.10%	1.55%
OP&F					
Actual	15.18%	16.37%	21.08%	12.32%	-2.16%
Policy	15.41%	16.58%	21.36%	13.56%	0.02%
Difference	-0.23%	-0.21%	-0.28%	-1.24%	-2.18%
SERS					
Actual	12.99%	13.66%	19.03%	8.81%	-0.76%
Policy	11.66%	12.18%	17.59%	7.54%	-1.66%
Difference	1.33%	1.48%	1.44%	1.27%	0.90%
HPRS					
Actual	13.67%	13.92%	17.59%	9.10%	0.13%
Policy	15.32%	15.00%	20.25%	11.89%	-1.13%
Difference	-1.65%	-1.08%	-2.66%	-2.79%	1.26%

All returns are for periods ending 12/31/2004. Returns for periods longer than one year are annualized.

OP&F (+15.18%) had the best absolute result, followed by PERS (+15.14%), HPRS (+13.67%), STRS (+13.30%) and SERS (+12.99%) during the fourth quarter. For the year, PERS led all plans with a 21.31% return. For the five-year period, STRS had the best absolute and relative results with a 0.46% return, which outperformed its policy index by 1.55% annually.

Real Estate Returns

Real Estate Return vs. Policy Benchmark						
Fund		One Quarter	Two Quarters	One Year	Three Years	Five Years
PERS						
Actual		6.14%	9.08%	14.35%	11.41%	11.45%
Policy		5.64%	9.52%	15.52%	11.15%	11.41%
Difference		0.50%	-0.44%	-1.17%	0.26%	0.04%
STRS						
Actual		5.70%	11.09%	24.13%	12.08%	11.56%
Policy		5.92%	9.91%	16.04%	11.12%	10.43%
Difference		-0.22%	1.18%	8.09%	0.96%	1.13%
OP&F						
Actual		3.09%	5.69%	14.15%	10.91%	10.77%
Policy		3.77%	7.29%	13.42%	8.46%	9.07%
Difference		-0.68%	-1.60%	0.73%	2.45%	1.70%
SERS						
Actual		7.11%	11.94%	17.28%	10.08%	9.68%
Policy		5.78%	10.17%	16.28%	10.80%	10.85%
Difference		1.33%	1.77%	1.00%	-0.72%	-1.17%
HPRS						
Actual		2.11%	4.58%	9.06%	6.85%	9.49%
Policy		4.69%	8.27%	14.52%	10.03%	9.92%
Difference		-2.58%	-3.69%	-5.46%	-3.18%	-0.43%

All returns are for periods ending 12/31/2004. Returns for periods longer than one year are annualized.

Real estate results for the five funds were all positive for the fourth quarter. SERS had the highest real estate return (+7.11%) followed by PERS (+6.14%), STRS (+5.70%), OP&F (+3.09%) and HPRS (+2.11%). In 2004, STRS had the strongest absolute and relative results with a 24.13%. For the five-year period, STRS posted the best real estate return on an absolute and relative basis. The real estate portfolio returned a positive 11.56% for the five years and outperformed its policy return by 113 basis points annually. The policy returns for each of the funds varies greatly from quarter to quarter. This is due to the index selected and the method of reporting.

Alternative Asset Returns

Alternative Asset Return vs. Policy Benchmark					
<u>Fund</u>	<u>One Quarter</u>	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>
PERS					
Actual	4.17%	5.73%	21.59%	10.01%	1.87%
Policy	-1.16%	0.91%	17.96%	8.02%	-0.21%
Difference	5.33%	4.82%	3.63%	1.99%	2.08%
STRS					
Actual	0.32%	0.57%	12.49%	-0.44%	-2.09%
Policy	0.32%	0.57%	12.49%	N/A	N/A
Difference	0.00%	0.00%	0.00%	N/A	N/A
OP&F					
Actual	0.89%	0.70%	7.14%	-9.99%	-2.76%
Policy	-0.59%	1.99%	8.68%	7.68%	1.84%
Difference	1.48%	-1.29%	-1.54%	-17.67%	-4.60%
SERS					
Actual	1.03%	1.05%	8.66%	-5.38%	-5.81%
Policy	0.23%	2.63%	16.87%	3.43%	-1.11%
Difference	0.80%	-1.58%	-8.21%	-8.81%	-4.70%
HPRS					
Actual	N/A	N/A	N/A	N/A	N/A
Policy	N/A	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A	N/A

All returns are for periods ending 12/31/2004. Returns for periods longer than one year are annualized.

For the fourth quarter, PERS had the best absolute return (+4.17%). In 2004, PERS had the highest return (+21.59%), followed by STRS (+12.49%), SERS (+8.66%) and OP&F (+7.14%). For the five-year period, PERS had the best absolute and relative results, returning a positive 1.87% and beating the policy return by 2.08% annually. There is also a large amount of variation in the policies for alternative investments. STRS uses their actual alternative investment return as their policy return. OP&F, on the other hand, adds 5% annually to the Wilshire 5000 index to benchmark its alternative investment returns.

Long-Term Results vs. Targets

Long Term Return - 10 Years

	Actual Return	Benchmark Actual Return	Actuarial Interest Rate	Valuation Date
PERS	8.47%	10.01%	8.00%	1/1/2004
STRS	9.31%	9.70%	8.00%	7/1/2004
OP&F	10.08%	9.61%	8.25%	1/1/2004
SERS	10.08%	9.96%	8.25%	7/1/2004
HPRS	8.31%	10.54%	8.00%	1/1/2004

The table above provides a long-term look at how the systems are performing compared to their policy returns and also compared to their actuarial interest rate. On a relative basis, OP&F and SERS have exceeded their policies over the ten-year period. HPRS, PERS and STRS are underperforming their policy by 223, 154 and 39 basis points respectively on an annualized basis. On a positive note, all plans are exceeding their actuarial interest rate.

Universe Comparisons

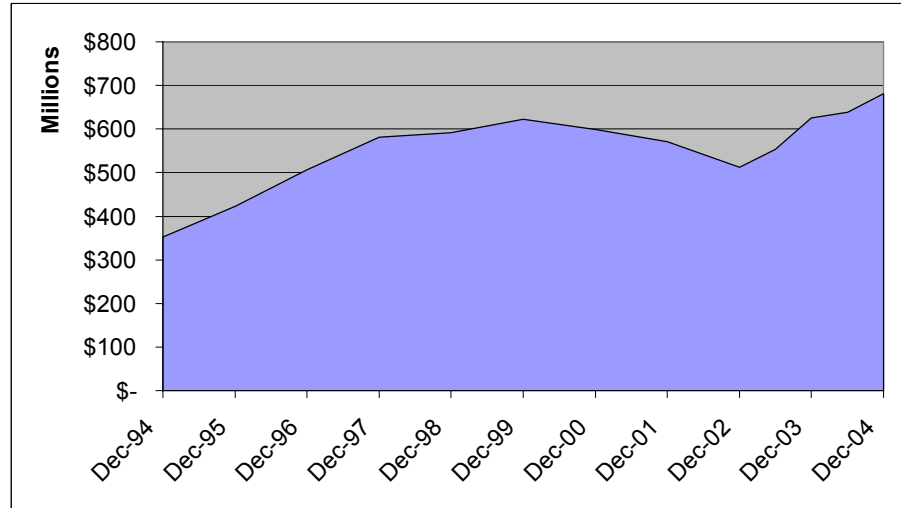
Public Fund Universe Peer Rankings

	One Quarter	Two Quarters	One Year	Three Years	Five Years
PERS	20	43	48	68	65
STRS	53	40	29	73	89
OP&F	29	49	29	40	52
SERS	77	77	73	93	91
HPRS	93	76	59	26	36

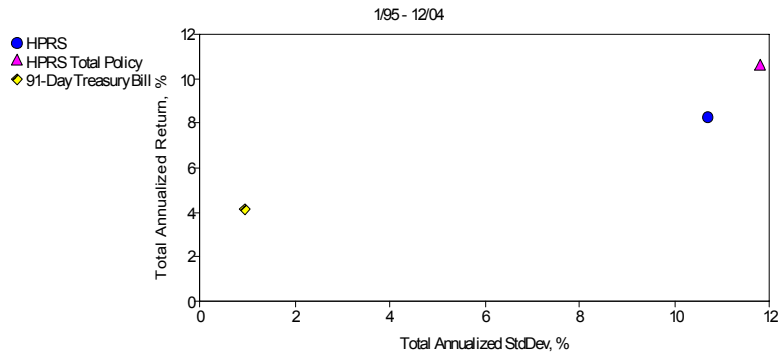
For the most recent quarter, PERS and OP&F ranked ahead of the median in the Russell Mellon All Public Plan Universe. For 2004, OP&F, STRS and PERS placed ahead of the median public plan. Over the longer term, HPRS displayed a second quartile performance, while OP&F and PERS fell in the third quartile. SERS and STRS ranked in the fourth quartile during the same period.

Highway Patrol Retirement System

HPRS Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
US Equity					
Actual	10.45%	8.82%	14.74%	8.64%	1.84%
Benchmark	10.48%	8.24%	12.73%	5.87%	0.46%
Difference	-0.03%	0.58%	2.01%	2.77%	1.38%
Fixed Income					
Actual	-0.41%	5.42%	5.61%	7.66%	8.49%
Benchmark	0.95%	4.18%	4.34%	6.20%	7.71%
Difference	-1.36%	1.24%	1.27%	1.46%	0.78%
Intl. Equity					
Actual	13.67%	13.92%	17.59%	9.10%	0.13%
Benchmark	15.32%	15.00%	20.25%	11.89%	-1.13%
Difference	-1.65%	-1.08%	-2.66%	-2.79%	1.26%
Real Estate					
Actual	2.11%	4.58%	9.06%	6.85%	9.49%
Benchmark	4.69%	8.27%	14.52%	10.03%	9.92%
Difference	-2.58%	-3.69%	-5.46%	-3.18%	-0.43%



Performance vs. Risk



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	8.31	10.72	4.54	0.42
HPRS Total Policy	10.54	11.83	6.75	0.57
91-Day Treasury Bill	4.14	0.95	0.00	NA

Asset Mix

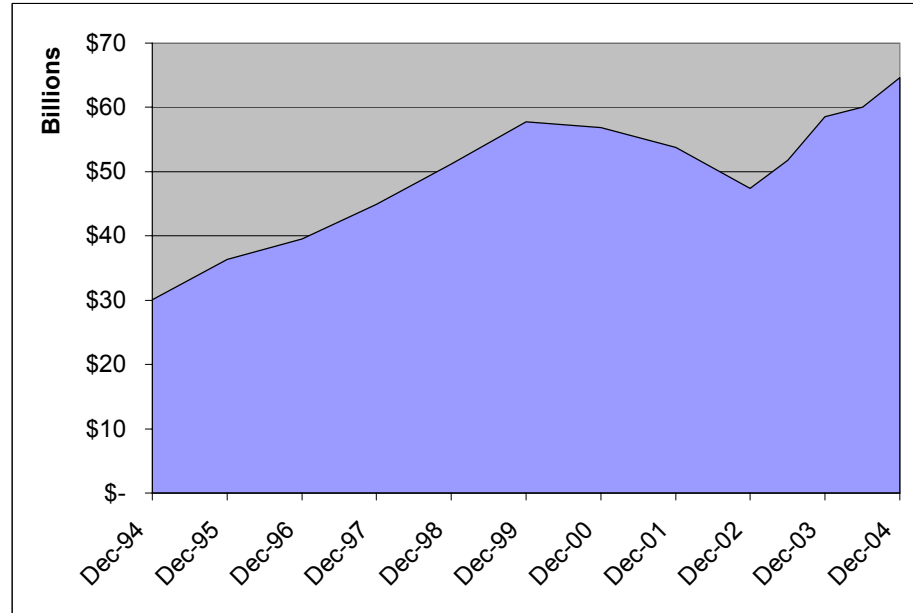
	Actual December 31, 2004	Target	Difference
US Equity	55.5%	48.0%	7.5%
Intl. Equity	14.9%	15.0%	-0.1%
Alternative Assets	0.0%	0.0%	0.0%
Total Equity	70.4%	63.0%	7.4%
Fixed Income	21.6%	25.0%	-3.4%
Real Estate	7.8%	12.0%	-4.2%
Short Term Investments	0.2%	0.0%	0.2%
Total Debt	29.6%	37.0%	-7.4%
	100.0%	100.0%	0.0%

Characteristic Data

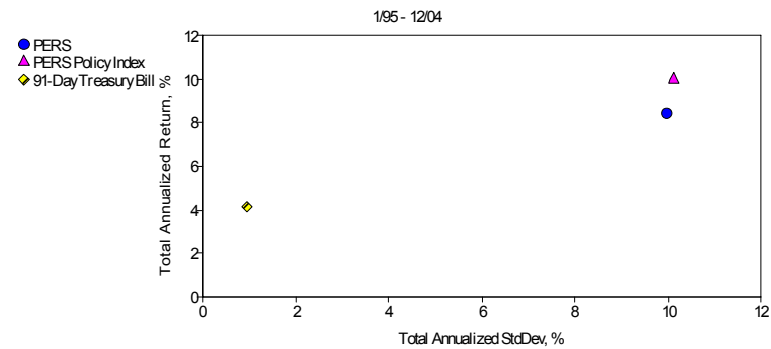
Assets @ 12-31-2004: \$ 681,038,744
 Actuarial Interest Rate: 8.00%
 Investment Staff Size: 1

Public Employees Retirement System

PERS Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
US Equity					
Actual	10.21%	7.99%	11.99%	4.90%	-0.61%
Benchmark	10.15%	8.06%	11.95%	4.79%	-0.88%
Difference	0.06%	-0.07%	0.04%	0.11%	0.27%
Fixed Income					
Actual	1.47%	5.04%	5.25%	6.85%	8.11%
Benchmark	1.28%	4.78%	4.95%	6.85%	8.16%
Difference	0.19%	0.26%	0.30%	0.00%	-0.05%
Intl. Equity					
Actual	15.14%	16.31%	21.31%	13.41%	-0.69%
Benchmark	15.37%	16.47%	20.91%	13.14%	-0.26%
Difference	-0.23%	-0.16%	0.40%	0.27%	0.00%
Real Estate					
Actual	6.14%	9.08%	14.35%	11.41%	11.45%
Benchmark	5.64%	9.52%	15.52%	11.15%	11.41%
Difference	0.50%	-0.44%	-1.17%	0.26%	0.04%
Private Equity					
Actual	4.17%	5.73%	21.59%	10.01%	1.87%
Benchmark	-1.16%	0.91%	17.96%	8.02%	-0.21%
Difference	5.33%	4.82%	3.63%	1.99%	2.08%



Performance vs. Risk



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
PERS	8.47	9.97	4.61	0.46
PERS Policy Index	10.01	10.13	6.07	0.60
91-Day Treasury Bill	4.14	0.95	0.00	NA

Asset Mix

	Actual		Difference
	December 31, 2004	Target	
US Equity	48.2%	46.0%	2.2%
Intl. Equity	23.0%	20.0%	3.0%
Alternative Assets	0.6%	1.0%	-0.4%
Total Equity	71.8%	67.0%	4.8%
Fixed Income	22.4%	23.0%	-0.6%
Real Estate	5.4%	9.0%	-3.6%
Short Term Investments	0.4%	1.0%	-0.6%
Total Debt	28.2%	33.0%	-4.8%
	100.0%	100.0%	0.0%

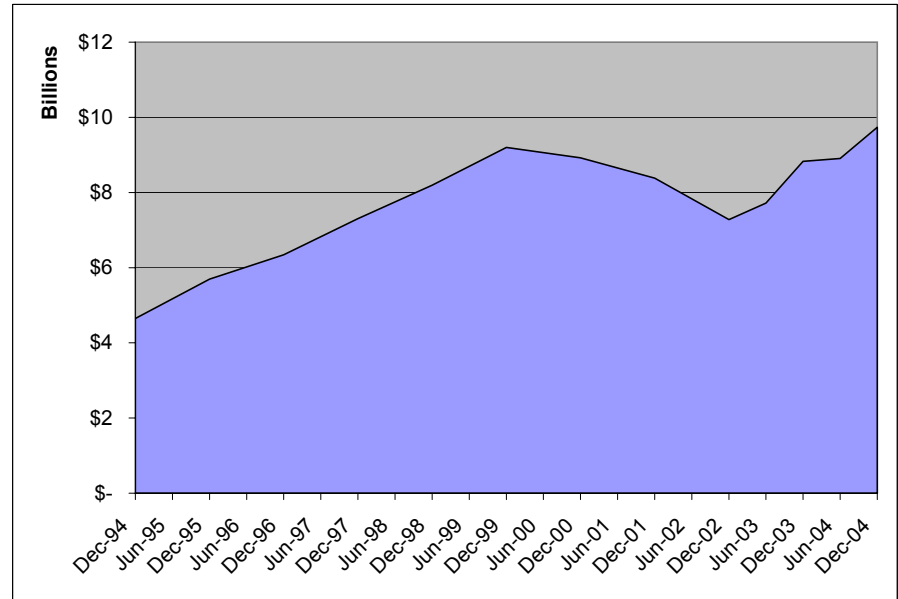
Characteristic Data

Assets @ 12-31-2004:	\$	64,631,917,934
Actuarial Interest Rate:		8.00%
Investment Staff Size:		56

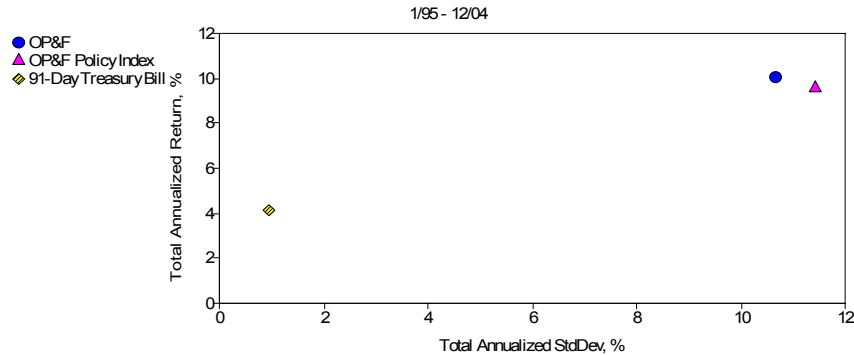
Police & Fire Pension Fund

OP&F Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
US Equity					
Actual	10.03%	7.97%	13.11%	5.65%	1.15%
Benchmark	10.33%	8.37%	12.62%	5.48%	-1.42%
Difference	-0.30%	-0.40%	0.49%	0.17%	2.57%
Fixed Income					
Actual	2.10%	5.87%	6.65%	8.11%	9.34%
Benchmark*	0.95%	4.18%	4.34%	6.20%	7.71%
Difference	1.15%	1.69%	2.31%	1.91%	1.63%
Intl. Equity					
Actual	15.18%	16.37%	21.08%	12.32%	-2.16%
Benchmark	15.41%	16.58%	21.36%	13.56%	0.02%
Difference	-0.23%	-0.21%	-0.28%	-1.24%	-2.18%
Real Estate					
Actual	3.09%	5.69%	14.15%	10.91%	10.77%
Benchmark	3.77%	7.29%	13.42%	8.46%	9.07%
Difference	-0.68%	-1.60%	0.73%	2.45%	1.70%
Private Equity					
Actual	0.89%	0.70%	7.14%	-9.99%	-2.76%
Benchmark	-0.59%	1.99%	8.68%	7.68%	1.84%
Difference	1.48%	-1.29%	-1.54%	-17.67%	-4.60%

*This policy is an artificial composite benchmark created by EAI and is not the official benchmark used by OP&F.



Performance vs. Risk



Created with MPT Studio™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
OP&F	10.08	10.65	6.18	0.58
OP&F Policy Index	9.61	11.44	5.83	0.51
91-Day Treasury Bill	4.14	0.95	0.00	NA

Asset Mix

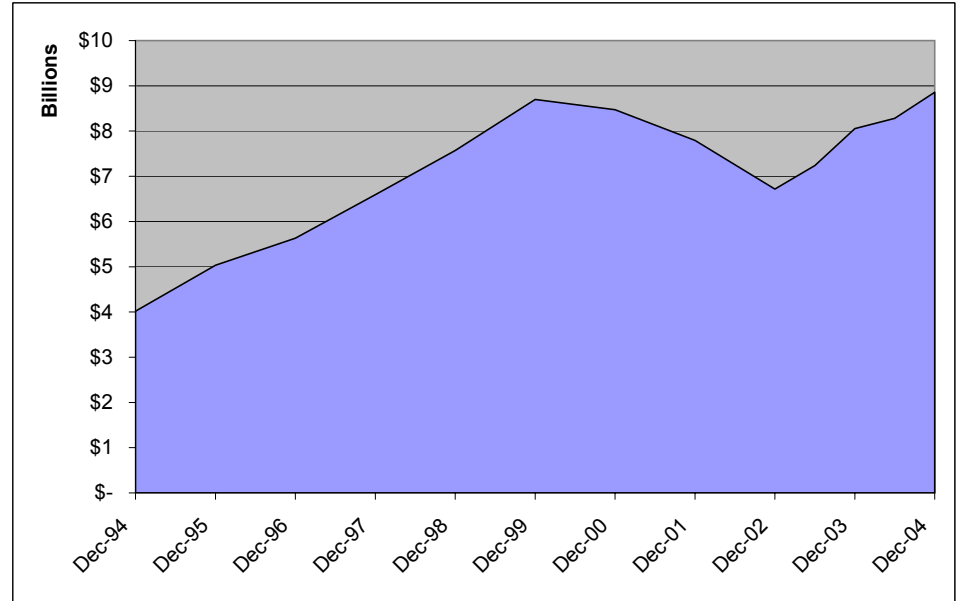
	Actual December 31, 2004	Target	Difference
US Equity	49.5%	48.0%	1.5%
Intl. Equity	22.2%	20.0%	2.2%
Alternative Assets	1.6%	1.0%	0.6%
Total Equity	73.3%	69.0%	4.3%
Fixed Income	21.0%	23.0%	-2.1%
Real Estate	4.9%	8.0%	-3.1%
Short Term Investments	0.8%	0.0%	0.8%
Total Debt	26.7%	31.0%	-4.3%
	100.0%	100.0%	0.0%

Characteristic Data

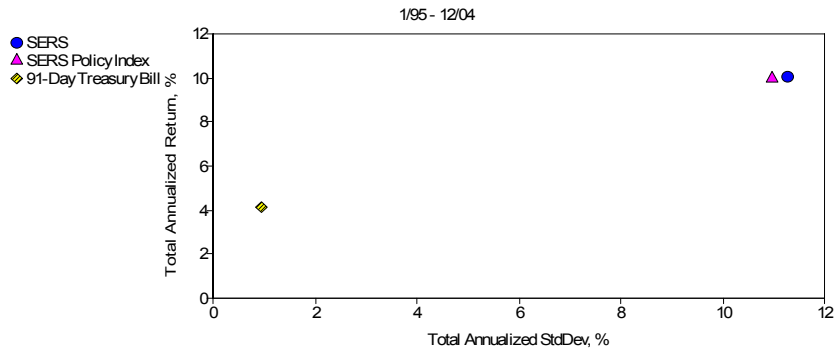
Assets @ 12-31-2004:	\$	9,734,113,000
Actuarial Interest Rate:		8.25%
Investment Staff Size:		15

School Employees Retirement System

SERS Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
US Equity					
Actual	9.74%	7.45%	11.73%	4.96%	-1.08%
Benchmark	10.16%	8.06%	11.95%	4.80%	-1.16%
Difference	-0.42%	-0.61%	-0.22%	0.16%	0.08%
Fixed Income					
Actual	1.25%	4.48%	4.89%	6.98%	8.50%
Benchmark	0.95%	4.18%	4.34%	6.20%	7.71%
Difference	0.30%	0.30%	0.55%	0.78%	0.79%
Intl. Equity					
Actual	12.99%	13.66%	19.03%	8.81%	-0.76%
Benchmark	11.66%	12.18%	17.59%	7.54%	-1.66%
Difference	1.33%	1.48%	1.44%	1.27%	0.90%
Real Estate					
Actual	7.11%	11.94%	17.28%	10.08%	9.68%
Benchmark	5.78%	10.17%	16.28%	10.80%	10.85%
Difference	1.33%	1.77%	1.00%	-0.72%	-1.17%
Private Equity					
Actual	1.03%	1.05%	8.66%	-5.38%	-5.81%
Benchmark	0.23%	2.63%	16.87%	3.43%	-1.11%
Difference	0.80%	-1.58%	-8.21%	-8.81%	-4.70%



Performance vs. Risk



Asset Mix

	Actual		
	December 31, 2004	Target	Difference
US Equity	46.6%	46.0%	0.6%
Intl. Equity	19.3%	16.0%	3.3%
Alternative Assets	1.6%	3.0%	-1.4%
Total Equity	67.5%	65.0%	2.5%
Fixed Income	22.5%	23.0%	-0.6%
Real Estate	9.1%	10.0%	-0.9%
Short Term Investments	1.0%	2.0%	-1.1%
Total Debt	32.5%	35.0%	-2.5%
	100.0%	100.0%	0.0%

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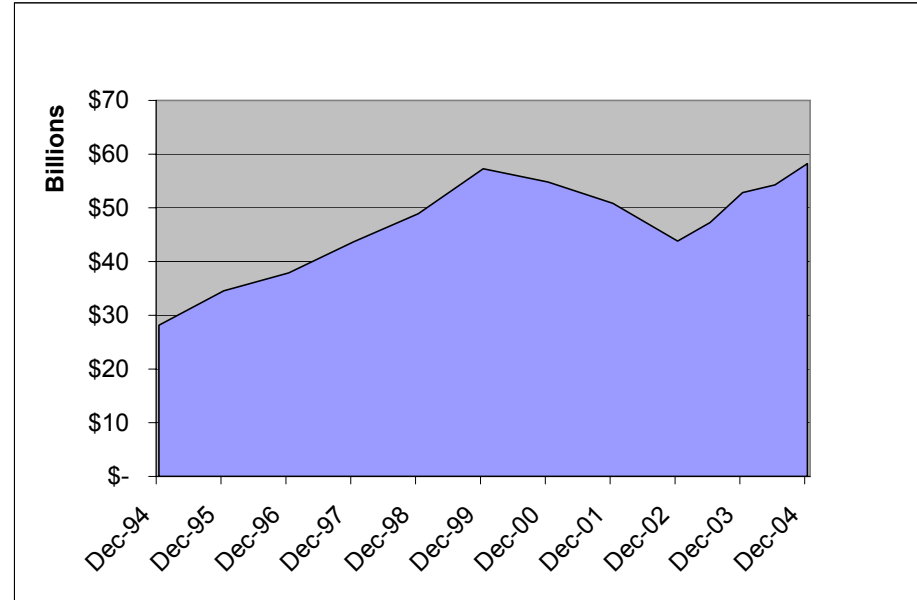
	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
SERS	10.08	11.29	6.26	0.55
SERS Policy Index	9.96	10.98	6.11	0.55
91-Day Treasury Bill	4.14	0.95	0.00	NA

Characteristic Data

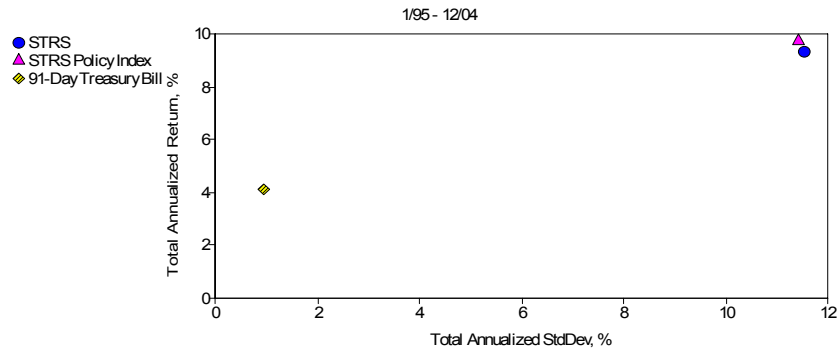
Assets @ 12-31-2004:	\$	8,856,241,325
Actuarial Interest Rate:		8.25%
Investment Staff Size:		12

State Teachers Retirement System

STRS Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
US Equity					
Actual	10.09%	8.13%	11.95%	4.30%	-1.07%
Benchmark	10.16%	8.07%	11.95%	4.67%	-0.96%
Difference	-0.07%	0.06%	0.00%	-0.37%	-0.11%
Fixed Income					
Actual	1.52%	4.84%	5.03%	7.23%	8.71%
Benchmark	1.28%	4.78%	4.96%	6.85%	7.94%
Difference	0.24%	0.06%	0.07%	0.38%	0.77%
Intl. Equity					
Actual	13.30%	16.34%	20.28%	12.65%	0.46%
Benchmark	12.54%	14.48%	18.70%	9.55%	-1.09%
Difference	0.76%	1.86%	1.58%	3.10%	1.55%
Real Estate					
Actual	5.70%	11.09%	24.13%	12.08%	11.56%
Benchmark	5.92%	9.91%	16.04%	11.12%	10.43%
Difference	-0.22%	1.18%	8.09%	0.96%	1.13%
Private Equity					
Actual	0.32%	0.57%	12.49%	-0.44%	-2.09%
Benchmark	0.32%	0.57%	12.49%	N/A	N/A
Difference	0.00%	0.00%	0.00%	N/A	N/A



Performance vs. Risk



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
STRS	9.31	11.55	5.56	0.48
STRS Policy Index	9.70	11.44	5.92	0.51
91-Day Treasury Bill	4.14	0.95	0.00	NA

Asset Mix

	Actual		
	December 31, 2004	Target	Difference
US Equity	46.5%	45.0%	1.5%
Intl. Equity	22.3%	20.0%	2.3%
Alternative Assets	2.2%	2.0%	0.2%
Total Equity	71.0%	67.0%	4.0%
Fixed Income	17.8%	23.0%	-5.2%
Real Estate	8.3%	9.0%	-0.7%
Short Term Investments	2.9%	1.0%	1.9%
Total Debt	29.0%	33.0%	-4.0%
	100.0%	100.0%	0.0%

Characteristic Data

Assets @ 12-31-2004:	\$	58,237,750,986
Actuarial Interest Rate:		8.00%
Investment Staff Size:		112

Ohio Retirement Study Council

Performance Summary Table
Periods Ending 12/31/04

	1 Qtr	2 Qtrs	3 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
HPRS								
Total Return	7.25	8.02	8.65	12.11	8.66	4.31	8.31	12/31/93
Domestic Equity	10.45	8.82	10.89	14.74	8.64	1.84	8.54	12/31/93
Fixed Income	-0.41	5.42	2.85	5.61	7.66	8.49	8.05	12/31/93
Cash & Equiv	0.51	1.10	1.40	1.74	1.74	3.10	4.17	3/31/94
Real Estate	2.11	4.58	6.45	9.06	6.85	9.49	8.24	12/31/93
International Equity	13.67	13.92	13.34	17.59	9.10	0.13		3/31/95
PERS								
Total Return	8.91	9.16	9.04	12.51	7.99	3.60	8.47	12/31/93
Domestic Equity	10.21	7.99	9.43	11.99	4.90	-0.61	10.18	12/31/93
Fixed Income	1.47	5.04	2.54	5.25	6.85	8.11	8.15	12/31/93
Cash & Equiv	0.58	0.99	1.27	1.53	1.45	2.93	4.27	12/31/93
Real Estate	6.14	9.08	9.52	14.35	11.41	11.45	10.62	12/31/93
International Equity	15.14	16.31	14.97	21.31	13.41	-0.69		12/31/95
Other	4.17	5.73	12.00	21.59	10.01	1.87		12/31/95
OP&F								
Total Return	8.74	9.00	9.22	13.25	8.45	3.93	10.08	12/31/93
Domestic Equity	10.03	7.97	9.55	13.11	5.65	1.15	11.73	12/31/93
Fixed Income	2.10	5.87	3.98	6.65	8.11	9.34	8.55	12/31/93
Cash & Equiv	0.48	0.85	1.08	1.33	1.41	2.95		9/30/96
Real Estate	3.09	5.69	8.89	14.15	10.91	10.77	11.44	12/31/93
International Equity	15.18	16.37	14.89	21.08	12.32	-2.16	7.08	9/30/94
Other	0.89	0.70	0.86	7.14	-9.90	-2.76		
SERS								
Total Return	7.77	8.02	8.36	11.69	6.68	2.66	10.08	12/31/93
Domestic Equity	9.74	7.45	9.12	11.73	4.96	-1.08	11.83	12/31/93
Fixed Income	1.25	4.48	2.33	4.89	6.98	8.50	8.21	12/31/93
Cash & Equiv	0.50	0.90	1.16	1.40	1.12	3.56	4.51	12/31/93
Real Estate	7.11	11.94	12.00	17.28	10.08	9.68	10.57	12/31/93
International Equity	12.99	13.66	13.68	19.03	8.81	-0.76	6.81	12/31/94
Other	1.03	1.05	1.78	8.66	-5.38	-5.81	13.69	12/31/93

	1 Qtr	2 Qtrs	3 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
STRS								
Total Return	8.35	9.21	9.40	13.23	7.61	2.78	9.31	12/31/93
Domestic Equity	10.09	8.13	9.35	11.95	4.30	-1.07	10.34	12/31/93
Fixed Income	1.52	4.84	2.52	5.03	7.23	8.71	8.78	12/31/93
Cash & Equiv	0.49	0.85	1.11	1.38	1.44	2.98	4.33	12/31/93
Real Estate	5.70	11.09	15.85	24.13	12.08	11.56	11.53	12/31/93
International Equity	13.30	16.34	14.07	20.28	12.65	0.46	5.74	12/31/93
Other	0.32	0.57	6.45	12.49	-0.44	-2.09	2.82	12/31/93
Indices								
Russell 1000	9.79	7.80	9.31	11.39	4.27	-1.76	12.16	12/31/93
Russell 2000	14.09	10.84	11.35	18.32	11.48	6.60	11.53	12/31/93
Russell 3000	10.15	8.06	9.50	11.95	4.79	-1.17	12.01	12/31/93
Standard & Poors 500	9.23	7.19	9.03	10.88	3.59	-2.30	12.07	12/31/93
S&P 500 Equal Wtd	12.34	10.03	12.64	16.95	10.49	8.06	14.15	12/31/93
S&P 600 Small Cap	13.00	11.45	15.47	22.65	13.27	11.60	14.29	12/31/93
S&P 400 Mid Cap	12.16	9.80	10.87	16.48	10.53	9.54	16.10	12/31/93
Wilshire 5000	10.19	8.17	9.62	12.49	5.43	-1.39	11.93	12/31/93
LB Aggregate	0.95	4.18	1.64	4.34	6.20	7.71	7.72	12/31/93
Citigroup Broad Inv Grade	1.00	4.29	1.74	4.48	6.22	7.73	7.74	12/31/93
MSCI EAFE (Net)	15.32	15.00	15.25	20.25	11.89	-1.13	5.62	12/31/93
MSCI Em Mkts Free (Gross)	17.27	26.95	14.79	25.95	22.77	4.62	3.30	12/31/93
MSCI World ex-U.S. (Net)	15.15	15.37	15.48	20.38	12.22	-0.77	5.94	12/31/93
LB Mortgage	1.26	3.90	2.72	4.70	5.47	7.14	7.56	12/31/93
NCREIF Property	4.69	8.27	11.66	14.52	10.03	9.92	10.87	12/31/93

The Summary Tables display each of the System's total fund and individual asset class returns as well as the returns for selected broad market indices over the measurement period.

Ohio Retirement Study Council

INDEX DEFINITIONS

Russell 1000 – Made up of the 1000 largest companies within the Russell 3000 index. It is also known as the Market-Oriented Index because it represents the group of stocks from which most active money managers choose.

Russell 2000 – A small-cap index consisting of the smallest 2000 companies in the Russell 3000 index, representing approximately 7% of the Russell 3000 total market capitalization.

Russell 3000 – An index composed of 3000 large U.S. companies, as determined by market capitalization. This portfolio of securities represents approximately 98% of the investable U.S. equity market.

Standard & Poor's 500 – An index that is a readily available, carefully constructed, market-value-weighted benchmark of common stock performance. Market-value-weighted means that the weight of each stock in the index, for a given month, is proportionate to its market capitalization (price times the number of shares outstanding) at the beginning of that month. Currently, the S&P Composite includes 500 of the largest stocks (in terms of stock market value) in the United States; prior to March 1957 it consisted of 90 of the largest stocks.

S&P 500 Equal Weighted – An index of the same stocks as those in the S&P 500, but with equal dollar investments in each issue.

S&P 600 Small Cap – An index designed to measure the performance of the small capitalization sector of the U.S. equities market. This index consists of 600 domestic stocks chosen for market size, liquidity, (bid-asked spread, ownership, share turnover and number of no trade days) and industry group representation.

S&P MidCap 400 – An index designed to measure the performance of the middle capitalization sector of the U.S. equities market. This market capitalization weighted index was created in June of 1991 and consists of 400 domestic stocks from the NYSE, NASDAQ and AMEX chosen for market size, liquidity and industry group representation. Each stock added to the index must represent a viable enterprise and must be representative of the industry group to which it is assigned. The market price of each security in the index must be responsive to changes in industry affairs. Aggregate market value of the stock and its trading activity are important considerations in the selection process.

Wilshire 5000 – Measures the performance of all U.S. common equity securities, and so serves as an index of all stock trades in the United States.

Ohio Retirement Study Council

LB Aggregate – An index that includes fixed rate debt issues rated investment grade or higher by Moody’s Investor’s Service, Standard and Poor’s Corporation, or Fitch Investor’s Service, in that order. (It also includes Commercial Mortgage Backed Securities.) Bonds or securities included must be fixed rate, although it can carry a coupon that steps up or changes according to a predetermined schedule; must be dollar-denominated and nonconvertible; and must be publicly issued. All issues have at least one year to maturity with intermediate indices including bonds

SB Broad Investment Grade – An index that spans the “available” market for U.S. Treasury/agency securities, investment grade corporate bonds (BBB or better) and mortgage pass-through securities.

MSCI EAFE – The index is listed for foreign stock funds (EAFE refers to Europe, Australasia, and Far East). Widely accepted as a benchmark for international stock performance, the EAFE index is an aggregate of 21 individual country indexes that collectively represent many of the major markets of the world.

MSCI Emerging Markets Free – A capitalization-weighted index of stocks from 26 emerging markets that only includes issues that may be traded by foreign investors. Consists of equities from emerging markets in Argentina, Brazil, Chile, China, Columbia, Czech Republic, Greece, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Portugal, Poland, South Africa, Sri Lanka, Taiwan Free, Turkey, Thailand, and Venezuela. .

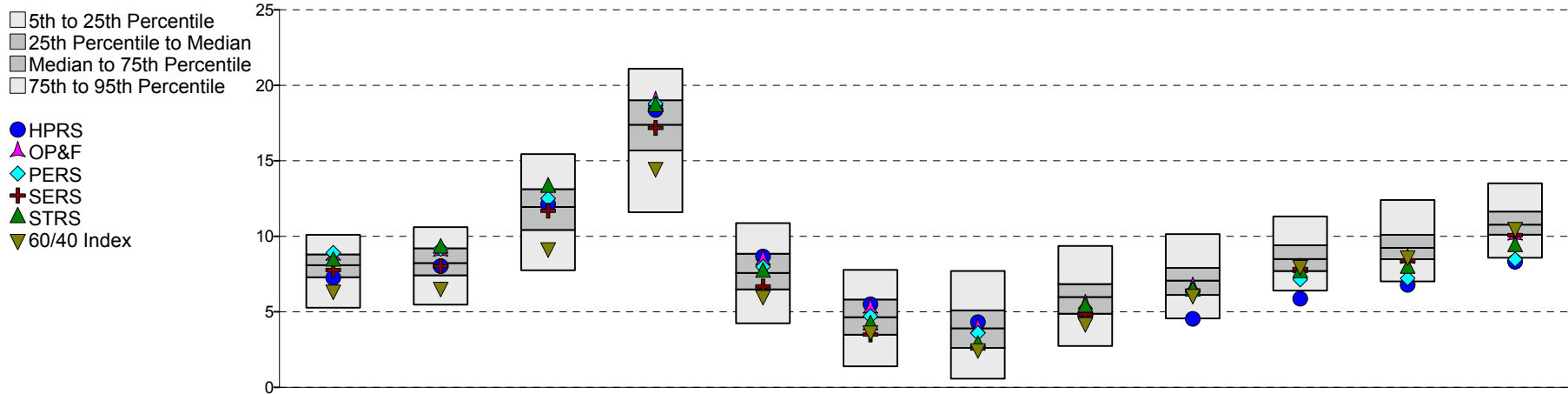
MSCI World Ex-US – An index that measures the performance of the developed stock markets of the following developed countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Malaysia, Netherlands, New Zealand, Norway, Singapore, Spain Sweden, Switzerland and the United Kingdom.

LB Mortgage-Backed – An index that includes 15 and 30 year fixed rate securities backed by mortgage pools of the Government National Mortgage Association (GNMA), Federal Home Loan Mortgage Corporation (FHLMC), and Federal National Mortgage Association (FNMA)

NCREIF Property – An index that is also known as the NPI or Combined Index. It consists of both equity and leveraged properties, but the leveraged properties are reported on an unleveraged basis. So, the index is completely unleveraged. The universe of properties includes: Existing properties only – no development projects; only investment-grade, non-agricultural, income-producing properties: apartment, industrial, office and retail; the database increases quarterly as participants execute transactions and as new members join NCREIF and submit data; sold properties are removed from the index in the quarter the sale takes place but the historical information remains in the database; each property’s market value is determined by real estate appraisal methodology, consistently applied.

**Total Plans vs. Russell Mellon All Total Fund Universe
Performance and Rank Data as of 12/31/04**

Cumulative Performance Comparison



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	7.25	8.02	12.11	18.36	8.66	5.50	4.31	4.75	4.53	5.87	6.78	8.31
OP&F	8.74	9.00	13.25	18.96	8.45	5.24	3.93	5.52	6.65	7.91	8.52	10.08
PERS	8.91	9.16	12.51	18.78	7.99	4.70	3.60	4.97	6.27	7.13	7.21	8.47
SERS	7.77	8.02	11.69	17.18	6.68	3.49	2.66	4.83	6.41	7.84	8.38	10.08
STRS	8.35	9.21	13.23	18.57	7.61	4.13	2.78	5.30	6.37	7.59	7.87	9.31
60/40 Index	6.45	6.64	9.25	14.56	6.10	3.74	2.56	4.30	6.17	8.08	8.72	10.60
Universe(5%)	10.10	10.61	15.45	21.09	10.88	7.78	7.71	9.36	10.14	11.32	12.40	13.51
Universe(25%)	8.80	9.21	13.12	19.01	8.85	5.81	5.10	6.84	7.91	9.40	10.10	11.64
Universe(Median)	8.09	8.23	11.94	17.39	7.57	4.64	3.91	5.98	7.07	8.49	9.23	10.77
Universe(75%)	7.29	7.42	10.42	15.69	6.49	3.49	2.61	4.87	6.12	7.70	8.49	10.11
Universe(95%)	5.27	5.47	7.75	11.59	4.24	1.39	0.57	2.74	4.56	6.40	7.01	8.58

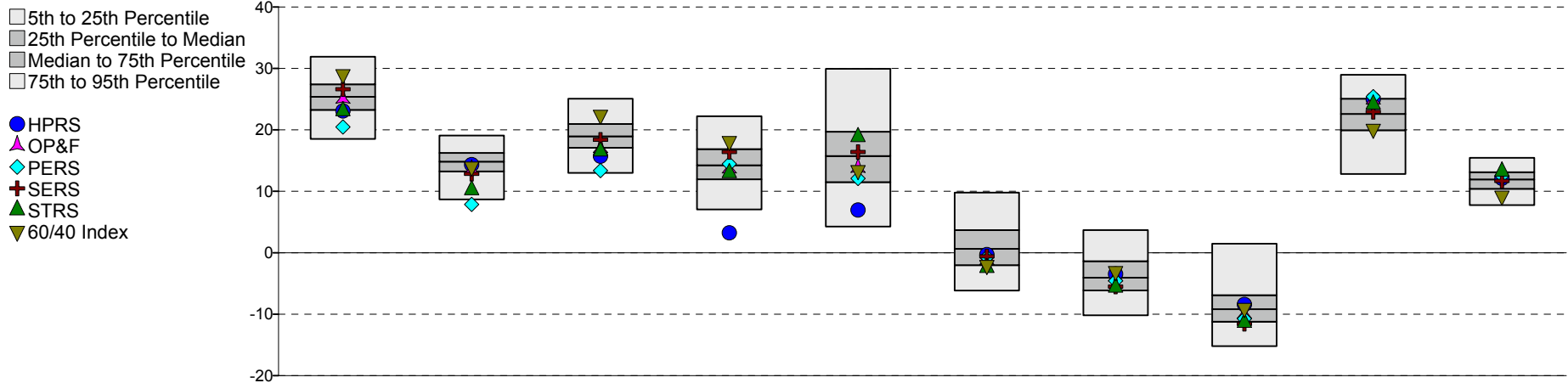
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	75	58	46	35	29	32	40	77	95	97	96	96
OP&F	27	30	24	26	32	36	49	61	65	70	74	76
PERS	21	26	37	28	43	48	57	72	71	86	94	96
SERS	60	59	55	54	70	75	74	76	69	73	78	76
STRS	42	25	24	32	49	62	72	66	69	79	88	89
60/40 Index	88	87	88	83	83	70	76	83	74	65	68	56

This page compares the Total Fund results to a broad universe of total funds - 490 other funds, including those of public, corporate, and multi-employer pension plans and totaling \$1.5 Trillion in assets - over a ten-year measurement period. Here and elsewhere in the report, the "floating bars" define the universe against which the performance is being compared. The table just below the graph displays each fund's return for that period and the table below that defines each fund's relevant ranking in the universe. The numbers in the "rank" rows are percentile rankings. The 60/40 Index is the composition of a hypothetical portfolio of 60% stocks (Wilshire 5000 Index) and 40% bonds (Lehman Aggregate Bond Index). The graph above is a cumulative performance comparison with measurement periods that are annualized over the last ten years. The graph shows that OP&F and SERS have demonstrated the highest return for the ten-year period with a 10.08% per year return, which ranks the funds in the 76th percentile.

**Total Plans vs. Russell Mellon All Total Fund Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

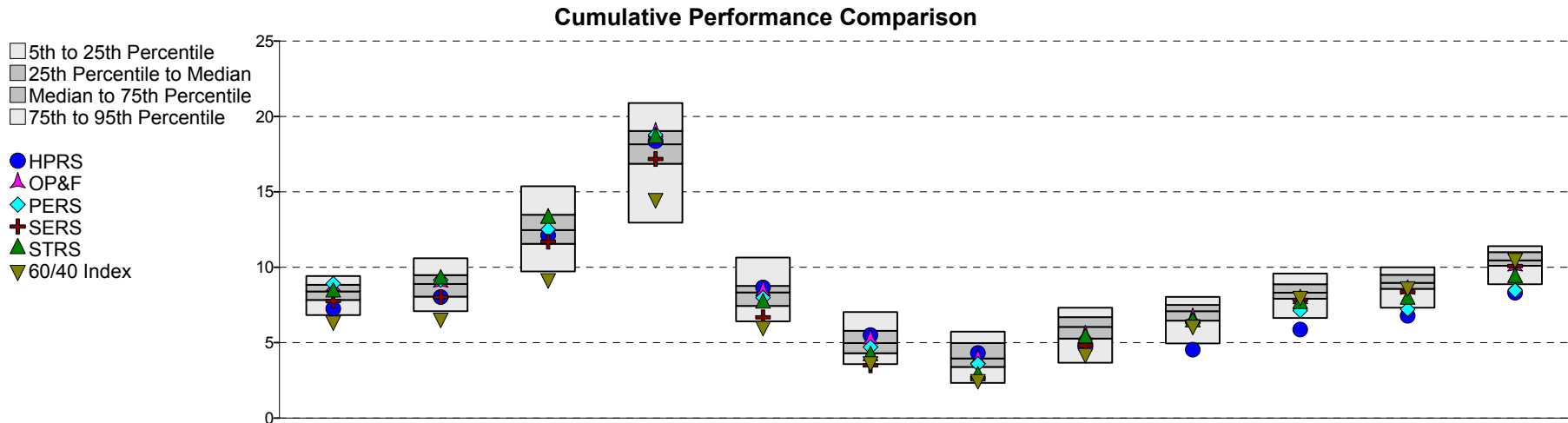
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	23.09	14.35	15.73	3.23	6.96	-0.29	-3.46	-8.42	24.96	12.11
OP&F	25.10	13.56	17.10	13.75	13.84	-1.16	-3.83	-9.89	24.97	13.25
PERS	20.47	7.86	13.37	14.45	12.10	-0.72	-4.57	-10.73	25.40	12.51
SERS	26.62	12.85	18.38	16.40	16.40	-0.59	-5.52	-11.57	22.93	11.69
STRS	23.07	10.21	16.51	13.01	18.87	-2.45	-5.66	-11.37	24.16	13.23
60/40 Index	29.03	13.99	22.43	18.14	13.43	-2.02	-3.03	-9.01	20.14	9.25
Universe(5%)	31.90	19.08	25.06	22.22	29.93	9.79	3.68	1.47	28.97	15.45
Universe(25%)	27.42	16.24	20.95	16.86	19.69	3.69	-1.37	-6.91	25.07	13.12
Universe(Median)	25.38	14.84	18.94	14.23	15.73	0.64	-4.04	-9.18	22.60	11.94
Universe(75%)	23.27	13.25	17.08	11.96	11.49	-2.02	-6.13	-11.21	19.95	10.42
Universe(95%)	18.52	8.68	13.00	7.05	4.25	-6.16	-10.18	-15.21	12.82	7.75

Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	76	60	86	99	89	59	44	42	26	46
OP&F	55	71	75	55	61	67	47	58	26	24
PERS	90	96	94	48	73	63	56	69	22	37
SERS	32	79	59	29	45	62	67	78	46	55
STRS	76	92	80	63	30	79	69	77	35	24
60/40 Index	13	66	15	18	63	75	41	48	74	88

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004. The graph shows that all plans exceeded the median during 2004 with the exception of SERS, which ranked in the 55th percentile.

**Total Plans vs. Russell Mellon All Public Total Fund Universe
Performance and Rank Data as of 12/31/04**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	7.25	8.02	12.11	18.36	8.66	5.50	4.31	4.75	4.53	5.87	6.78	8.31
OP&F	8.74	9.00	13.25	18.96	8.45	5.24	3.93	5.52	6.65	7.91	8.52	10.08
PERS	8.91	9.16	12.51	18.78	7.99	4.70	3.60	4.97	6.27	7.13	7.21	8.47
SERS	7.77	8.02	11.69	17.18	6.68	3.49	2.66	4.83	6.41	7.84	8.38	10.08
STRS	8.35	9.21	13.23	18.57	7.61	4.13	2.78	5.30	6.37	7.59	7.87	9.31
60/40 Index	6.45	6.64	9.25	14.56	6.10	3.74	2.56	4.30	6.17	8.08	8.72	10.60
Universe(5%)	9.42	10.60	15.37	20.89	10.64	7.03	5.73	7.32	8.04	9.58	10.00	11.40
Universe(25%)	8.84	9.48	13.48	19.04	8.76	5.79	4.98	6.69	7.50	8.88	9.50	11.00
Universe(Median)	8.39	8.89	12.47	18.15	8.33	4.98	3.95	6.04	7.08	8.32	8.97	10.46
Universe(75%)	7.84	8.05	11.56	16.86	7.44	4.30	3.39	5.27	6.46	7.92	8.57	10.10
Universe(95%)	6.82	7.09	9.72	12.95	6.41	3.57	2.33	3.67	4.95	6.63	7.32	8.88

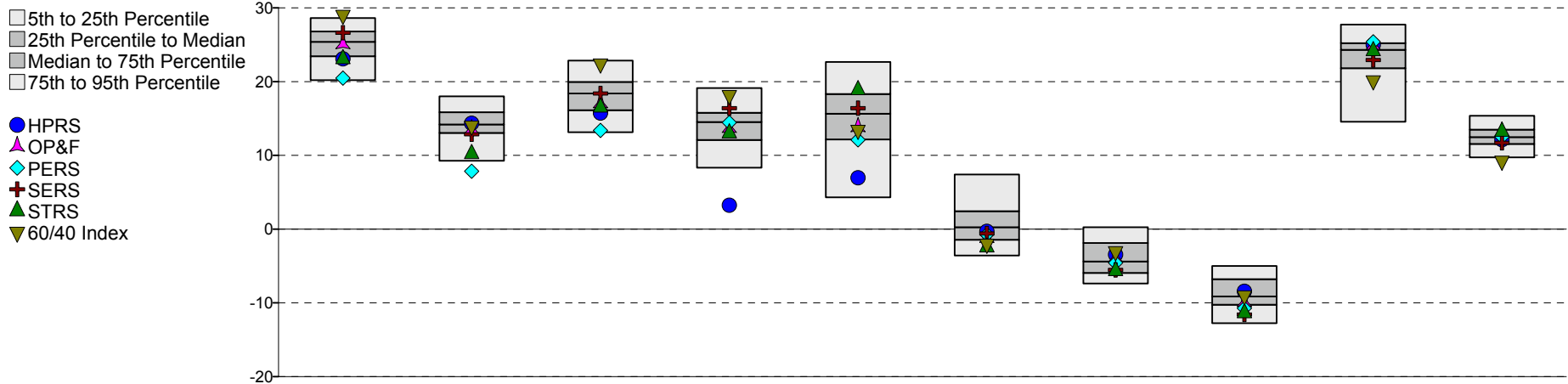
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	93	76	59	44	26	36	36	87	98	98	97	98
OP&F	29	49	29	31	40	40	52	65	70	76	78	76
PERS	20	43	48	34	68	58	65	82	82	93	95	97
SERS	77	77	73	69	93	96	91	85	76	78	80	76
STRS	53	40	29	38	73	83	89	73	77	87	93	93
60/40 Index	99	99	96	93	96	90	92	93	84	67	63	42

The graph above is a cumulative performance comparison with measurement periods that are annualized over the last ten years. The graph above compares the Total Fund results to a universe of all Public Retirement Systems in the Russell Mellon All Public Total Fund Universe. There were no Ohio funds that outperformed the median return in the universe for the ten-year period. Over the past year, all of the funds except HPRS and SERS ranked above the median public fund.

**Total Plans vs. Russell Mellon All Public Total Fund Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	23.09	14.35	15.73	3.23	6.96	-0.29	-3.46	-8.42	24.96	12.11
OP&F	25.10	13.56	17.10	13.75	13.84	-1.16	-3.83	-9.89	24.97	13.25
PERS	20.47	7.86	13.37	14.45	12.10	-0.72	-4.57	-10.73	25.40	12.51
SERS	26.62	12.85	18.38	16.40	16.40	-0.59	-5.52	-11.57	22.93	11.69
STRS	23.07	10.21	16.51	13.01	18.87	-2.45	-5.66	-11.37	24.16	13.23
60/40 Index	29.03	13.99	22.43	18.14	13.43	-2.02	-3.03	-9.01	20.14	9.25
Universe(5%)	28.61	18.00	22.84	19.12	22.66	7.41	0.25	-5.00	27.73	15.37
Universe(25%)	26.79	15.85	19.95	15.77	18.32	2.43	-1.89	-6.79	25.21	13.48
Universe(Median)	25.40	14.19	18.38	14.52	15.65	0.26	-4.40	-9.13	24.31	12.47
Universe(75%)	23.44	13.04	16.12	12.09	12.16	-1.45	-5.93	-10.26	21.82	11.56
Universe(95%)	20.19	9.27	13.14	8.32	4.31	-3.57	-7.38	-12.76	14.56	9.72

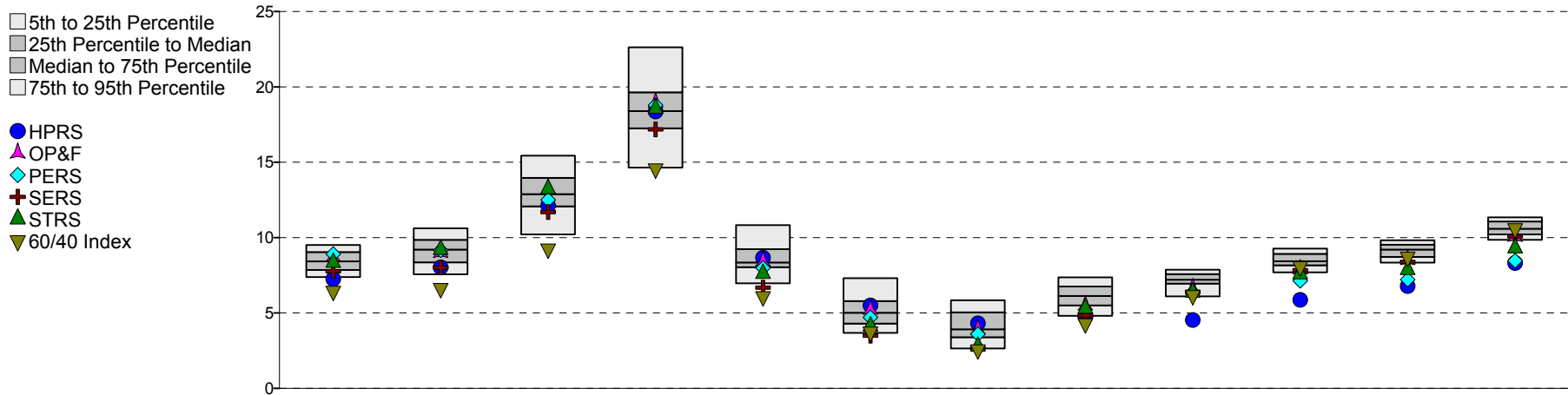
Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	80	45	81	100	94	53	39	40	30	59
OP&F	55	62	66	57	64	67	42	70	30	29
PERS	95	97	94	51	76	63	53	77	22	48
SERS	27	79	50	19	41	60	67	86	67	73
STRS	80	93	72	64	16	88	69	85	52	29
60/40 Index	3	54	7	6	66	84	39	49	86	96

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004. OP&F, STRS and PERS ranked above the median return for this universe in 2004. OP&F and STRS ranked in the 29th percentile, PERS placed in the 48th percentile, HPRS placed in the 59th percentile and SERS ranked in the 73rd percentile.

**Total Plans vs. Russell Mellon Large Public Total Fund Universe
Performance and Rank Data as of 12/31/04**

Cumulative Performance Comparison



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	7.25	8.02	12.11	18.36	8.66	5.50	4.31	4.75	4.53	5.87	6.78	8.31
OP&F	8.74	9.00	13.25	18.96	8.45	5.24	3.93	5.52	6.65	7.91	8.52	10.08
PERS	8.91	9.16	12.51	18.78	7.99	4.70	3.60	4.97	6.27	7.13	7.21	8.47
SERS	7.77	8.02	11.69	17.18	6.68	3.49	2.66	4.83	6.41	7.84	8.38	10.08
STRS	8.35	9.21	13.23	18.57	7.61	4.13	2.78	5.30	6.37	7.59	7.87	9.31
60/40 Index	6.45	6.64	9.25	14.56	6.10	3.74	2.56	4.30	6.17	8.08	8.72	10.60
Universe(5%)	9.51	10.61	15.43	22.62	10.83	7.31	5.84	7.37	7.87	9.27	9.83	11.34
Universe(25%)	9.04	9.85	13.96	19.64	9.23	5.78	5.04	6.76	7.57	8.92	9.53	11.07
Universe(Median)	8.42	9.20	12.88	18.39	8.35	5.01	3.92	6.12	7.20	8.43	9.20	10.59
Universe(75%)	7.85	8.36	12.07	17.25	8.04	4.29	3.39	5.50	6.95	8.16	8.72	10.21
Universe(95%)	7.39	7.57	10.21	14.64	6.96	3.68	2.64	4.81	6.10	7.70	8.34	9.85

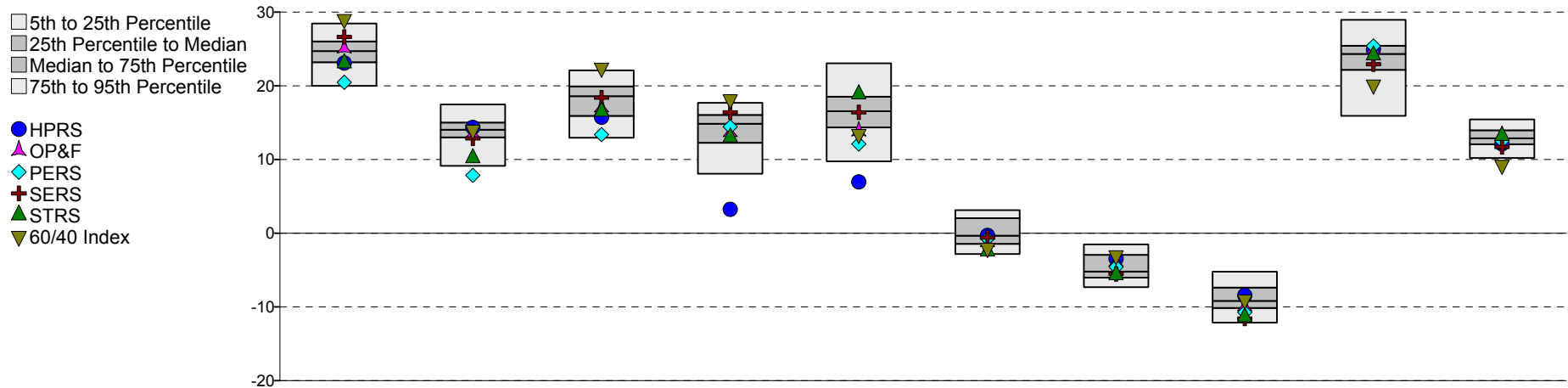
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	96	90	74	52	36	34	36	96	100	100	99	99
OP&F	34	61	40	44	45	40	49	75	87	90	92	85
PERS	27	52	65	46	78	55	65	91	93	98	99	99
SERS	79	91	83	79	98	100	95	95	91	91	94	85
STRS	59	50	41	47	84	86	93	84	92	97	98	98
60/40 Index	98	100	97	95	99	93	97	99	94	80	75	50

The graph above is a cumulative performance comparison with measurement periods that are annualized over the last ten years and compares the Total Fund results to a universe of Large Public Retirement Systems with total assets over one billion dollars. All Ohio funds ranked in the fourth quartile within the Russell Mellon Large Public Total Fund Universe for the ten-year period. The 60/40 Index matched the median return.

**Total Plans vs. Russell Mellon Large Public Total Fund Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	23.09	14.35	15.73	3.23	6.96	-0.29	-3.46	-8.42	24.96	12.11
OP&F	25.10	13.56	17.10	13.75	13.84	-1.16	-3.83	-9.89	24.97	13.25
PERS	20.47	7.86	13.37	14.45	12.10	-0.72	-4.57	-10.73	25.40	12.51
SERS	26.62	12.85	18.38	16.40	16.40	-0.59	-5.52	-11.57	22.93	11.69
STRS	23.07	10.21	16.51	13.01	18.87	-2.45	-5.66	-11.37	24.16	13.23
60/40 Index	29.03	13.99	22.43	18.14	13.43	-2.02	-3.03	-9.01	20.14	9.25
Universe(5%)	28.45	17.46	22.08	17.69	23.06	3.13	-1.52	-5.22	28.95	15.43
Universe(25%)	26.02	15.02	19.91	16.04	18.52	2.04	-2.93	-7.38	25.43	13.96
Universe(Median)	24.71	14.05	18.60	14.85	16.54	-0.34	-5.19	-9.18	24.33	12.88
Universe(75%)	23.21	13.00	15.93	12.27	14.36	-1.44	-6.02	-10.13	22.17	12.07
Universe(95%)	19.99	9.14	12.96	8.07	9.74	-2.82	-7.32	-12.13	15.92	10.21

Percentile Rank

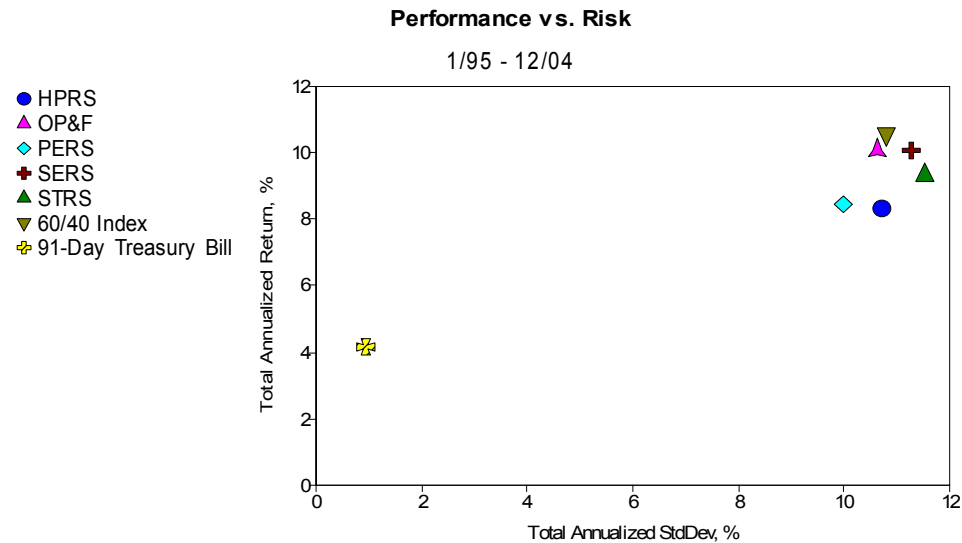
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	77	39	78	100	97	46	27	34	32	74
OP&F	48	60	65	63	78	65	30	68	32	40
PERS	94	98	93	58	89	61	41	79	26	65
SERS	20	79	53	18	52	57	57	91	71	83
STRS	77	93	71	69	22	92	60	90	56	41
60/40 Index	2	51	4	4	80	88	26	45	92	97

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004. In 2004, OP&F and STRS were the only Ohio funds that ranked above the median return. OP&F placed in the 40th percentile and STRS ranked in the 41st percentile.

Ohio Retirement Study Council

Performance Overview

Returns for Period Ending December 31, 2004

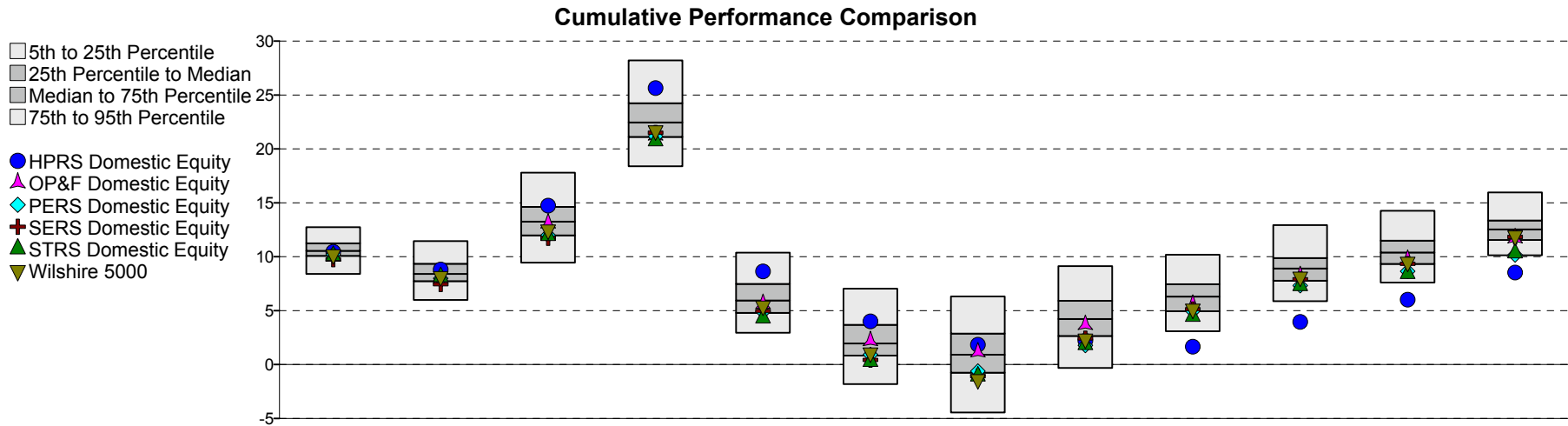


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	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	8.31	10.72	4.54	0.42
OP&F	10.08	10.65	6.18	0.58
PERS	8.47	9.97	4.61	0.46
SERS	10.08	11.29	6.26	0.55
STRS	9.31	11.55	5.56	0.48
60/40 Index	10.60	10.80	6.68	0.62
91-Day Treasury Bill	4.14	0.95	0.00	NA

The graph above provides the first analysis of risk. The ten-year results of each Total Fund are displayed in the risk-return space. The vertical axis shows the fund's return and the horizontal axis shows the fund's risk (defined as annualized quarterly standard deviation of returns) for the period. This analysis allows us to compare the funds to each other on a risk/return basis. For example, the two funds with the lowest ten-year annualized return were HPRS and PERS. PERS' low return was achieved with the lowest risk (volatility) while HPRS' return was achieved with the higher risk (volatility) of the two for the period. The Sharpe Ratio provides another tool for analysis. The number alone is not particularly meaningful, but when comparing two or more funds as is the case in this study, the higher Sharpe Ratio is the better risk-adjusted return.

**Total Domestic Equities vs. Russell Mellon All Domestic Equities Universe
Performance and Rank Data as of 12/31/04**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Domestic Equity	10.45	8.82	14.74	25.64	8.64	4.01	1.84	2.21	1.66	3.96	6.02	8.54
OP&F Domestic Equity	10.03	7.97	13.11	21.26	5.65	2.20	1.15	3.69	5.57	8.23	9.73	11.73
PERS Domestic Equity	10.21	7.99	11.99	21.17	4.90	0.92	-0.61	1.77	4.96	7.32	8.65	10.18
SERS Domestic Equity	9.74	7.45	11.73	21.50	4.96	0.43	-1.08	2.41	5.12	7.91	9.34	11.83
STRS Domestic Equity	10.09	8.13	11.95	20.73	4.30	0.27	-1.07	1.84	4.46	7.31	8.43	10.34
Wilshire 5000	10.19	8.17	12.49	21.69	5.43	1.09	-1.39	2.38	5.16	8.11	9.50	11.93
Universe(5%)	12.74	11.45	17.80	28.21	10.37	7.04	6.31	9.13	10.18	12.93	14.26	15.96
Universe(25%)	11.24	9.34	14.62	24.23	7.48	3.68	2.87	5.91	7.45	9.88	11.48	13.35
Universe(Median)	10.54	8.41	13.25	22.46	5.94	1.95	0.91	4.23	6.30	8.90	10.39	12.54
Universe(75%)	10.08	7.74	11.97	21.11	4.79	0.83	-0.76	2.65	4.94	7.77	9.34	11.55
Universe(95%)	8.40	5.99	9.45	18.39	2.94	-1.81	-4.45	-0.31	3.08	5.87	7.60	10.13

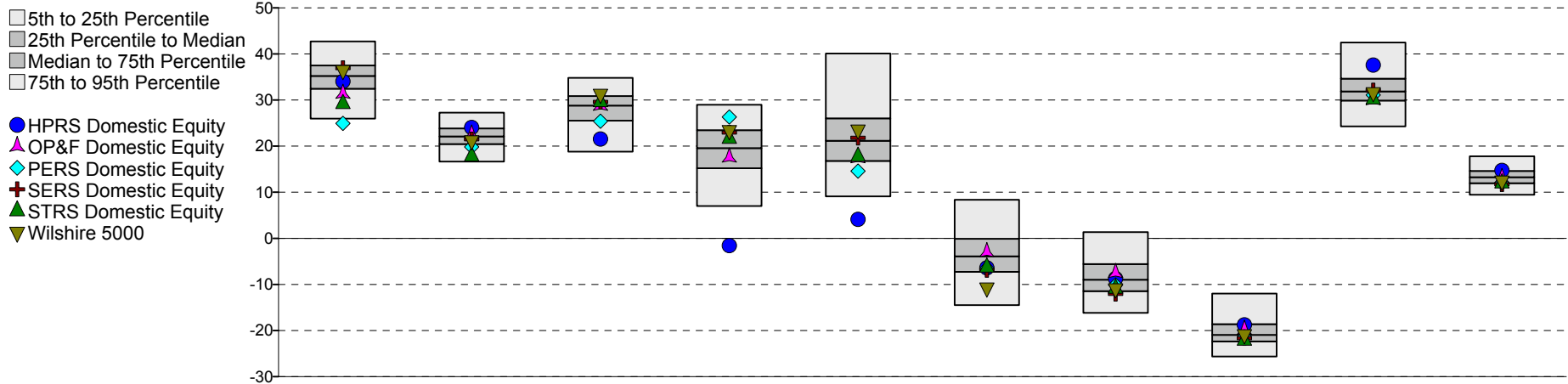
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Domestic Equity	54	38	23	14	16	22	37	80	97	98	98	98
OP&F Domestic Equity	77	67	53	72	58	43	47	58	66	65	65	72
PERS Domestic Equity	68	66	75	74	73	74	73	86	74	83	87	94
SERS Domestic Equity	84	80	79	67	72	80	79	77	70	72	75	69
STRS Domestic Equity	75	62	75	81	84	83	79	85	85	83	89	93
Wilshire 5000	69	60	65	63	62	70	83	77	70	68	71	67

The exhibits above, and on the next three pages, focus on domestic equity results. The analysis is similar to the Total Fund analysis, except that now the comparisons are to a broad equity universe (above) and to the equity returns of Public Funds on pages 13 and 14. When compared to equity portfolios in the broad equity universe, for the past 10 years, OP&F and SERS have placed in the third quartile while HPRS, PERS and STRS have ranked in the fourth quartile. Over the last five years, HPRS and OP&F have displayed above median returns, while PERS, SERS and STRS trailed the median return.

**Total Domestic Equities vs. Russell Mellon All Domestic Equities Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Domestic Equity	34.06	24.06	21.54	-1.59	4.11	-6.40	-8.75	-18.77	37.58	14.74
OP&F Domestic Equity	31.38	22.54	28.81	17.57	17.41	-2.95	-7.47	-19.81	30.00	13.11
PERS Domestic Equity	24.95	19.83	25.41	26.31	14.58	-6.51	-10.14	-21.37	31.09	11.99
SERS Domestic Equity	36.94	21.48	29.59	22.96	21.81	-6.87	-12.04	-21.66	32.12	11.73
STRS Domestic Equity	29.17	17.81	29.58	21.64	17.75	-6.28	-10.90	-22.16	30.20	11.95
Wilshire 5000	36.45	21.21	31.29	23.43	23.56	-10.73	-10.90	-20.86	31.65	12.49
Universe(5%)	42.71	27.26	34.82	28.98	40.08	8.37	1.35	-11.98	42.48	17.80
Universe(25%)	37.50	23.84	30.87	23.47	26.03	-0.11	-5.59	-18.61	34.64	14.62
Universe(Median)	35.24	22.10	28.81	19.56	21.16	-3.90	-8.99	-20.94	31.88	13.25
Universe(75%)	32.47	20.45	25.53	15.21	16.81	-7.28	-11.47	-22.36	29.88	11.97
Universe(95%)	25.96	16.64	18.79	7.01	9.09	-14.49	-16.17	-25.65	24.30	9.45

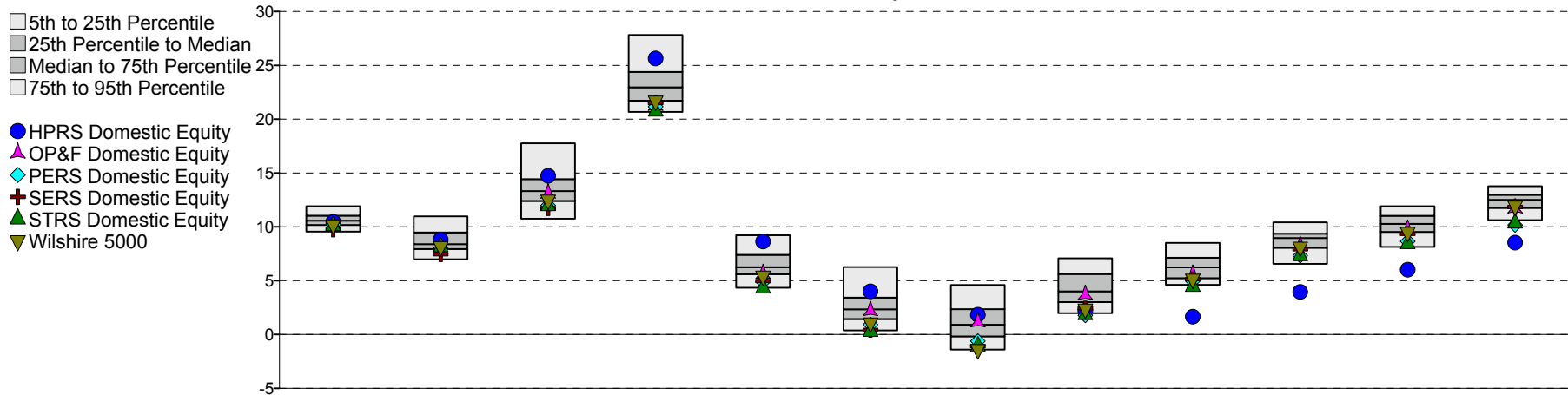
Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Domestic Equity	62	22	92	99	98	68	49	26	12	23
OP&F Domestic Equity	82	40	50	62	72	43	37	37	74	53
PERS Domestic Equity	96	81	75	13	82	69	61	58	61	75
SERS Domestic Equity	30	61	40	28	48	71	80	64	46	79
STRS Domestic Equity	90	92	41	37	70	67	70	72	71	75
Wilshire 5000	36	67	22	25	37	91	70	48	53	65

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Domestic Equities Universe. This graph highlights the fact that HPRS has been outperforming the median return and the Wilshire 5000 Index in 2002, 2003 and 2004.

**Total Domestic Equities vs. Russell Mellon All Public Domestic Equity Universe
Performance and Rank Data as of 12/31/04**

Cumulative Performance Comparison



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Domestic Equity	10.45	8.82	14.74	25.64	8.64	4.01	1.84	2.21	1.66	3.96	6.02	8.54
OP&F Domestic Equity	10.03	7.97	13.11	21.26	5.65	2.20	1.15	3.69	5.57	8.23	9.73	11.73
PERS Domestic Equity	10.21	7.99	11.99	21.17	4.90	0.92	-0.61	1.77	4.96	7.32	8.65	10.18
SERS Domestic Equity	9.74	7.45	11.73	21.50	4.96	0.43	-1.08	2.41	5.12	7.91	9.34	11.83
STRS Domestic Equity	10.09	8.13	11.95	20.73	4.30	0.27	-1.07	1.84	4.46	7.31	8.43	10.34
Wilshire 5000	10.19	8.17	12.49	21.69	5.43	1.09	-1.39	2.38	5.16	8.11	9.50	11.93
Universe(5%)	11.91	10.98	17.76	27.82	9.22	6.26	4.60	7.08	8.50	10.42	11.92	13.77
Universe(25%)	11.03	9.48	14.43	24.39	7.39	3.43	2.35	5.62	7.13	9.35	11.02	12.97
Universe(Median)	10.57	8.39	13.31	22.96	6.24	2.34	0.91	4.00	6.24	8.96	10.27	12.51
Universe(75%)	10.16	7.94	12.41	21.72	5.61	1.44	-0.18	3.01	5.23	8.06	9.53	11.76
Universe(95%)	9.55	6.99	10.75	20.67	4.34	0.38	-1.40	1.98	4.61	6.56	8.14	10.62

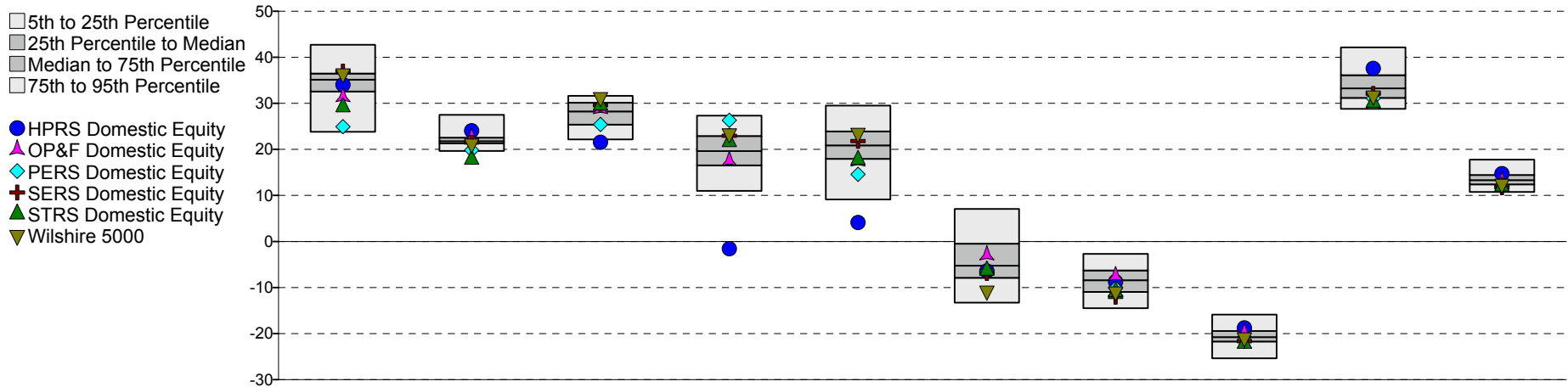
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Domestic Equity	58	34	15	12	13	19	32	91	99	99	99	100
OP&F Domestic Equity	84	71	57	85	73	51	45	60	72	69	69	78
PERS Domestic Equity	72	70	83	88	90	90	82	96	89	89	91	97
SERS Domestic Equity	92	86	88	81	90	95	87	86	82	80	82	74
STRS Domestic Equity	80	65	84	95	95	95	87	95	95	89	93	97
Wilshire 5000	74	64	70	76	77	88	95	87	79	71	77	71

The comparisons above compare the domestic equity returns of the five Ohio public funds to the domestic equity returns of all of the public funds in the Russell Mellon Universe. Over the ten-year period, all Ohio funds trailed the median return. HPRS and OP&F posted positive results for the trailing five-year period when all plans fell, to place in the 32nd percentile and in the 45th percentile, respectively. During the same time period, the Wilshire 5000 Index posted a negative 1.39% annualize return.

**Total Domestic Equities vs. Russell Mellon All Public Domestic Equity Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Domestic Equity	34.06	24.06	21.54	-1.59	4.11	-6.40	-8.75	-18.77	37.58	14.74
OP&F Domestic Equity	31.38	22.54	28.81	17.57	17.41	-2.95	-7.47	-19.81	30.00	13.11
PERS Domestic Equity	24.95	19.83	25.41	26.31	14.58	-6.51	-10.14	-21.37	31.09	11.99
SERS Domestic Equity	36.94	21.48	29.59	22.96	21.81	-6.87	-12.04	-21.66	32.12	11.73
STRS Domestic Equity	29.17	17.81	29.58	21.64	17.75	-6.28	-10.90	-22.16	30.20	11.95
Wilshire 5000	36.45	21.21	31.29	23.43	23.56	-10.73	-10.90	-20.86	31.65	12.49
Universe(5%)	42.71	27.49	31.64	27.32	29.52	7.08	-2.69	-15.88	42.15	17.76
Universe(25%)	36.46	22.54	30.11	22.91	23.91	-0.49	-6.30	-19.43	36.10	14.43
Universe(Median)	35.13	21.79	28.24	19.64	20.87	-5.27	-8.42	-20.77	33.26	13.31
Universe(75%)	32.58	21.31	25.39	16.53	17.95	-7.89	-10.96	-21.72	31.20	12.41
Universe(95%)	23.82	19.66	22.16	10.98	9.14	-13.28	-14.48	-25.37	28.81	10.75

Percentile Rank

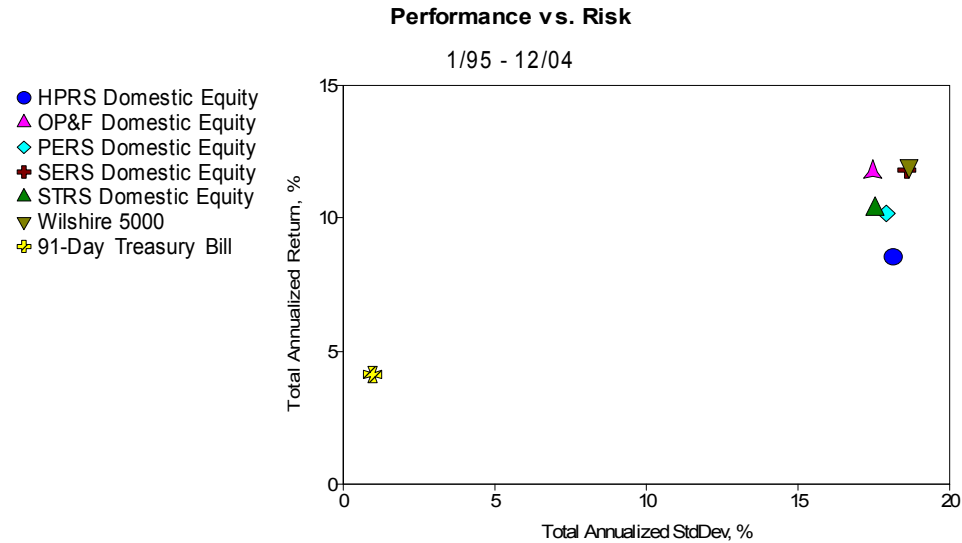
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Domestic Equity	59	14	98	98	98	57	54	19	14	15
OP&F Domestic Equity	86	25	45	66	77	34	39	28	91	57
PERS Domestic Equity	93	94	75	9	87	57	68	64	80	83
SERS Domestic Equity	21	64	32	22	38	61	84	71	63	88
STRS Domestic Equity	89	100	33	37	76	54	74	80	91	84
Wilshire 5000	25	78	13	16	29	94	75	52	70	70

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Public Domestic Equities Universe. Over the past twelve months, the domestic equity results of the five systems have ranged from the 15th percentile (HPRS) to the 88th percentile (SERS).

Ohio Retirement Study Council

Performance Overview

Returns for Period Ending December 31, 2004



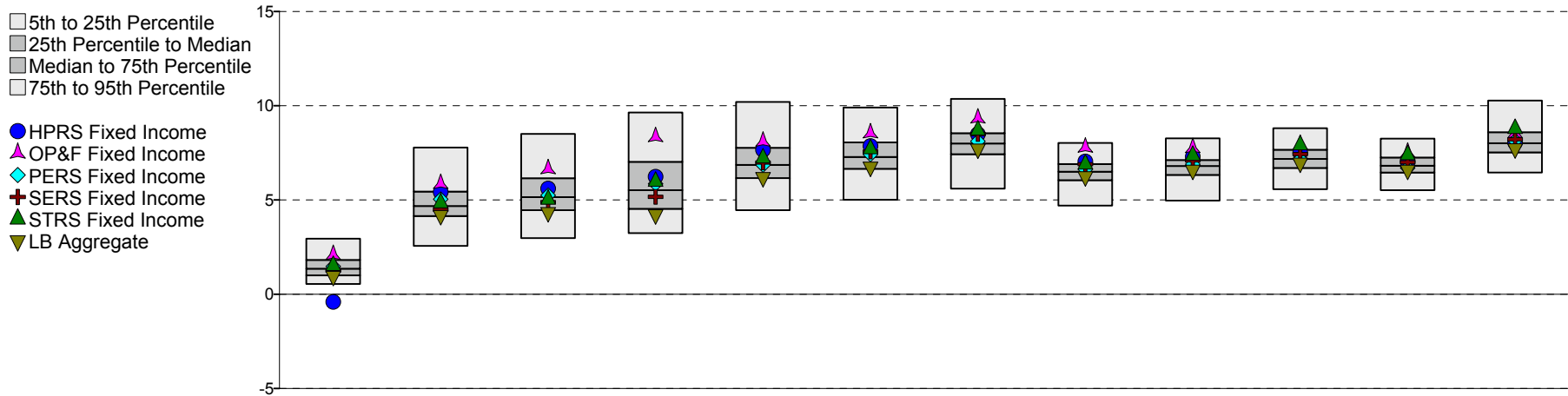
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	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS Domestic Equity	8.54	18.10	5.82	0.32
OP&F Domestic Equity	11.73	17.45	8.65	0.50
PERS Domestic Equity	10.18	17.92	7.29	0.41
SERS Domestic Equity	11.83	18.59	8.95	0.48
STRS Domestic Equity	10.34	17.57	7.40	0.42
Wilshire 5000	11.93	18.67	9.05	0.48
91-Day Treasury Bill	4.14	0.95	0.00	NA

This is a risk-return analysis of domestic equity portfolios for all of the funds. OP&F experienced the best risk-adjusted equity result over the ten-year period, followed by SERS, STRS, PERS and HPRS.

**Total Fixed Income vs. Russell Mellon All Fixed Income Universe
Performance and Rank Data as of 12/31/04**

Cumulative Performance Comparison



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	-0.41	5.42	5.61	6.24	7.66	7.86	8.49	7.04	7.30	7.50	7.04	8.05
OP&F Fixed Income	2.10	5.87	6.65	8.35	8.11	8.55	9.34	7.79	7.77	7.94	7.53	8.55
PERS Fixed Income	1.47	5.04	5.25	5.86	6.85	7.41	8.11	6.63	6.90	7.17	6.70	8.15
SERS Fixed Income	1.25	4.48	4.89	5.17	6.98	7.57	8.50	6.90	7.10	7.44	7.00	8.21
STRS Fixed Income	1.52	4.84	5.03	5.98	7.23	7.71	8.71	6.90	7.36	7.92	7.39	8.78
LB Aggregate	0.95	4.18	4.34	4.22	6.20	6.75	7.71	6.24	6.59	6.96	6.59	7.72
Universe(5%)	2.95	7.79	8.51	9.64	10.20	9.91	10.36	8.03	8.27	8.81	8.25	10.27
Universe(25%)	1.82	5.44	6.15	7.02	7.77	8.06	8.55	6.90	7.12	7.66	7.25	8.59
Universe(Median)	1.36	4.68	5.15	5.52	6.86	7.28	8.00	6.50	6.81	7.18	6.82	8.01
Universe(75%)	1.00	4.15	4.46	4.54	6.16	6.66	7.43	6.05	6.33	6.70	6.46	7.53
Universe(95%)	0.55	2.56	2.98	3.24	4.46	5.01	5.60	4.70	4.97	5.58	5.52	6.46

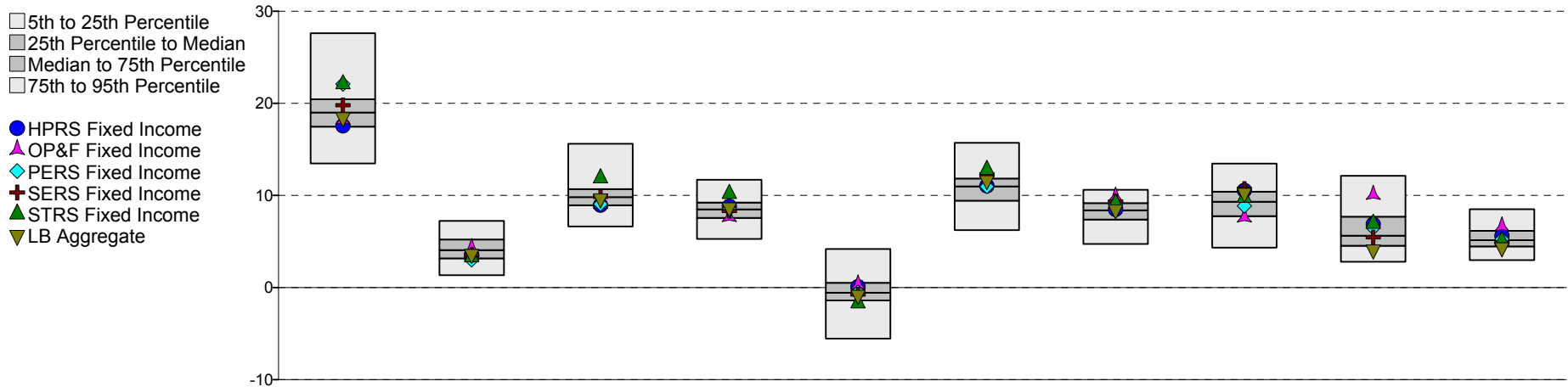
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	100	25	37	36	28	27	26	22	21	31	34	48
OP&F Fixed Income	14	19	18	13	20	14	12	7	10	19	19	25
PERS Fixed Income	41	37	46	43	50	45	42	43	44	50	60	40
SERS Fixed Income	59	61	59	59	44	39	26	25	27	35	39	37
STRS Fixed Income	36	43	54	40	36	33	20	25	20	20	22	22
LB Aggregate	79	72	80	84	74	72	67	68	64	63	66	68

The exhibit above, and on the next page, compare the fixed income results of the five funds to that of a broad fixed income universe consisting of all of the fixed income accounts in the Russell Mellon Universe. Over the past ten years, all funds posted better than median returns. STRS (22nd percentile) and OP&F (25th percentile) placed in the top quartile within the universe, while SERS (37th percentile), PERS (40th percentile) and HPRS (48th percentile) ranked in the second quartile.

**Total Fixed Income vs. Russell Mellon All Fixed Income Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Fixed Income	17.56	3.42	8.95	8.83	0.10	11.05	8.48	10.55	6.87	5.61
OP&F Fixed Income	18.25	4.31	9.11	7.67	0.35	12.55	9.90	7.63	10.08	6.65
PERS Fixed Income	22.10	3.00	9.07	8.53	-0.50	10.97	9.11	8.86	6.48	5.25
SERS Fixed Income	19.79	3.54	9.84	8.32	-0.76	12.29	9.35	10.71	5.45	4.89
STRS Fixed Income	22.10	3.31	11.87	10.19	-1.70	12.80	9.17	9.76	6.94	5.03
LB Aggregate	18.47	3.63	9.65	8.69	-0.82	11.63	8.44	10.26	4.10	4.34
Universe(5%)	27.61	7.23	15.61	11.70	4.19	15.71	10.61	13.46	12.14	8.51
Universe(25%)	20.44	5.22	10.68	9.22	0.52	11.84	9.16	10.41	7.69	6.15
Universe(Median)	19.01	4.07	9.82	8.48	-0.57	10.98	8.39	9.31	5.62	5.15
Universe(75%)	17.46	3.16	8.93	7.56	-1.41	9.43	7.39	7.76	4.54	4.46
Universe(95%)	13.48	1.34	6.63	5.27	-5.55	6.23	4.73	4.33	2.80	2.98

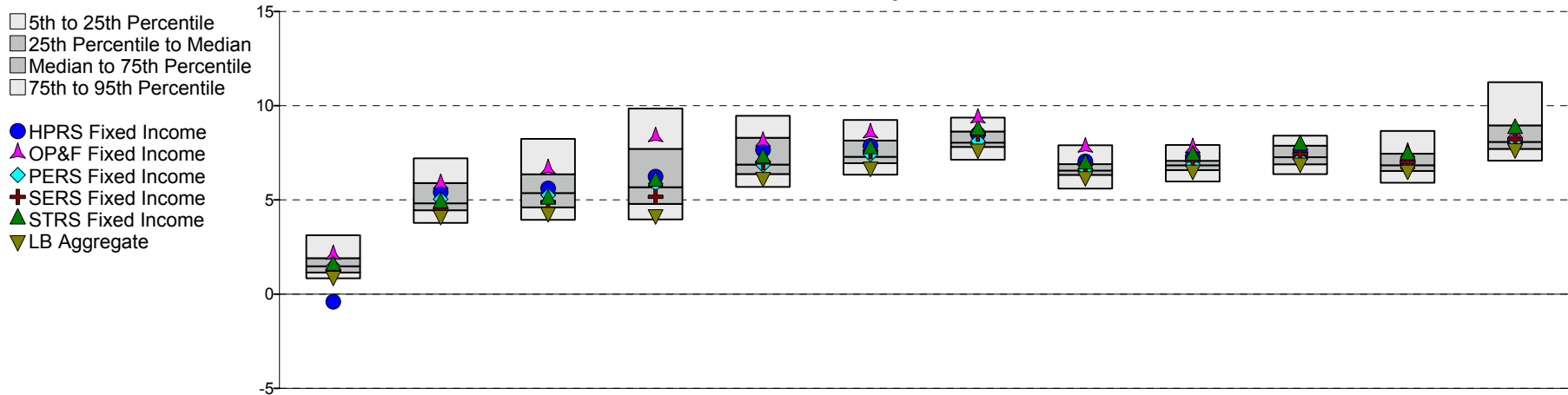
Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Fixed Income	74	71	75	38	30	49	47	23	33	37
OP&F Fixed Income	65	43	73	73	28	11	10	78	11	18
PERS Fixed Income	16	79	74	48	45	50	27	59	38	46
SERS Fixed Income	35	67	48	56	58	14	20	18	54	59
STRS Fixed Income	16	72	13	11	80	10	25	40	33	54
LB Aggregate	61	64	56	43	60	31	48	28	84	80

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Fixed Income Universe. In 2004, OP&F (18th percentile), HPRS (37th percentile) and PERS (46th percentile) ranked above the median fixed income return, while STRS placed just outside of the second quartile by ranking in the 54th percentile. SERS ranked in the 59th percentile for the same time period.

**Total Fixed Income vs. Russell Mellon All Public Fixed Income Universe
Performance and Rank Data as of 12/31/04**

Cumulative Performance Comparison



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	-0.41	5.42	5.61	6.24	7.66	7.86	8.49	7.04	7.30	7.50	7.04	8.05
OP&F Fixed Income	2.10	5.87	6.65	8.35	8.11	8.55	9.34	7.79	7.77	7.94	7.53	8.55
PERS Fixed Income	1.47	5.04	5.25	5.86	6.85	7.41	8.11	6.63	6.90	7.17	6.70	8.15
SERS Fixed Income	1.25	4.48	4.89	5.17	6.98	7.57	8.50	6.90	7.10	7.44	7.00	8.21
STRS Fixed Income	1.52	4.84	5.03	5.98	7.23	7.71	8.71	6.90	7.36	7.92	7.39	8.78
LB Aggregate	0.95	4.18	4.34	4.22	6.20	6.75	7.71	6.24	6.59	6.96	6.59	7.72
Universe(5%)	3.13	7.21	8.24	9.85	9.46	9.25	9.37	7.90	7.91	8.41	8.66	11.25
Universe(25%)	1.91	5.89	6.36	7.71	8.30	8.15	8.63	6.90	7.08	7.88	7.45	8.96
Universe(Median)	1.48	4.82	5.36	5.68	6.88	7.29	8.04	6.56	6.84	7.26	6.84	8.08
Universe(75%)	1.15	4.45	4.60	4.79	6.37	6.95	7.81	6.33	6.58	6.89	6.54	7.71
Universe(95%)	0.84	3.78	3.94	3.97	5.69	6.34	7.14	5.60	5.98	6.37	5.91	7.09

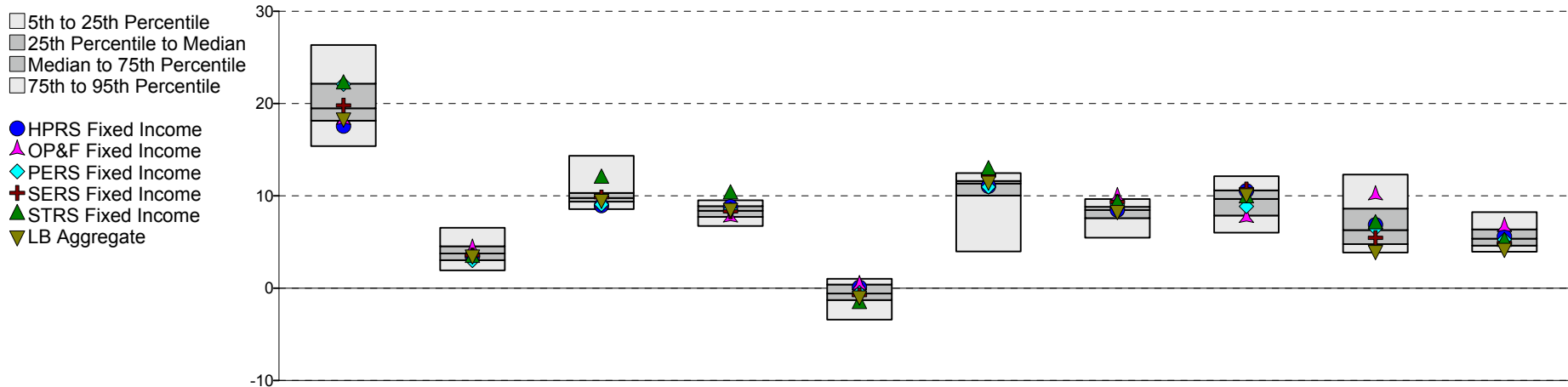
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	100	29	40	41	33	27	31	21	19	34	32	54
OP&F Fixed Income	17	26	21	23	26	19	6	8	7	18	24	33
PERS Fixed Income	52	41	51	45	52	41	43	44	44	55	59	48
SERS Fixed Income	68	72	69	62	46	37	31	25	23	38	35	46
STRS Fixed Income	44	49	63	43	38	32	22	25	18	22	26	31
LB Aggregate	87	87	88	90	84	88	81	81	75	71	66	71

The exhibit above compares the fixed income results of the five funds to that of the fixed income returns of the public funds in the Russell Mellon Universe. Over the ten-year period, all plans except HPRS (54th percentile) outpaced the median return. It should be noted that fixed income returns for all five systems are near-median or better for all annualized time periods.

**Total Fixed Income vs. Russell Mellon All Public Fixed Income Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Fixed Income	17.56	3.42	8.95	8.83	0.10	11.05	8.48	10.55	6.87	5.61
OP&F Fixed Income	18.25	4.31	9.11	7.67	0.35	12.55	9.90	7.63	10.08	6.65
PERS Fixed Income	22.10	3.00	9.07	8.53	-0.50	10.97	9.11	8.86	6.48	5.25
SERS Fixed Income	19.79	3.54	9.84	8.32	-0.76	12.29	9.35	10.71	5.45	4.89
STRS Fixed Income	22.10	3.31	11.87	10.19	-1.70	12.80	9.17	9.76	6.94	5.03
LB Aggregate	18.47	3.63	9.65	8.69	-0.82	11.63	8.44	10.26	4.10	4.34
Universe(5%)	26.34	6.54	14.33	9.53	1.02	12.47	9.65	12.13	12.30	8.24
Universe(25%)	22.16	4.54	10.32	8.89	0.40	11.62	8.82	10.60	8.63	6.36
Universe(Median)	19.49	3.76	9.78	8.39	-0.58	11.34	8.46	9.67	6.29	5.36
Universe(75%)	18.15	3.03	9.37	7.73	-1.29	10.04	7.59	7.87	4.77	4.60
Universe(95%)	15.39	1.93	8.56	6.73	-3.40	3.98	5.47	6.01	3.85	3.94

Percentile Rank

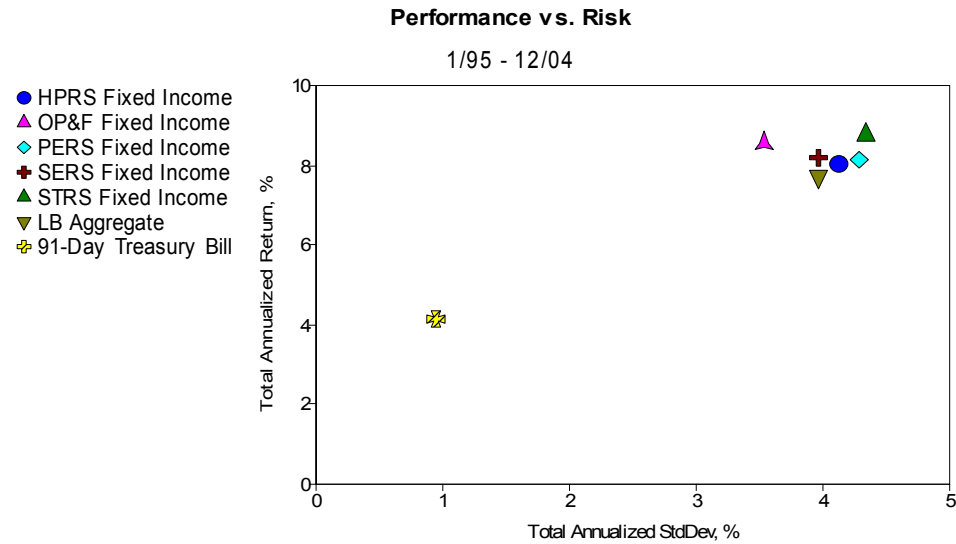
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Fixed Income	80	62	82	31	30	60	46	29	40	40
OP&F Fixed Income	73	29	81	75	26	5	3	77	16	21
PERS Fixed Income	26	76	81	46	47	63	16	63	47	51
SERS Fixed Income	46	61	43	54	55	6	12	13	62	69
STRS Fixed Income	26	63	11	2	86	4	15	45	40	63
LB Aggregate	69	57	62	39	56	24	53	33	89	88

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Public Fixed Income Universe. In 2004, OP&F and HPRS outperformed the median return, placing in the 21st and 40th percentiles, respectively. PERS' fixed income performance during 2004 was just shy of median return to rank the fund in the 51st percentile. STRS placed in the 63rd percentile and SERS ranked in the 69th percentile for the same period.

Ohio Retirement Study Council

Performance Overview

Returns for Period Ending December 31, 2004

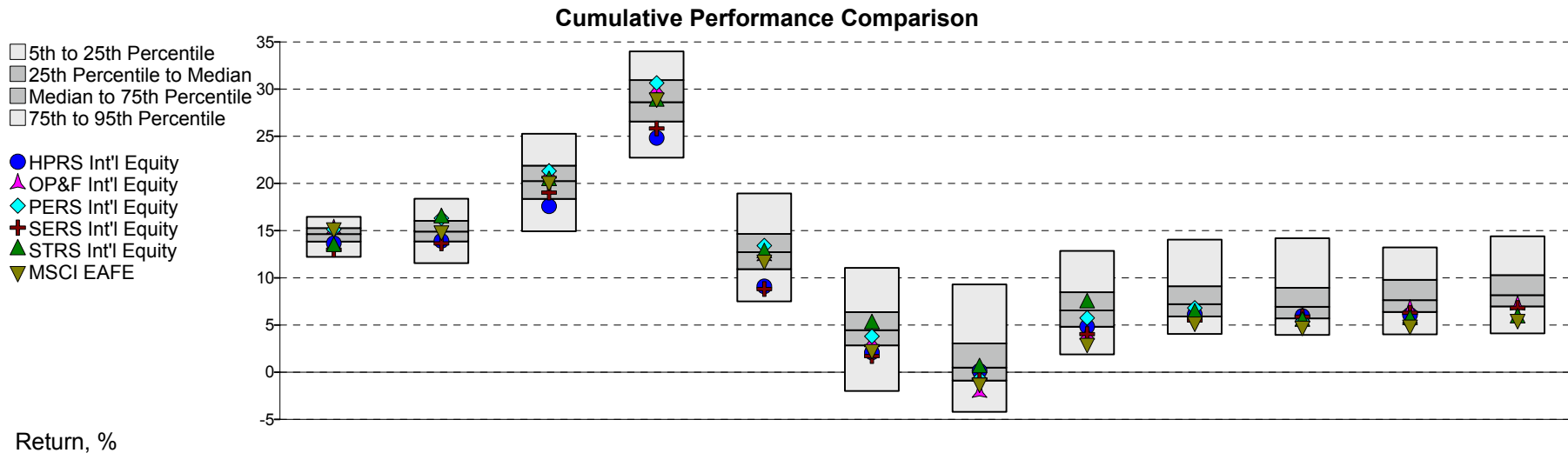


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	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS Fixed Income	8.05	4.12	3.82	0.94
OP&F Fixed Income	8.55	3.53	4.27	1.23
PERS Fixed Income	8.15	4.28	3.91	0.95
SERS Fixed Income	8.21	3.96	3.96	1.04
STRS Fixed Income	8.78	4.34	4.51	1.08
LB Aggregate	7.72	3.96	3.50	0.93
91-Day Treasury Bill	4.14	0.95	0.00	NA

The risk-return analysis above shows that all five of the fund's fixed income portfolios have demonstrated risk-adjusted returns (as measured by their Sharpe Ratios) greater than the bond market as defined by the Lehman Aggregate Bond Index over the ten year period.

Total International Equities vs. Russell Mellon All International Equity Universe Performance and Rank Data as of 12/31/04



	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Int'l Equity	13.67	13.92	17.59	24.82	9.10	2.09	0.13	4.84	6.13	5.96	6.07	NA
OP&F Int'l Equity	15.18	16.37	21.08	30.01	12.32	3.21	-2.16	4.01	6.23	5.84	6.67	7.08
PERS Int'l Equity	15.14	16.31	21.31	30.65	13.41	3.80	-0.69	5.75	6.81	5.40	5.24	NA
SERS Int'l Equity	12.99	13.66	19.03	25.83	8.81	1.72	-0.76	4.03	5.49	5.88	6.30	6.81
STRS Int'l Equity	13.30	16.34	20.28	28.70	12.65	5.11	0.46	7.33	6.24	5.38	5.56	5.74
MSCI EAFE	15.32	15.00	20.25	29.09	11.89	2.42	-1.13	3.07	5.34	4.89	5.01	5.62
Universe(5%)	16.47	18.38	25.26	34.00	18.94	11.05	9.31	12.85	14.05	14.20	13.23	14.40
Universe(25%)	15.28	16.05	21.90	30.96	14.66	6.37	3.05	8.48	9.11	8.94	9.79	10.28
Universe(Median)	14.64	14.90	20.25	28.62	12.72	4.45	0.49	6.55	7.21	6.93	7.63	8.16
Universe(75%)	13.85	13.86	18.38	26.57	10.92	2.84	-0.89	4.82	5.90	5.71	6.38	6.98
Universe(95%)	12.22	11.55	14.94	22.74	7.50	-2.00	-4.20	1.89	4.05	3.95	4.01	4.11

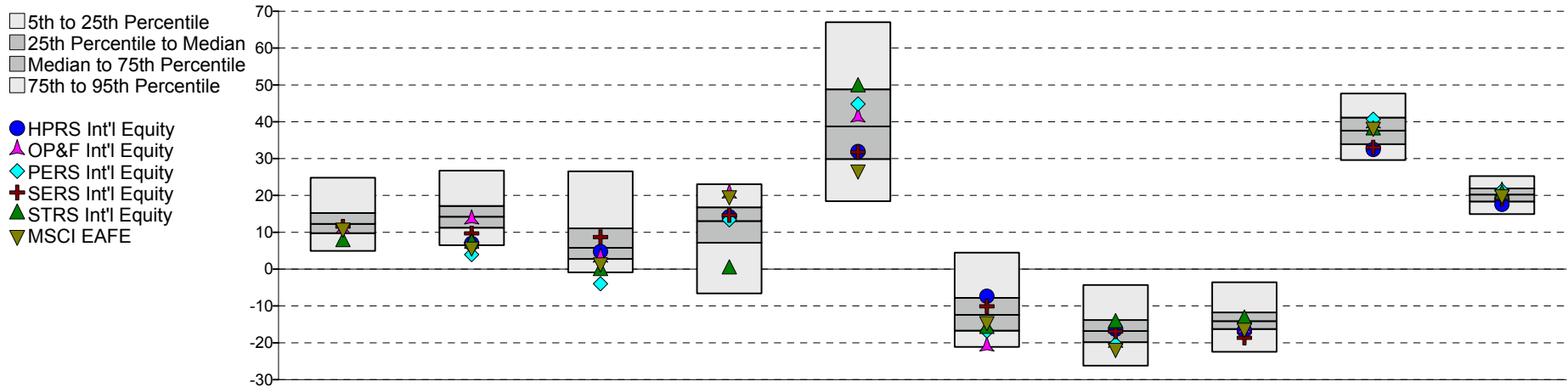
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Int'l Equity	78	74	79	91	89	82	56	75	71	72	79	NA
OP&F Int'l Equity	29	20	35	35	56	73	89	85	70	74	71	74
PERS Int'l Equity	31	20	33	28	39	64	69	62	59	79	89	NA
SERS Int'l Equity	90	78	67	86	90	85	71	84	82	73	77	77
STRS Int'l Equity	86	20	50	49	51	42	51	37	69	80	87	89
MSCI EAFE	23	48	50	44	60	80	78	94	84	88	90	89

The exhibit above, and on the next page, compare the international equity results of the five funds to that of a broad international equity universe consisting of all of the international equity accounts in the Russell Mellon Universe. Comparisons beyond nine years are not meaningful, since two of the funds have not had allocations to this asset class for that length of time. For the nine-year period ending December 31, 2004, all of the funds have had international equity results that were below the median international equity portfolio in the Russell Mellon Universe.

**Total International Equities vs. Russell Mellon All International Equity Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

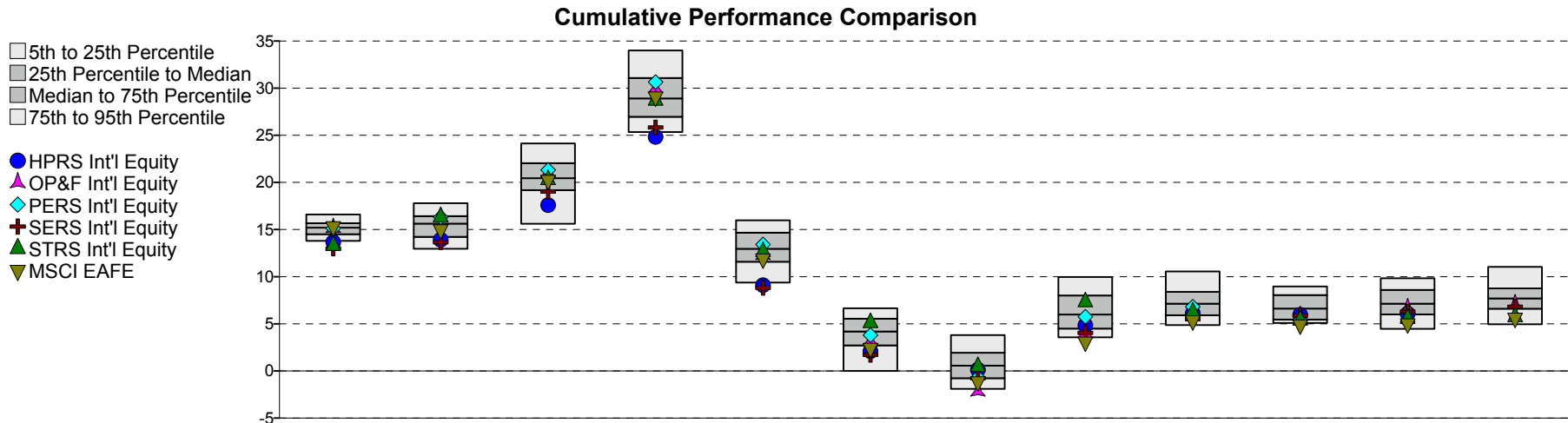
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Int'l Equity	NA	6.96	4.76	14.24	31.94	-7.35	-16.34	-16.66	32.49	17.59
OP&F Int'l Equity	10.94	13.52	3.17	20.55	41.21	-20.98	-19.93	-16.17	39.60	21.08
PERS Int'l Equity	NA	3.96	-3.96	13.37	44.83	-16.80	-20.41	-14.55	40.71	21.31
SERS Int'l Equity	11.56	9.71	8.69	14.63	31.73	-10.08	-16.91	-18.64	33.01	19.03
STRS Int'l Equity	7.37	6.97	-0.47	-0.03	49.38	-16.17	-14.63	-13.69	37.71	20.28
MSCI EAFE	11.21	6.05	1.78	20.00	26.97	-14.17	-21.44	-15.94	38.59	20.25
Universe(5%)	24.79	26.73	26.56	23.06	67.01	4.47	-4.31	-3.58	47.68	25.26
Universe(25%)	15.21	17.14	11.06	16.78	48.80	-7.81	-13.83	-11.76	41.13	21.90
Universe(Median)	12.29	14.23	5.81	13.04	38.74	-12.43	-16.82	-14.11	37.60	20.25
Universe(75%)	9.77	11.25	2.77	7.15	29.89	-16.70	-19.83	-16.25	33.93	18.38
Universe(95%)	4.96	6.50	-0.86	-6.59	18.43	-21.13	-26.20	-22.43	29.58	14.94

Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Int'l Equity	NA	94	59	41	68	24	48	78	84	79
OP&F Int'l Equity	66	55	73	8	45	95	76	75	37	35
PERS Int'l Equity	NA	97	98	48	36	77	80	53	28	33
SERS Int'l Equity	59	82	31	38	69	36	51	90	80	67
STRS Int'l Equity	89	94	94	91	25	72	31	46	49	50
MSCI EAFE	63	97	84	10	83	61	85	73	43	50

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All International Equity Universe. PERS and OP&F placed in the second quartile with 33rd percentile and 35th percentile respective rankings for 2004. STRS matched the median international equity portfolio return, while SERS ranked in the 67th percentile and HPRS ranked in the 79th percentile during 2004.

**Total International Equities vs. Russell Mellon All Public International Equity Universe
Performance and Rank Data as of 12/31/04**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Int'l Equity	13.67	13.92	17.59	24.82	9.10	2.09	0.13	4.84	6.13	5.96	6.07	NA
OP&F Int'l Equity	15.18	16.37	21.08	30.01	12.32	3.21	-2.16	4.01	6.23	5.84	6.67	7.08
PERS Int'l Equity	15.14	16.31	21.31	30.65	13.41	3.80	-0.69	5.75	6.81	5.40	5.24	NA
SERS Int'l Equity	12.99	13.66	19.03	25.83	8.81	1.72	-0.76	4.03	5.49	5.88	6.30	6.81
STRS Int'l Equity	13.30	16.34	20.28	28.70	12.65	5.11	0.46	7.33	6.24	5.38	5.56	5.74
MSCI EAFE	15.32	15.00	20.25	29.09	11.89	2.42	-1.13	3.07	5.34	4.89	5.01	5.62
Universe(5%)	16.60	17.80	24.14	33.99	15.98	6.65	3.80	9.97	10.56	8.97	9.84	11.04
Universe(25%)	15.67	16.43	22.04	31.08	14.67	5.54	1.93	8.00	8.38	8.04	8.60	8.76
Universe(Median)	15.21	15.63	20.44	28.91	12.96	4.19	0.56	5.99	7.13	6.62	7.13	7.69
Universe(75%)	14.51	14.23	19.18	26.97	11.58	2.71	-0.77	4.49	5.91	5.45	6.00	6.60
Universe(95%)	13.81	12.96	15.61	25.35	9.37	0.00	-1.90	3.56	4.86	5.09	4.47	4.95

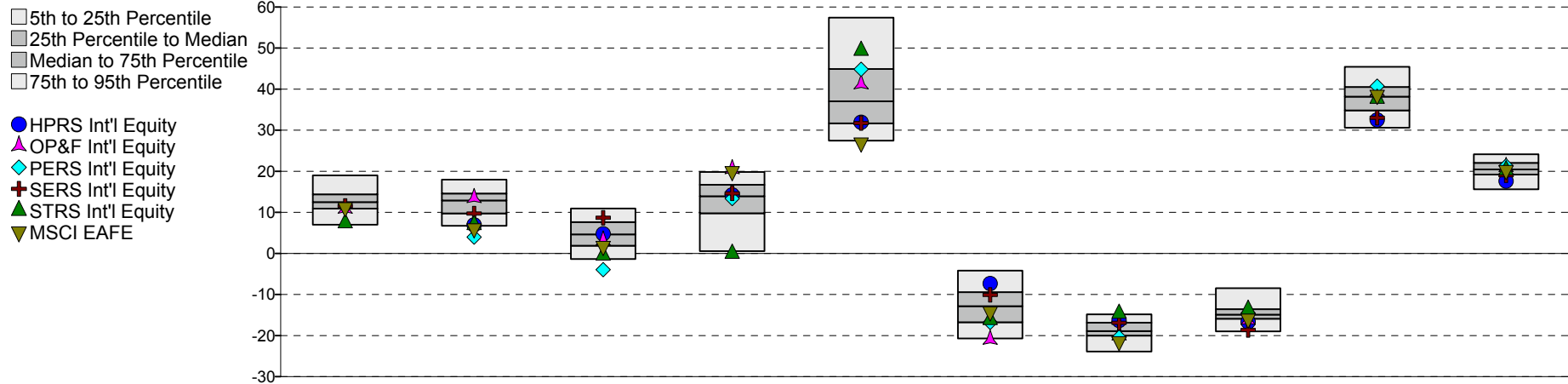
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Int'l Equity	96	84	90	96	96	82	58	69	68	66	74	NA
OP&F Int'l Equity	51	27	38	38	57	71	96	84	64	67	62	68
PERS Int'l Equity	53	29	36	29	39	59	73	53	52	76	93	NA
SERS Int'l Equity	100	88	78	91	96	88	75	83	81	67	68	71
STRS Int'l Equity	98	28	55	53	51	35	52	31	62	77	93	91
MSCI EAFE	42	60	56	47	67	76	88	98	83	97	94	92

The exhibit above compares the international equity results of the five funds to that of the international equity returns of the public funds in the Russell Mellon Universe. Comparisons beyond nine years are not meaningful, since two of the funds have not had allocations to this asset class for that length of time. Over the nine-year period, all Ohio plans trailed the median international equity return of public funds.

Total International Equities vs. Russell Mellon All Public International Equity Universe Performance and Rank Data as of 12/31/04

Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Int'l Equity	NA	6.96	4.76	14.24	31.94	-7.35	-16.34	-16.66	32.49	17.59
OP&F Int'l Equity	10.94	13.52	3.17	20.55	41.21	-20.98	-19.93	-16.17	39.60	21.08
PERS Int'l Equity	NA	3.96	-3.96	13.37	44.83	-16.80	-20.41	-14.55	40.71	21.31
SERS Int'l Equity	11.56	9.71	8.69	14.63	31.73	-10.08	-16.91	-18.64	33.01	19.03
STRS Int'l Equity	7.37	6.97	-0.47	-0.03	49.38	-16.17	-14.63	-13.69	37.71	20.28
MSCI EAFE	11.21	6.05	1.78	20.00	26.97	-14.17	-21.44	-15.94	38.59	20.25
Universe(5%)	18.99	17.98	10.95	19.82	57.40	-4.19	-14.84	-8.48	45.45	24.14
Universe(25%)	14.38	14.58	7.63	16.71	44.89	-9.43	-16.86	-13.57	40.54	22.04
Universe(Median)	12.51	12.90	4.62	13.92	37.05	-12.86	-18.93	-14.90	38.17	20.44
Universe(75%)	10.90	9.74	1.89	9.78	31.69	-16.75	-20.00	-15.92	34.82	19.18
Universe(95%)	6.98	6.74	-1.37	0.55	27.44	-20.72	-23.90	-18.98	30.62	15.61

Percentile Rank

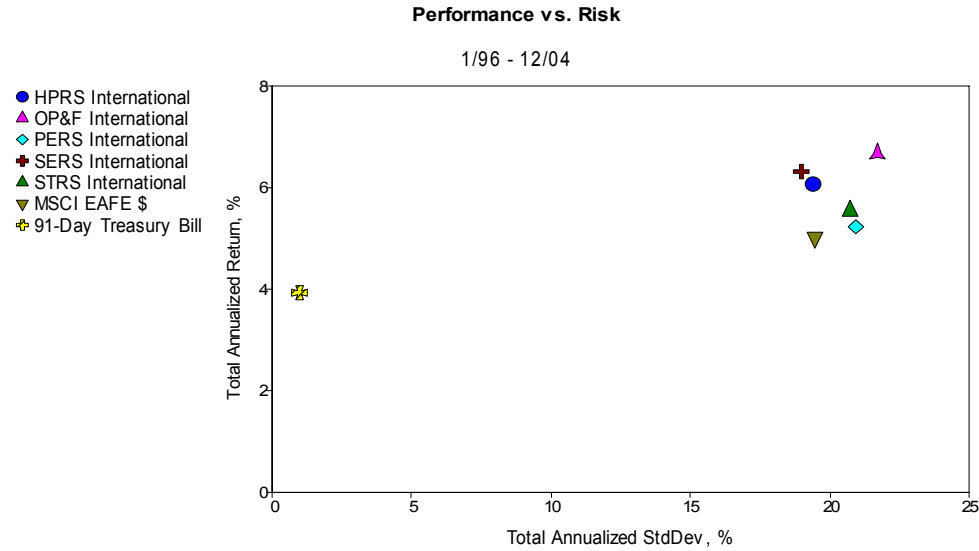
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Int'l Equity	NA	94	49	48	71	13	20	79	90	90
OP&F Int'l Equity	74	36	62	0	38	96	74	77	37	38
PERS Int'l Equity	NA	97	96	53	25	75	81	42	24	36
SERS Int'l Equity	69	77	10	44	73	27	26	93	87	78
STRS Int'l Equity	92	94	93	95	15	70	3	27	53	55
MSCI EAFE	72	97	82	4	96	59	89	75	47	56

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Public International Equity Universe. In 2004, PERS and OP&F outperformed the median return, placing in the 36th and 38th percentiles, respectively. STRS' international equity return fell short of the median return to place the fund in the 55th percentile. SERS ranked in the 78th percentile, while HPRS placed in the 90th percentile.

Ohio Retirement Study Council

Performance Overview

Returns for Period Ending December 31, 2004

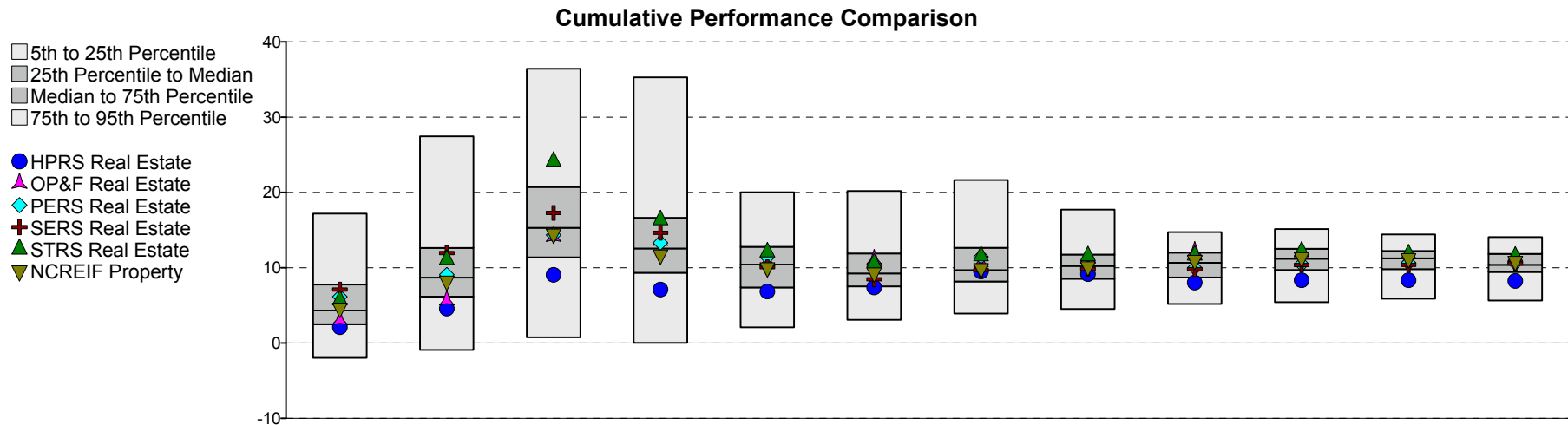


Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
HPRS International	6.07	19.38	3.88	0.20
OP&F International	6.67	21.68	4.87	0.22
PERS International	5.24	20.95	3.35	0.16
SERS International	6.30	18.99	4.04	0.21
STRS International	5.56	20.74	3.63	0.17
MSCI EAFE \$	5.01	19.46	2.87	0.15
91-Day Treasury Bill	3.93	0.95	0.00	NA

The risk-return analysis above shows that all five of the fund's international equity portfolios have demonstrated risk-adjusted returns (as measured by their Sharpe Ratios) greater than the non-U.S. market as defined by the MSCI EAFE Index over the nine-year period.

Total Real Estate vs. Russell Mellon All Real Estate Universe Performance and Rank Data as of 12/31/04



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Real Estate	2.11	4.58	9.06	7.10	6.85	7.38	9.49	9.14	8.03	8.34	8.33	8.24
OP&F Real Estate	3.09	5.69	14.15	13.60	10.91	11.14	10.77	11.25	12.20	12.08	11.26	11.44
PERS Real Estate	6.14	9.08	14.35	13.32	11.41	10.16	11.45	10.70	9.98	10.47	10.63	10.62
SERS Real Estate	7.11	11.94	17.28	14.64	10.08	8.47	9.68	9.85	9.81	10.37	10.39	10.57
STRS Real Estate	5.70	11.09	24.13	16.35	12.08	10.61	11.56	11.58	11.66	12.20	11.83	11.53
NCREIF Property	4.66	8.24	14.48	11.70	10.02	9.33	9.91	10.15	11.00	11.36	11.24	10.86
Universe(5%)	17.18	27.44	36.42	35.28	20.03	20.19	21.64	17.72	14.74	15.13	14.42	14.06
Universe(25%)	7.76	12.63	20.72	16.63	12.78	11.89	12.64	11.75	12.00	12.53	12.22	11.84
Universe(Median)	4.32	8.68	15.30	12.55	10.42	9.25	9.67	10.23	10.67	11.19	11.24	10.38
Universe(75%)	2.50	6.16	11.38	9.32	7.37	7.53	8.17	8.54	8.71	9.70	9.81	9.44
Universe(95%)	-1.97	-0.90	0.77	0.03	2.09	3.08	3.91	4.52	5.18	5.42	5.89	5.65

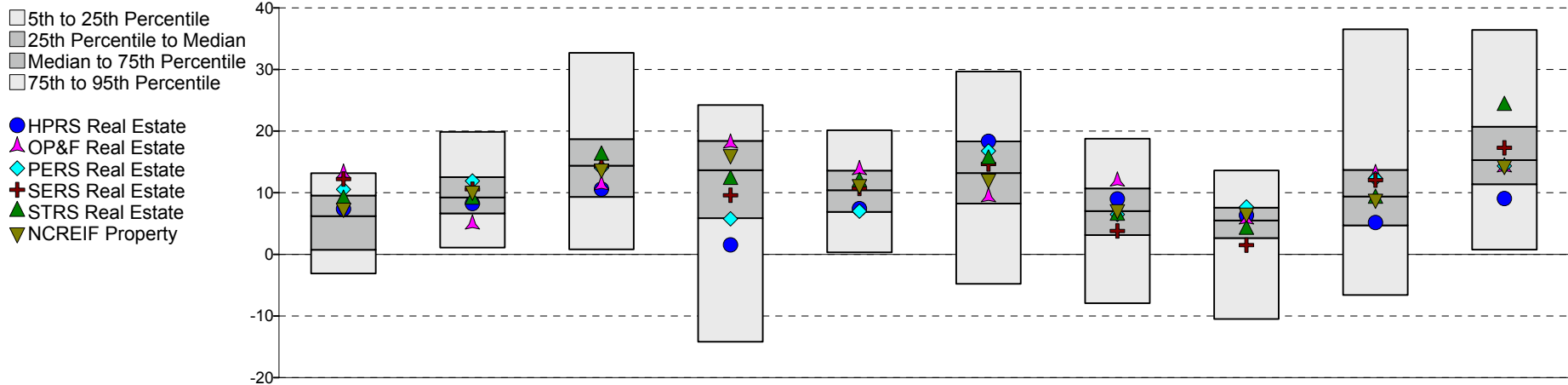
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Real Estate	79	82	83	83	79	75	58	65	83	83	85	83
OP&F Real Estate	66	79	61	43	44	33	35	32	24	37	50	29
PERS Real Estate	36	48	59	45	37	41	31	37	58	61	58	43
SERS Real Estate	29	28	38	39	57	67	50	56	65	63	61	44
STRS Real Estate	40	33	18	25	31	40	30	27	32	33	36	27
NCREIF Property	47	55	57	58	58	50	47	52	45	49	50	37

The exhibit above, and on the next page, compare real estate results of the five funds to that of a broad real estate universe consisting of all of the real estate accounts in the Russell Mellon Universe. For the ten-year period ending December 31, 2004, all of the funds except HPRS exceeded the median return, but only OP&F managed to surpass the return generated by NCREIF real estate index. We have not included a risk/return analysis for real estate. While institutional investors in real property compute and report quarterly returns, these returns are based on appraisals and are not appropriately compared with other investments which actually trade on a daily basis. An annualized quarterly standard deviation of returns for real estate is, in our judgment, a meaningless number.

**Total Real Estate vs. Russell Mellon All Real Estate Universe
Performance and Rank Data as of 12/31/04**

Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Real Estate	7.39	8.25	10.59	1.55	7.43	18.35	9.00	6.35	5.17	9.06
OP&F Real Estate	13.14	4.89	11.26	18.02	13.71	9.29	11.84	5.71	13.06	14.15
PERS Real Estate	10.55	11.91	14.00	5.77	7.01	16.78	6.46	7.70	12.30	14.35
SERS Real Estate	12.23	10.55	14.33	9.60	10.70	14.65	3.79	1.49	12.05	17.28
STRS Real Estate	8.90	8.91	16.04	12.11	11.73	15.43	6.30	4.01	9.06	24.13
NCREIF Property	7.53	10.30	13.91	16.22	11.35	12.25	7.29	6.74	8.99	14.48
Universe(5%)	13.17	19.88	32.71	24.22	20.14	29.68	18.77	13.62	36.53	36.42
Universe(25%)	9.54	12.54	18.70	18.42	13.59	18.32	10.69	7.58	13.72	20.72
Universe(Median)	6.21	9.24	14.39	13.65	10.40	13.20	7.03	5.49	9.39	15.30
Universe(75%)	0.75	6.65	9.32	5.87	6.90	8.24	3.12	2.64	4.71	11.38
Universe(95%)	-3.09	1.10	0.81	-14.19	0.33	-4.79	-7.93	-10.50	-6.59	0.77

Percentile Rank

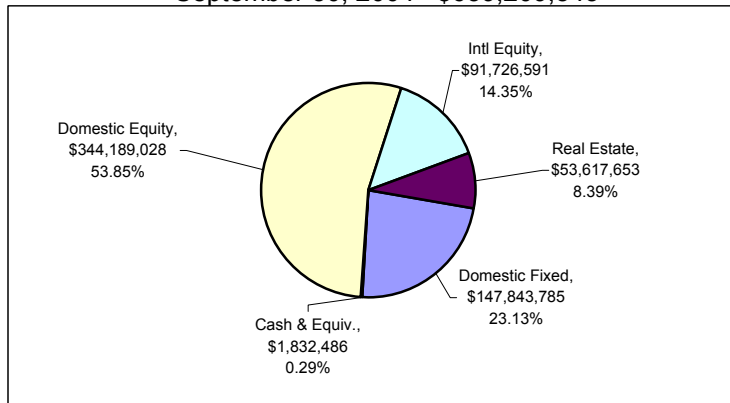
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Real Estate	37	61	72	83	71	24	33	38	74	83
OP&F Real Estate	5	83	69	29	24	73	17	46	26	61
PERS Real Estate	13	30	56	75	74	32	53	24	28	59
SERS Real Estate	8	38	52	67	48	40	69	80	29	38
STRS Real Estate	30	53	37	58	41	36	53	66	54	18
NCREIF Property	34	40	56	39	43	61	47	34	55	57

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Real Estate Universe. In 2004, STRS and SERS outpaced the median real estate return, which placed the funds in the 18th percentile and 38th percentile, respectively. For the same time period, OP&F and PERS ranked in the third quartile, while HPRS placed in the fourth quartile.

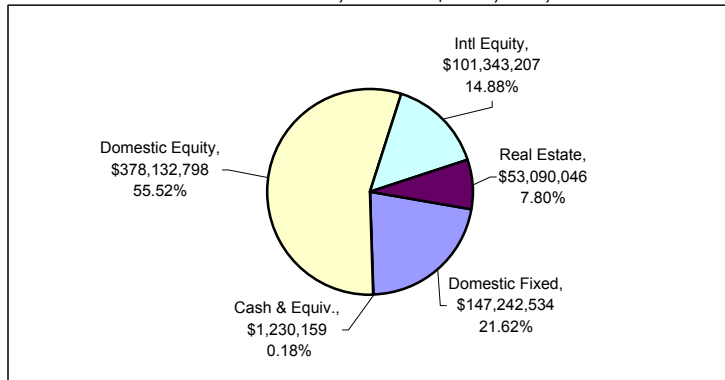
Highway Patrol Retirement System

**Asset Allocation
HPRS**

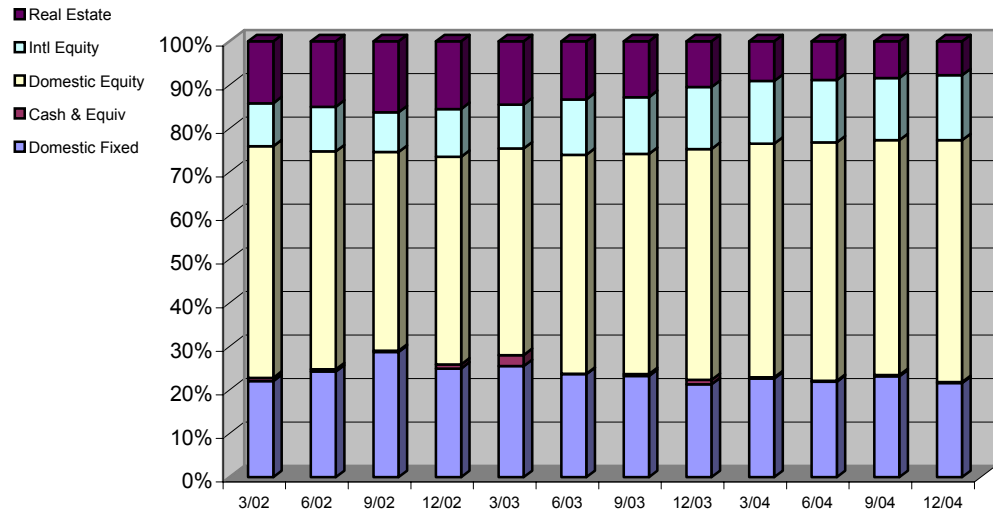
September 30, 2004 \$639,209,543



December 31, 2004 \$681,038,744



**Asset Allocation
HPRS**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04
Domestic Fixed %	22.0	24.2	28.7	24.9	25.5	23.6	23.2	21.3	22.6	21.9	23.1	21.6
Cash & Equiv. %	0.8	0.5	0.3	0.9	2.5	0.1	0.4	1.0	0.3	0.2	0.3	0.2
Domestic Equity %	53.1	50.0	45.6	47.6	47.4	50.2	50.5	53.0	53.6	54.7	53.9	55.5
Intl Equity %	9.9	10.2	9.1	11.0	10.1	12.7	13.0	14.2	14.4	14.3	14.3	14.9
Real Estate %	14.2	15.0	16.3	15.5	14.5	13.3	12.8	10.5	9.1	8.9	8.4	7.8
Total Value (\$mil)	576.6	545.2	485.8	511.9	498.4	553.2	569.8	624.9	639.3	639.2	639.2	681.0

This is the first page devoted to the analysis of the Ohio Highway Patrol Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the last two quarters of 2004. The chart on the right tracks the quarterly asset allocation of the fund over the last twelve quarters.

Highway Patrol Retirement System

Quarter Ending 12/31/2004

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Dec-95	50.00	LB Aggregate
			50.00	Standard & Poors 500
	Mar-96	Dec-97	50.00	Standard & Poors 500
			40.00	LB Aggregate
			5.00	MSCI EAFE (Net)
			5.00	NCREIF
	Mar-98	Sep-99	40.00	Standard & Poors 500
25.00			LB Aggregate	
15.00			Russell 2000	
10.00			MSCI EAFE (Net)	
10.00			NCREIF	
Dec-99	Dec-00	40.00	Standard & Poors 500	
		20.00	Russell 2000	
		20.00	LB Aggregate	
		10.00	MSCI EAFE (Net)	
		10.00	NCREIF	
Mar-02	Dec-02	40.00	Standard & Poors 500	
		20.00	Russell 2500	
		20.00	LB Aggregate	
		10.00	MSCI EAFE (Net)	
		10.00	NCREIF	
Mar-03	Dec-04	32.00	Standard & Poors 500	
		16.00	Russell 2500	
		25.00	LB Aggregate	
		15.00	MSCI EAFE (Net)	
		12.00	NCREIF	

HPRS' custom policy index is listed above. The chart tracks the fund's change in asset allocation strategy over the past eleven years.

Highway Patrol Retirement System

Performance Overview

Returns for Period Ending December 31, 2004

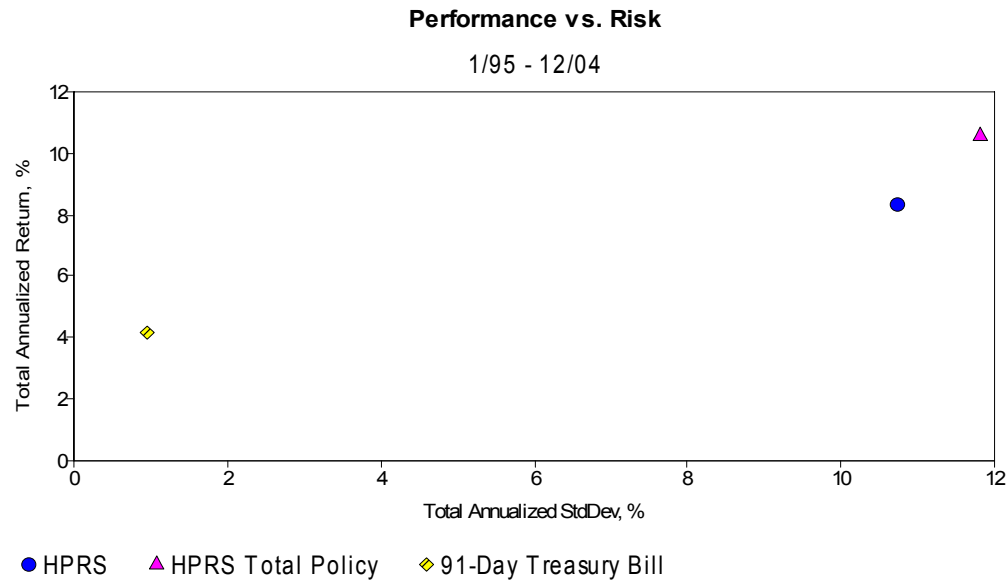
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>3 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	7.25	8.02	8.65	12.11	8.66	4.31	8.31
Policy Index	8.22	8.40	8.80	12.20	7.08	2.97	10.54
Domestic Equity	10.45	8.82	10.89	14.74	8.64	1.84	8.54
Domestic Equity Segment Median	10.54	8.41	9.90	13.25	5.94	0.91	12.54
Wilshire 5000	10.19	8.17	9.62	12.49	5.43	-1.39	11.93
International Equity	13.67	13.92	13.34	17.59	9.10	0.13	
International Equity Segment Median	14.64	14.90	14.36	20.25	12.72	0.49	8.16
MSCI EAFE	15.32	15.00	15.25	20.25	11.89	-1.13	5.62
Fixed Income	-0.41	5.42	2.85	5.61	7.66	8.49	8.05
Fixed Income Segment Median	1.36	4.68	2.35	5.15	6.86	8.00	8.01
LB Aggregate	0.95	4.18	1.64	4.34	6.20	7.71	7.72
Cash	0.51	1.10	1.40	1.74	1.74	3.10	4.17
Real Estate	2.11	4.58	6.45	9.06	6.85	9.49	8.24
NCREIF	4.69	8.27	11.66	14.52	10.03	9.92	10.87

Over the ten year period as of December 31, 2004, the fund's total return is trailing its policy index by 2.23% annually. This is due to its domestic equity and real estate returns, which lagged the Wilshire 5000 Index by 339 basis points and NCREIF Index by 263 basis points, respectively. The most recent one year period, however, show that HPRS has modestly lagged its policy index by 9 basis points.

Highway Patrol Retirement System

Performance Overview

Returns for Period Ending December 31, 2004



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	8.31	10.72	4.54	0.42
HPRS Total Policy	10.54	11.83	6.75	0.57
91-Day Treasury Bill	4.14	0.95	0.00	NA

The chart above shows that on a risk-adjusted basis, the fund has fallen well short of the risk-adjusted return of its policy index for the ten year period.

Highway Patrol Retirement System

Asset Allocation Actual vs. Benchmark June 30, 2004

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Large Cap Equity	36.81%	S & P 500	32%	4.81%
Sm/Mid Cap Equity	17.85%	Russell 2500	16%	1.85%
Fixed Income	21.85%	LB Aggregate	25%	-3.15%
Intl. Equity	14.32%	MSCI EAFE (Net)	15%	-0.68%
Real Estate	8.93%	NCREIF	12%	-3.07%
Short Term			0%	0.00%

December 31, 2004

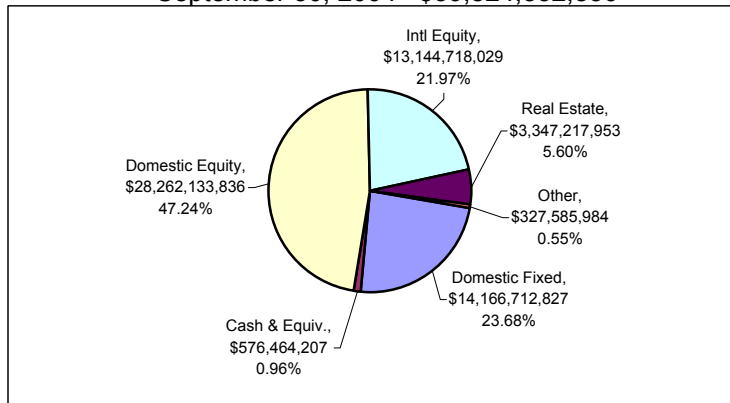
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Large Cap Equity	36.79%	S & P 500	32%	4.79%
Sm/Mid Cap Equity	18.74%	Russell 2500	16%	2.74%
Fixed Income	21.62%	LB Aggregate	25%	-3.38%
Intl. Equity	14.88%	MSCI EAFE (Net)	15%	-0.12%
Real Estate	7.80%	NCREIF	12%	-4.20%
Short Term	0.18%		0%	0.18%

As of the end of fourth quarter, the HPRS fund is underweight in fixed income and real estate while being overweight in domestic equities.

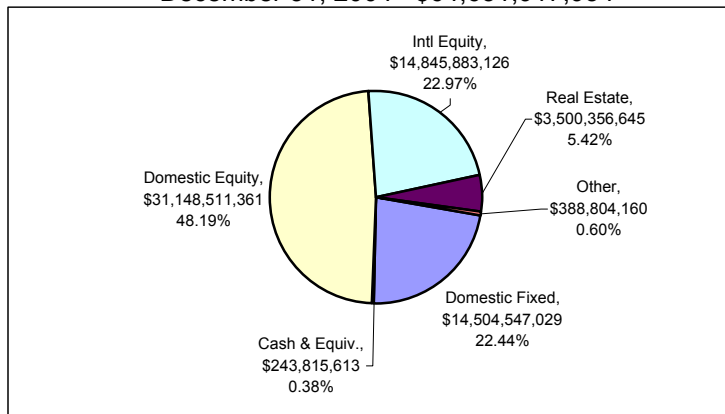
Public Employees Retirement System

**Asset Allocation
PERS**

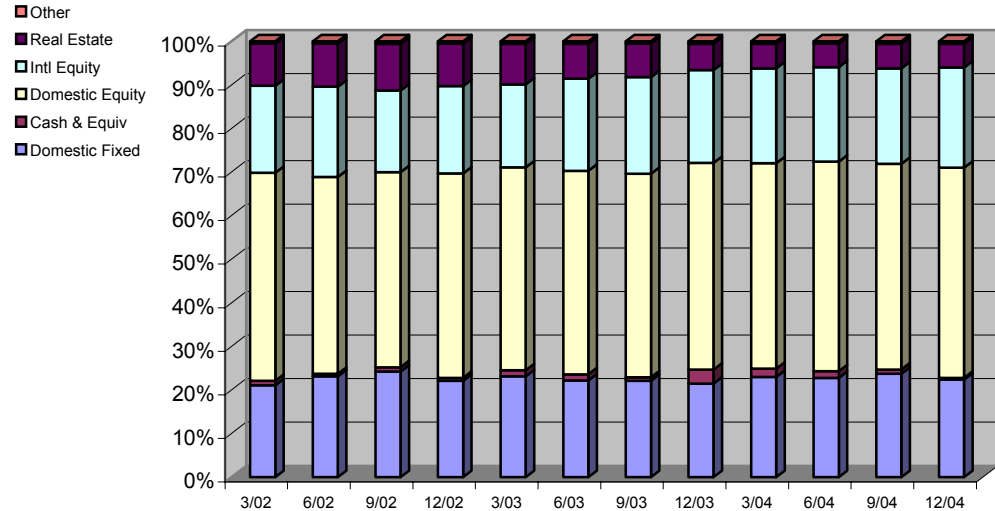
September 30, 2004 \$59,824,832,836



December 31, 2004 \$64,631,917,934



**Asset Allocation
PERS**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04
Domestic Fixed %	21.1	23.1	24.2	22.1	23.1	22.2	22.1	21.5	23.0	22.8	23.7	22.4
Cash & Equiv. %	1.0	0.6	1.0	0.7	1.4	1.4	0.8	3.2	1.9	1.5	1.0	0.4
Domestic Equity %	47.8	45.1	44.7	46.9	46.6	46.7	46.7	47.5	47.2	48.1	47.2	48.2
Intl Equity %	20.0	20.7	18.7	20.0	19.0	21.1	22.2	21.3	21.8	21.7	21.9	23.0
Real Estate %	9.7	9.9	10.7	9.8	9.3	8.0	7.7	6.0	5.6	5.4	5.6	5.4
Other %	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.6	0.6	0.5	0.6	0.6
Total Value (\$bil)	54.4	50.9	45.2	47.4	46.2	51.8	53.7	58.6	60.4	60.0	59.8	64.6

This is the first page devoted to the analysis of the Ohio Public Employees Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the last two quarters of 2004. The chart on the right tracks the quarterly asset allocation of the fund over the last twelve quarters.

Public Employees Retirement System

Quarter Ending 12/31/2004

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Jun-95	68.00	SB Broad Inv Grade
			17.00	Standard & Poors 500
			8.00	91-Day Treasury Bill
			7.00	NCREIF
	Sep-95	Dec-95	59.00	SB Broad Inv Grade
			26.00	Standard & Poors 500
			8.00	NCREIF
			6.00	91-Day Treasury Bill
			1.00	MSCI EAFE (Net)
	Mar-96	Dec-96	62.50	SB Broad Inv Grade
			23.00	Standard & Poors 500
			8.00	NCREIF
			4.50	91-Day Treasury Bill
			2.00	MSCI EAFE (Net)
	Mar-97	Dec-97	56.50	SB Broad Inv Grade
			27.00	Standard & Poors 500
			8.00	NCREIF
			4.50	91-Day Treasury Bill
			4.00	MSCI EAFE (Net)
Mar-98	Dec-98	51.00	SB Broad Inv Grade	
		30.50	Standard & Poors 500	
		8.00	NCREIF	
		6.00	MSCI EAFE (Net)	
		4.50	91-Day Treasury Bill	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Dec-98	Dec-98	51.00	SB Broad Inv Grade
			30.50	Russell 3000
			6.00	MSCI World Ex-US (Net)
			4.80	NCREIF
			4.50	91-Day Treasury Bill
	Mar-99	Mar-99	1.60	NAREIT
			1.60	Gilberto-Levy Mortgage
			45.40	SB Broad Inv Grade
			35.00	Standard & Poors 500
			7.60	MSCI World Ex-US (Net)
	Jun-99	Jun-99	6.60	NCREIF
			2.20	NAREIT
			2.20	Gilberto-Levy Mortgage
			1.00	91-Day Treasury Bill

Charts above and on the following page track PERS asset allocation policy index over the last eleven years. The current policy is located on the following page.

Public Employees Retirement System

Quarter Ending 12/31/2004

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-99	Mar-02	36.10	SB Broad Inv Grade
			35.00	Standard & Poors 500
			16.90	MSCI World Ex-US (Net)
			6.60	NCREIF
			2.20	NAREIT
			2.20	Giliberto-Levy Mortgage
			1.00	91-Day Treasury Bill
	Mar-02	Mar-02	34.30	S&P 1500
			31.80	SB Broad Inv Grade
			18.90	MSCI World Ex-US (Net)
			5.70	NCREIF
			3.00	Russell 3000
			2.30	91-Day Treasury Bill
			1.90	NAREIT
	Jun-02	Sep-02	34.70	S&P 1500
			29.20	SB Broad Inv Grade
			19.30	MSCI World Ex-US (Net)
			5.80	Russell 3000
			5.58	NCREIF
			1.86	NAREIT
			1.86	Giliberto-Levy Mortgage
1.50	91-Day Treasury Bill			
0.20	Standard & Poors 500			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-02	Sep-02	44.70	Russell 3000
			25.60	SB Broad Inv Grade
			19.70	MSCI World Ex-US (Net)
			5.46	NCREIF
			1.82	NAREIT
			1.82	Giliberto-Levy Mortgage
			0.70	91-Day Treasury Bill
	Dec-02	Dec-02	47.00	Russell 3000
			23.00	SB Broad Inv Grade
			20.00	MSCI World Ex-US (Net)
			5.40	NCREIF
			1.80	NAREIT
			1.80	Giliberto-Levy Mortgage
			0.60	91-Day Treasury Bill
	Mar-03	Dec-04	46.00	Russell 3000
			23.00	Lehman Universal
			20.00	MSCI World Ex-US (Net)
			8.10	NCREIF
			0.90	Wilshire Real Estate Securities
			1.00	91-Day Treasury Bill
			1.00	Russell 3000 + 3%

Public Employees Retirement System

Performance Overview

Returns for Period Ending December 31, 2004

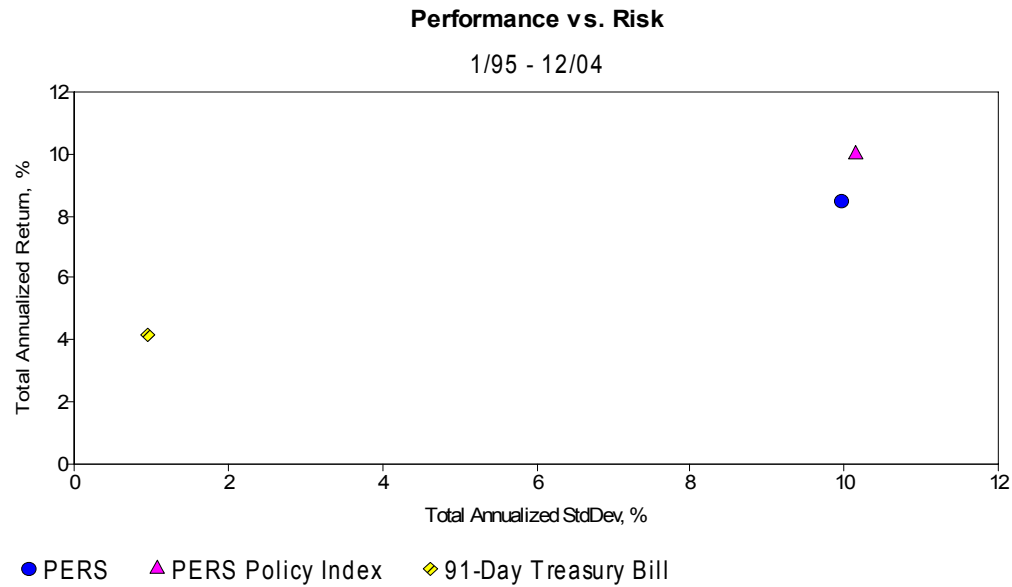
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>3 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	8.91	9.16	9.04	12.51	7.99	3.60	8.47
Policy Index	8.48	8.99	9.10	12.39	7.73	3.63	10.01
Domestic Equity	10.21	7.99	9.43	11.99	4.90	-0.61	10.18
Domestic Equity Segment Median	10.54	8.41	9.90	13.25	5.94	0.91	12.54
Wilshire 5000	10.19	8.17	9.62	12.49	5.43	-1.39	11.93
International Equity	15.14	16.31	14.97	21.31	13.41	-0.69	
International Equity Segment Median	14.64	14.90	14.36	20.25	12.72	0.49	8.16
MSCI EAFE	15.32	15.00	15.25	20.25	11.89	-1.13	5.62
Fixed Income	1.47	5.04	2.54	5.25	6.85	8.11	8.15
Fixed Income Segment Median	1.36	4.68	2.35	5.15	6.86	8.00	8.01
LB Aggregate	0.95	4.18	1.64	4.34	6.20	7.71	7.72
Cash	0.58	0.99	1.27	1.53	1.45	2.93	4.27
Real Estate	6.14	9.08	9.52	14.35	11.41	11.45	10.62
NCREIF	4.69	8.27	11.66	14.52	10.03	9.92	10.87
Alternative	4.17	5.73	12.00	21.59	10.01	1.87	

Over the past ten year period, PERS has trailed its policy index by 154 basis points. The bulk of the fund's relative underperformance was due to lackluster performance in domestic equities, which trailed the Wilshire 5000 Index by 175 basis points. Over the past twelve months, the fund has outperformed the policy index by 12 basis points, mainly due to strong results in international equity and fixed income.

Public Employees Retirement System

Performance Overview

Returns for Period Ending December 31, 2004



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
PERS	8.47	9.97	4.61	0.46
PERS Policy Index	10.01	10.13	6.07	0.60
91-Day Treasury Bill	4.14	0.95	0.00	NA

The chart above shows that on a risk-adjusted basis, the fund has fallen short of the risk-adjusted return of its policy index over the last ten year period.

Public Employees Retirement System

Asset Allocation Actual vs. Benchmark June 30, 2004

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Equity	46.00%	S&P 1500	46.0%	0.00%
Fixed Income	23.00%	SB Broad Inv Grade	23.0%	0.00%
Intl. Equity	20.00%	MSCI ACWI	20.0%	0.00%
Real Estate	5.40%	PERS Custom Index	9.0%	-3.60%
Private Equity	0.50%	S&P 500	1.0%	-0.50%
Short Term	1.50%	3 Month T-Bill	1.0%	0.50%

December 31, 2004

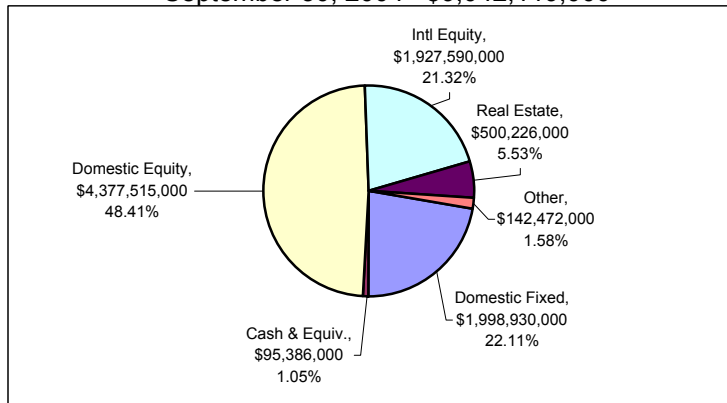
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Equity	48.19%	S&P 1500	46.0%	2.19%
Fixed Income	22.44%	SB Broad Inv Grade	23.0%	-0.56%
Intl. Equity	22.97%	MSCI ACWI	20.0%	2.97%
Real Estate	5.42%	PERS Custom Index	9.0%	-3.58%
Private Equity	0.60%	S&P 500	1.0%	-0.40%
Short Term	0.38%	3 Month T-Bill	1.0%	-0.62%

As of the end of the fourth quarter, PERS is overweight in domestic and international equities while being underweight in real estate and fixed income.

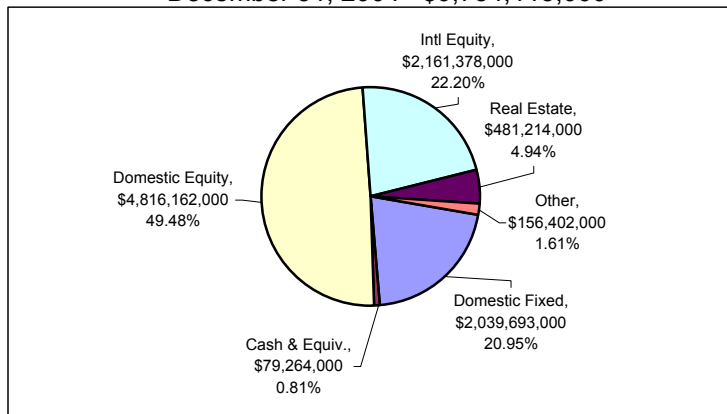
Police & Fire Pension Fund

**Asset Allocation
OP&F**

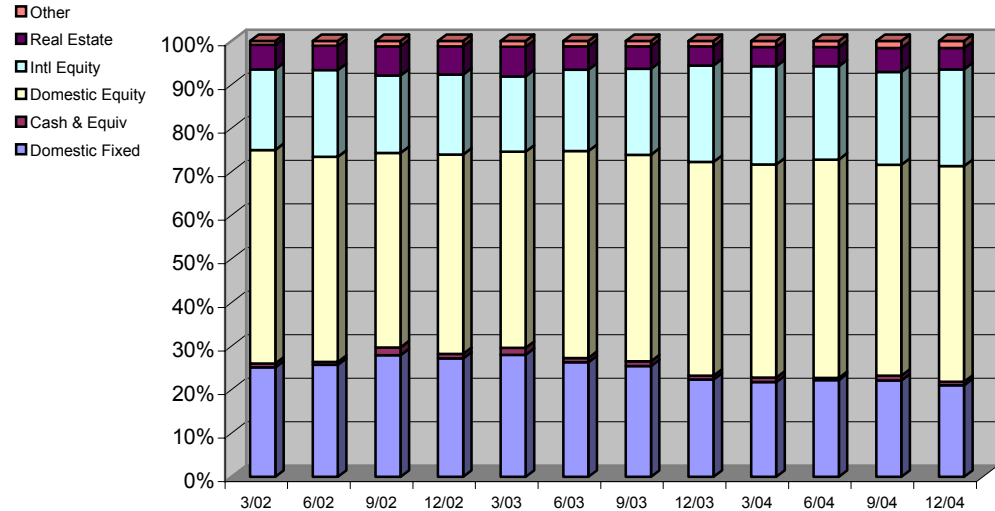
September 30, 2004 \$9,042,119,000



December 31, 2004 \$9,734,113,000



**Asset Allocation
OP&F**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04
Domestic Fixed %	25.1	25.7	27.9	27.2	28.0	26.3	25.4	22.3	21.8	22.2	22.1	21.0
Cash & Equiv. %	0.9	0.7	1.8	1.0	1.6	1.0	1.1	0.9	1.0	0.5	1.1	0.8
Domestic Equity %	49.0	47.1	44.6	45.8	45.0	47.5	47.4	49.0	49.0	50.1	48.4	49.5
Intl Equity %	18.5	19.9	17.8	18.4	17.3	18.7	19.7	22.1	22.6	21.4	21.3	22.2
Real Estate %	5.6	5.6	6.7	6.5	6.8	5.4	5.2	4.4	4.4	4.4	5.5	4.9
Other %	0.9	1.1	1.2	1.2	1.3	1.2	1.2	1.2	1.4	1.4	1.6	1.6
Total Value (\$bil)	8.3	7.8	6.9	7.2	7.0	7.7	8.0	8.7	9.0	8.9	9.0	9.7

This is the first page devoted to the analysis of the Ohio Police & Fire Pension Fund's asset allocation. The chart on the left displays the fund's asset allocation over the last two quarters of 2004. The chart on the right tracks the quarterly asset allocation of the fund over the last twelve quarters.

Police & Fire Pension Fund

Quarter Ending 12/31/2004

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Sep-97	41.50	Wilshire 5000
			39.50	LB Aggregate
			10.00	MSCI EAFE (Net)
			9.00	Wilshire RE Funds
	Dec-97	Dec-00	42.00	Wilshire 5000
			35.00	LB Aggregate
			10.00	MSCI EAFE (Net)
			8.00	Wilshire RE Funds
	Mar-01	Jun-01	5.00	MSCI Em Mkts Free (Gross)
			48.00	Wilshire 5000
			18.00	LB Aggregate
			17.00	MSCI EAFE (Net)
	Sep-02	Mar-02	8.00	Wilshire RE Funds
			5.00	First Boston High Yield
			3.00	MSCI Em Mkts Free (Gross)
			1.00	S&P + 5%
Sep-02	Mar-02	48.00	Wilshire 5000	
		18.00	LB Aggregate	
		17.00	MSCI EAFE (Net)	
		8.00	Wilshire RE Funds	
Sep-02	Mar-02	5.00	First Boston High Yield	
		3.00	MSCI Em Mkts Free (Gross)	
		1.00	Wilshire 5000 + 5%	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jun-02	Jun-04	48.00	Wilshire 5000
			18.00	LB Aggregate
			17.00	MSCI EAFE (Net)
			8.00	NCREIF
			5.00	First Boston High Yield
			3.00	MSCI Em Mkts Free (Gross)
			1.00	Wilshire 5000 + 5%

OP&F's custom policy index is listed above. The chart tracks the fund's change in asset allocation strategy over the past eleven years. The current policy index is listed in the table on the right.

Public Employees Retirement System

Performance Overview

Returns for Period Ending December 31, 2004

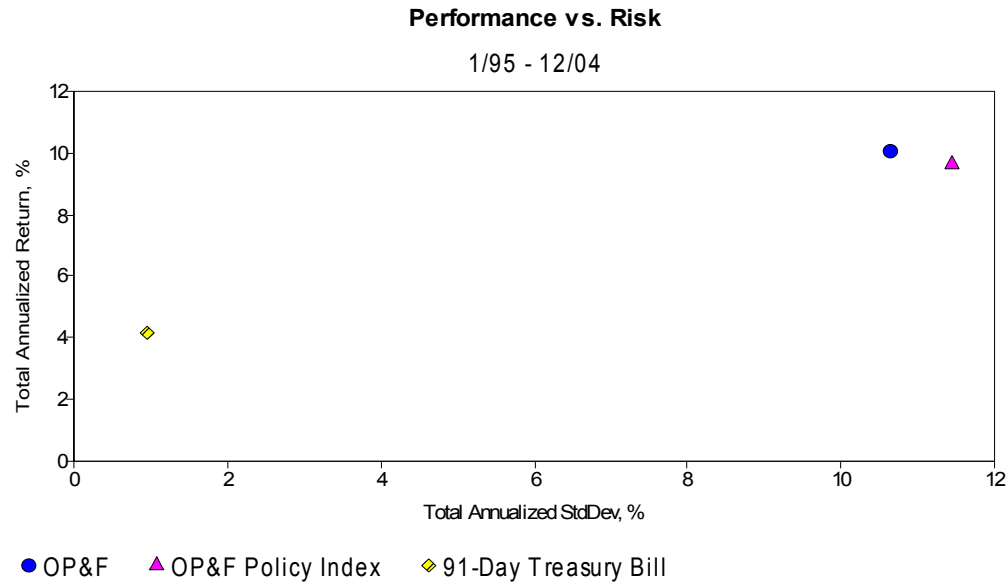
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>3 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	8.91	9.16	9.04	12.51	7.99	3.60	8.47
Policy Index	8.48	8.99	9.10	12.39	7.73	3.63	10.01
Domestic Equity	10.21	7.99	9.43	11.99	4.90	-0.61	10.18
Domestic Equity Segment Median	10.54	8.41	9.90	13.25	5.94	0.91	12.54
Wilshire 5000	10.19	8.17	9.62	12.49	5.43	-1.39	11.93
International Equity	15.14	16.31	14.97	21.31	13.41	-0.69	
International Equity Segment Median	14.64	14.90	14.36	20.25	12.72	0.49	8.16
MSCI EAFE	15.32	15.00	15.25	20.25	11.89	-1.13	5.62
Fixed Income	1.47	5.04	2.54	5.25	6.85	8.11	8.15
Fixed Income Segment Median	1.36	4.68	2.35	5.15	6.86	8.00	8.01
LB Aggregate	0.95	4.18	1.64	4.34	6.20	7.71	7.72
Cash	0.58	0.99	1.27	1.53	1.45	2.93	4.27
Real Estate	6.14	9.08	9.52	14.35	11.41	11.45	10.62
NCREIF	4.69	8.27	11.66	14.52	10.03	9.92	10.87
Alternative	4.17	5.73	12.00	21.59	10.01	1.87	

Over the past ten year period, PERS has trailed its policy index by 154 basis points. The bulk of the fund's relative underperformance was due to lackluster performance in domestic equities, which trailed the Wilshire 5000 Index by 175 basis points. Over the past twelve months, the fund has outperformed the policy index by 12 basis points, mainly due to strong results in international equity and fixed income.

Police & Fire Pension Fund

Performance Overview

Returns for Period Ending December 31, 2004



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
OP&F	10.08	10.65	6.18	0.58
OP&F Policy Index	9.61	11.44	5.83	0.51
91-Day Treasury Bill	4.14	0.95	0.00	NA

The OP&F total fund return has outperformed the policy index on an absolute and risk-adjusted basis over the last ten year period.

Police & Fire Pension Fund

Asset Allocation Actual vs. Benchmark June 30, 2004

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Equity	49.48%	Wilshire 5000	48%	1.48%
Fixed Income	21.94%	Lehman Aggregate	23%	-1.06%
Intl. Equity Comp.	21.20%	MSCI EAFE (Net) -17%, MSCI Em Mkts Free - 3%	20%	1.20%
Real Estate	5.48%	NCREIF	8%	-2.52%
Venture Capital	0.47%	Wilshire 5000 Lagged + 5%	1%	-0.53%
Short Term	1.43%	3 Month T-Bill	0%	1.43%

December 31, 2004

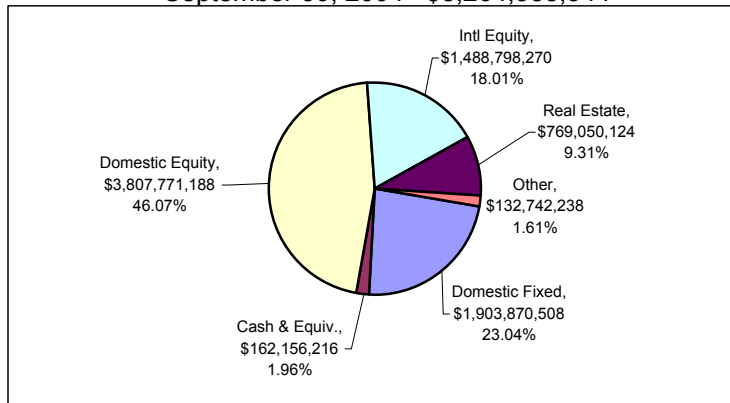
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Equity	49.48%	Wilshire 5000	48%	1.48%
Fixed Income	20.95%	Lehman Aggregate	23%	-2.05%
Intl. Equity Comp.	22.20%	MSCI EAFE (Net) -17%, MSCI Em Mkts Free - 3%	20%	2.20%
Real Estate	4.94%	NCREIF	8%	-3.06%
Venture Capital	1.61%	Wilshire 5000 Lagged + 5%	1%	0.61%
Short Term	0.81%	3 Month T-Bill	0%	0.81%

As of the end of the fourth quarter, the OP&F fund is overweight in domestic and international equities, venture capital, and cash while being underweight in fixed income and real estate.

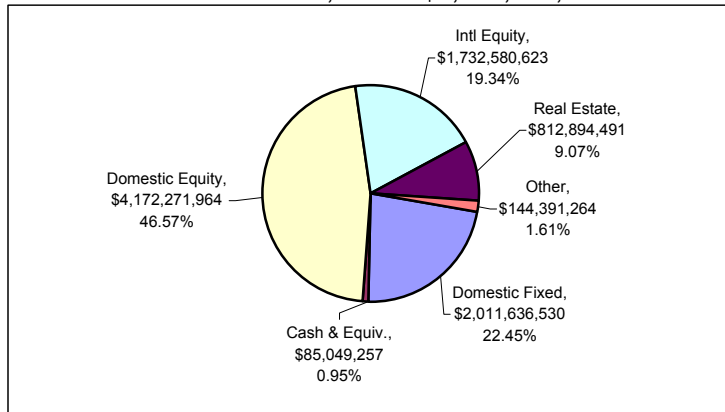
School Employees Retirement System

**Asset Allocation
SERS**

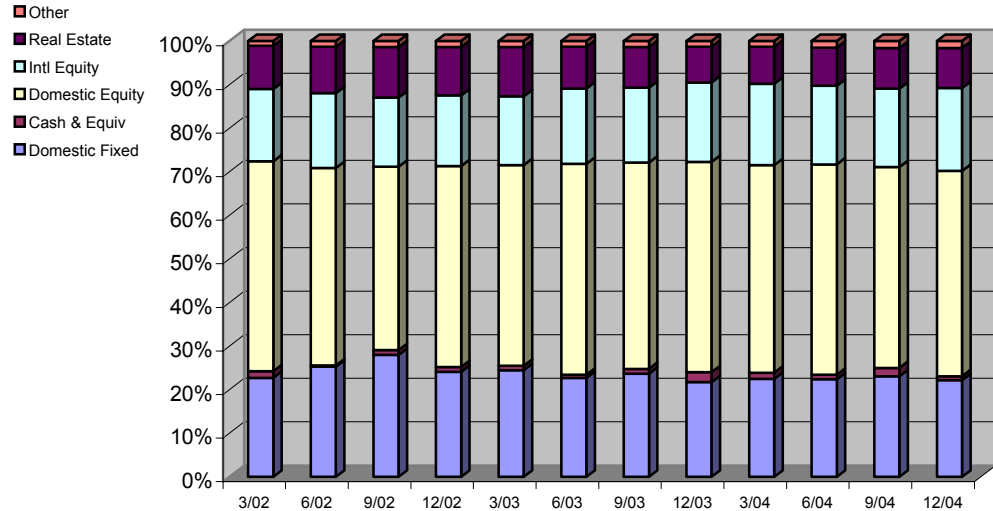
September 30, 2004 \$8,264,388,544



December 31, 2004 \$8,958,824,129



**Asset Allocation
SERS**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04
Domestic Fixed %	22.7	25.3	28.0	24.1	24.5	22.7	23.7	21.7	22.5	22.4	23.0	22.2
Cash & Equiv. %	1.5	0.3	1.1	1.1	1.0	0.7	1.1	2.3	1.4	1.0	2.0	0.9
Domestic Equity %	48.1	45.3	42.1	46.1	46.1	48.4	47.4	48.2	47.6	48.3	46.1	47.1
Intl Equity %	16.6	17.2	15.9	16.2	15.8	17.3	17.2	18.2	18.7	18.0	18.0	19.0
Real Estate %	9.9	10.7	11.6	11.1	11.3	9.6	9.3	8.2	8.5	8.8	9.3	9.2
Other %	1.1	1.3	1.4	1.4	1.4	1.3	1.4	1.3	1.3	1.5	1.6	1.6
Total Value (\$bil)	7.9	7.3	6.5	6.7	6.5	7.2	7.5	8.1	8.3	8.3	8.3	8.9

This is the first page devoted to the analysis of the Ohio School Employees Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the last two quarters of 2004. The chart on the right tracks the quarterly asset allocation of the fund over the last twelve quarters.

School Employees Retirement System

Quarter Ending 12/31/2004

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Sep-94	45.00	Standard & Poors 500
			28.00	ML Domestic Master Bond Idx
			10.00	MSCI EAFE (Net)
			10.00	NCREIF Classic Pty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
	Dec-94	Dec-94	45.00	Standard & Poors 500
			28.00	ML Domestic Master Bond Idx
			10.00	MSCI EAFE 50% Hedged
			10.00	NCREIF Classic Pty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
	Mar-95	Jun-95	45.00	Russell 3000
			28.00	ML Domestic Master Bond Idx
			10.00	MSCI EAFE 50% Hedged
			10.00	NCREIF Classic Pty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
	Sep-95	Mar-97	45.00	Russell 3000
			28.00	LB Aggregate
			10.00	MSCI EAFE 50% Hedged
			10.00	NCREIF Classic Pty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
Jun-97	Jun-97	45.00	Russell 3000	
		28.00	LB Aggregate	
		15.00	MSCI EAFE 50% Hedged	
		10.00	NCREIF Classic Pty Idx (1 Qtr arrear)	
		1.00	Citigroup 30 Day T-Bill	
		1.00	S&P 500 + 5%	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-97	Jun-99	45.00	Russell 3000
			28.00	LB Aggregate
			14.50	MSCI EAFE 50% Hedged
			0.50	MSCI Em Mkts Free
			10.00	NCREIF
	Sep-99	Dec-99	45.00	Russell 3000
			28.00	LB Aggregate
			14.00	MSCI EAFE 50% Hedged
			1.00	MSCI Em Mkts Free
			10.00	NCREIF
	Mar-00	Jun-01	48.00	Russell 3000
			23.00	LB Aggregate
			16.00	MSCI EMF + EAFE 50% Hdg + Canada 50% Hdg
			10.00	NCREIF
			1.00	S&P 500 +5%
	Sep-01	Jun-02	47.00	Russell 3000
			23.00	LB Aggregate
			16.00	MSCI EMF + EAFE 50% Hdg + Canada 50% Hdg
			10.00	NCREIF
			2.00	Private Equity (0% return arrears switch)
Sep-02	Dec-04	46.00	Russell 3000	
		23.00	LB Aggregate	
		16.00	MSCI EMF + EAFE 50% Hdg + Canada 50% Hdg	
		10.00	80% NCREIF (arrears), 20% NAREIT	
		3.00	S&P 500 + 3%	
		2.00	Citigroup 30 Day T-Bill	

SERS' custom policy index is listed above. The charts tracks the fund's change in asset allocation strategy over the past eleven years. The current policy index is listed in the table on the right.

School Employees Retirement System

Performance Overview

Returns for Period Ending December 31, 2004

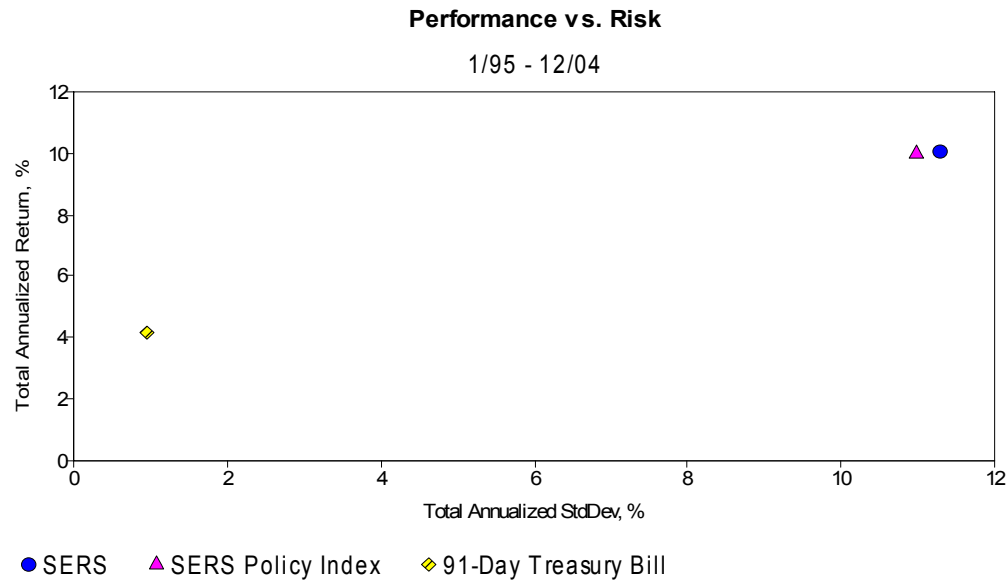
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>3 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	7.77	8.02	8.36	11.69	6.68	2.66	10.08
Policy Index	7.30	7.76	8.00	11.48	6.35	2.32	9.96
Domestic Equity	9.74	7.45	9.12	11.73	4.96	-1.08	11.83
Domestic Equity Segment Median	10.54	8.41	9.90	13.25	5.94	0.91	12.54
Wilshire 5000	10.19	8.17	9.62	12.49	5.43	-1.39	11.93
International Equity	12.99	13.66	13.68	19.03	8.81	-0.76	6.81
International Equity Segment Median	14.64	14.90	14.36	20.25	12.72	0.49	8.16
MSCI EAFE	15.32	15.00	15.25	20.25	11.89	-1.13	5.62
Fixed Income	1.25	4.48	2.33	4.89	6.98	8.50	8.21
Fixed Income Segment Median	1.36	4.68	2.35	5.15	6.86	8.00	8.01
LB Aggregate	0.95	4.18	1.64	4.34	6.20	7.71	7.72
Cash	0.50	0.90	1.16	1.40	1.12	3.56	4.51
Real Estate	7.11	11.94	12.00	17.28	10.08	9.68	10.57
NCREIF	4.69	8.27	11.66	14.52	10.03	9.92	10.87
Alternative	1.03	1.05	1.78	8.66	-5.38	-5.81	13.69

For the trailing ten year period, the fund has outpaced its policy index by 12 basis points, mainly due to strong results that were produced in international equity and fixed income. The most recent twelve months show that SERS has outperformed its policy index by 21 basis points. Strong performance in real estate during 2004 was attributable to the fund's relative outperformance.

School Employees Retirement System

Performance Overview

Returns for Period Ending December 31, 2004



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	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
SERS	10.08	11.29	6.26	0.55
SERS Policy Index	9.96	10.98	6.11	0.55
91-Day Treasury Bill	4.14	0.95	0.00	NA

The SERS total fund return surpassed the policy index on an absolute basis over the last ten year period.

School Employees Retirement System

Asset Allocation Actual vs. Benchmark June 30, 2004

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	48.31%	Russell 3000	46%	2.31%
Fixed Income	22.41%	LB Aggregate	23%	-0.59%
Intl. Equity	17.96%	50% MSCI EMF + 50% EAFE 50% Hdg	16%	1.96%
Real Estate	8.84%	Custom RE (1 Qtr arrears)	10%	-1.16%
Venture Capital	1.52%	S&P 500 + 3%	3%	-1.48%
Short Term	0.97%	Citigroup 30 Day T-Bill	2%	-1.03%

December 31, 2004

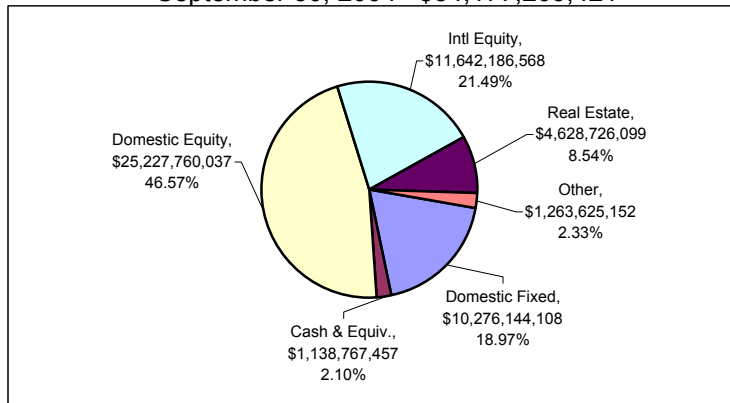
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	47.11%	Russell 3000	46%	1.11%
Fixed Income	22.15%	LB Aggregate	23%	-0.85%
Intl. Equity	18.98%	50% MSCI EMF + 50% EAFE 50% Hdg	16%	2.98%
Real Estate	9.18%	Custom RE (1 Qtr arrears)	10%	-0.82%
Venture Capital	1.63%	S&P 500 + 3%	3%	-1.37%
Short Term	0.94%	Citigroup 30 Day T-Bill	2%	-1.06%

As of the end of the fourth quarter, the SERS fund is overweight in domestic and international equities and underweight in fixed income, real estate, venture capital and cash.

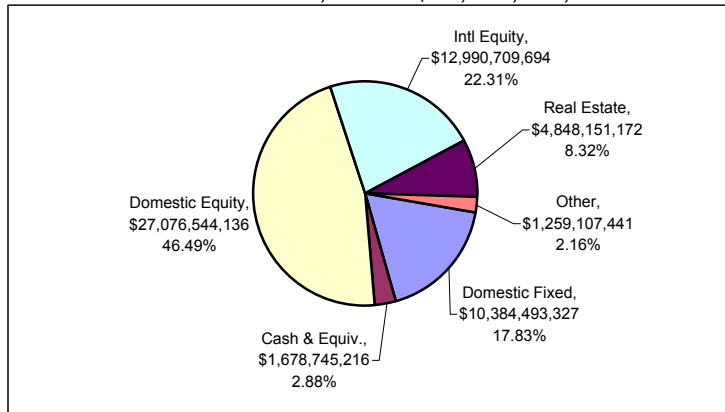
State Teachers Retirement System

**Asset Allocation
STRS**

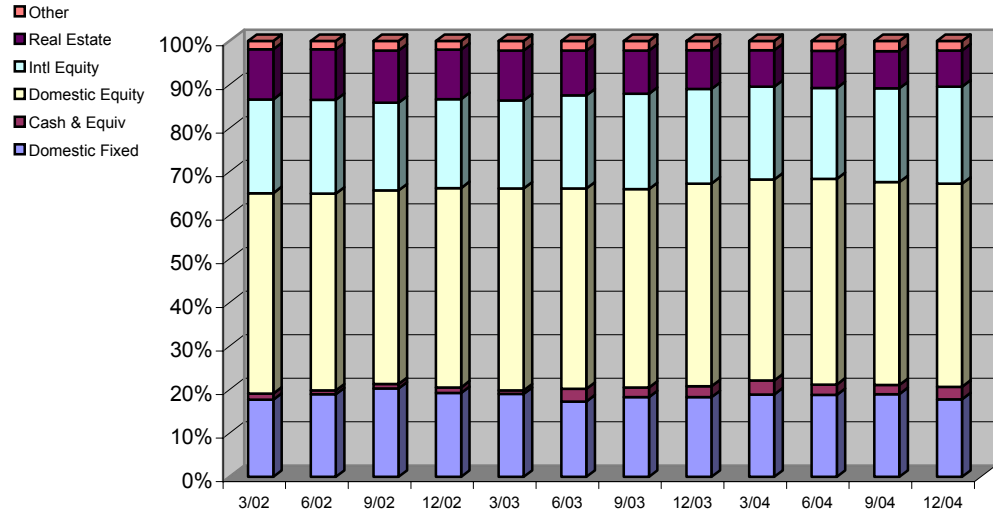
September 30, 2004 \$54,177,209,421



December 31, 2004 \$58,237,750,986



**Asset Allocation
STRS**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04
Domestic Fixed %	17.7	18.9	20.3	19.2	19.0	17.3	18.3	18.3	18.9	18.8	19.0	17.8
Cash & Equiv. %	1.4	0.9	1.0	1.3	0.8	2.9	2.2	2.5	3.2	2.4	2.1	2.9
Domestic Equity %	46.0	45.1	44.5	45.7	46.2	46.0	45.5	46.5	46.1	47.2	46.6	46.7
Intl Equity %	21.5	21.5	20.1	20.4	20.2	21.4	21.9	21.7	21.3	20.9	21.5	22.3
Real Estate %	11.5	11.6	12.0	11.3	11.4	10.3	9.9	8.9	8.4	8.5	8.5	8.3
Other %	1.9	1.9	2.2	2.0	2.2	2.2	2.2	2.1	2.1	2.3	2.3	2.2
Total Value (\$bil)	51.3	47.5	41.6	43.8	42.4	47.3	48.5	52.8	54.4	54.3	54.2	58.2

This is the first page devoted to the analysis of the Ohio State Teachers Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the last two quarters of 2004. The chart on the right tracks the quarterly asset allocation of the fund over the last twelve quarters.

State Teachers Retirement System

Quarter Ending 12/31/2004

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Dec-94	40.00	Standard & Poors 500
			45.00	Lehman Govt./Corp.
			9.00	STRS NCREIF Hybrid
			3.00	MSCI EAFE (Net)
			3.00	91-Day Treasury Bill
	Mar-95	Dec-95	46.00	Standard & Poors 500
			35.00	LB Aggregate
			9.00	STRS NCREIF Hybrid
			6.00	MSCI EAFE (Net)
			2.00	MSCI Em Mkts Free (Gross)
	Mar-96	Dec-96	45.00	Standard & Poors 500
			35.00	LB Aggregate
			9.00	STRS NCREIF Hybrid
			6.75	MSCI EAFE (Net)
			2.25	MSCI Em Mkts Free (Gross)
	Mar-97	Jun-97	45.00	Standard & Poors 500
34.00			LB Aggregate	
9.00			STRS NCREIF Hybrid	
6.00			MSCI EAFE (Net)	
4.00			MSCI Em Mkts Free (Gross)	
2.00	91-Day Treasury Bill			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (Cont.)	Sep-97	Dec-97	45.00	Standard & Poors 500
			24.00	LB Aggregate
			12.00	MSCI EAFE (Net)
			9.00	STRS NCREIF Hybrid
			8.00	MSCI Em Mkts Free (Gross)
	2.00	91-Day Treasury Bill		
	Mar-98	Sep-98	45.00	S&P 1500
			24.00	LB Aggregate
			12.00	MSCI EAFE 50% Hedged
			9.00	STRS NCREIF Hybrid
			8.00	MSCI Em Mkts Free (Gross)
	Dec-98	Sep-00	45.00	S&P 1500
			24.00	LB Aggregate
			14.00	MSCI EAFE 50% Hedged
			9.00	STRS NCREIF Hybrid
			6.00	MSCI Em Mkts Free (Gross)
Dec-00	Jun-02	45.00	S&P 1500	
		25.00	Lehman Universal	
		15.00	MSCI EAFE 50% Hedged	
		9.00	STRS NCREIF Hybrid	
		5.00	MSCI Em Mkts Free (Gross)	
1.00	91-Day Treasury Bill			

STRS' custom policy index is listed above and on the following page. Charts track the fund's change in asset allocation strategy over the past eleven years.

State Teachers Retirement System

Quarter Ending 12/31/2004

Label	Quarter Start	Quarter End	Percent	Description	
Policy Index (cont.)	Sep-02	Dec-02	45.00	S&P 1500	
			23.00	Lehman Universal	
			15.00	MSCI EAFE 50% Hedged	
				9.00	STRS NCREIF Hybrid
				5.00	MSCI Em Mkts Free (Gross)
				2.00	Alt. Investment Actual Return
				1.00	91-Day Treasury Bill
		Mar-03	Jun-03	45.00	S&P/Russell Hybrid*
				23.00	Lehman Universal
			15.00	MSCI EAFE 50% Hedged	
			9.00	STRS NCREIF Hybrid	
			5.00	MSCI Em Mkts Free (Gross)	
			2.00	Alt. Investment Actual Return	
			1.00	91-Day Treasury Bill	
	Sep-03	Dec-04	45.00	Russell 3000*	
			23.00	Lehman Universal	
			15.00	MSCI World ex US 50% Hedged	
			9.00	STRS NCREIF Hybrid	
			5.00	MSCI Em Mkts Free (Gross)	
			2.00	Alt. Investment Actual Return	
			1.00	91-Day Treasury Bill	

The current STRS policy index is listed above.

State Teachers Retirement System

Performance Overview

Returns for Period Ending December 31, 2004

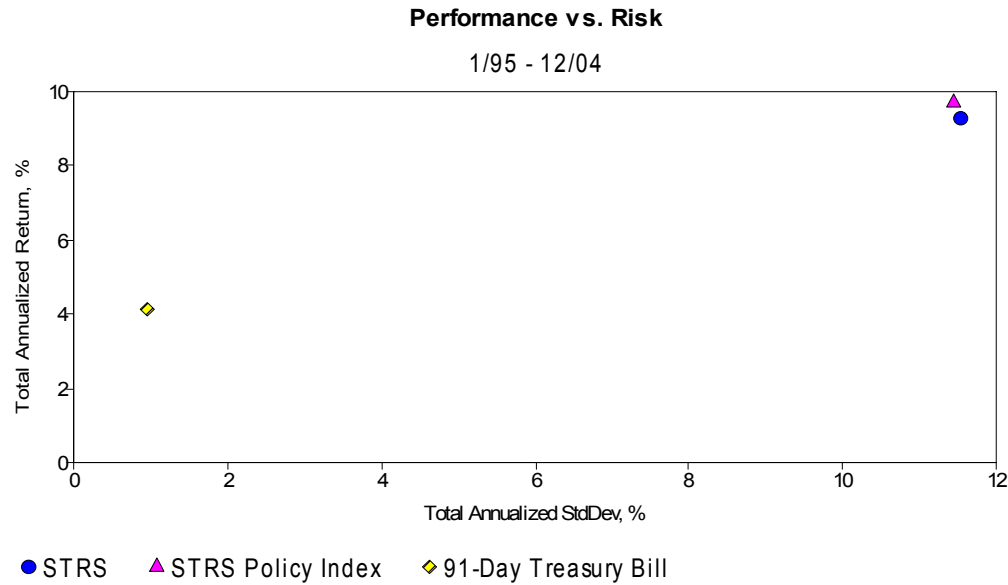
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>3 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	8.35	9.21	9.40	13.23	7.61	2.78	9.31
Policy Index	7.87	8.55	8.55	11.96	6.96	2.51	9.70
Domestic Equity	10.09	8.13	9.35	11.95	4.30	-1.07	10.34
Domestic Equity Segment Median	10.54	8.41	9.90	13.25	5.94	0.91	12.54
Wilshire 5000	10.19	8.17	9.62	12.49	5.43	-1.39	11.93
International Equity	13.30	16.34	14.07	20.28	12.65	0.46	5.74
International Equity Segment Median	14.64	14.90	14.36	20.25	12.72	0.49	8.16
MSCI EAFE	15.32	15.00	15.25	20.25	11.89	-1.13	5.62
Fixed Income	1.52	4.84	2.52	5.03	7.23	8.71	8.78
Fixed Income Segment Median	1.36	4.68	2.35	5.15	6.86	8.00	8.01
LB Aggregate	0.95	4.18	1.64	4.34	6.20	7.71	7.72
Cash	0.49	0.85	1.11	1.38	1.44	2.98	4.33
Real Estate	5.70	11.09	15.85	24.13	12.08	11.56	11.53
NCREIF	4.69	8.27	11.66	14.52	10.03	9.92	10.87
Alternative	0.32	0.57	6.45	12.49	-0.44	-2.09	2.82

Over the trailing ten year period, the fund has underperformed its policy index by 39 basis points. Despite strong relative performance in international equity, fixed income and real estate, domestic equity returns lagged the broad market as defined by the Wilshire 5000 by 159 basis points. The most recent twelve months show that STRS has significantly outperformed its policy index by 127 basis points. During this time period, fixed income and real estate have outpaced the respective broad market benchmarks, while domestic equity slightly lagged the Wilshire 5000.

State Teachers Retirement System

Performance Overview

Returns for Period Ending December 31, 2004



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
STRS	9.31	11.55	5.56	0.48
STRS Policy Index	9.70	11.44	5.92	0.51
91-Day Treasury Bill	4.14	0.95	0.00	NA

The chart above shows that on a risk-adjusted basis, the fund has fallen short of the risk-adjusted return of its policy index over the last ten year period.

State Teachers Retirement System

Asset Allocation Actual vs. Benchmark June 30, 2004

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Equity	47.15%	Russell 3000	45%	2.15%
Fixed Income	18.80%	Lehman Universal	23%	-4.20%
Intl. Equity	20.91%	Intl. Hybrid Benchmark	20%	0.91%
Real Estate	8.47%	NCREIF Adjusted	9%	-0.53%
Venture Capital	2.25%	Alt. Inv. Actual Return	2%	0.25%
Short Term	2.42%	3 Month T-Bill	1%	1.42%

December 31, 2004

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Equity	46.49%	Russell 3000	45%	1.49%
Fixed Income	17.83%	Lehman Universal	23%	-5.17%
Intl. Equity	22.31%	Intl. Hybrid Benchmark	20%	2.31%
Real Estate	8.32%	NCREIF Adjusted	9%	-0.68%
Venture Capital	2.16%	Alt. Inv. Actual Return	2%	0.16%
Short Term	2.88%	3 Month T-Bill	1%	1.88%

As of the end of the fourth quarter, the STRS fund was overweight in domestic and international equities, venture capital, and cash, while being underweight in fixed income and real estate.

Appendix: ORSC Performance Attribution

The following exhibits provide an analysis of the impact of asset allocation and active management for the past seven years – the time period in which all five funds have been operating under “prudent person” standards. The three data points for each quarter are the allocation index return, the policy index return, and the total fund return. The quarterly asset allocation attribution is the result of deviation in asset allocation from the policy index. In order to accomplish this, an allocation index is created. The allocation index for a particular quarter is created by averaging the weight of a particular asset class at the beginning of the quarter and at the end of a quarter. The resulting average is then multiplied by the return of the market index that has been assigned to that asset class in the policy statement. The product of the allocation weight times the index return is the allocation index return for that asset class. This method is used for each asset class and the results of each asset class are then added together to create the allocation index return for the portfolio.

Here is an example:

HPRS Allocation Index

Asset Class	Quarter One Weight	Quarter Two Weight	Average Weight	Market Index Return	Avg Wght * Mkt Idx Ret
Large Cap	29.22%	31.09%	30.16%	8.45%	2.548%
Small/Mid Cap	16.07%	16.55%	16.31%	6.64%	1.083%
Fixed Income	28.45%	24.91%	26.68%	1.57%	0.419%
Intl. Equity	9.05%	11.00%	10.03%	6.45%	0.647%
Real Estate	16.89%	15.51%	16.20%	1.59%	0.258%
Cash	0.30%	0.93%	0.62%	0.43%	0.003%
Allocation Index Return					4.96%

The policy index return is then subtracted from the allocation index return in order to determine the value added or subtracted by deviations in the funds’ asset allocation from the policy index.

The next step is to determine the value added or subtracted by active management. The allocation index return is subtracted from the total fund return in order to determine value added or subtracted. Finally, the total attribution is calculated by subtracting the policy index from the total fund return. The result is the total value added or subtracted by the combination of asset allocation and active management.

The lines on the graphs represent the cumulative effect of each quarterly attribution number. The endpoint is the total value added or subtracted from the fund’s return for the past five years. The data points on the graph have not been annualized. The table below each graph provides a one-, three-, and five-year annualized representation of the attribution of each fund.

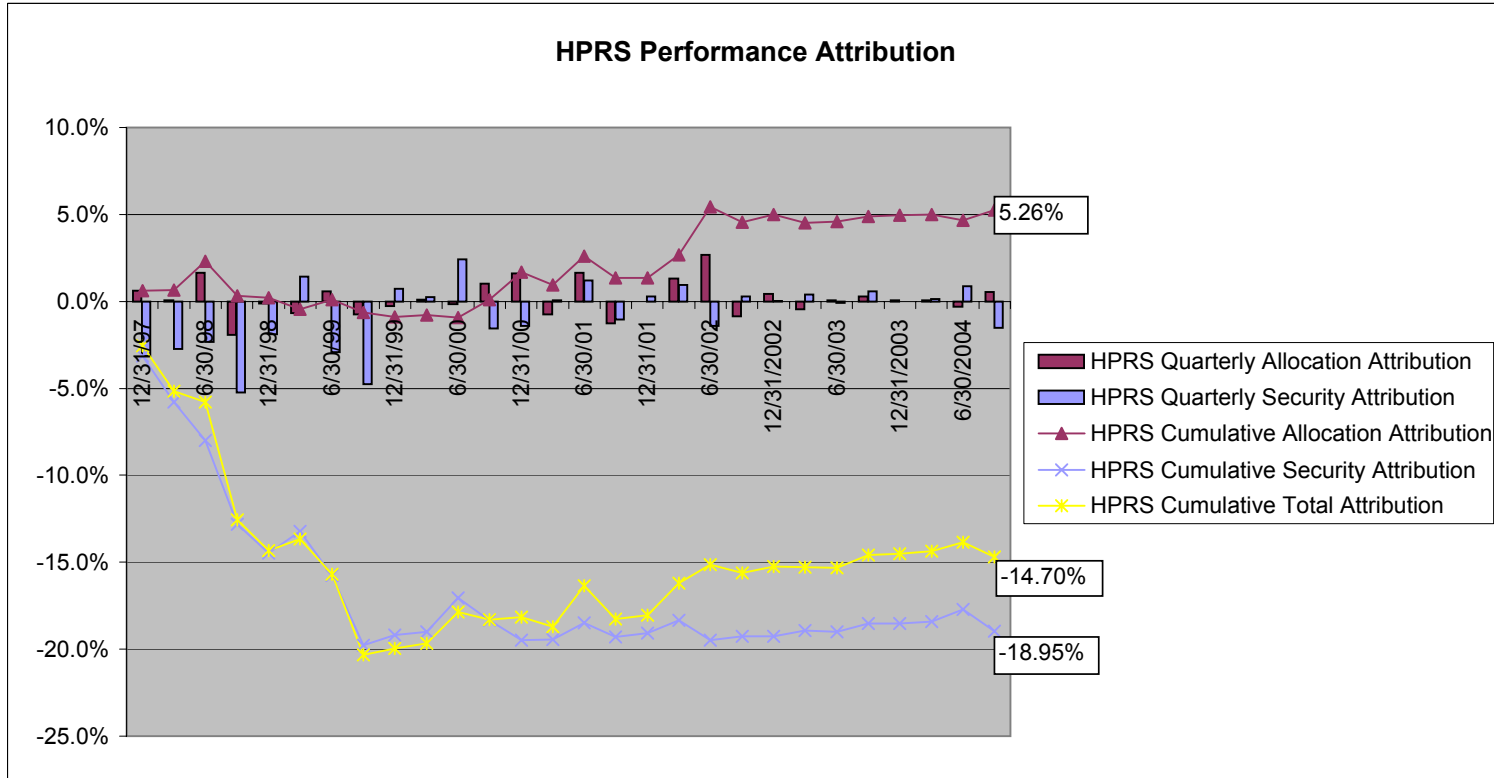
Appendix: ORSC Performance Attribution

The analysis shows that of the five funds, OP&F, SERS and STRS have achieved positive total attribution results over the past seven years. For the same time period, STRS benefited from their asset allocation strategies, while SERS and OP&F's active management of its investment managers helped boost overall results. For the same time period, the analysis also illustrates that active management has proven to be the biggest detractor from the performance of HPRS, PERS and STRS, while the decision to deviate from the target policy asset allocation was beneficial for HPRS and STRS over the past seven years.

Breakdown of Attribution Results - Last 7 Years

	Asset Attribution	Selection Attribution	Total Attribution
HPRS	0.74%	-2.96%	-2.25%
PERS	-0.26%	-0.38%	-0.63%
OP&F	-0.02%	0.04%	0.03%
SERS	-0.68%	0.90%	0.17%
STRS	0.51%	-0.47%	0.05%

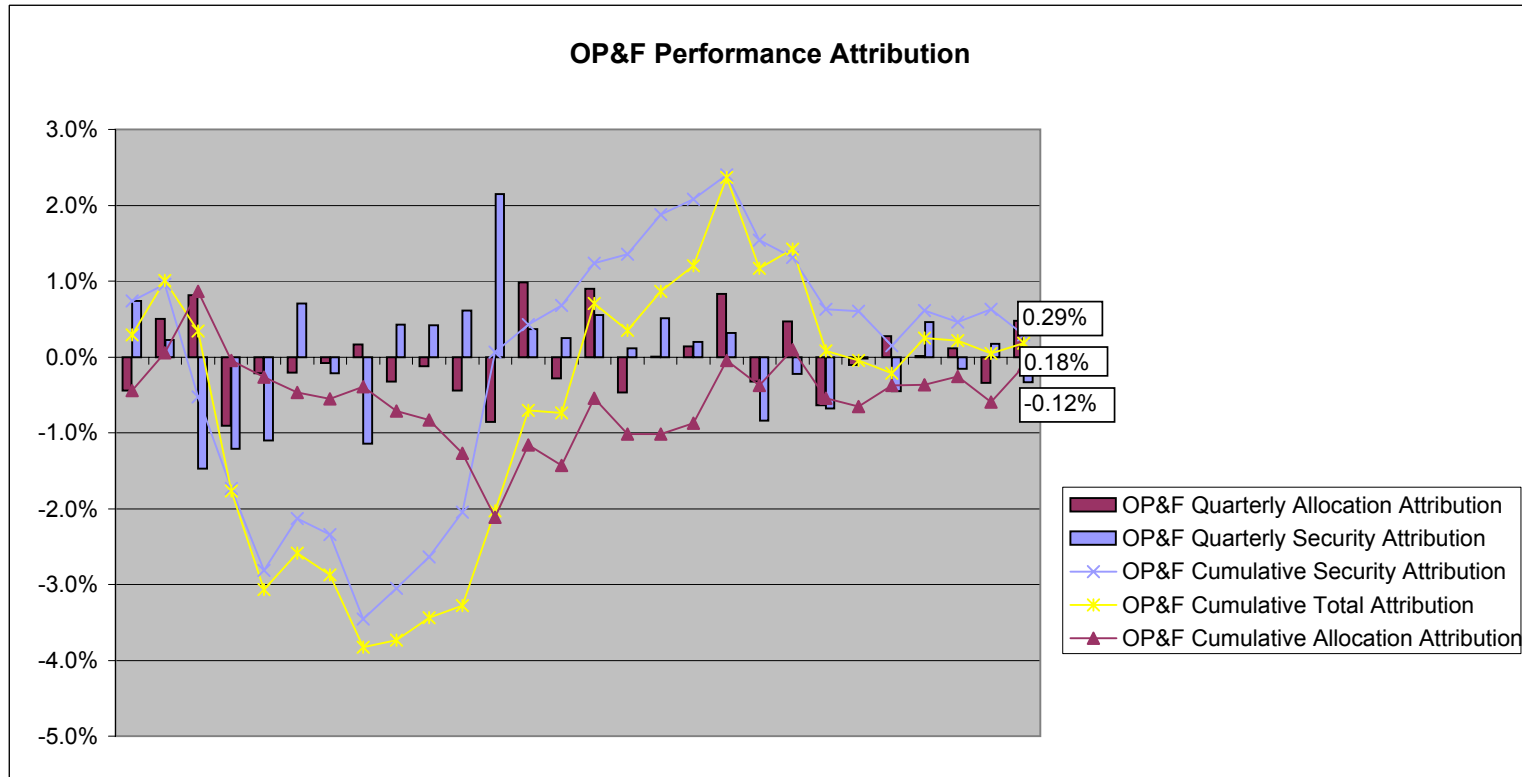
Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	0.371%	1.272%	1.158%	0.735%
Security Selection Attribution	-0.527%	0.144%	0.205%	-2.958%
Total Attribution	-0.146%	1.431%	1.375%	-2.246%

The graph above provides seven year attribution analysis for the Highway Patrol Retirement System. The bars represent the value added to (or subtracted from) the portfolio each quarter from the fund's asset allocation decisions - decisions to be under or overweight in a particular asset class versus the policy target. The blue bars represent the value added to (or subtracted from) the portfolio from active portfolio management. The red line is a cumulative measure of the value added to (or subtracted from) the portfolio from asset allocation strategies over the seven years (+5.26%). The blue line represents the cumulative measure of the value added to (or subtracted from) the portfolio from active management over the past seven years (-18.95%). The yellow line represents the total value added or subtracted to (or subtracted by) a combination of asset allocation strategies and active portfolio management (-14.70%). The above graph demonstrates that over the past seven years, HPRS' asset allocation strategy has added 5.26% to the return of the fund, while over the same period, the active management of their investment managers has subtracted 18.95% from the fund's performance. The cumulative effect of active management and asset allocation has subtracted 14.70% from the fund's performance over the past seven years, however the fund has added value over three- and five-year periods.

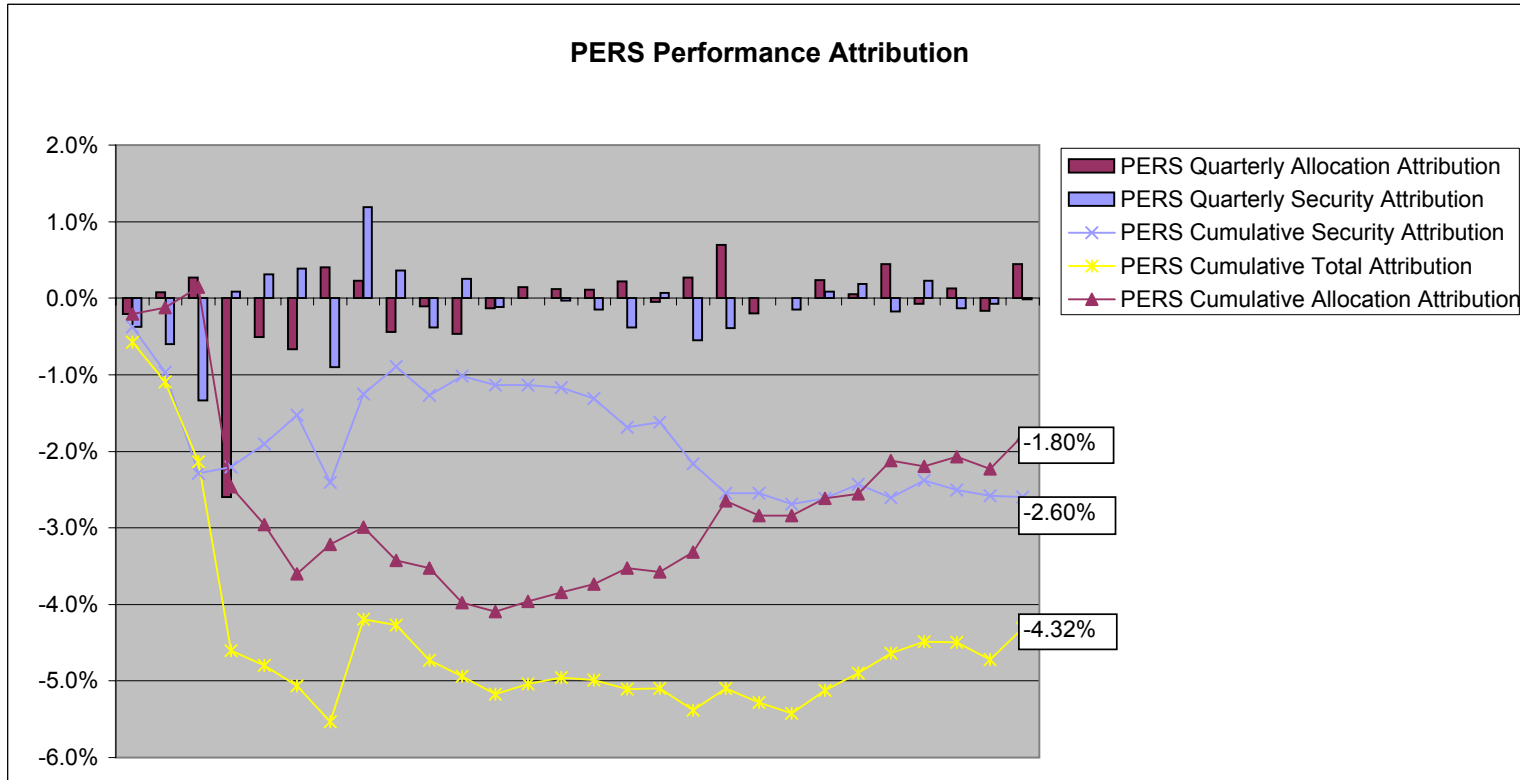
Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	0.256%	0.299%	0.053%	-0.018%
Security Selection Attribution	0.141%	-0.351%	0.765%	0.042%
Total Attribution	0.399%	-0.055%	0.820%	0.026%

The graph above shows that OP&F's asset allocation strategy has modestly countered the positive active management of the fund's investment managers for the seven-year period. However, for more recent annualized time periods, the fund has added value by making solid asset allocation decisions.

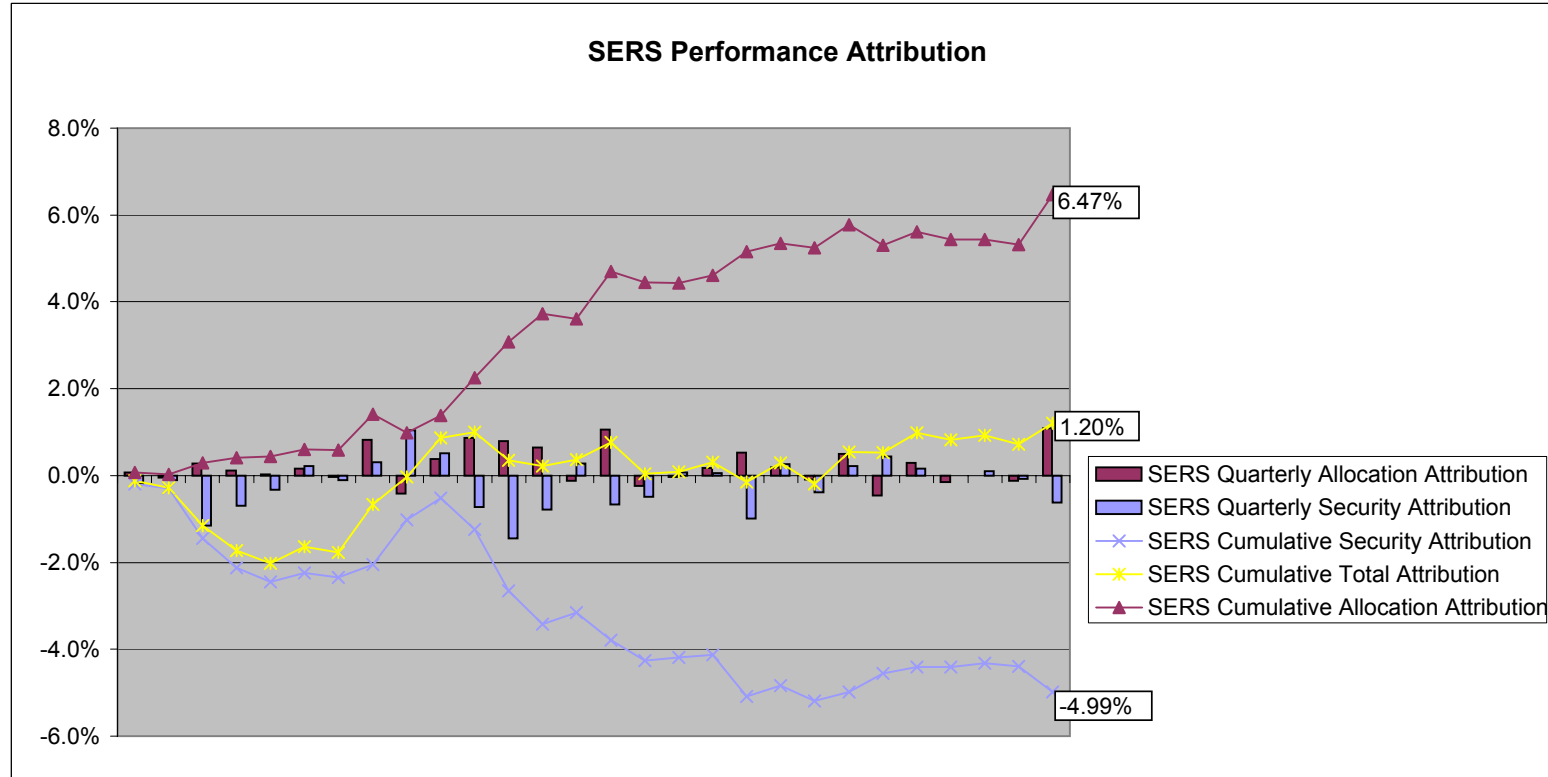
Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	0.333%	0.593%	0.245%	-0.259%
Security Selection Attribution	0.006%	-0.309%	-0.275%	-0.375%
Total Attribution	0.339%	0.278%	-0.025%	-0.628%

The above graph shows that asset allocation and selection have both detracted from PERS' performance results over the past seven years. However, for trailing one-, three- and five-year periods, PERS' decision on asset allocation has positively contributed to overall performance.

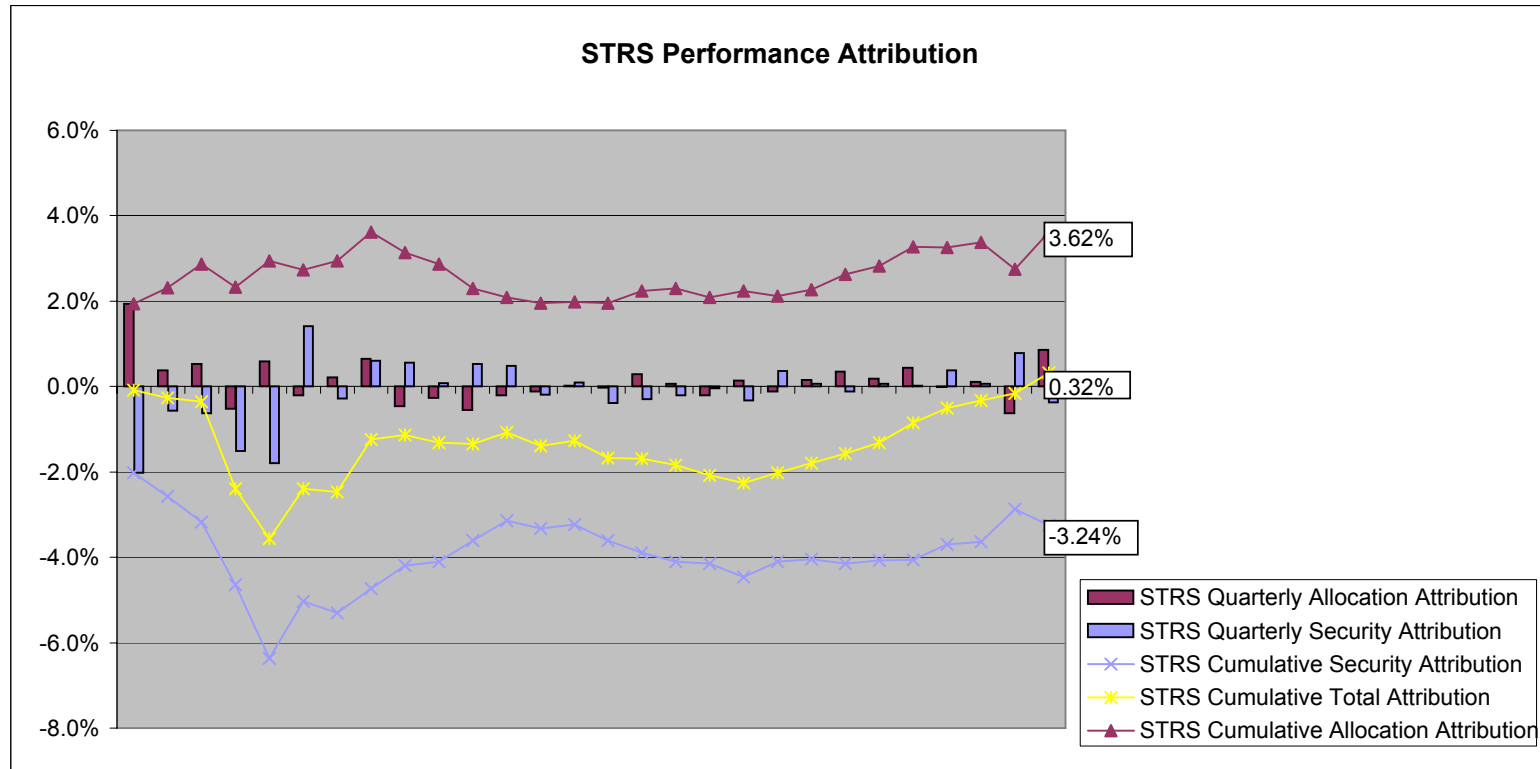
Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	0.702%	-0.402%	-0.428%	-0.677%
Security Selection Attribution	0.812%	0.637%	0.976%	0.899%
Total Attribution	0.209%	0.385%	0.371%	0.171%

The graph above shows that SERS has added most value through security selection for the trailing seven-year period, counteracting the negative impact of asset allocation decision and resulting in overall positive results. The fund has added value over the one-, three- and five-year periods as well, mostly due to positive security selection.

Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	0.326%	0.445%	0.001%	0.509%
Security Selection Attribution	0.848%	0.226%	0.310%	-0.470%
Total Attribution	1.185%	0.676%	0.314%	0.046%

The graph above shows that STRS has added most value through asset allocation over the past seven years. For one-, three- and five-year periods, both asset allocation strategy and active management of their investment managers has contributed to total performance.

Appendix - Ohio Retirement Systems Investment Operating Cost Analysis

Each year, the four large Ohio Pension Funds (PERS, STRS, OP&F and SERS) participate in a Cost Effectiveness Pension Fund Survey conducted by Cost Effectiveness Management, Inc. (CEM), a Toronto, Ontario – based consulting firm. In 2004, CEM gathered and analyzed a variety of cost information from 128 US pension funds, including the Ohio funds mentioned above.

In order to prepare an “apples to apples” cost comparison for the members of the Council, we asked the Systems to provide us with their most recent CEM report. We then created the side-by-side comparisons that are displayed below. In order to include HPRS, we provided a spreadsheet for them to report the same information that the other funds were reporting to CEM.

The data provided herein is a comparison of the Ohio funds to each other. Investment management costs ranged from a high of 45.8 basis points (a basis point is one one-hundredth of a percent) for HPRS to a low of 15 basis points for PERS. Total operating costs, including investment management and other direct costs such as trustee and custodial services, consulting, etc., ranged from a high of 52.5 basis points for HPRS to a low of 17.5 basis points for PERS. Expenses, not surprisingly, are directly related to the size of the fund. It is intuitive that the largest fund (PERS) would have the lowest expenses, on a percentage basis, and that the smallest fund (HPRS) would have the highest. In fact, if you rank the funds, 1-5, in order of their size, their expenses would rank in exactly the same order, lowest to highest.

This represents our first attempt to provide a thorough report on the costs associated with managing the assets of the systems. In the future, we will endeavor to also provide peer group comparisons, so that the members of the Council can see how the Ohio funds compare to other similar funds around the country.

Definition of Operating Costs

Total Operating Costs equals the sum of:

1. Investment Management Costs including:
 - a) Externally managed assets. The sum of all investment management fees, performance based fees and commitment fees. Include all fees netted from commingled pooled funds or mutual funds, etc. as well as staff dedicated to overseeing a given asset class and any attributed overhead.
 - b) Internally managed assets. The sum of all costs directly traceable to internally managing investments. Including: compensation and benefits of investment employees and support staff, related overhead (office rent, telephone, computer systems, etc.) and associated costs (travel, research, conference costs, subscriptions and memberships, etc.)

Note: These costs are separate and distinct from "Oversight Costs" defined in 3(a) below.

2. Overlay Costs. The cost of managing overlay programs such as derivative based tactical asset allocation programs which are unfunded other than margin requirements, as well as foreign exchange overlay programs.
3. Oversight, Custodial & Other Costs including:
 - a) Oversight Costs:
 - (i) The salaries and benefits of executives and their staff responsible for overseeing the entire fund or multiple asset classes.
 - (ii) Fees/salaries of Board of Trustees or Investment Committee members.

- b) Custodial Costs. Before any adjustments relating to securities lending.

Note: Custodial costs for preparing benefit checks or relating to other asset pools (such as DC assets) is not included.

- c) Consulting and Performance Measurement Costs.
 - d) Audit Costs.
 - e) Other Costs.

Note: Liability related costs such as benefit administration costs, actuarial valuation fees and PBGC premiums are not included.

The information contained herein is intended to show an analysis on the investment operating costs of the five Ohio Statewide pension funds based on information gathered by Evaluation Associates, drawing on data and analysis reported by Cost Effectiveness Measurement, Inc. (CEM) and other information provided by the funds. Although information in this appendix has been based upon and obtained from sources we believe to be reliable, Evaluation Associates does not guarantee its accuracy.

Appendix - Ohio Retirement Systems Investment Operating Cost Analysis

Summary of All Plans 2004 (in thousands)

Internal and External Investment Management Costs (\$000's)	HPRS		OP&F		PERS		SERS		STRS		All Plans	
	Total	% of Total	Total	% of Total	Total	% of Total	Total	% of Total	Total	% of Total	Total	Avg. of Total
Domestic Equity - Large Cap	\$ 940	26%	\$ 7,395	20%	\$ 10,008	9%	\$ 4,956	13%	\$ 12,753	10%	\$ 36,052	16%
Domestic Equity - Small Cap	\$ 660	18%	\$ 3,960	10%	\$ 3,154	3%	\$ 4,278	12%	\$ 6,992	5%	\$ 19,044	10%
Foreign Equity	\$ 562	16%	\$ 4,551	12%	\$ 26,225	24%	\$ 3,707	10%	\$ 13,954	11%	\$ 48,999	14%
Emerging Equity			\$ 2,084	6%	\$ 4,497	4%	\$ 1,265	3%	\$ 14,424	11%	\$ 22,270	5%
Domestic Fixed Income	\$ 327	9%	\$ 2,050	5%	\$ 2,690	2%	\$ 3,223	9%	\$ 2,501	2%	\$ 10,791	5%
Foreign Fixed Income					\$ 2,107	2%			\$ 1,748	1%	\$ 3,855	1%
Inflation Indexed			\$ 458								\$ 458	0%
High Yield Bonds			\$ 2,406	6%	\$ 4,070	4%			\$ 3,003	2%	\$ 9,479	3%
Fixed Income - Other			\$ 360	1%							\$ 360	0%
Cash & Equivalents			\$ 100	0%	\$ 219	0%	\$ 83	0%	\$ 104	0%	\$ 506	0%
TAA												0%
REITs					\$ 333	0%	\$ 760	2%	\$ 206	0%	\$ 1,299	0%
Real Estate ex REITs	\$ 631	18%	\$ 5,130	14%	\$ 16,926	16%	\$ 6,612	18%	\$ 17,778	13%	\$ 47,077	16%
Other Real Assets									\$ 2,191	2%	\$ 2,191	0%
Hedge Funds:												0%
Fund of Funds												0%
Not Fund of Funds									\$ 200	0%	\$ 200	0%
Venture Capital/LBO												0%
Fund of Funds			\$ 2,502				\$ 1,616				\$ 4,118	0%
Not Fund of Funds			\$ 1,981	5%	\$ 22,337	21%	\$ 4,503	12%	\$ 42,285	32%	\$ 71,106	14%
Other Private Equity												0%
Overlay Programs												0%
Total Investment Management Costs	\$ 3,120	87%	\$ 32,977	87%	\$ 92,566	85%	\$ 31,003	84%	\$ 118,139	90%	\$ 277,805	86%
(basis points)	45.8		30.0		15.0		35.0		21.3		147.1	29.4
Oversight, Custodial & Other - asset related (\$000's)												
Oversight of the Fund	\$ 78	2%	\$ 2,111	6%	\$ 7,887	7%	\$ 2,186	6%	\$ 5,966	5%	\$ 18,228	5%
Trustee & Custodial	\$ 116	3%	\$ 1,757	5%	\$ 5,922	5%	\$ 2,574	7%	\$ 5,774	4%	\$ 16,143	5%
Consulting and Performance Measurement	\$ 173	5%	\$ 870	2%	\$ 703	1%	\$ 857	2%	\$ 1,345	1%	\$ 3,947	2%
Audit	\$ 16	0%	\$ 94	0%	\$ 405	0%	\$ 143	0%	\$ 101	0%	\$ 759	0%
Other	\$ 79	2%	\$ 64	0%	\$ 234	0%	\$ 254	1%	\$ 641	0%	\$ 1,272	1%
Total Oversight, Custodial & Other Costs	\$ 462	13%	\$ 4,896	13%	\$ 15,151	14%	\$ 6,014	16%	\$ 13,827	10%	\$ 40,349	13%
(basis points)	6.7		5.0		2.5		6.8		2.5		N/A	N/A
Total Operating Costs (\$000's)	\$ 3,582	100%	\$ 37,873	100%	\$ 107,717	100%	\$ 37,017	100%	\$ 131,966	100%	\$ 318,154	
(basis points)	52.5		35.0		17.5		41.8		23.8		170.6	34.1
Total Assets (\$000's)	\$ 681,038		\$ 9,734,113		\$ 64,631,917		\$ 8,856,241		\$ 58,237,750		\$ 142,141,059	

Appendix - Ohio Retirement Systems Investment Operating Cost Analysis

Summary of All Plans 2004 (in thousands)

External Investment Management Costs (\$000's)	HPRS		OP&F		PERS		SERS		STRS		All Plans	
	Passive	Active	Passive	Active	Passive	Active	Passive	Active	Passive	Active	Total	% of Total
Domestic Equity - Large Cap		\$ 940	\$ 89	\$ 7,306	\$ 278	\$ 5,131	\$ 258	\$ 4,698		\$ 6,282	\$ 24,982	10%
Domestic Equity - Small Cap		\$ 660		\$ 3,960		\$ 3,154		\$ 4,278		\$ 6,733	\$ 18,785	8%
Foreign Equity	\$ 562		\$ 151	\$ 4,400	\$ 939	\$ 25,286	\$ 43	\$ 3,664	\$ 288	\$ 12,476	\$ 47,808	19%
Emerging Equity				\$ 2,084		\$ 4,497		\$ 1,265		\$ 11,748	\$ 19,594	8%
Domestic Fixed Income		\$ 328		\$ 2,050		\$ 581		\$ 3,223			\$ 6,182	2%
Foreign Fixed Income						\$ 2,107				\$ 1,748	\$ 3,855	2%
Inflation Indexed				\$ 458							\$ 458	0%
High Yield Bonds				\$ 2,406		\$ 4,070				\$ 3,003	\$ 9,479	4%
Fixed Income - Other				\$ 360							\$ 360	0%
Cash & Equivalents						\$ 28						
TAA												
REITs								\$ 760			\$ 760	0%
Real Estate ex REITs	\$ 454			\$ 5,130		\$ 16,926		\$ 6,612		\$ 9,541	\$ 38,663	16%
Other Real Assets										\$ 2,191	\$ 2,191	1%
Hedge Funds:												
Fund of Funds												
Not Fund of Funds										\$ 200	\$ 200	0%
Venture Capital/LBO												
Fund of Funds				\$ 2,502				\$ 1,616			\$ 4,118	2%
Not Fund of Funds				\$ 1,981		\$ 22,337		\$ 4,503		\$ 42,285	\$ 71,106	29%
Other Private Equity												
Overlay Programs												
Total	\$ 1,016	\$ 1,928	\$ 240	\$ 32,637	\$ 1,217	\$ 84,117	\$ 301	\$ 30,619	\$ 288	\$ 96,207	\$ 248,569	100%
Total Internal and External Assets (\$000's)	\$ 681,038		\$ 9,734,113		\$ 64,631,917		\$ 8,856,241		\$ 58,237,750		\$ 142,141,059	

Appendix - Ohio Retirement Systems Investment Operating Cost Analysis

Summary of All Plans 2004 (in thousands)

Internal Investment Management Costs (\$000's)	HPRS		OP&F		PERS		SERS		STRS		All Plans	
	Passive	Active	Passive	Active	Passive	Active	Passive	Active	Passive	Active	Total	% of Total
Domestic Equity - Large Cap					\$ 1,059	\$ 3,540			\$ 259	\$ 6,212	\$ 11,070	38%
Domestic Equity - Small Cap									\$ 259	\$ 259	\$ 259	1%
Foreign Equity									\$ 1,190	\$ 1,190	\$ 1,190	4%
Emerging Equity									\$ 2,676	\$ 2,676	\$ 2,676	9%
Domestic Fixed Income						\$ 2,109			\$ 2,501	\$ 4,610	\$ 4,610	16%
Foreign Fixed Income												
Inflation Indexed												
High Yield Bonds												
Fixed Income - Other												
Cash & Equivalents				\$ 100		\$ 191		\$ 83		\$ 104	\$ 478	2%
TAA												
REITs						\$ 333				\$ 206	\$ 539	2%
Real Estate ex REITs		\$ 177								\$ 8,237	\$ 8,414	29%
Other Real Assets												
Hedge Funds:												
Fund of Funds												
Not Fund of Funds												
Venture Capital/LBO												
Fund of Funds												
Not Fund of Funds												
Other Private Equity												
Overlay Programs												
Total		\$ 177		\$ 100	\$ 1,059	\$ 6,173		\$ 83	\$ 259	\$ 21,385	\$ 29,236	100%
Total Internal and External Assets (\$000's)	\$ 681,038		\$ 9,734,113		\$ 64,631,917		\$ 8,856,241		\$ 58,237,750		\$ 142,141,059	

Appendix - PERS Investment Operating Cost Analysis 2004 Summary (in thousands)

Investment Management Costs (\$000's)

	Internal		External		Total	% of Total
	Passive	Active	Passive	Active		
Domestic Equity - Large Cap	\$ 1,059	\$ 3,540	\$ 278	\$ 5,131	\$ 10,008	9%
Domestic Equity - Small Cap				\$ 3,154	\$ 3,154	3%
Foreign Equity			\$ 939	\$ 25,286	\$ 26,225	24%
Emerging Equity				\$ 4,497	\$ 4,497	4%
Domestic Fixed Income		\$ 2,109		\$ 581	\$ 2,690	2%
Foreign Fixed Income				\$ 2,107	\$ 2,107	2%
Inflation Indexed						
High Yield Bonds				\$ 4,070	\$ 4,070	4%
Fixed Income - Other						
Cash & Equivalents		\$ 191		\$ 28	\$ 219	0%
TAA						
REITs		\$ 333			\$ 333	0%
Real Estate ex REITs				\$ 16,926	\$ 16,926	16%
Other Real Assets						
Hedge Funds:						
Fund of Funds						
Not Fund of Funds						
Venture Capital/LBO						
Fund of Funds						
Not Fund of Funds				\$ 22,337	\$ 22,337	21%
Other Private Equity						
Overlay Programs						
Total Investment Management Costs (basis points)	\$ 1,059	\$ 6,173	\$ 1,217	\$ 84,117	\$ 92,566 15.0	86%

Oversight, Custodial & Other - asset related (\$000's)

Oversight of the Fund	\$ 7,887	7%
Trustee & Custodial	\$ 5,922	5%
Consulting and Performance Measurement	\$ 703	1%
Audit	\$ 405	0%
Other	\$ 234	0%
Total Oversight, Custodial & Other Costs (basis points)	\$ 15,151 2.5	14%

Public Employees Retirement System of Ohio Total Operating Costs in 2004 (\$000's)

(basis points)	\$ 107,717 17.5	100%
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Public Employees Retirement System of Ohio Total Assets as of Dec. 31, 2004 (\$000's)

	\$ 64,631,917	
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Appendix - STRS Investment Operating Cost Analysis 2004 Summary (in thousands)

Investment Management Costs (\$000's)

	Internal		External		Total	% of Total
	Passive	Active	Passive	Active		
Domestic Equity - Large Cap	\$ 259	\$ 6,212		\$ 6,282	\$ 12,753	10%
Domestic Equity - Small Cap		\$ 259		\$ 6,733	\$ 6,992	5%
Foreign Equity		\$ 1,190	\$ 288	\$ 12,476	\$ 13,954	11%
Emerging Equity		\$ 2,676		\$ 11,748	\$ 14,424	11%
Domestic Fixed Income		\$ 2,501			\$ 2,501	2%
Foreign Fixed Income				\$ 1,748	\$ 1,748	1%
Inflation Indexed						
High Yield Bonds				\$ 3,003	\$ 3,003	2%
Fixed Income - Other						
Cash & Equivalents		\$ 104			\$ 104	0%
TAA						
REITs		\$ 206			\$ 206	0%
Real Estate ex REITs		\$ 8,237		\$ 9,541	\$ 17,778	13%
Other Real Assets				\$ 2,191	\$ 2,191	2%
Hedge Funds:						
Fund of Funds						
Not Fund of Funds				\$ 200	\$ 200	0%
Venture Capital/LBO						
Fund of Funds						
Not Fund of Funds				\$ 42,285	\$ 42,285	32%
Other Private Equity						
Overlay Programs						
Total Investment Management Costs	\$ 259	\$ 21,385	\$ 288	\$ 96,207	\$ 118,139	90%
(basis points)					21.3	

Oversight, Custodial & Other - asset related (\$000's)

Oversight of the Fund	\$ 5,966	5%
Trustee & Custodial	\$ 5,774	4%
Consulting and Performance Measurement	\$ 1,345	1%
Audit	\$ 101	0%
Other	\$ 641	0%
Total Oversight, Custodial & Other Costs	\$ 13,827	10%
(basis points)	2.5	

State Teachers Retirement System of Ohio Total Operating Costs in 2004 (\$000's)

	\$ 131,966	100%
(basis points)	23.8	

Appendix - OP&F Investment Operating Cost Analysis

2004 Summary (in thousands)

Investment Management Costs (\$000's)

	Internal		External		Total	% of Total
	Passive	Active	Passive	Active		
Domestic Equity - Large Cap			\$ 89	\$ 7,306	\$ 7,395	20%
Domestic Equity - Small Cap				\$ 3,960	\$ 3,960	10%
Foreign Equity			\$ 151	\$ 4,400	\$ 4,551	12%
Emerging Equity				\$ 2,084	\$ 2,084	6%
Domestic Fixed Income				\$ 2,050	\$ 2,050	5%
Foreign Fixed Income						
Inflation Indexed				\$ 458	\$ 458	1%
High Yield Bonds				\$ 2,406	\$ 2,406	6%
Fixed Income - Other				\$ 360	\$ 360	1%
Cash & Equivalents		\$ 100			\$ 100	0%
TAA						
REITs						
Real Estate ex REITs				\$ 5,130	\$ 5,130	14%
Other Real Assets						
Hedge Funds:						
Fund of Funds						
Not Fund of Funds						
Venture Capital/LBO						
Fund of Funds				\$ 2,502	\$ 2,502	7%
Not Fund of Funds				\$ 1,981	\$ 1,981	5%
Other Private Equity						
Overlay Programs						
Total Investment Management Costs		\$ 100	\$ 240	\$ 32,637	\$ 32,977	87%
(basis points)					30.0	

Oversight, Custodial & Other - asset related (\$000's)

Oversight of the Fund	\$ 2,111	6%
Trustee & Custodial	\$ 1,757	5%
Consulting and Performance Measurement	\$ 870	2%
Audit	\$ 94	0%
Other	\$ 64	0%
Total Oversight, Custodial & Other Costs	\$ 4,896	13%
(basis points)	5.0	

Ohio Police & Fire Pension Fund Total Operating Costs in 2004 (\$000's)

(basis points)	\$ 37,873	100%
	35.0	

Ohio Police & Fire Pension Fund Total Assets as of Dec. 31, 2004 (\$000's)

	\$ 9,734,113
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Appendix - SERS Investment Operating Cost Analysis

2004 Summary (in thousands)

Investment Management Costs (\$000's)

	Internal		External		Total	% of Total
	Passive	Active	Passive	Active		
Domestic Equity - Large Cap			\$ 258	\$ 4,698	\$ 4,956	13%
Domestic Equity - Small Cap				\$ 4,278	\$ 4,278	12%
Foreign Equity			\$ 43	\$ 3,664	\$ 3,706	10%
Emerging Equity				\$ 1,265	\$ 1,265	3%
Domestic Fixed Income				\$ 3,223	\$ 3,223	9%
Foreign Fixed Income						
Inflation Indexed						
High Yield Bonds						
Fixed Income - Other						
Cash & Equivalents		\$ 83			\$ 83	0%
TAA						
REITs				\$ 760	\$ 760	2%
Real Estate ex REITs				\$ 6,612	\$ 6,612	18%
Other Real Assets						
Hedge Funds:						
Fund of Funds						
Not Fund of Funds						
Venture Capital/LBO						
Fund of Funds				\$ 1,616	\$ 1,616	5%
Not Fund of Funds				\$ 4,503	\$ 4,503	12%
Other Private Equity						
Overlay Programs						
Total Investment Management Costs		\$ 83	\$ 301	\$ 30,619	\$ 31,003	84%
(basis points)					35.0	

Oversight, Custodial & Other - asset related (\$000's)

Oversight of the Fund	\$ 2,186	6%
Trustee & Custodial	\$ 2,574	7%
Consulting and Performance Measurement	\$ 857	2%
Audit	\$ 143	0%
Other	\$ 254	1%
Total Oversight, Custodial & Other Costs	\$ 6,014	16%
(basis points)	6.8	

School Employees Retirement System of Ohio Total Operating Costs in 2004 (\$000's)

(basis points)	\$ 37,017	100%
	41.8	

School Employees Retirement System of Ohio Total Assets as of Dec. 31, 2004 (\$000's)

	\$ 8,856,241
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Appendix - HPRS Investment Operating Cost Analysis

2004 Summary (in thousands)

Investment Management Costs (\$000's)

	Internal		External		Total	% of Total
	Passive	Active	Passive	Active		
Domestic Equity - Large Cap				\$ 940	\$ 940	26%
Domestic Equity - Small Cap				\$ 660	\$ 660	18%
Foreign Equity			\$ 562		\$ 562	16%
Emerging Equity						
Domestic Fixed Income				\$ 328	\$ 328	9%
Foreign Fixed Income						
Inflation Indexed						
High Yield Bonds						
Fixed Income - Other						
Cash & Equivalents						
TAA						
REITs						
Real Estate ex REITs		\$ 177	\$ 454		\$ 631	18%
Other Real Assets						
Hedge Funds:						
Fund of Funds						
Not Fund of Funds						
Venture Capital/LBO						
Fund of Funds						
Not Fund of Funds						
Other Private Equity						
Overlay Programs						
Total Investment Management Costs		\$ 177	\$ 1,016	\$ 1,928	\$ 3,120	87%
(basis points)					45.8	

Oversight, Custodial & Other - asset related (\$000's)

Oversight of the Fund	\$ 78	2%
Trustee & Custodial	\$ 116	3%
Consulting and Performance Measurement	\$ 173	5%
Audit	\$ 17	0%
Other	\$ 79	2%
Total Oversight, Custodial & Other Costs	\$ 462	13%
(basis points)	6.7	

Highway Patrol Retirement System of Ohio Total Operating Costs in 2004 (\$000's)

(basis points)	\$ 3,582	100%
	52.5	

Highway Patrol Retirement System of Ohio Total Assets as of Dec. 31, 2004 (\$000's)

	\$ 681,038
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