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# The Ohio Retirement Study Council May 10, 2006

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#### OHIO RETIREMENT STUDY COUNCIL

Comparative Performance Study Period ending 12/31/2005

#### 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 fourteenth 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. As is our practice, this report reflects investment performance for all five retirement systems over the ten year period beginning January 1, 1996 and ending December 31, 2005.

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 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.

As of January 1, 2005, the Public Employees Retirement System (PERS) implemented a new structure for their assets. Approximately \$11 Billion was segregated into a new fund with a separate asset allocation policy, different from the policy for the rest of the fund – which now exists solely for the purpose of funding the defined benefit pension obligations (Despite the segregation of assets, retiree health care benefits remain discretionary under PERS law). The policy target (asset allocation) for the remaining pension assets was also modified, reflecting the different risk and reward characteristics of the newly segregated fund. Our report reflects these changes by separating the two PERS asset pools whenever appropriate.

Our findings may be summarized as follows:

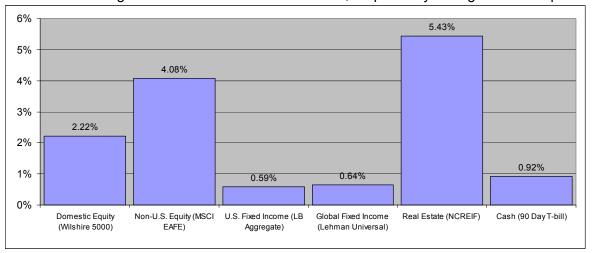
- In the six months ending December 31, 2005, the period since our last report, the systems experienced strong performance results, ranging from 9.05% (STRS) to 6.65% (HPRS). All systems outperformed their respective policies for the six-month period except OP&F, which underperformed its policy index by 0.41%. However, OP&F's policy index return for the six-month period was the second best performing policy index (+7.33%), trailing only STRS's policy index (+7.75%) by 42 basis points. Policy index returns of SERS, PERS and HPRS were 6.92%, 6.82% and 6.32%, respectively for the six-month period. From a universe comparison perspective, all systems except HPRS ranked above the median public retirement system in a broad universe of such funds for six months ending December 31, 2005. The top-performing fund for the six months was STRS (3<sup>rd</sup> percentile). The other funds ranged from the 7<sup>th</sup> percentile (SERS) to the 52<sup>nd</sup> percentile (HPRS).
- For year-to-date ending December 31, 2005, STRS (+12.08%), SERS (+10.76%) and PERS (+9.24%) outpaced their respective policy index returns, ranking them in the 3<sup>rd</sup> percentile, 13<sup>th</sup> percentile and 33<sup>rd</sup> percentile, respectively, in the Russell All Public Total Fund Universe. Although OP&F trailed its policy index (+8.82% vs. +8.97%) for the same period, the system ranked above the median public retirement system in a broad universe of such funds.

- Over the trailing three-year period, all systems except OP&F have outperformed their respective policy benchmarks.
   However, OP&F's average three-year return of 15.44% placed ahead of SERS (+15.00%) and HPRS (+14.62%). From a universe comparison standpoint, STRS (16<sup>th</sup> percentile), PERS (29<sup>th</sup> percentile), OP&F (30<sup>th</sup> percentile) and SERS (41<sup>st</sup> percentile) ranked above the median return of the Russell All Public Total Fund Universe.
- For the trailing five-year period, all systems have outperformed their respective policy benchmarks. OP&F (+5.91%) and HPRS (+5.89%) ranked in the second quartile, while STRS (+5.62) and PERS (+5.60%) ranked in the third quartile of the Russell All Public Total Fund Universe. Although SERS outpaced its policy index, the system placed in the 86<sup>th</sup> percentile to rank in the fourth quartile of the broad universe for the same period.
- Over the longer-term, ten-year period, OP&F, SERS and STRS are exceeding their actuarial interest rate. In comparison to
  the systems' respective policy benchmarks over the past ten years, SERS and OP&F outperformed, while HPRS, PERS and
  STRS trailed for the same period.
- During the seven years that we have been reviewing the results of the systems on behalf of the Council, the asset allocation targets have tended to converge. As the table on page f shows, current targets are very close to each other. This similarity in policy makes comparing one system's results to the other a more meaningful exercise. In the case of PERS, the Retirement Board accepted a proposed change to the defined benefit policy target to take effect on January 1, 2005. The change to the new defined benefit policy target was instituted due to increased exposure to illiquid asset classes (private equity and real estate). Prior to January 1, 2005, PERS utilized fixed weights for all asset classes liquid and illiquid. Under the new policy target, PERS uses floating weights for illiquid asset classes, based on actual invested allocations to these areas (see pages 34 through 36).
- Appendix 2.1 and 2.2 at the end of this report compares the current and target asset allocation of each of the systems to two
  public fund universes, the total universe of public funds (page 66) and the universe of public funds in excess of \$1 billion
  (page 67). The following observations grow out of our review of the systems' asset allocation:
  - 1. The systems' actual asset allocation and asset allocation targets to domestic equity rank above the median plan's allocation to domestic equity (40.76%) in the Russell Total Public Fund Universe.
  - 2. The systems' actual asset allocation and asset allocation targets to fixed income fall below the median plan's exposure to fixed income (26.77%).
  - 3. In general, the systems' asset allocation targets are above the median (18.70%) with respect to their allocation to international equity. SERS and HPRS were two exceptions, as they set their international equity target allocations to 16.0% and 15.0%, respectively.

- 4. The systems' asset allocation targets to real estate rank above the median plan's allocation to real estate (5.35%), while PERS, SERS and STRS actual asset allocation to real estate exceeds the median plan' allocation.
- 5. The systems' actual asset allocation and asset allocation targets to alternative investments rank below the median plan's allocation to alternative investments (4.18%).
- Appendix 3.1 through Appendix 3.9 at the end of this report provides a comparative analysis on the operating cost of the Ohio Retirement Systems during 2005. This analysis can be found on pages 68 through 76. The following observations reflect our review of the systems' operating cost structures:
  - 1. The range in cost structure amongst the systems ranged from a low of 16.5 bpts (PERS) to a high of 47.2 bpts (SERS).
  - 2. In 2005, all systems except SERS experienced a decrease in total operating expenses, in percentage basis, compared to 2004 year-end results.

#### **Market Environment**

The fourth quarter produced positive investment results for the six major asset classes. The best return was achieved by real estate (+5.43%) followed by non-U.S. equity (+4.08%) and U.S. equity (+2.22%) and then cash (+0.92%). Global fixed income and U.S. fixed income gained a modest 0.64% and 0.59%, respectively during the fourth quarter.



#### **Median Fund Returns**

The median fund in the Russell public fund database returned 2.36% in the fourth quarter and 8.32% for 2005. 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 1.58% for the quarter and 4.90% for 2005, falling shy of the median fund return in the Russell public fund database.

### Universe Medians Performance Summary Periods Ending December 31, 2005

	One Quarter	Two Quarters	One Year	Three Years	Five Years	Ten Years
Fund Sponsor						
Public Fund Universe	2.36%	6.83%	8.32%	14.72%	5.84%	8.97%
Corporate DB Universe	2.23%	6.25%	7.59%	14.06%	5.27%	8.96%
Education Eleemosynary Universe	2.60%	7.57%	9.54%	14.83%	5.72%	9.59%
Taft-Hartley Universe	2.23%	6.10%	7.53%	13.27%	5.38%	8.75%
All Fund Universe	2.28%	6.49%	7.72%	14.22%	5.45%	9.07%
60% Wilshire 5000 / 40% LB Aggregate	1.58%	3.78%	4.90%	11.25%	3.97%	8.33%

#### **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	Private / Public Real Estate	Alternative Investment	Cash
PERS (DB)	45.96%	20.00%	25.64%	6.36%	1.04%	1.00%
PERS (HC)	42.50%	20.00%	33.30%	4.20%	0.00%	0.00%
STRS	45.00%	20.00%	23.00%	9.00%	2.00%	1.00%
OP&F	46.00%	20.00%	23.00%	8.00%	3.00%	0.00%
SERS	46.00%	16.00%	23.00%	10.00%	3.00%	2.00%
HPRS	48.00%	15.00%	25.00%	12.00%	0.00%	0.00%

Note: PERS instituted separate policy target allocations for their defined benefit and health care plans in January 2005. An allocation of 33.3% to total fixed income consists of 20.0% (fixed income), 5.8% (short duration bonds) and 7.5% (TIPS).

• As seen in the table above, the asset allocation targets for the various systems are similar. All plans are equity-oriented, with exposure to this asset class ranging from 62% (SERS) to 66% (OP&F). On the contrary, the greatest divergence in policy target allocations is evident in real estate. HPRS has a target allocation of 12% to real estate while the PERS Defined Benefit plan has a target allocation of 6.36% to real estate.

### **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 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 Bench	mark	
<u>Fund</u>	One Quarter	Two Quarters	One Year	Three Years	Five Years
PERS (DB)					
` '	0.050/	7.000/	0.040/	45 540/	E 000/
Actual	3.05%	7.93%	9.24%	15.51%	5.60%
Policy	2.37%	6.82%	8.17%	14.85%	5.21%
Difference	0.68%	1.11%	1.07%	0.66%	0.39%
PERS (HC)					
Actual	2.15%	6.82%	8.00%	N/A	N/A
Policy	2.06%	6.25%	7.28%	N/A	N/A
Difference	0.09%	0.57%	0.72%	N/A	N/A
STRS					
Actual	3.37%	9.05%	12.08%	16.37%	5.62%
Policy	2.95%	7.75%	10.60%	15.01%	5.16%
Difference	0.42%	1.30%	1.48%	1.36%	0.46%
OP&F					
Actual	2.61%	6.92%	8.82%	15.44%	5.91%
Policy	2.62%	7.33%	8.97%	15.85%	5.72%
Difference	-0.01%	-0.41%	-0.15%	-0.41%	0.19%
SERS					
Actual	2.93%	8.28%	10.76%	15.00%	4.90%
Policy	2.60%	6.92%	9.41%	14.24%	4.51%
Difference	0.33%	1.36%	1.35%	0.76%	0.39%
HPRS					
Actual	2.26%	6.65%	7.42%	14.62%	5.89%
Policy	2.37%	6.32%	7.88%	14.44%	5.51%
Difference	-0.11%	0.33%	-0.46%	0.18%	0.38%

All returns are for periods ending 12/31/2005. Returns for periods longer than one year are annualized.

- PERS: The fourth quarter return for the total fund outperformed its policy index by 0.68% and by 1.07% in 2005. Over the trailing three and five-year periods, the total fund outperformed its policy index by 66 basis points and 39 basis points, respectively.
- STRS: The fourth quarter return for the total fund outperformed its policy index by 0.42% and by 1.48% in 2005. Over the trailing three and five-year periods, the total fund is outperforming its policy index by 136 basis points and 46 basis points, respectively.
- OP&F: OP&F slightly underperformed its policy index by 0.01% during the fourth quarter and by 0.15% in 2005. The total fund has also underperformed its policy index over the trailing three-year period by 41 basis points, but has outpaced its policy index by 19 basis points for the trailing five-year period.
- SERS: The total fund outperformed its policy index by 0.33% in the fourth quarter and by 1.35% in 2005. Over the longer term, the fund has outperformed its policy index. For the trailing three-year period, the fund leads the policy index by 76 basis points, and for the trailing five-year period, the fund is outperforming its policy by 39 basis points.
- HPRS: The total fund underperformed its policy index during the fourth quarter by 0.11% and 0.46% in 2005. However, over the trailing three-year period, the total fund outpaced its policy index by 18 basis points, and over the trailing five-year period, the total fund outperformed by 38 basis points.

### **Domestic Equity Returns**

	Domesti	ic Equity Return v	vs. Policy Ben	chmark	
<u>Fund</u>	One Quarter	Two Quarters	One Year	Three Years	Five Years
DEDC (DD)					
PERS (DB)	0.470/	0.040/	0.040/	40.400/	0.070/
Actual	2.17%	6.61%	6.81%	16.18%	2.07%
Policy	2.05%	6.15%	6.15%	15.91%	1.78%
Difference	0.12%	0.46%	0.66%	0.27%	0.29%
PERS (HC)					
Actual	2.17%	6.61%	6.79%	N/A	N/A
Policy	2.05%	6.15%	6.15%	N/A	N/A
Difference	0.12%	0.46%	0.64%	N/A	N/A
STRS					
Actual	2.52%	6.71%	6.59%	15.82%	1.51%
Policy	2.04%	6.13%	6.12%	15.64%	1.69%
Difference	0.48%	0.58%	0.47%	0.18%	-0.18%
OP&F					
Actual	2.11%	6.52%	7.59%	16.50%	3.25%
Policy	2.21%	6.33%	6.38%	16.35%	2.11%
Difference	-0.10%	0.19%	1.21%	0.15%	1.14%
SERS					
Actual	2.38%	7.07%	6.87%	16.41%	1.68%
Policy	2.04%	6.13%	6.12%	15.90%	1.58%
Difference	0.34%	0.94%	0.75%	0.51%	0.10%
HPRS					
Actual	2.23%	6.21%	6.45%	18.89%	4.49%
Policy	2.21%	6.33%	6.38%	16.35%	2.12%
Difference	0.02%	-0.12%	0.07%	2.54%	2.37%

All returns are for periods ending 12/31/2005. Returns for periods longer than one year are annualized.

The domestic equity market experienced modest gains in the fourth quarter. On an absolute and relative basis, STRS generated the best return, gaining 2.52% during the quarter. On an absolute and relative basis for 2005, OP&F had the best result with a positive 7.59% return, which exceeded its equity benchmark by 121 basis points. Over the three and five-year periods, HPRS outpaced other plans.

### **Fixed Income Returns**

	Fixed Income Return vs. Policy Benchmark						
<u>Fund</u>	One Quarter	Two Quarters	One Year	Three Years	Five Years		
DEDG (DD)							
PERS (DB)	/	/	/				
Actual	0.80%	0.82%	3.76%	5.16%	6.67%		
Policy	0.64%	0.20%	2.72%	4.50%	6.38%		
Difference	0.16%	0.62%	1.04%	0.66%	0.29%		
PERS (HC)							
Actual	0.80%	0.82%	3.75%	N/A	N/A		
Policy	0.64%	0.20%	2.72%	N/A	N/A		
Difference	0.16%	0.62%	1.03%	N/A	N/A		
STRS							
Actual	0.64%	0.50%	3.04%	4.99%	6.76%		
Policy	0.64%	0.20%	2.71%	4.49%	6.26%		
Difference	0.00%	0.30%	0.33%	0.50%	0.50%		
OP&F							
Actual	2.31%	2.28%	4.33%	6.94%	7.66%		
Policy	0.59%	-0.09%	2.43%	3.62%	5.88%		
Difference	1.72%	2.37%	1.90%	3.32%	1.78%		
SERS							
Actual	0.56%	0.35%	2.74%	4.35%	6.59%		
Policy	0.59%	-0.08%	2.43%	3.62%	5.87%		
Difference	-0.03%	0.43%	0.31%	0.73%	0.72%		
HPRS							
Actual	0.67%	1.20%	4.11%	5.52%	7.08%		
Policy	0.59%	-0.08%	2.43%	3.62%	5.87%		
Difference	0.08%	1.28%	1.68%	1.90%	1.21%		

All returns are for periods ending 12/31/2005. Returns for periods longer than one year are annualized.

Fixed income returns were positive for all of the funds for the fourth quarter. OP&F had the best fourth quarter return (+2.31%) followed by PERS (+0.80%), HPRS (+0.67%), STRS (+0.64%) and SERS (+0.56%). In 2005, OP&F posted the strongest result (+4.33%) on an absolute and relative basis, followed by HPRS (+4.11%), PERS (+3.76%), STRS (+3.04%) and SERS (+2.74%). Over the trailing three and five-year periods, OP&F led all plans on an absolute and relative basis.

# **International Equity Returns**

	Internatio	nal Equity Returr	ı vs. Policy Be	enchmark	
<u>Fund</u>	One Quarter	Two Quarters	One Year	Three Years	Five Years
DEDG (DD)					
PERS (DB)	. = . • .				,
Actual	4.74%	17.70%	17.97%	26.28%	6.49%
Policy	4.35%	16.62%	16.63%	25.69%	6.28%
Difference	0.39%	1.08%	1.34%	0.59%	0.21%
PERS (HC)					
Actual	4.69%	17.59%	17.84%	N/A	N/A
Policy	4.35%	16.62%	16.63%	N/A	N/A
Difference	0.34%	0.97%	1.21%	N/A	N/A
STRS					
Actual	5.79%	20.03%	25.94%	27.77%	8.98%
Policy	6.01%	19.79%	25.00%	26.10%	7.02%
Difference	-0.22%	0.24%	0.94%	1.67%	1.96%
OP&F					
Actual	5.31%	16.24%	15.61%	24.90%	5.52%
Policy	4.35%	16.62%	16.63%	25.70%	6.28%
Difference	0.96%	-0.38%	-1.02%	-0.80%	-0.76%
SERS					
Actual	5.68%	20.48%	26.49%	26.05%	6.25%
Policy	5.81%	18.67%	23.68%	24.27%	5.02%
Difference	-0.13%	1.81%	2.81%	1.78%	1.23%
HPRS					
Actual	3.78%	14.53%	13.58%	20.96%	4.29%
Policy	4.08%	14.88%	13.53%	23.69%	4.56%
Difference	-0.30%	-0.35%	0.05%	-2.73%	-0.27%

All returns are for periods ending 12/31/2005. Returns for periods longer than one year are annualized.

STRS (+5.79%) had the best absolute result, followed by SERS (+5.68%) and OP&F (+5.31%) for the fourth quarter. In 2005, SERS (+26.49%) posted the best return, followed by STRS (+25.94%). STRS had the best absolute results for the trailing three and five-year periods, gaining 27.77% and 8.98%, respectively.

#### **Real Estate Returns**

	Real I	Estate Return vs.	Policy Bench	mark	
<u>Fund</u>	One Quarter	Two Quarters	One Year	Three Years	Five Years
DEDC (DD)					
PERS (DB)	40 = 40/	4 = 400/	00.400/	4 = =00/	40.000/
Actual	12.71%	15.42%	20.10%	15.52%	12.06%
Policy	4.95%	9.29%	18.49%	14.83%	12.04%
Difference	7.76%	6.13%	1.61%	0.69%	0.02%
PERS (HC) "Publi	ic Markets Only	/"			
Actual	3.42%	6.82%	14.90%	N/A	N/A
Policy	2.94%	6.80%	14.05%	N/A	N/A
Difference	0.48%	0.02%	0.85%	N/A	N/A
STRS					
Actual	6.96%	15.71%	26.78%	19.73%	13.67%
Policy	5.79%	10.09%	19.51%	15.60%	11.82%
Difference	1.17%	5.62%	7.27%	4.13%	1.85%
OP&F					
Actual	4.20%	7.36%	26.07%	17.48%	13.90%
Policy	5.43%	10.11%	20.06%	14.42%	9.75%
Difference	-1.23%	-2.75%	6.01%	3.06%	4.15%
SERS					
Actual	4.28%	8.76%	18.87%	16.03%	10.47%
Policy	3.86%	9.09%	17.99%	15.86%	12.06%
Difference	0.42%	-0.33%	0.88%	0.17%	-1.59%
HPRS					
Actual	4.69%	13.78%	14.99%	9.91%	9.00%
Policy	5.43%	10.11%	20.06%	14.42%	11.40%
Difference	-0.74%	3.67%	-5.07%	-4.51%	-2.40%

All returns are for periods ending 12/31/2005. Returns for periods longer than one year are annualized.

During the fourth quarter, PERS achieved the strongest absolute and relative return by posting a gain of 12.71%, followed by STRS (+6.96%), HPRS (+4.69%), SERS (+4.28%) and OP&F (+4.20%). In 2005, STRS exhibited the strongest absolute return (+26.78%) followed by OP&F (+26.07%). STRS (+19.73%) led all plans over the trailing three-year period, and OP&F (+13.90%) outpaced all plans over the trailing five-year period. 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**

	Alternati	ve Asset Return	vs. Policy Ber	ıchmark	
<u>Fund</u>	One Quarter	Two Quarters	One Year	Three Years	Five Years
PERS (DB)					
Actual	8.43%	16.58%	34.32%	25.83%	8.82%
Policy	4.79%	7.93%	18.03%	21.67%	0.57%
Difference	3.64%	8.65%	16.29%	4.16%	8.25%
PERS (HC)					
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
STRS					
Actual	6.45%	7.32%	29.46%	16.70%	2.34%
Policy	6.45%	7.32%	29.46%	16.70%	N/A
Difference	0.00%	0.00%	0.00%	0.00%	N/A
OP&F					
Actual	5.84%	12.36%	26.75%	5.65%	-7.35%
Policy	5.32%	9.08%	20.38%	24.24%	4.57%
Difference	0.52%	3.28%	6.37%	-18.59%	-11.92%
SERS					
Actual	8.60%	16.28%	23.95%	7.36%	-7.49%
Policy	5.67%	7.85%	15.25%	19.73%	3.05%
Difference	2.93%	8.43%	8.70%	-12.37%	-10.54%
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 12/31/2005. Returns for periods longer than one year are annualized.

For the fourth quarter, SERS had the best absolute and relative return (+8.60%) followed by PERS (+8.43%), STRS (+6.45%) and OP&F (+5.84%). In 2005, PERS had the highest return (+34.32%), followed by STRS (+29.46%), OP&F (+26.75%) and SERS (+23.95%). For the three and five-year periods, PERS had the best absolute and relative results, returning a positive 25.83% and 8.82%. SERS and OP&F posted negative return for the five-year period, losing 7.49% and 7.35%, respectively. There is also a large amount of variation in the policies for alternative investments. As an example, STRS uses their actual alternative investment return as their policy return, while 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

ſ		Benchmark Actual	Actuarial Interest	
	Actual Return	Return	Rate	Valuation Date
PERS (DB)	7.39%	8.02%	8.00%	1/1/2005
PERS (HC)	N/A	N/A	6.50%	1/1/2005
STRS	8.26%	8.39%	8.00%	7/1/2005
OP&F	8.57%	8.42%	8.25%	1/1/2005
SERS	8.62%	8.55%	8.25%	7/1/2005
HPRS	6.85%	9.14%	8.00%	12/31/2004

<sup>\*</sup> Note: Actuarial interest rate assumption for PERS Health Care Plan has been project for 50 years.

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, SERS and OP&F exceeded their respective policy index over the ten-year period for period ended December 31, 2005. HPRS, PERS and STRS are underperforming their policy indices by 229, 63 and 13 basis points respectively on an annualized basis. On a positive note, SERS, OP&F and STRS are exceeding their actuarial interest rate.

### **Universe Comparisons**

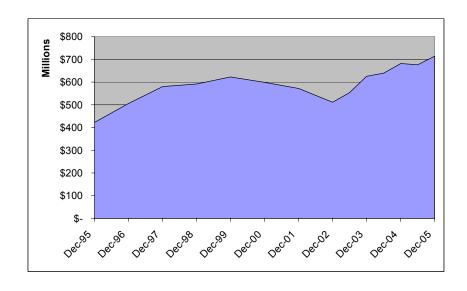
### **Public Fund Universe Peer Rankings**

	One Quarter	Two Quarters	One Year	Three Years	Five Years
PERS (DB)	15	24	35	30	64
STRS	3	3	3	16	60
OP&F	30	46	40	30	48
SERS	11	7	13	41	86
HPRS	60	52	69	56	48

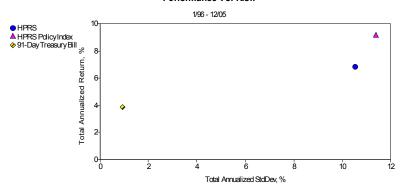
All plans except HPRS ranked ahead of the median public plan in the Russell All Public Plan Universe for the fourth quarter, for 2005 and for the longer three-year period. However, over the trailing five-year period, HPRS ranked ahead of median public plan in the universe along with OP&F, while SERS, PERS and STRS ranked below the median public plan.

# Highway Patrol Retirement System

•	HPRS Returns								
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years				
JS Equity									
Actual	2.23%	6.21%	6.45%	18.89%	4.49%				
Benchmark	2.21%	6.33%	6.38%	16.35%	2.12%				
Difference	0.02%	-0.12%	0.07%	2.54%	2.37%				
ixed Income									
Actual	0.67%	1.20%	4.11%	5.52%	7.08%				
Benchmark	0.59%	-0.08%	2.43%	3.62%	5.87%				
Difference	0.08%	1.28%	1.68%	1.90%	1.21%				
ntl. Equity									
Actual	3.78%	14.53%	13.58%	20.96%	4.29%				
Benchmark	4.08%	14.88%	13.53%	23.69%	4.56%				
Difference	-0.30%	-0.35%	0.05%	-2.73%	-0.27%				
Real Estate									
Actual	4.69%	13.78%	14.99%	9.91%	9.00%				
Benchmark	5.43%	10.11%	20.06%	14.42%	11.40%				
Difference	-0.74%	3.67%	-5.07%	-4.51%	-2.40%				



#### Performance vs. Risk



	Actual		
	December 31, 2005	Target	Difference
US Equity	57.1%	48.0%	9.1%
Intl. Equity	16.1%	15.0%	1.1%
Alternative Assets	0.0%	0.0%	0.0%
Total Equity	73.3%	63.0%	10.3%
Fixed Income	21.3%	25.0%	-3.7%
Real Estate	5.3%	12.0%	-6.7%
Short Term Investments	0.2%	0.0%	0.2%
Total Debt	26.7%	37.0%	-10.3%
	100.0%	100.0%	0.0%

**Asset Mix** 

Created with MPI Stylus™

	Annualized Retum, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	6.85	10.55	3.43	0.32
HPRS Policy Index	9.14	11.41	5.67	0.49
91-Day Treasury Bill	3.85	0.91	0.00	NA

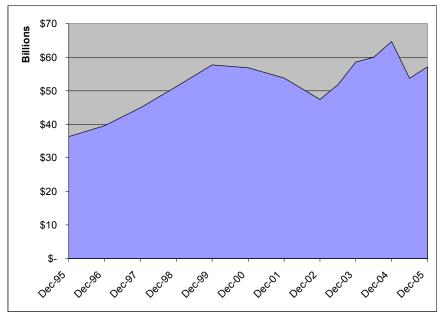
#### Characteristic Data

Assets @ 12-31-2005:	\$ 713,695,062
Actuarial Interest Rate:	8.00%
Investment Staff Size:	

# Public Employees Retirement System

# **Defined Benefit Plan**

PERS Returns						
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years	
US Equity						
Actual	2.17%	6.61%	6.81%	16.18%	2.07%	
Benchmark	2.05%	6.15%	6.15%	15.91%	1.78%	
Difference	0.12%	0.46%	0.66%	0.27%	0.29%	
Fixed Income						
Actual	0.80%	0.82%	3.76%	5.16%	6.67%	
Benchmark	0.64%	0.20%	2.72%	4.50%	6.38%	
Difference	0.16%	0.62%	1.04%	0.66%	0.29%	
Intl. Equity						
Actual	4.74%	17.70%	17.97%	26.28%	6.49%	
Benchmark	4.35%	16.62%	16.63%	25.69%	6.28%	
Difference	0.39%	1.08%	1.34%	0.59%	0.00%	
Real Estate						
Actual	12.71%	15.42%	20.10%	15.52%	12.06%	
Benchmark	4.95%	9.29%	18.49%	14.83%	12.04%	
Difference	7.76%	6.13%	1.61%	0.69%	0.02%	
Private Equity						
Actual	8.43%	16.58%	34.32%	25.83%	8.82%	
Benchmark	4.79%	7.93%	18.03%	21.67%	0.57%	
Difference	3.64%	8.65%	16.29%	4.16%	8.25%	



#### Performance vs. Risk

 Note: Defined Benefit and Health Care plan assets were segregated on January 1, 2005.

#### Asset Mix Actual

	December 31, 2005	Target	Difference
US Equity	45.25%	45.96%	-0.71%
Intl. Equity	20.48%	20.00%	0.48%
Alternative Assets	1.29%	1.00%	0.29%
Total Equity	67.02%	66.96%	0.06%
Fixed Income	24.79%	25.64%	-0.85%
Real Estate	7.24%	6.36%	0.88%
Short Term Investments	0.95%	1.04%	-0.09%
Total Debt	32.98%	33.04%	-0.06%
	100.00%	100.00%	0.00%

Created with MPI Stylus<sup>TM</sup>

	Annualized Retum, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
PERS (DB)	7.42	9.86	3.89	0.39
PERS (DB) Policy Index	8.03	9.77	4.47	0.45
91-Day Treasury Bill	3.85	0.91	0.00	NA

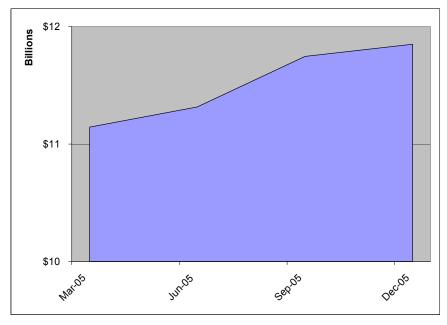
#### **Characteristic Data**

Assets @ 12-31-2005:	\$ 57,171,571,72
Actuarial Interest Rate:	8.00
Investment Staff Size:	5

# Public Employees Retirement System

# Health Care Plan

PERS Returns						
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years	
US Equity						
Actual	2.17%	6.61%	6.79%	N/A	N/A	
Benchmark	2.05%	6.15%	6.15%	N/A	N/A	
Difference	0.12%	0.46%	0.64%	N/A	N/A	
Fixed Income						
Actual	0.80%	0.82%	3.75%	N/A	N/A	
Benchmark	0.64%	0.20%	2.72%	N/A	N/A	
Difference	0.16%	0.62%	1.03%	N/A	N/A	
Intl. Equity						
Actual	4.69%	17.59%	17.84%	N/A	N/A	
Benchmark	4.35%	16.62%	16.63%	N/A	N/A	
Difference	0.34%	0.97%	1.21%	N/A	N/A	
REITS						
Actual	3.42%	6.82%	14.90%	N/A	N/A	
Benchmark	2.94%	6.80%	14.05%	N/A	N/A	
Difference	0.48%	0.02%	0.85%	N/A	N/A	
TIPS						
Actual	0.16%	0.12%	N/A	N/A	N/A	
Benchmark	0.11%	0.13%	N/A	N/A	N/A	
Difference	0.05%	-0.01%	N/A	N/A	N/A	



Note: Defined Benefit and Health Care plan assets were segregated on January 1, 2005.

#### Asset Mix

#### Actual

	December 31, 2005	Target	Difference
US Equity	39.1%	42.5%	-3.4%
Intl. Equity	19.3%	20.0%	-0.8%
Total Equity	58.4%	62.5%	-4.1%
Fixed Income	19.1%	20.0%	-0.9%
REITS	4.4%	4.2%	0.1%
TIPS	9.6%	7.5%	2.1%
Short Duration Bonds	7.1%	5.8%	1.3%
Short Term Investment	1.5%	0.0%	1.5%
Total Debt	41.6%	37.5%	2.7%
	100.0%	100.0%	-1.5%

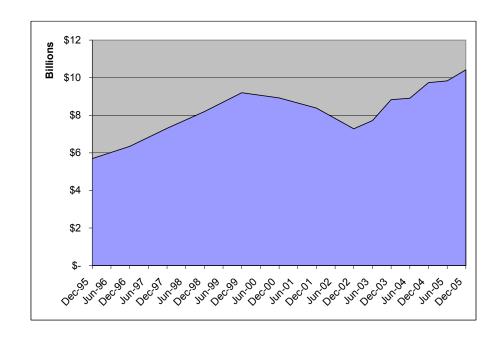
This section was intentionally left blank as risk/return profile for one year of data is not meaningful.

#### **Characteristic Data**

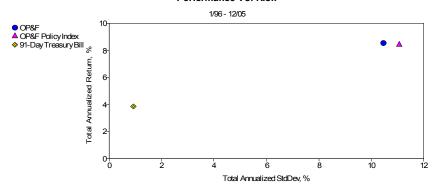
Assets @ 12-31-2005: \$ 11,849,196,835
Actuarial Interest Rate: 6.50%
Investment Staff Size: 56

# Police & Fire Pension Fund

OP&F Returns						
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years	
JS Equity						
Actual	2.11%	6.52%	7.59%	16.50%	3.25%	
Benchmark	2.21%	6.33%	6.38%	16.35%	2.11%	
Difference	-0.10%	0.19%	1.21%	0.15%	1.14%	
Fixed Income						
Actual	2.31%	2.28%	4.33%	6.94%	7.66%	
Benchmark	0.59%	-0.09%	2.43%	3.62%	5.88%	
Difference	1.72%	2.37%	1.90%	3.32%	1.78%	
Intl. Equity						
Actual	5.31%	16.24%	15.61%	24.90%	5.52%	
Benchmark	4.35%	16.62%	16.63%	25.70%	6.28%	
Difference	0.96%	-0.38%	-1.02%	-0.80%	-0.76%	
Real Estate						
Actual	4.20%	7.36%	26.07%	17.48%	13.90%	
Benchmark	5.43%	10.11%	20.06%	14.42%	9.75%	
Difference	-1.23%	-2.75%	6.01%	3.06%	4.15%	
Private Equity						
Actual	5.84%	12.36%	26.75%	5.65%	-7.35%	
Benchmark	5.32%	9.08%	20.38%	24.24%	4.57%	
Difference	0.52%	3.28%	6.37%	-18.59%	-11.92%	



#### Performance vs. Risk



	Actual December 31, 2005	Target	Difference
US Equity	47.6%	46.0%	1.6%
Intl. Equity	22.8%	20.0%	2.8%
Alternative Assets	2.2%	3.0%	-0.8%
Total Equity	72.5%	69.0%	3.5%
Fixed Income	22.4%	23.0%	-0.7%
Real Estate	4.3%	8.0%	-3.7%
Short Term Investments	0.9%	0.0%	0.9%
Total Debt	27.5%	31.0%	-3.5%
	100.0%	100.0%	0.0%

Asset Mix

Created with MPI Stylus<sup>TM</sup>

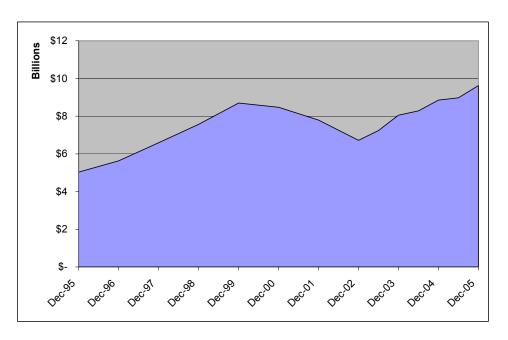
	Annualized Retum, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
OP&F	8.57	10.46	5.04	0.48
OP&F Policy Index	8.42	11.08	4.96	0.44
91-Day Treasury Bill	3.85	0.91	0.00	NA

#### **Characteristic Data**

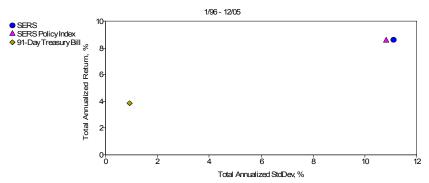
Assets @ 12-31-2005: \$ 10,415,308,887
Actuarial Interest Rate: 8.25%
Investment Staff Size: 15

# School Employees Retirement System

		SERS Retur	ns		
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
US Equity					
Actual	2.38%	7.07%	6.87%	16.41%	1.68%
Benchmark	2.04%	6.13%	6.12%	15.90%	1.58%
Difference	0.34%	0.94%	0.75%	0.51%	0.10%
Fixed Income					
Actual	0.56%	0.35%	2.74%	4.35%	6.59%
Benchmark	0.59%	-0.08%	2.43%	3.62%	5.87%
Difference	-0.03%	0.43%	0.31%	0.73%	0.72%
Intl. Equity					
Actual	5.68%	20.48%	26.49%	26.05%	6.25%
Benchmark	5.81%	18.67%	23.68%	24.27%	5.02%
Difference	-0.13%	1.81%	2.81%	1.78%	1.23%
Real Estate					
Actual	4.28%	8.76%	18.87%	16.03%	10.47%
Benchmark	3.86%	9.09%	17.99%	15.86%	12.06%
Difference	0.42%	-0.33%	0.88%	0.17%	-1.59%
Private Equity					
Actual	8.60%	16.28%	23.95%	7.36%	-7.49%
Benchmark	5.67%	7.85%	15.25%	19.73%	3.05%
Difference	2.93%	8.43%	8.70%	-12.37%	-10.54%



#### Performance vs. Risk



#### Asset Mix

	Actual		
	December 31, 2005	Target	Difference
US Equity	45.1%	46.0%	-0.9%
Intl. Equity	19.5%	16.0%	3.5%
Alternative Assets	2.3%	3.0%	-0.7%
Total Equity	66.9%	65.0%	1.9%
Fixed Income	20.9%	23.0%	-2.1%
Real Estate	10.5%	10.0%	0.4%
Short Term Investments	1.7%	2.0%	-0.3%
Total Debt	33.1%	35.0%	-1.9%
	100.0%	100.0%	0.0%

#### Created with MPI Stylus<sup>TM</sup>

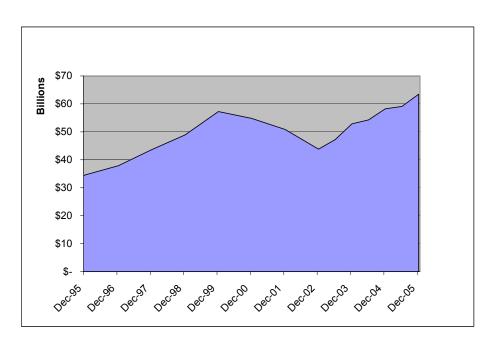
	Annualized Retum, %	Annualized StdDev, %		PT stics
	Total	Total	Alpha, %	Sharpe Ratio
SERS	8.62	11.11	5.15	0.46
SERS Policy Index	8.55	10.82	5.06	0.46
91-Day Treasury Bill	3.85	0.91	0.00	NA

#### Characteristic Data

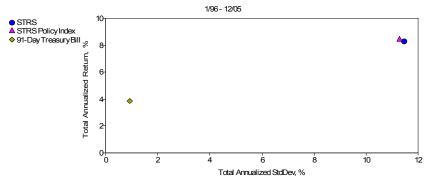
Assets @ 12-31-2005:	\$ 9,621,414,747
Actuarial Interest Rate:	8.25%
Investment Staff Size:	12

# State Teachers Retirement System

		STRS Retur	ns	•	
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
US Equity					
Actual	2.52%	6.71%	6.59%	15.82%	1.51%
Benchmark	2.04%	6.13%	6.12%	15.64%	1.69%
Difference	0.48%	0.58%	0.47%	0.18%	-0.18%
Fixed Income					
Actual	0.64%	0.50%	3.04%	4.99%	6.76%
Benchmark	0.64%	0.20%	2.71%	4.49%	6.26%
Difference	0.00%	0.30%	0.33%	0.50%	0.50%
Intl. Equity					
Actual	5.79%	20.03%	25.94%	27.77%	8.98%
Benchmark	6.01%	19.79%	25.00%	26.10%	7.02%
Difference	-0.22%	0.24%	0.94%	1.67%	1.96%
Real Estate					
Actual	6.96%	15.71%	26.78%	19.73%	13.67%
Benchmark	5.79%	10.09%	19.51%	15.60%	11.82%
Difference	1.17%	5.62%	7.27%	4.13%	1.85%
Private Equity					
Actual	6.45%	7.32%	29.46%	16.70%	2.34%
Benchmark	6.45%	7.32%	29.46%	16.70%	N/A
Difference	0.00%	0.00%	0.00%	0.00%	N/A



#### Performance vs. Risk



#### Asset Mix

	Actual		
	December 31, 2005	Target	Difference
US Equity	41.9%	45.0%	-3.1%
Intl. Equity	24.3%	20.0%	4.3%
Alternative Assets	2.6%	2.0%	0.6%
Total Equity	68.8%	67.0%	1.8%
Fixed Income	19.2%	23.0%	-3.8%
Real Estate	8.0%	9.0%	-1.0%
Short Term Investments	4.0%	1.0%	3.0%
Total Debt	31.2%	33.0%	-1.8%
	100.0%	100.0%	0.0%

Created with MPI Stylus<sup>TM</sup>

	Annualized Retum, %	Annualized StdDev, %	M Stati	PT stics
	Total	Total	Alpha, %	Sharpe Ratio
STRS	8.26	11.45	4.86	0.42
STRS Policy Index	8.39	11.28	4.96	0.44
91-Day Treasury Bill	3.85	0.91	0.00	NA

#### Characteristic Data

Assets @ 12-31-2005:	\$ 63,476,663,147
Actuarial Interest Rate:	8.00%
Investment Staff Size:	112

Performance Summary Table Periods Ending 12/31/05

							1
	1 Qtr	2 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
HPRS							
Total Return	2.26	6.65	7.42	14.62	5.89	6.85	12/31/93
Domestic Equity	2.23	6.21	6.45	18.89	4.49	6.06	12/31/93
Fixed Income	0.67	1.20	4.11	5.52	7.08	6.74	12/31/93
Cash & Equiv	1.32	2.33	4.33	2.34	2.84	4.08	3/31/94
Real Estate	4.69	13.78	14.99	9.91	9.90	9.05	12/31/93
International Equity	3.78	14.53	13.58	20.96	4.29	6.80	3/31/95
PERS (Defined Benefit Plan)							
Total Return	3.05	7.93	9.24	15.51	5.60	7.42	12/31/93
Domestic Equity	2.17	6.61	6.81	16.18	2.07	8.46	12/31/93
Fixed Income	0.80	0.82	3.76	5.16	6.67	6.40	12/31/93
Cash & Equiv	1.00	1.90	3.34	2.01	2.33	4.02	12/31/93
Real Estate	12.71	15.42	20.10	15.52	12.06	11.54	12/31/93
International Equity	4.74	17.70	17.97	26.28	6.49	N/A	9/30/96
Alternatives	8.43	16.58	34.32	25.83	8.82	17.10	12/31/95
PERS (Health Care Plan)							
Total Return	2.15	6.82	8.00	N/A	N/A	N/A	12/31/05
Domestic Equity	2.17	6.61	6.79	N/A	N/A	N/A	12/31/05
Fixed Income	0.80	0.82	3.75	N/A	N/A	N/A	12/31/05
Cash & Equiv	1.03	1.98	3.60	N/A	N/A	N/A	12/31/05
REITS	3.42	6.82	14.90	N/A	N/A	N/A	12/31/05
International Equity	4.69	17.59	17.84	N/A	N/A	N/A	12/31/05
TIPS	0.16	0.12	N/A	N/A	N/A	N/A	12/31/05
Short Duration	0.98	1.32	N/A	N/A	N/A	N/A	12/31/05
OP&F							
Total Return	2.61	6.92	8.82	15.44	5.91	8.57	12/31/93
Domestic Equity	2.11	6.52	7.59	16.50	3.25	9.53	12/31/93
Fixed Income	2.31	2.28	4.33	6.94	7.66	7.19	12/31/93
Cash & Equiv	0.91	1.75	3.06	1.84	2.35	3.71	9/30/96
Real Estate	4.20	7.36	26.07	17.48	13.90	13.71	12/31/93
International Equity	5.31	16.24	15.61	24.90	5.52	7.48	9/30/94
Alternatives	5.84	12.36	26.75	5.65	-7.35	12.37	3/31/94
	1						

	ı				1		1
	1 Qtr	2 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
SERS							
Total Return	2.93	8.28	10.76	15.00	4.90	8.62	12/31/93
Domestic Equity	2.38	7.07	6.87	16.41	1.68	9.09	12/31/93
Fixed Income	0.56	0.35	2.74	4.35	6.59	6.56	12/31/93
Cash & Equiv	0.99	1.97	3.44	1.95	2.68	4.25	12/31/93
Real Estate	4.28	8.76	18.87	16.03	10.47	11.21	12/31/93
International Equity	5.68	20.48	26.49	26.05	6.25	8.16	12/31/94
Alternatives	8.60	16.28	23.95	7.36	-7.49	5.15	12/31/93
Alternatives	0.00	10.20	23.93	7.30	-7.49	5.15	12/31/93
STRS							
Total Return	3.37	9.05	12.08	16.37	5.62	8.26	12/31/93
Domestic Equity	2.52	6.71	6.59	15.82	1.51	8.24	12/31/93
Fixed Income	0.64	0.50	3.04	4.99	6.76	6.95	12/31/93
Cash & Equiv	0.99	1.85	3.25	1.93	2.31	4.03	12/31/93
Real Estate	6.96	15.71	26.78	19.73	13.67	13.24	12/31/93
International Equity	5.79	20.03	25.94	27.77	8.98	7.44	12/31/93
Alternatives	6.45	7.32	29.46	16.70	2.34	5.35	12/31/93
					-		
Indices							
Russell 1000	2.13	6.15	6.27	15.42	1.07	9.28	
Russell 2000	1.12	5.87	4.55	22.13	8.22	9.26	
Russell 3000	2.04	6.13	6.13	15.90	1.58	9.20	
Standard & Poors 500	2.09	5.77	4.91	14.39	0.55	9.08	
S&P 500 Equal Wtd	2.55	7.50	8.06	21.23	7.74	11.88	
S&P 600 Small Cap	0.39	5.78	7.68	22.38	10.76	12.16	
S&P 400 Mid Cap	3.34	8.38	12.56	21.15	8.60	14.36	
Wilshire 5000	2.22	6.34	6.39	16.36	2.13	9.18	
LB Aggregate	0.59	-0.08	2.43	3.62	5.87	6.16	
Citigroup Broad Inv Grade	0.65	-0.04	2.57	3.75	5.93	6.19	
MSCI EAFE (Net)	4.08	14.88	13.54	23.68	4.55	5.84	
MSCI EAR E (Net)  MSCI Em Mkts Free (Gross)	7.20	26.62	34.54	38.35	19.43	6.98	
MSCI World ex-U.S. (Net)	3.94	15.29	14.47	24.32	4.92	6.22	
LB Mortgage	0.60	0.45	2.61	3.45	5.43	6.17	
NCREIF Property	5.43	10.11	20.06	14.42	11.40	12.09	
NCREIF Property	5.43	10.11	20.00	14.42	11.40	12.09	
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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.

#### 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 larges 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.

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.

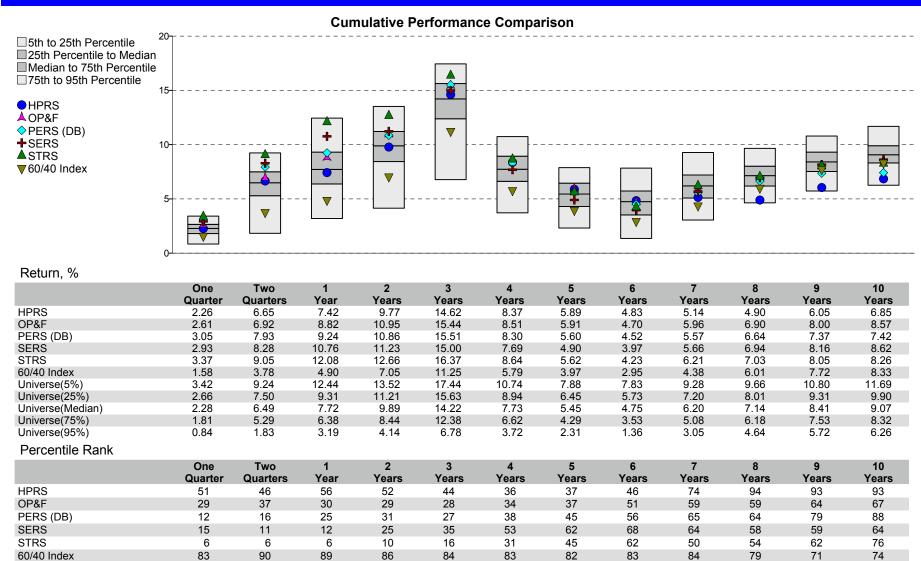
**MSCI Emerging Markets Free** – A capitalization-weighted index of stocks from 26 emerging markets that only includes issues that may be traded by foreign investors. Consists of equities from emerging markets in Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, 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, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, 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)

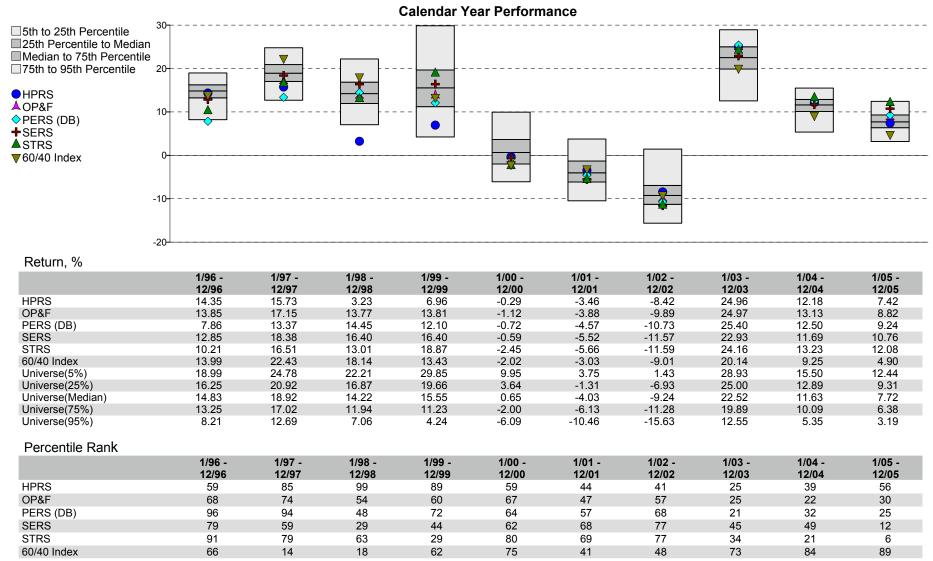
NCREIF Property – An index that is also known as the NPI or Combined Index. It consists of both equity and leveraged properties, but the leveraged properties are reported on an unleveraged basis. So, the index is completely unleveraged. The universe of properties includes: Existing properties only – 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 All Total Fund Universe Performance and Rank Data as of 12/30/05



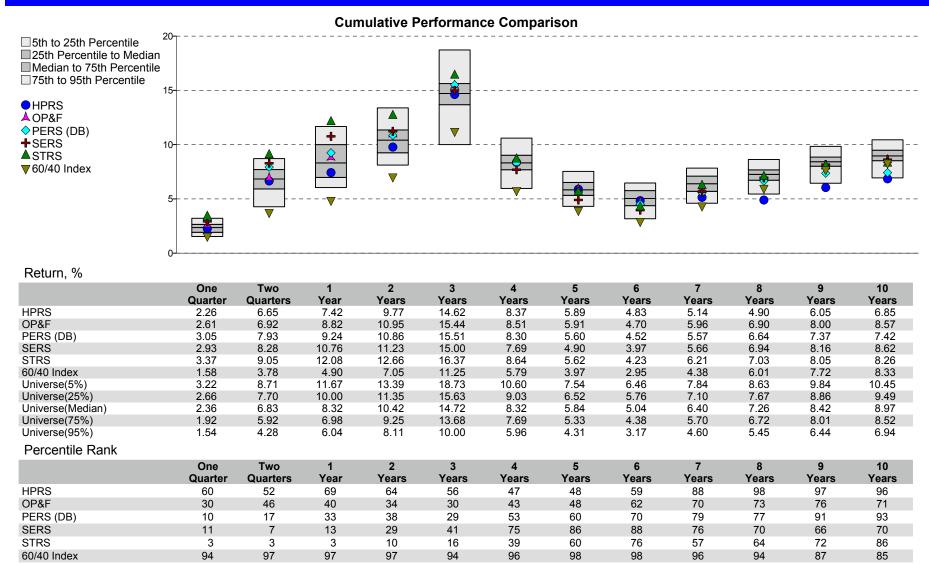
This page compares the Total Fund results to a broad universe of total funds – 413 other funds, including those of public, corporate, and multi-employer pension plans and totaling \$1.5 Trillion in assets – over a ten-year measurement period. Here and elsewhere in the report, the "floating bars" define 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 SERS has demonstrated the highest return for the ten-year period with a 8.62% annualized return, which ranks the fund in the 64th percentile.

# Total Plans vs. Russell All Total Fund Universe Performance and Rank Data as of 12/30/05



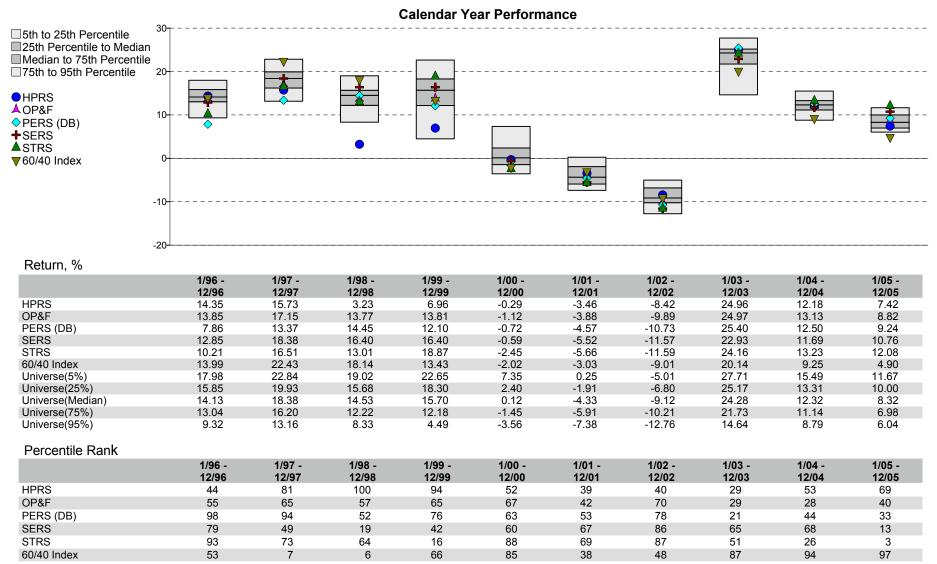
The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2005. The graph shows that all plans except HPRS exceeded the median during 2005.

# Total Plans vs. Russell All Public Total Fund Universe Performance and Rank Data as of 12/30/05



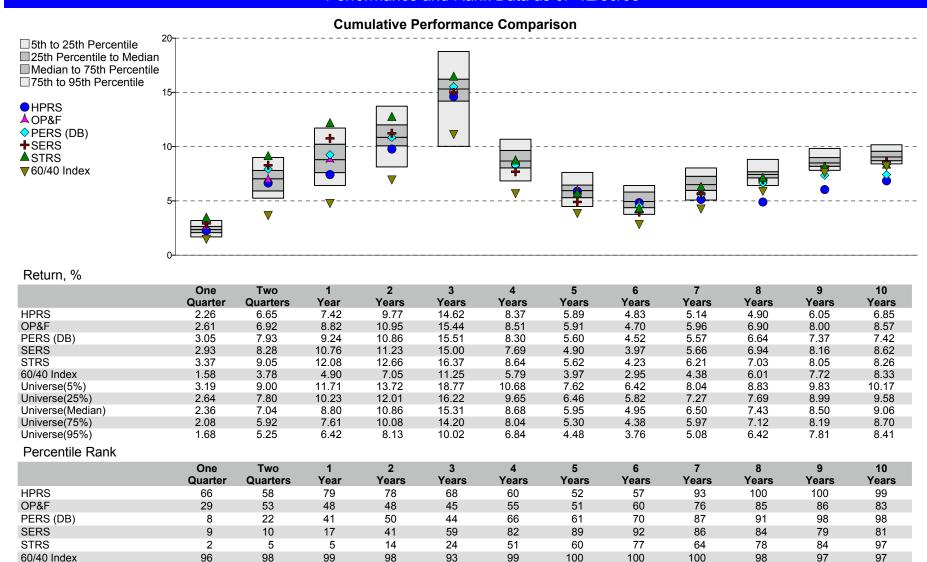
The graph above is a cumulative performance comparison with measurement periods that are annualized over the last ten years. The graph above compares the Total Fund results to a universe of all Public Retirement Systems in the Russell All Public Total Fund Universe. There were no Ohio funds that outperformed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

# Total Plans vs. Russell All Public Total Fund Universe Performance and Rank Data as of 12/30/05



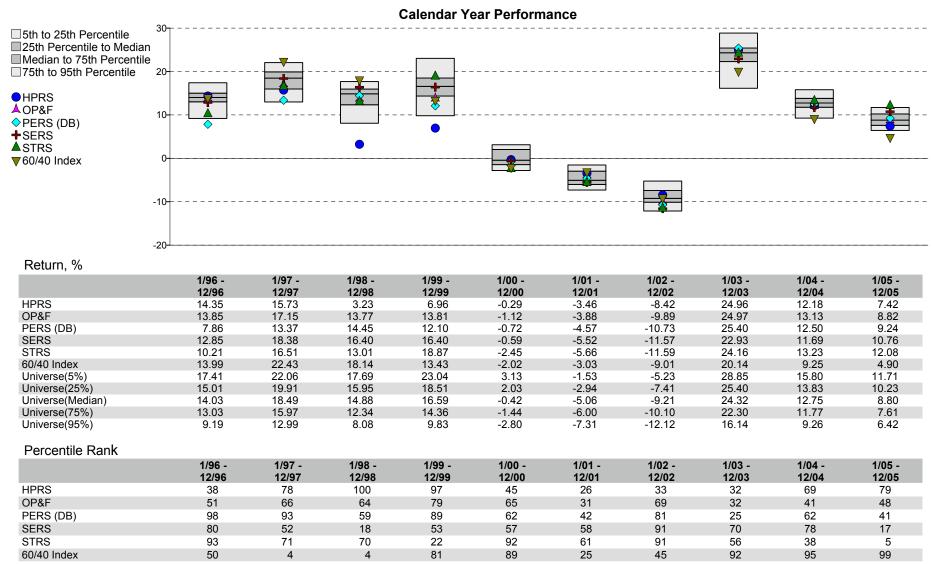
The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2005. All plans except HPRS ranked above the median return for this universe in 2005. STRS ranked in the 3rd percentile, SERS ranked in the 13th percentile, PERS placed in the 33rd percentile, OP&F placed in the 40th percentile and HPRS ranked in the 69th percentile.

# Total Plans vs. Russell Large Public Total Fund Universe Performance and Rank Data as of 12/30/05



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

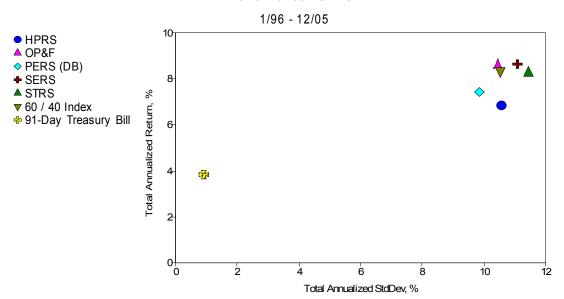
# Total Plans vs. Russell Large Public Total Fund Universe Performance and Rank Data as of 12/30/05



The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2005. In 2005, all plans except HPRS ranked above the median return for this universe. STRS ranked in the 5th percentile, SERS ranked in the 17th percentile, PERS placed in the 41st percentile, OP&F placed in the 48th percentile and HPRS ranked in the 79th percentile.

# Performance Overview Returns for Period Ending December 31, 2005

#### Performance vs. Risk

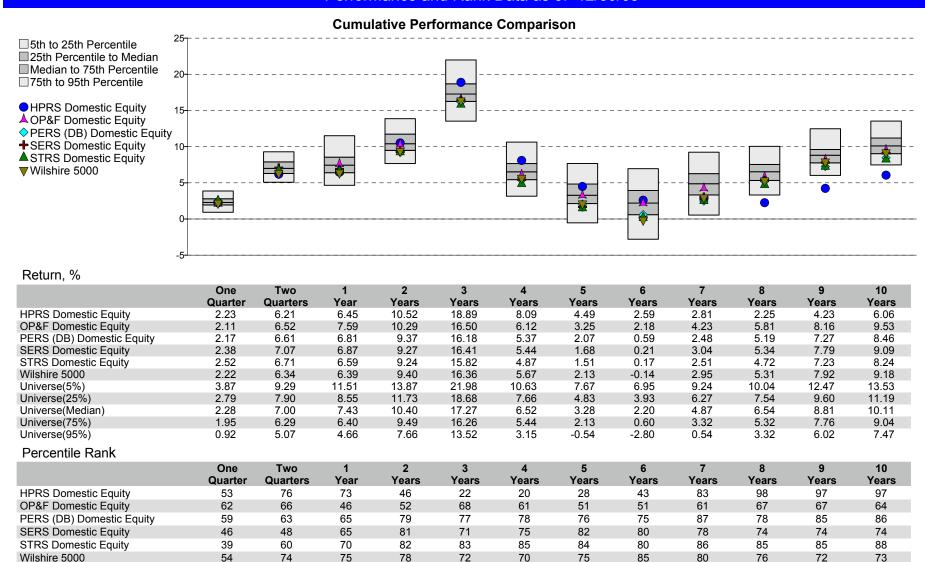


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	Annualized Return, %	Annualized StdDev, %	M/ Stati	PT stics
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	6.85	10.55	3.43	0.32
OP&F	8.57	10.46	5.04	0.48
PERS (DB)	7.42	9.86	3.89	0.39
SERS	8.62	11.11	5.15	0.46
STRS	8.26	11.45	4.86	0.42
60 / 40 Index	8.33	10.51	4.82	0.46
91-Day Treasury Bill	3.85	0.91	0.00	NA

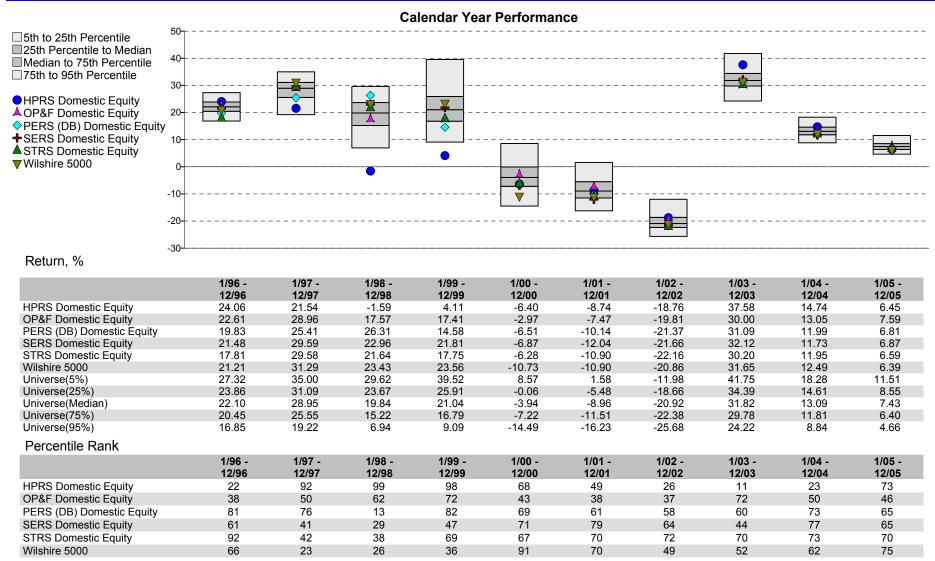
The graph above provides the first analysis of risk. The ten-year results of each Total Fund are displayed in the risk-return space. The vertical axis shows the fund's return and the horizontal axis shows the fund's risk (defined as annualized quarterly standard deviation of returns) for the period. 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 lower 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 All Domestic Equities Universe Performance and Rank Data as of 12/30/05



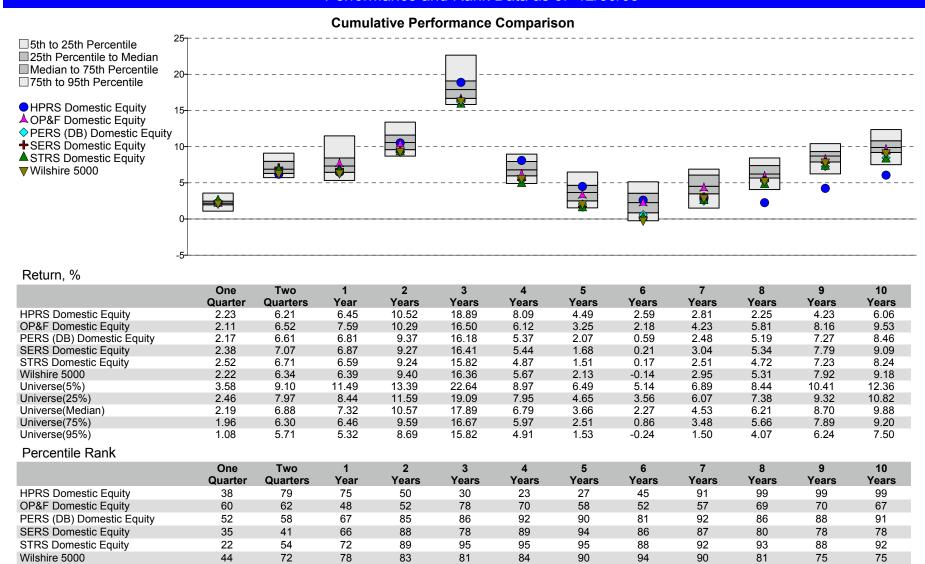
The exhibits above, and on the next three pages, focus on domestic equity results. The analysis is similar to the Total Fund analysis, except that now the comparisons are to a broad equity universe (above) and to the equity returns of Public Funds on pages 13 and 14. When compared to equity portfolios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

### Total Domestic Equities vs. Russell All Domestic Equities Universe Performance and Rank Data as of 12/30/05



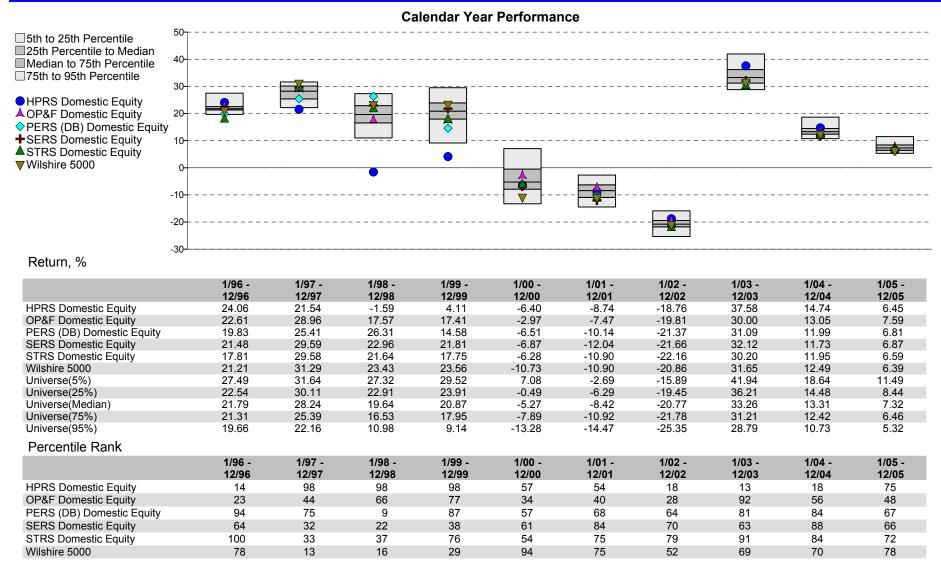
The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2005 within the Russell All Domestic Equities Universe. In 2005, OP&F surpassed the median return for this universe, while other four plans ranked in the third quartile.

# Total Domestic Equities vs. Russell All Public Domestic Equity Universe Performance and Rank Data as of 12/30/05



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 Universe. Over the ten-year period, all Ohio funds trailed the median return in the universe, ranking in the bottom quartile except OP&F, which ranked in 67th percentile.

# Total Domestic Equities vs. Russell All Public Domestic Equity Universe Performance and Rank Data as of 12/30/05



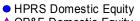
The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2005 within the Russell All Public Domestic Equities Universe. Over the past twelve months, domestic equity results for SERS (66th percentile), PERS (67th percentile) and STRS (72nd percentile) placed in the third quartile, while OP&F (48th percentile) ranked in the second quartile. For the same time period, HPRS (75th percentile) placed in between the third and fourth quartiles of the universe.

### Ohio Retirement Study Council

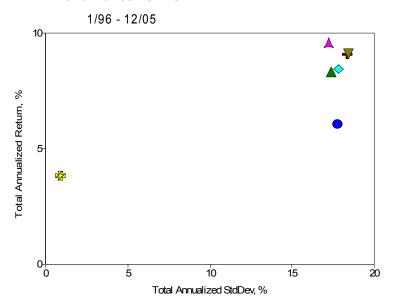
### Performance Overview

Returns for Period Ending December 31, 2005

#### Performance vs. Risk



- △ OP&F Domestic Equity
  ◆ PERS (DB) Domestic Equity
- ♣ SERS Domestic Equity
- ▲ STRS Domestic Equity
- ▼ Wilshire 5000
- ♣ 91-Day Treasury Bill

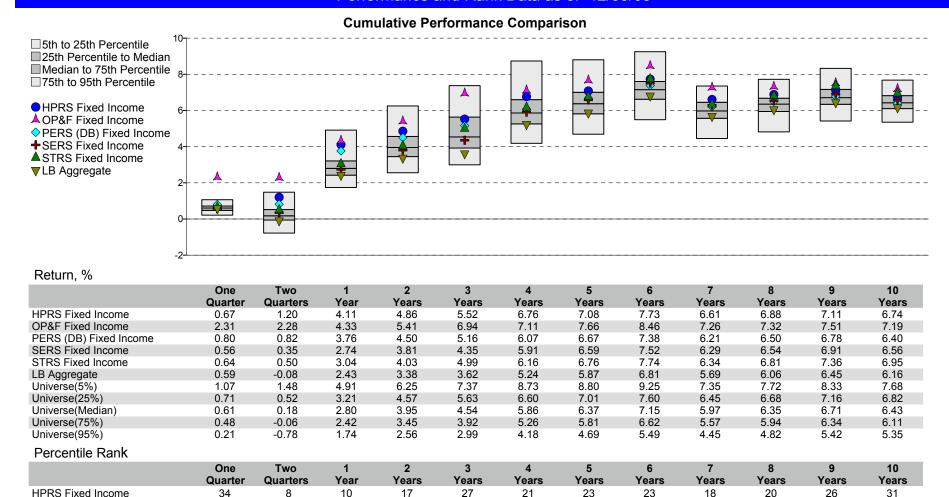


#### Created with MPI Stylus<sup>TM</sup>

	Annualized Retum, %	Annualized StdDev, %	M Stati	PT stics
	Total	Total Total		Sharpe Ratio
HPRS Domestic Equity	6.06	17.73	3.69	0.21
OP&F Domestic Equity	9.53	17.25	6.86	0.40
PERS (DB) Domestic Equity	8.46	17.85	5.95	0.33
SERS Domestic Equity	9.09	18.33	6.64	0.36
STRS Domestic Equity	8.24	17.41	5.69	0.33
Wilshire 5000	9.18	18.42	6.73	0.36
91-Day Treasury Bill	3.85	0.91	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 results over the ten-year period, followed by SERS, PERS Defined Benefit Plan, STRS and HPRS. Both STRS and PERS Defined Benefit Plan carried the same level of risk-adjusted risk to earn their ten-year returns.

### Total Fixed Income vs. Russell All Fixed Income Universe Performance and Rank Data as of 12/30/05



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 Universe. For the trailing ten-year period, all funds except PERS placed in either the top quartile (OP&F and STRS) of the universe or the second quartile (HPRS and SERS) of the universe. PERS ranked in the 51st percentile for the same time period.

**OP&F Fixed Income** 

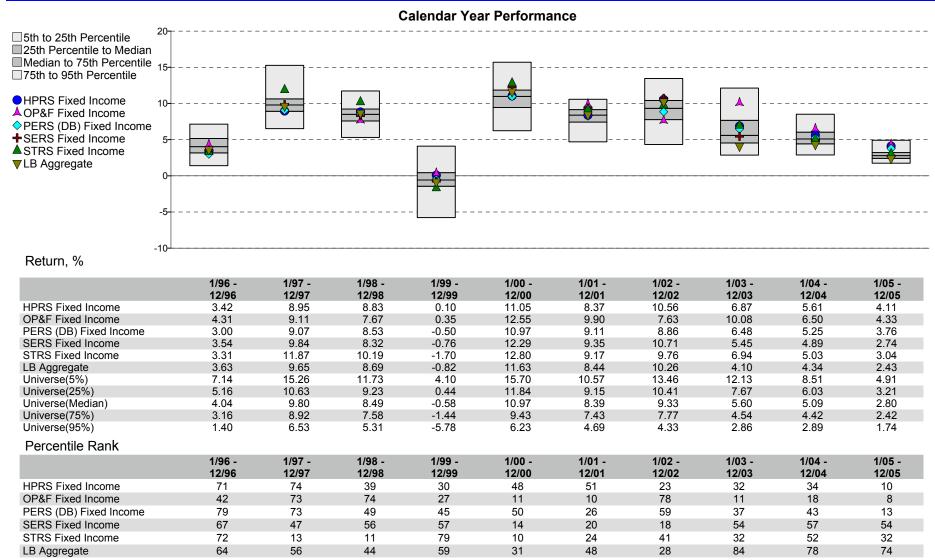
SERS Fixed Income

STRS Fixed Income

LB Aggregate

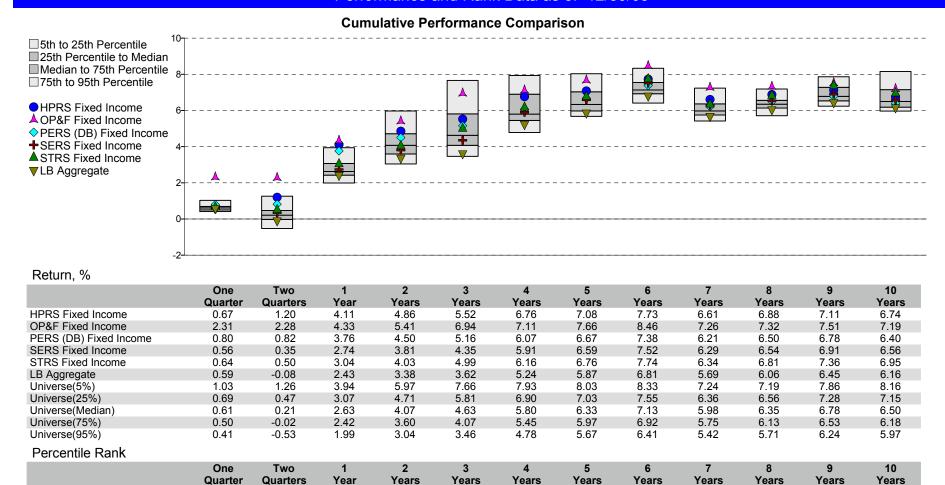
PERS (DB) Fixed Income

# Total Fixed Income vs. Russell All Fixed Income Universe Performance and Rank Data as of 12/30/05



The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2005 within the Russell All Fixed Income Universe. In 2005, OP&F (8th percentile), HPRS (10th percentile), PERS (13th percentile) and STRS (32nd percentile) ranked above the median fixed income return, while SERS placed just outside of the second quartile by ranking in the 54th percentile.

### Total Fixed Income vs. Russell All Public Fixed Income Universe Performance and Rank Data as of 12/30/05



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 Universe. Over the ten-year period, all plans except PERS (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.

HPRS Fixed Income

**OP&F Fixed Income** 

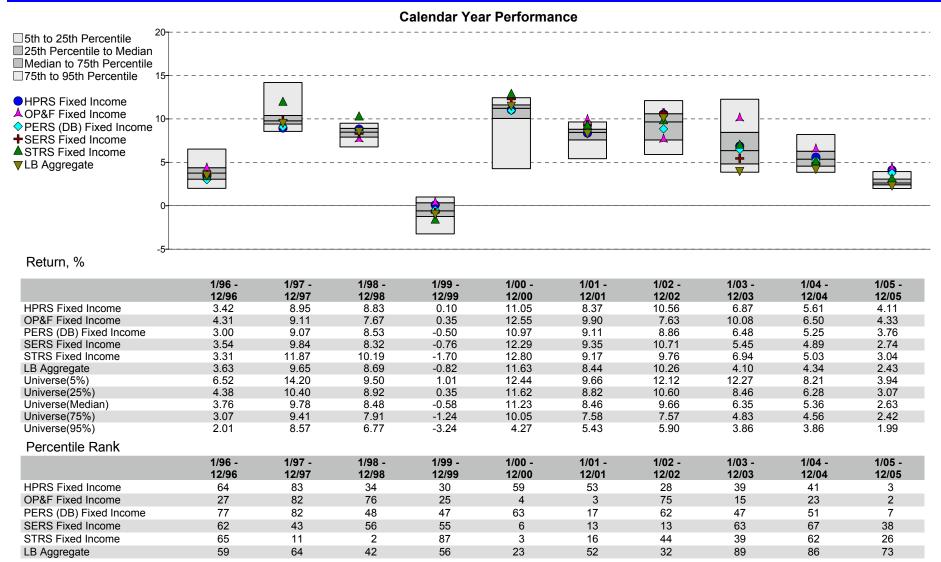
SERS Fixed Income

STRS Fixed Income

LB Aggregate

PERS (DB) Fixed Income

### Total Fixed Income vs. Russell All Public Fixed Income Universe Performance and Rank Data as of 12/30/05

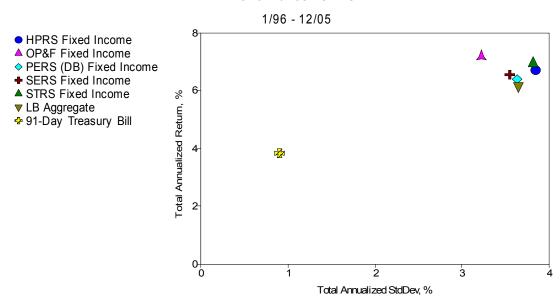


The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2005 within the Russell All Public Fixed Income Universe. In 2005, OP&F (2nd percentile), HPRS (3rd percentile) and PERS (7th percentile) beat the median return in the universe. STRS (26th percentile) and SERS (38th percentile) also outpaced the median return in the universe, ranking in the second quartile of the universe for the same time period.

## Ohio Retirement Study Council

# Performance Overview Returns for Period Ending December 31, 2005

#### Performance vs. Risk

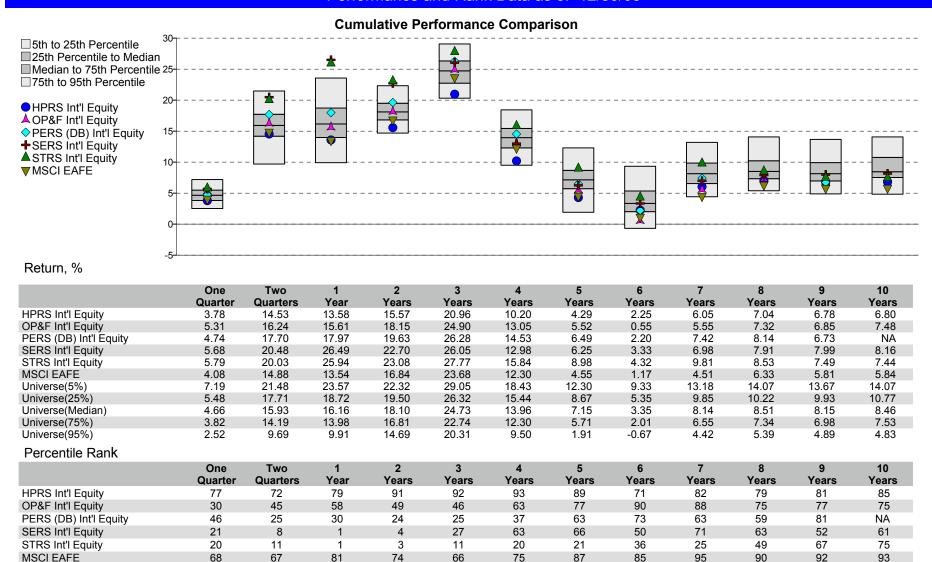


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	Annualized Retum, %	Annualized StdDev, %	MPT Statistics		
	Total	Total	Alpha, %	Sharpe Ratio	
HPRS Fixed Income	6.74	3.84	2.85	0.74	
OP&F Fixed Income	7.19	3.22	3.26	1.00	
PERS (DB) Fixed Income	6.40	3.64	2.52	0.70	
SERS Fixed Income	6.56	3.55	2.67	0.76	
STRS Fixed Income	6.95	3.81	3.05	0.81	
LB Aggregate	6.16	3.64	2.29	0.64	
91-Day Treasury Bill	3.85	0.91	0.00	NA	

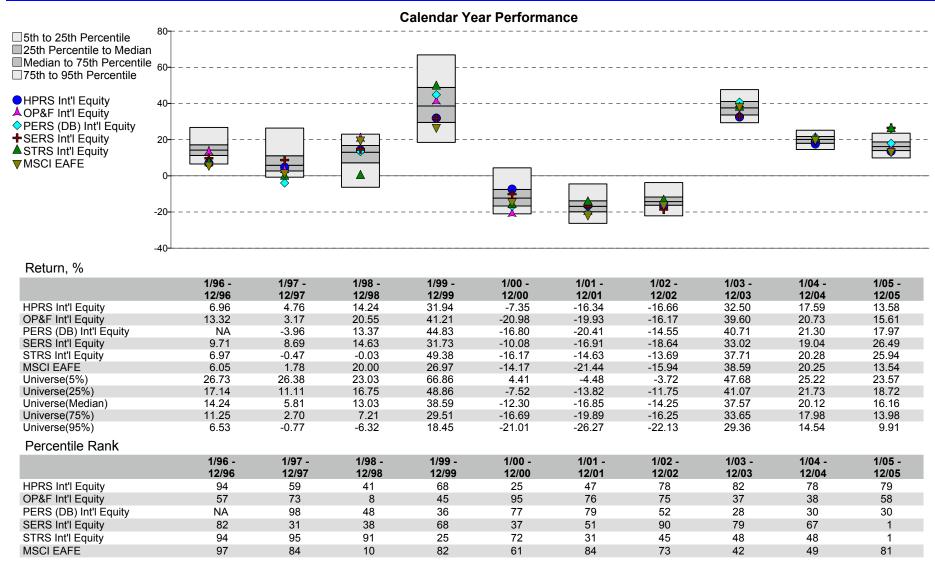
The risk-return analysis above shows that all five of the fund's fixed income portfolios have demonstrated risk-adjusted returns (as measured by their Sharpe Ratios) greater than the bond market as defined by the Lehman Brothers Aggregate Bond Index over the ten-year period.

### Total International Equities vs. Russell All International Equity Universe Performance and Rank Data as of 12/30/05



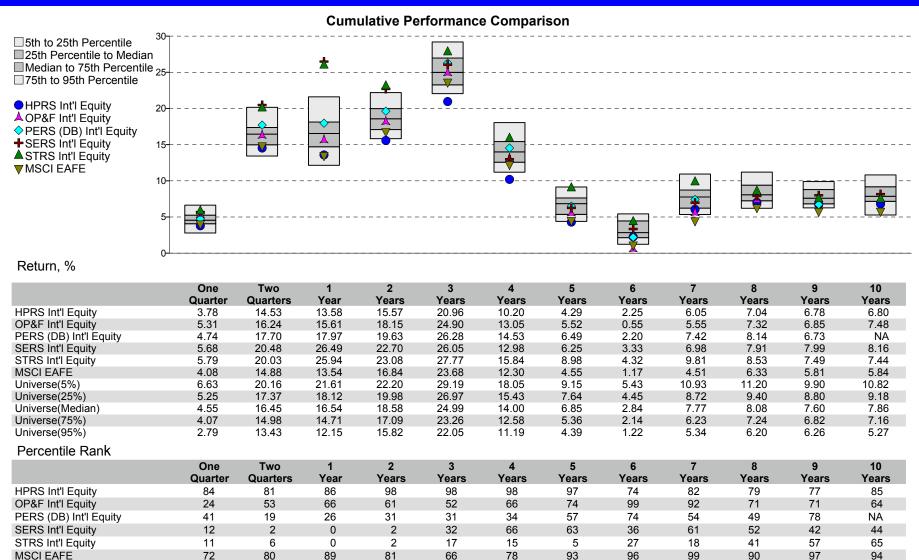
The exhibit above, and on the next page, compare the international equity results of the five funds to that of a broad international equity universe consisting of all of the international equity accounts in the Russell Universe. Comparisons beyond nine years are not meaningful, since PERS did not have an international equity composite for that length of time (PERS had a single manager prior to July 1, 1996). For the nine-year period ending December 31, 2005, all of the funds have had international equity results that were below the median international equity portfolio in the Russell Universe.

# Total International Equities vs. Russell All International Equity Universe Performance and Rank Data as of 12/30/05



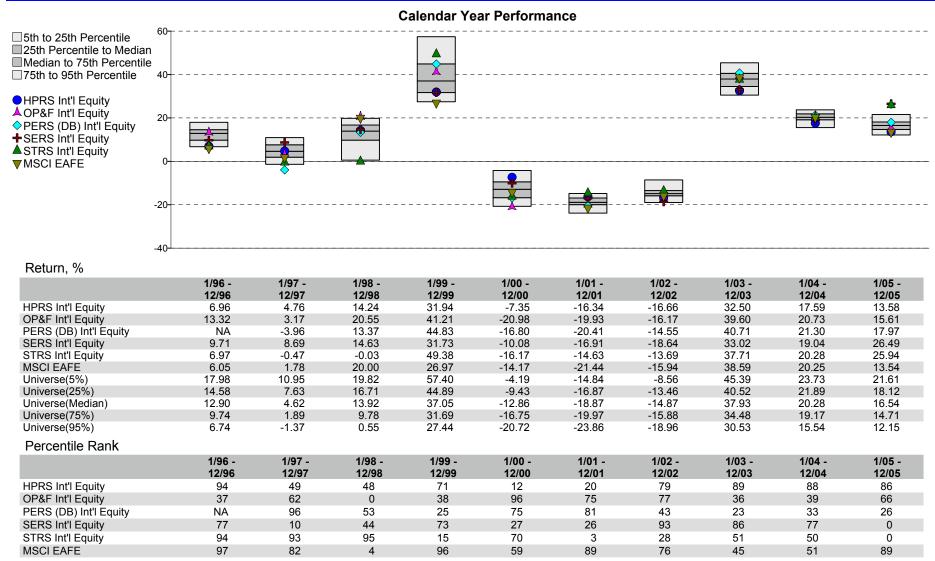
The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2005 within the Russell All International Equity Universe. SERS and STRS outperformed the median return to rank in the top percentile of the universe in 2005. For the same time period, PERS also outpaced the median return to place in the second quartile, while OP&F (58th percentile) and HPRS (79th percentile) underperformed the median return.

# Total International Equities vs. Russell All Public International Equity Universe Performance and Rank Data as of 12/30/05



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 Universe. Comparisons beyond nine years are not meaningful, since PERS did not have an international equity composite for that length of time (PERS had a single manager prior to July 1, 1996). Over the nine-year period, SERS outpaced the median international equity return of public funds to rank in the 42nd percentile, while other plans fell below the median return.

# Total International Equities vs. Russell All Public International Equity Universe Performance and Rank Data as of 12/30/05

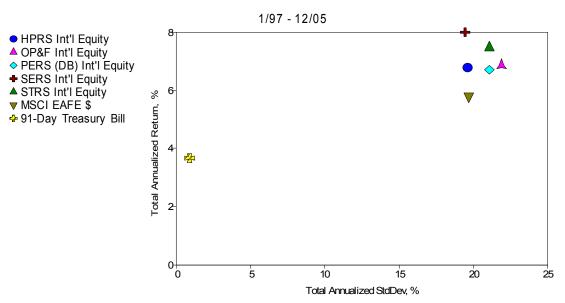


The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2005 within the Russell All Public International Equity Universe. In 2005, SERS and STRS ranked above all peers, while PERS (26th percentile) ranked in the second quartile, outpacing the median return in the universe. For the same time period, HPRS (86th percentile) and OP&F (66th percentile) generated returns that were below the median.

## Ohio Retirement Study Council

# Performance Overview Returns for Period Ending December 31, 2005

#### Performance vs. Risk

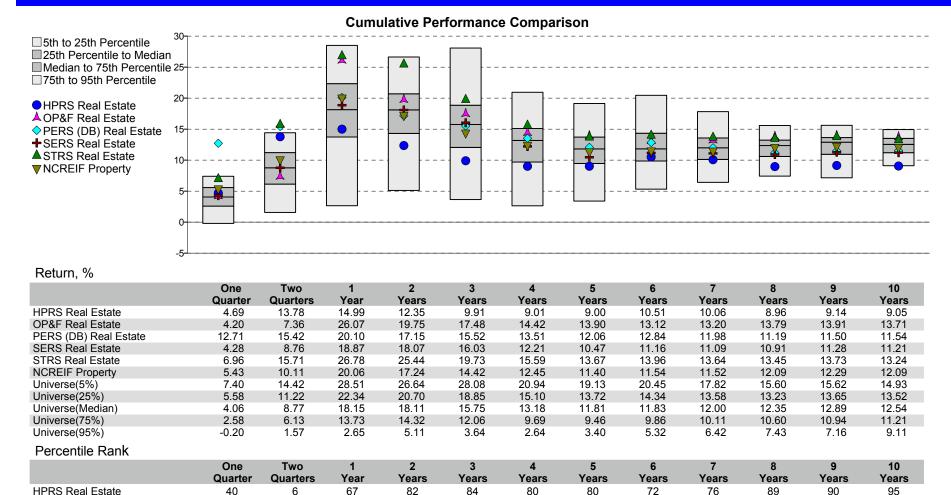


Created with MPI Stylus<sup>TM</sup>

	Annualized Retum, %	Annualized StdDev, %		PT istics
	Total	Total	Alpha, %	Sharpe Ratio
HPRS Int'l Equity	6.78	19.62	4.84	0.24
OP&F Int'l Equity	6.85	21.86	5.32	0.24
PERS (DB) Int'l Equity	6.73	21.11	5.05	0.24
SERS Int'l Equity	7.99	19.41	5.97	0.30
STRS Int'l Equity	7.49	21.07	5.79	0.27
MSCI EAFE \$	5.81	19.71	3.92	0.20
91-Day Treasury Bill	3.69	0.93	0.00	NA

The risk-return analysis above illustrates 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. equity market as defined by the MSCI EAFE Index over the nine-year period.

# Total Real Estate vs. Russell All Real Estate Universe Performance and Rank Data as of 12/30/05



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 Universe. For the ten-year period ending December 31, 2005, OP&F and STRS exceeded the median return to place in the 23rd percentile and 27th percentile, respectively. 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.

**OP&F** Real Estate

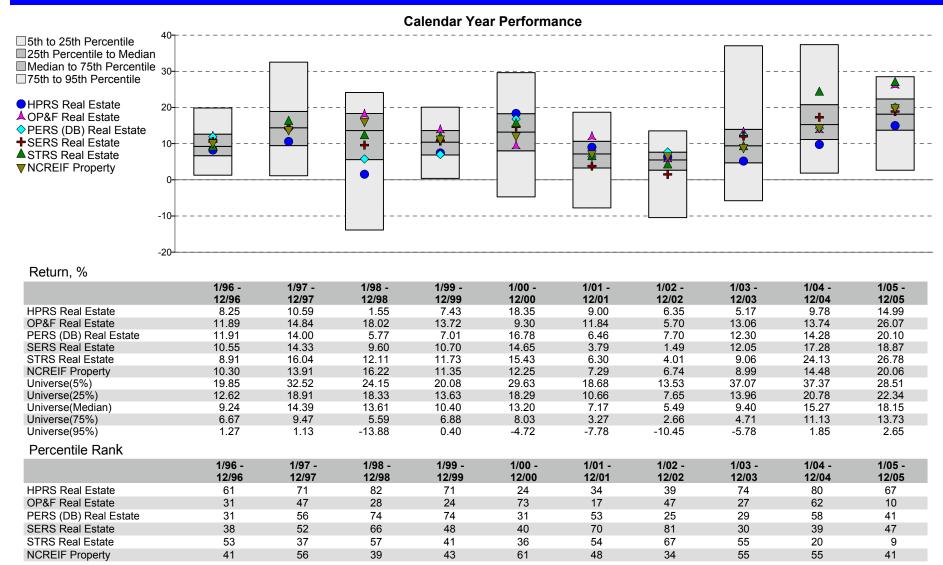
**SERS Real Estate** 

STRS Real Estate

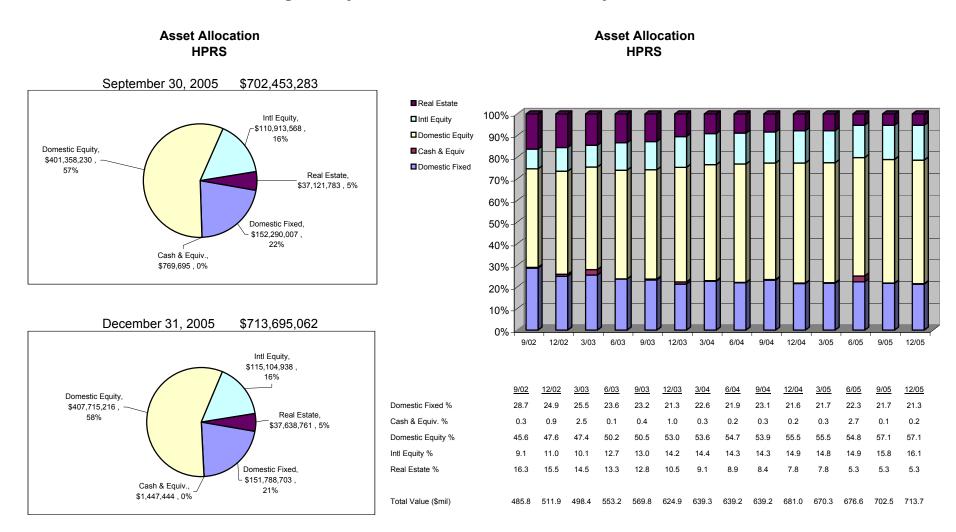
NCREIF Property

PERS (DB) Real Estate

### Total Real Estate vs. Russell All Real Estate Universe Performance and Rank Data as of 12/30/05



The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2005 within the Russell All Real Estate Universe. In 2005, STRS and OP&F outpaced the median real estate return, which placed both plans in the top quartile of the universe. For the same time period, PERS and SERS also beat the median real estate return to place in the second quartile of the universe, while HPRS lagged the median return to rank in the third quartile of the Russell Universe.



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 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

### Quarter Ending 12/31/2005

	Quarter	Quarter		
Label	Start	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-01	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-05	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 twelve years.

Performance Overview
Returns for Period Ending December 31, 2005

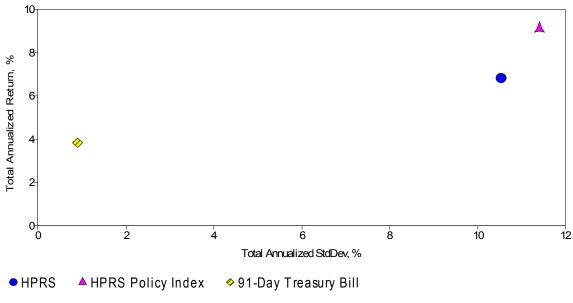
	<u>1 Qtr</u>	2 Qtrs	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund Policy Index	2.26	6.65	7.42	14.62	5.89	6.85
	2.37	6.32	7.88	14.44	5.51	9.14
Domestic Equity Domestic Equity Segment Median Wilshire 5000	2.23	6.21	6.45	18.89	4.49	6.06
	2.19	6.88	7.32	17.89	3.66	9.88
	2.22	6.34	6.39	16.36	2.13	9.18
International Equity International Equity Segment Median MSCI EAFE	3.78	14.53	13.58	20.96	4.29	6.80
	4.55	16.45	16.54	24.99	6.85	7.86
	4.08	14.88	13.54	23.68	4.55	5.84
Fixed Income Fixed Income Segment Median LB Aggregate	0.67	1.20	4.11	5.52	7.08	6.74
	0.61	0.21	2.63	4.63	6.33	6.50
	0.59	-0.08	2.43	3.62	5.87	6.16
Cash	1.32	2.33	4.33	2.34	2.84	4.08
Real Estate	4.69	13.78	14.99	9.91	9.00	9.05
NCREIF	5.43	10.11	20.06	14.42	11.40	12.09

Over the ten-year period as of December 31, 2005, the fund's total return is trailing the policy index by 2.99% annually. This is due to its domestic equity and real estate returns, which lagged the Wilshire 5000 Index by 312 basis points and NCREIF Index by 304 basis points, respectively. The more recent one-year period also shows that HPRS lagged the policy index, but by a smaller margin of 46 basis points.

Performance Overview
Returns for Period Ending December 31, 2005

Performance vs. Risk





Created with MPI Stylus<sup>TM</sup>

	Annualized Retum, %	Annualized StdDev, %	MI Stati	PT stics
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	6.85	10.55	3.43	0.32
HPRS Policy Index	9.14	11.41	5.67	0.49
91-Day Treasury Bill	3.85	0.91	0.00	NA

The chart above shows that on a risk-adjusted basis, HPRS has fallen short of the risk-adjusted return of its policy index for the ten-year period by 224 basis points.

### Asset Allocation Actual vs. Benchmark June 30, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	54.80%	32% S & P 500 / 16% Russell 2500	48%	6.80%
Fixed Income	22.40%	LB Aggregate	25%	-2.60%
Intl. Equity	14.90%	MSCI EAFE (Net)	15%	-0.10%
Real Estate	5.30%	NCREIF	12%	-6.70%
Short Term	2.70%	3 Month T-Bill	0%	2.70%
		December 31, 2005		

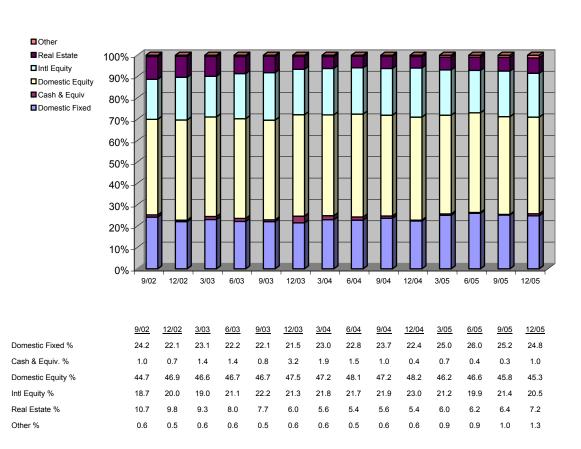
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	57.13%	32% S & P 500 / 16% Russell 2500	48%	9.13%
Fixed Income	21.27%	LB Aggregate	25%	-3.73%
Intl. Equity	16.13%	MSCI EAFE (Net)	15%	1.13%
Real Estate	5.27%	NCREIF	12%	-6.73%
Short Term	0.20%	3 Month T-Bill	0%	0.20%

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

## Asset Allocation PERS Defined Benefit Plan

#### September 30, 2005 \$55,727,559,682 Intl Equity, \$11.895.783.814. 21% Real Estate, \$3,541,532,194 Domestic Equity, \$25,509,894,499 Other, 47% \$578,063,676,1% Domestic Fixed. \$14.063.348.865 Cash & Equiv... 25% \$138,936,634,0%

## Asset Allocation PERS Defined Benefit Plan



53.7

58.6

60.4

60.0

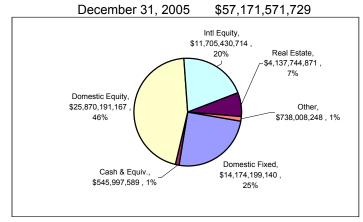
59.8

64.6

52.8

53.7

55.7



Note: Defined benefit and health care plan assets were segregated in January 2005.

47.4

46.2

51.8

45.2

This is the first page devoted to the analysis of the Ohio Public Employees Retirement System Defined Benefit Plan's asset allocation. The chart on the left displays the fund's asset allocation over the last two quarters of 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

Total Value (\$bil)

### Defined Benefit Plan Quarter Ending 12/31/2005

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

	Quarter	Quarter		
Label	Start	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
			1.60	NAREIT
			1.60	Giliberto-Levy Mortgage
	Mar-99	Mar-99	45.40	SB Broad Inv Grade
			35.00	Standard & Poors 500
			7.60	MSCI World Ex-US (Net)
			6.60	NCREIF
			2.20	NAREIT
			2.20	Giliberto-Levy Mortgage
			1.00	91-Day Treasury Bill
	Jun-99	Jun-99	40.10	SB Broad Inv Grade
			35.00	Standard & Poors 500
			12.90	MSCI World Ex-US (Net)
			6.60	NCREIF
			2.20	NAREIT
			2.20	Giliberto-Levy Mortgage
			1.00	91-Day Treasury Bill

Charts above and on the following pages track PERS asset allocation policy index over the past twelve years.

### Defined Benefit Plan Quarter Ending 12/31/2005

	Quarter	Quarter		B
Label	Start	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	LB Bellweather 3Mth T-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	LB Bellweather 3Mth T-Bill
			1.90	NAREIT
			1.90	Giliberto-Levy Mortgage
			0.20	Standard & Poors 500
	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	LB Bellweather 3Mth T-Bill
			0.20	Standard & Poors 500

	Quarter	Quarter		
Label	Start	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	LB Bellweather 3Mth T-Bill
			0.20	Standard & Poors 500
	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	LB Bellweather 3Mth T-Bill
			0.40	Standard & Poors 500
	Mar-03	Dec-04	46.00	Russell 3000
			23.00	Lehman Universal
			20.00	MSCI AC World Ex-US (Net)
			8.10	NCREIF
			0.90	Wilshire Real Estate Securities
			1.00	LB Bellweather 3Mth T-Bill
			1.00	Russell 3000 + 3% (1 Qtr arrears)

The current policy is located on the following page.

### Defined Benefit Plan Quarter Ending 12/31/2005

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Dec-04	Mar-05	46.30 26.20 20.00 5.80 0.70 1.00	Russell 3000 Lehman Universal MSCI AC World Ex-US (Net) Custom Real Estate Russell 3000 + 3% (1 Qtr arrears) LB Bellweather 3Mth T-Bill
	Mar-05	Jun-05	46.12 26.00 20.00 5.97 0.88 1.00	Russell 3000 Lehman Universal MSCI AC World Ex-US (Net) Custom Real Estate Russell 3000 + 3% (1 Qtr arrears) LB Bellweather 3Mth T-Bill
	Jun-05	Sep-05	46.08 25.81 20.00 6.19 0.92 1.00	Russell 3000 Lehman Universal MSCI AC World Ex-US (Net) Custom Real Estate Russell 3000 + 3% (1 Qtr arrears) LB Bellweather 3Mth T-Bill

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index (cont.)	Sep-05	Dec-05	45.96 25.64 20.00 6.36 1.04 1.00	Russell 3000 Lehman Universal MSCI AC World Ex-US (Net) Custom Real Estate Russell 3000 + 3% (1 Qtr arrears) LB Bellweather 3Mth T-Bill

The current PERS policy index is listed in the table on the right. PERS instituted separate floating policy indexes for their defined benefit and health care plans in January 2005. Listed below are conditions that apply to the movement of the defined benefit policy index:

- (1) To the extent that actual real estate investments are below the long run target, the difference will be carried in global bonds.
- (2) To the extent that actual private equity investments are below the long run target, the difference will be carried in U.S. equities.
- (3) Real estate custom benchmark are calculated at 90% NCRIEF minus 100 bps annually plus 10% Wilshire RESI minus 20 bps annually.

### Health Care Plan Quarter Ending 12/31/2005

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index	Dec-04	Jun-05	47.50	Russell 3000
olicy macx	DCC 04	oun oo	22.00	Lehman Universal
			22.00	MSCI ACWI Ex-US (Net)
			4.00	Wilshire Resi Full Cap
			2.50	Lehman US Tips
			2.00	Lehman 1-3 Yr Gov't
			2.00	Lenman 1-3 11 Gov t
	Jun-05	Dec-05	42.50	Russell 3000
			20.00	Lehman Universal
			20.00	MSCI ACWI Ex-US (Net)
			4.20	Wilshire Resi Full Cap
			7.50	Lehman US Tips
			5.80	Lehman 1-3 Yr Gov't

PERS Health Care Plans' policy index is listed above. The chart above tracks the fund's change in asset allocation strategy since establishing a policy benchmark for its health care assets over a one-year period since inception.

Defined Benefit Plan - Performance Overview Returns for Period Ending December 31, 2005

	<u>1 Qtr</u>	2 Qtrs	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund Policy Index	3.05	7.93	9.24	15.51	5.60	7.42
	2.37	6.82	8.17	14.85	5.21	8.03
Domestic Equity Domestic Equity Segment Median Wilshire 5000	2.17	6.61	6.81	16.18	2.07	8.46
	2.19	6.88	7.32	17.89	3.66	9.88
	2.22	6.34	6.39	16.36	2.13	9.18
International Equity International Equity Segment Median MSCI EAFE	4.74	17.70	17.97	26.28	6.49	N/A
	4.55	16.45	16.54	24.99	6.85	7.86
	4.08	14.88	13.54	23.68	4.55	5.84
Fixed Income	0.80	0.82	3.76	5.16	6.67	6.40
Fixed Income Segment Median	0.61	0.21	2.63	4.63	6.33	6.50
LB Aggregate	0.59	-0.08	2.43	3.62	5.87	6.16
Cash	1.00	1.90	3.34	2.01	2.33	4.02
Real Estate	12.71	15.42	20.10	15.52	12.06	11.54
NCREIF	5.43	10.11	20.06	14.42	11.40	12.09
Alternative	8.43	16.58	34.32	25.83	8.82	17.10

Over the past ten-year period, the PERS Defined Benefit Plan trailed its policy index by 61 basis points. Weaker relative performance in domestic equity and alternative investments were attributable to the performance shortfall. For the more recent one-year period, the plan exceeded the return that was generated by the policy index, outpacing by 107 basis points.

Health Care Plan - Performance Overview Returns for Period Ending December 31, 2005

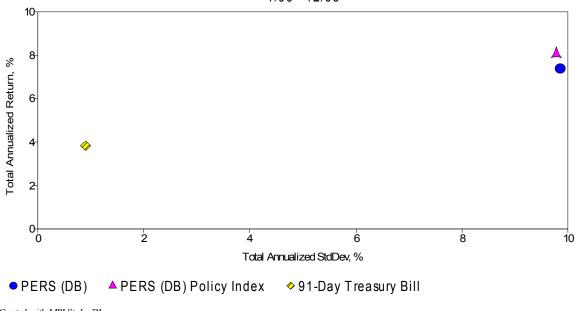
	<u>1 Qtr</u>	2 Qtrs	<u>1 Yr</u>
Total Fund	2.15	6.82	8.00
Policy Index	2.06	6.25	7.28
Domestic Equity Domestic Equity Segment Median Wilshire 5000	2.17	6.61	6.79
	2.19	6.88	7.32
	2.22	6.34	6.39
International Equity International Equity Segment Median MSCI EAFE	4.69	17.59	17.84
	4.55	16.45	16.54
	4.08	14.88	13.54
Fixed Income	0.80	0.82	3.75
Fixed Income Segment Median	0.61	0.21	2.63
LB Aggregate	0.59	-0.08	2.43
Cash	1.03	1.98	3.60
Public Real Estate	3.42	6.82	14.90
NCREIF	5.43	10.11	20.06
Treasury Inflation Protected Securities	0.16	0.12	N/A
Lehman U.S. TIPS	0.11	0.13	N/A
Short Duration	0.98	1.32	N/A
Lehman 1-3 Year Government	0.69	0.78	N/A

For the trailing one-year period, the PERS Health Care Plan outperformed its policy index by 72 basis points. Stronger relative performance in domestic equity, international equity and fixed income were attributable to the relative outperformance versus the policy index.

Defined Benefit Plan - Performance Overview Returns for Period Ending December 31, 2005

### Performance vs. Risk

1/96 - 12/05



Created with MPI Stylus<sup>TM</sup>

	Annualized Retum, %			MPT Statistics		
	Total	Total	Alpha, %	Sharpe Ratio		
PERS (DB)	7.42	9.86	3.89	0.39		
PERS (DB) Policy Index	8.03	9.77	4.47	0.45		
91-Day Treasury Bill	3.85	0.91	0.00	NA		

The chart above illustrates that on a risk-adjusted basis, the PERS Defined Benefit Plan has fallen short of the risk-adjusted return of its policy index over the last ten years.

### Defined Benefit Plan - Asset Allocation Actual vs. Benchmark June 30, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	46.56%	Russell 3000	46.08%	0.48%
Fixed Income	25.97%	Lehman Universal	25.81%	0.16%
Intl. Equity	19.92%	MSCI AC World ex US	20.00%	-0.08%
Real Estate	6.19%	PERS Custom Index	6.19%	0.00%
Private Equity	0.92%	Russell 3000 + 3% (1 Qtr arrears)	0.92%	0.00%
Short Term	0.44%	LB Bellweather 3 Month T-Bill	1.00%	-0.56%

#### December 31, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	45.25%	Russell 3000	45.96%	-0.71%
Fixed Income	24.79%	Lehman Universal	25.64%	-0.85%
Intl. Equity	20.48%	MSCI AC World ex US	20.00%	0.48%
Real Estate	7.24%	PERS Custom Index	6.36%	0.88%
Private Equity	1.29%	Russell 3000 + 3% (1 Qtr arrears)	1.04%	0.25%
Short Term	0.95%	LB Bellweather 3 Month T-Bill	1.00%	-0.05%

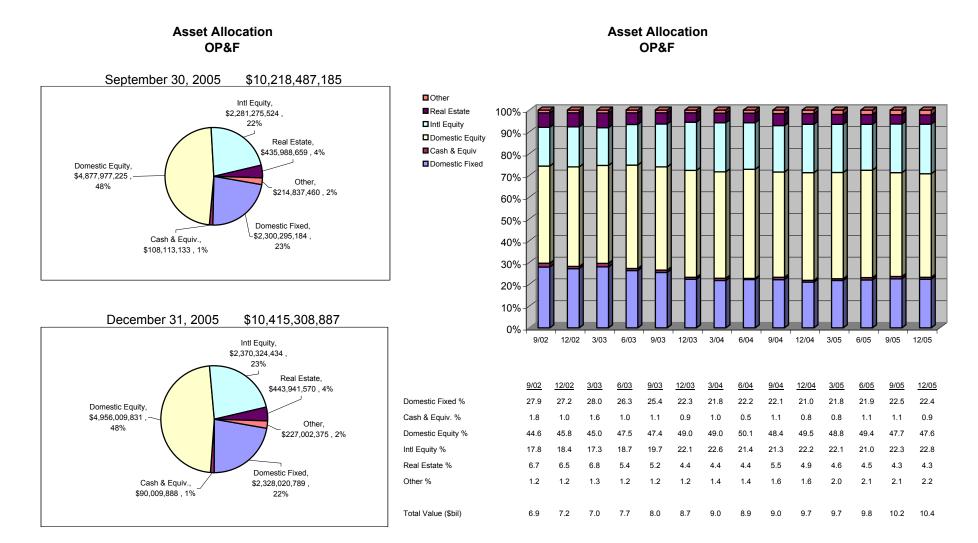
As of the end of the fourth quarter, the PERS Defined Benefit Plan is overweight in international equity, real estate and private equity, while being underweight in domestic equity, fixed income and cash.

### Health Care Plan - Asset Allocation Actual vs. Benchmark June 30, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference	
Domestic Equity	44.72%	Russell 3000	47.50%	-2.78%	
Fixed Income	20.93%	Lehman Universal	22.00%	-1.07%	
Intl. Equity	20.53%	MSCI AC World ex US	22.00%	-1.47%	
REITS	4.26%	Wilshire Resi full cap	4.00%	0.26%	
TIPS	5.33%	LB U.S. Tips	2.50%	2.83%	
Short Duration Bond	3.60%	LB 1-3 Yr Gov't	2.00%	1.60%	
Short Term	0.63%	91 Day T- Bill	0.00%	0.63%	
December 31, 2005					

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	39.14%	Russell 3000	42.50%	-3.36%
Fixed Income	19.08%	Lehman Universal	20.00%	-0.92%
Intl. Equity	19.26%	MSCI AC World ex US	20.00%	-0.74%
REITS	4.35%	Wilshire Resi full cap	4.20%	0.15%
TIPS	9.58%	LB U.S. Tips	7.50%	2.08%
Short Duration Bond	7.14%	LB 1-3 Yr Gov't	5.80%	1.34%
Short Term	1.45%	91 Day T-Bill	0.00%	1.45%

As of the end of the fourth quarter, the PERS Health Care Plan is overweight in REITS, TIPS, short duration bonds and cash, while being underweight in domestic equity, fixed income and interntional equity.



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 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

### Quarter Ending 12/31/2005

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index	Mar-94	Sep-97	41.00	Wilshire 5000
			39.00	LB Aggregate
			10.00	MSCI EAFE (Net)
			9.00	Wilshire RE Funds
			1.00	S&P 500 + 5%
	Dec-97	Mar-01	41.00	Wilshire 5000
			35.00	LB Aggregate
			10.00	MSCI EAFE (Net)
			8.00	Wilshire RE Funds
			5.00	MSCI Em Mkts Free (Gross)
			1.00	S&P 500 + 5%
	Jun-01	Jun-01	41.00	Wilshire 5000
			35.00	LB Aggregate
			10.00	MSCI EAFE (Net)
			8.00	Wilshire RE Funds
			5.00	MSCI Em Mkts Free (Gross)
			1.00	S&P 500 (lagged) + 5%
	Sep-01	Mar-02	46.00	Wilshire 5000
			18.00	LB Aggregate
			17.00	MSCI EAFE (Net)
			8.00	Wilshire RE Funds
			5.00	First Boston High Yield
			3.00	MSCI Em Mkts Free (Gross)
			3.00	Wilshire 5000 (lagged) + 5%

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index (cont.)	Jun-02	Sep-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 (lagged) + 5%
	Dec-04	Dec-04	46.00	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)
			3.00	Wilshire 5000 (lagged) + 5%
	Mar-05	Dec-05	46.00	Wilshire 5000
			18.00	LB Aggregate
			20.00	MSCI ACWI ex-U.S. (Net)
			8.00	NCREIF
			5.00	First Boston High Yield
			3.00	Wilshire 5000 (lagged) + 5%

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

Performance Overview
Returns for Period Ending December 31, 2005

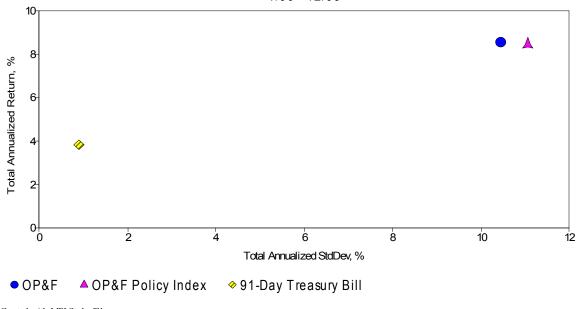
	<u>1 Qtr</u>	2 Qtrs	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	2.61	6.92	8.82	15.44	5.91	8.57
Policy Index	2.62	7.33	8.97	15.85	5.72	8.42
Domestic Equity Domestic Equity Segment Median Wilshire 5000	2.11	6.52	7.59	16.50	3.25	9.53
	2.19	6.88	7.32	17.89	3.66	9.88
	2.22	6.34	6.39	16.36	2.13	9.18
International Equity International Equity Segment Median MSCI EAFE	5.31	16.24	15.61	24.90	5.52	7.48
	4.55	16.45	16.54	24.99	6.85	7.86
	4.08	14.88	13.54	23.68	4.55	5.84
Fixed Income	2.31	2.28	4.33	6.94	7.66	7.19
Fixed Income Segment Median	0.61	0.21	2.63	4.63	6.33	6.50
LB Aggregate	0.59	-0.08	2.43	3.62	5.87	6.16
Cash	0.91	1.75	3.06	1.84	2.35	3.71
Real Estate	4.20	7.36	26.07	17.48	13.90	13.71
NCREIF	5.43	10.11	20.06	14.42	11.40	12.09
Alternative	5.84	12.36	26.75	5.65	-7.35	12.37

For the trailing ten-year period, the fund outperformed its policy index by 15 basis points. Stronger relative performance in domestic equity, international equity, fixed income and real estate continued to contribute to overall performance. However, OP&F trailed its policy index by 15 basis points for the more recent one-year period.

# Performance Overview Returns for Period Ending December 31, 2005

Performance vs. Risk

1/96 - 12/05



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	Annualized Retum, %	Annualized StdDev, %	MPT Statistics		
	Total	Total	Alpha, %	Sharpe Ratio	
OP&F	8.57	10.46	5.04	0.48	
OP&F Policy Index	8.42	11.08	4.96	0.44	
91-Day Treasury Bill	3.85	0.91	0.00	NA	

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

### Asset Allocation Actual vs. Benchmark June 30, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	49.36%	Wilshire 5000	48%	1.36%
Fixed Income	21.94%	Lehman Aggregate	23%	-1.06%
Intl. Equity Comp.	21.03%	MSCI ACWI ex-U.S. (Net)	20%	1.03%
Real Estate	4.49%	NCREIF	8%	-3.51%
Venture Capital	2.07%	Wilshire 5000 Lagged + 5%	1%	1.07%
Short Term	1.11%	3 Month T-Bill	0%	1.11%

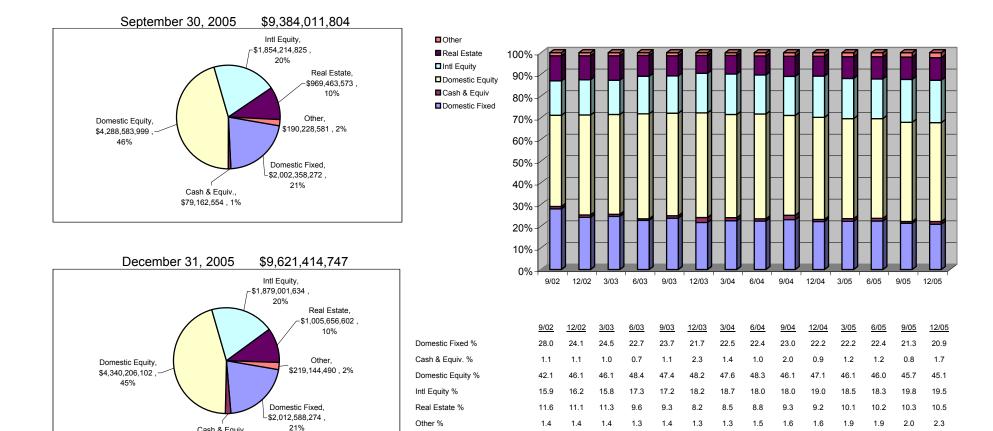
### December 31, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	47.58%	Wilshire 5000	46%	1.58%
Fixed Income	22.36%	Lehman Aggregate	23%	-0.64%
Intl. Equity Comp.	22.76%	MSCI ACWI ex- U.S. (Net)	20%	2.76%
Real Estate	4.26%	NCREIF	8%	-3.74%
Venture Capital	2.18%	Wilshire 5000 Lagged + 5%	3%	-0.82%
Short Term	0.86%	3 Month T-Bill	0%	0.86%

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

#### Asset Allocation

#### **Asset Allocation**



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 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

6.7

6.5

72

7.5

8 1

8.3

8.3

8.3

8.8

9.0

9.4

9.6

Total Value (\$bil)

Cash & Equiv., \$164,817,645, 2%

### Quarter Ending 12/31/2005

	Quarter	Quarter		
Label	Start	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 Ppty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
			2.00	S&P 500 + 5%
	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 Ppty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
			2.00	S&P 500 + 5%
	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 Ppty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
			2.00	S&P 500 + 5%
	Sep-95	Mar-97	45.00	Russell 3000
			28.00	LB Aggregate
			10.00	MSCI EAFE 50% Hedged
			10.00	NCREIF Classic Ppty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
			2.00	S&P 500 + 5%
	Jun-97	Jun-97	45.00	Russell 3000
			28.00	LB Aggregate
			15.00	MSCI EAFE 50% Hedged
			10.00	NCREIF Classic Ppty Idx (1 Qtr arrear)
			1.00	Citigroup 30 Day T-Bill
			1.00	S&P 500 + 5%

Label   Start   End   Percent   Description	
28.00	
14.50 MSCI EAFE 50% Hedged 0.50 MSCI Em Mkts Free NCREIF 1.00 Citigroup 30 Day T-Bill 1.00 S&P 500 +5% Sep-99 Dec-99 45.00 LB Aggregate 14.00 MSCI EAFE 50% Hedged 14.00 MSCI EAFE 50% Hedged 15.00 MSCI EM Mkts Free 10.00 NCREIF 1.00 Citigroup 30 Day T-Bill 1.00 S&P 500 +5% Mar-00 Jun-01 48.00 Russell 3000 23.00 LB Aggregate 16.00 MSCI Em Mkts Free NCREIF 1.00 S&P 500 +5% MSCI ACWI ex US (Developed - 50% Hdg 10.00 NCREIF 1.00 S&P 500 +5% Citigroup 30 Day T-Bill Sep-01 Jun-02 47.00 Russell 3000	
0.50 MSCI Em Mkts Free 10.00 NCREIF 1.00 Citigroup 30 Day T-Bill Sep-99 Dec-99 45.00 Russell 3000 28.00 LB Aggregate 14.00 MSCI EAFE 50% Hedged 1.00 MSCI Em Mkts Free NCREIF 1.00 Citigroup 30 Day T-Bill Sep-01 Jun-01 MSCI Em Mkts Free NCREIF 1.00 Russell 3000 LB Aggregate 16.00 MSCI Em Mkts Free NCREIF 1.00 S&P 500 +5% MSCI ACWI ex US (Developed - 50% Hdg NCREIF 1.00 S&P 500 +5% Citigroup 30 Day T-Bill Russell 3000 Citigroup 30 Day T-Bill Russell 3000 Citigroup 30 Day T-Bill Russell 3000 RCREIF 1.00 S&P 500 +5% Citigroup 30 Day T-Bill Russell 3000	
10.00   NCREIF   Citigroup 30 Day T-Bill   Sep-01   Jun-02   47.00   Sep-01   Jun-02   47.00   Sep-01   Jun-02   47.00   NCREIF   Citigroup 30 Day T-Bill   Sep-01   Jun-02   47.00   NCREIF   Citigroup 30 Day T-Bill   Citigroup 30 Day T-Bill   Citigroup 30 Day T-Bill   Sep-01   Jun-02   47.00   Russell 3000   Citigroup 30 Day T-Bill   Sep-01   Jun-02   47.00   Russell 3000   Citigroup 30 Day T-Bill   Russell 3000   Citigroup 30 Day T-Bill   Russell 3000   Citigroup 30 Day T-Bill   Russell 3000   R	
1.00   Citigroup 30 Day T-Bill   S&P 500 +5%   Sep-99   Dec-99   45.00   Russell 3000   28.00   LB Aggregate   MSCI EAFE 50% Hedged   1.00   MSCI EM Mkts Free   1.00   NCREIF   1.00   Citigroup 30 Day T-Bill   1.00   S&P 500 +5%   Mar-00   Jun-01   48.00   Russell 3000   23.00   LB Aggregate   16.00   MSCI ACWI ex US (Developed - 50% Hdg NCREIF   1.00   S&P 500 +5%   2.00   Citigroup 30 Day T-Bill   Sep-01   Jun-02   47.00   Russell 3000	
1.00   S&P 500 +5%	
Sep-99   Dec-99   45.00   Russell 3000   LB Aggregate   MSCI EAFE 50% Hedged   MSCI EAFE 50% Hedged   MSCI EM MKS Free   10.00   NCREIF   1.00   Citigroup 30 Day T-Bill   Sep-01   Jun-02   47.00   Russell 3000   LB Aggregate   MSCI ACWI ex US (Developed - 50% Hdg	
28.00 14.00 MSCI EAFE 50% Hedged 1.00 MSCI EM Mkts Free 10.00 NCREIF 1.00 S&P 500 +5%  Mar-00 Jun-01 48.00 23.00 LB Aggregate 16.00 MSCI Em Mkts Free 1.00 S&P 500 +5% Russell 3000 LB Aggregate 16.00 MSCI ACWI ex US (Developed - 50% Hdg 10.00 NCREIF 1.00 S&P 500 +5% 2.00 Citigroup 30 Day T-Bill Sep-01 Jun-02 47.00 Russell 3000	
14.00 1.00 MSCI EAFE 50% Hedged 1.00 NCREIF 1.00 Citigroup 30 Day T-Bill 1.00 S&P 500 +5% Mar-00 Jun-01 48.00 23.00 LB Aggregate 16.00 MSCI ACWI ex US (Developed - 50% Hdg 10.00 NCREIF 1.00 S&P 500 +5% 2.00 Citigroup 30 Day T-Bill Russell 3000 Russell 3000 LB Aggregate 16.00 MSCI ACWI ex US (Developed - 50% Hdg 10.00 NCREIF 1.00 S&P 500 +5% Citigroup 30 Day T-Bill Russell 3000	
1.00 MSCI Em Mkts Free 10.00 NCREIF 1.00 S&P 500 +5%  Mar-00 Jun-01 48.00 Russell 3000 LB Aggregate 16.00 MSCI ACWI ex US (Developed - 50% Hdg 10.00 NCREIF 1.00 S&P 500 +5% 2.00 Citigroup 30 Day T-Bill  Sep-01 Jun-02 47.00 Russell 3000	
10.00   NCREIF   Citigroup 30 Day T-Bill   S&P 500 +5%    Mar-00   Jun-01   48.00   Russell 3000   LB Aggregate   MSCI ACWI ex US (Developed - 50% Hdg 10.00   NCREIF   1.00   S&P 500 +5%   2.00   Citigroup 30 Day T-Bill   Sep-01   Jun-02   47.00   Russell 3000	
1.00   Citigroup 30 Day T-Bill   S&P 500 +5%    Mar-00   Jun-01   48.00   Russell 3000   LB Aggregate   16.00   MSCI ACWI ex US (Developed - 50% Hdg 10.00   NCREIF   1.00   S&P 500 +5%   2.00   Citigroup 30 Day T-Bill   Sep-01   Jun-02   47.00   Russell 3000	
1.00   S&P 500 +5%	
Mar-00 Jun-01 48.00 Russell 3000 23.00 LB Aggregate 16.00 MSCI ACWI ex US (Developed - 50% Hdg 10.00 NCREIF 1.00 S&P 500 +5% 2.00 Citigroup 30 Day T-Bill Sep-01 Jun-02 47.00 Russell 3000	
23.00 LB Aggregate 16.00 MSCI ACWI ex US (Developed - 50% Hdg 10.00 NCREIF 1.00 S&P 500 +5% 2.00 Citigroup 30 Day T-Bill Sep-01 Jun-02 47.00 Russell 3000	
16.00 MSCI ACWI ex US (Developed - 50% Hdg 10.00 NCREIF 1.00 S&P 500 +5% 2.00 Citigroup 30 Day T-Bill Sep-01 Jun-02 47.00 Russell 3000	
10.00 NCREIF 1.00 S&P 500 +5% 2.00 Citigroup 30 Day T-Bill Sep-01 Jun-02 47.00 Russell 3000	
1.00 S&P 500 +5% 2.00 Citigroup 30 Day T-Bill Sep-01 Jun-02 47.00 Russell 3000	)
2.00   Citigroup 30 Day T-Bill	
Sep-01 Jun-02 47.00 Russell 3000	
23.00 LB Aggregate	
16.00 MSCI ACWI ex US (Developed - 50% Hdg	)
10.00 NCREIF	
2.00 Private Equity (0% return arrears switch)	
2.00 Citigroup 30 Day T-Bill	
Sep-02 Dec-05 46.00 Russell 3000	
23.00 LB Aggregate	
16.00 MSCI ACWI ex US (Developed - 50% Hdg	)
10.00 80% NCREIF (arrears), 20% NAREIT	
3.00 S&P (1Qtr arrears) + 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 twelve years. The current policy index is listed in the table on the right.

Performance Overview
Returns for Period Ending December 31, 2005

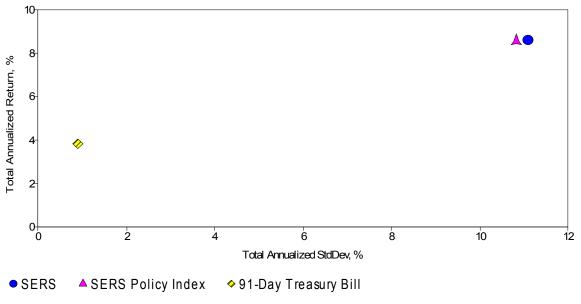
	<u>1 Qtr</u>	2 Qtrs	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	2.93	8.28	10.76	15.00	4.90	8.62
Policy Index	2.60	6.92	9.41	14.24	4.51	8.55
Domestic Equity Domestic Equity Segment Median Wilshire 5000	2.38	7.07	6.87	16.41	1.68	9.09
	2.19	6.88	7.32	17.89	3.66	9.88
	2.22	6.34	6.39	16.36	2.13	9.18
International Equity International Equity Segment Median MSCI EAFE	5.68	20.48	26.49	26.05	6.25	8.16
	4.55	16.45	16.54	24.99	6.85	7.86
	4.08	14.88	13.54	23.68	4.55	5.84
Fixed Income	0.56	0.35	2.74	4.35	6.59	6.56
Fixed Income Segment Median	0.61	0.21	2.63	4.63	6.33	6.50
LB Aggregate	0.59	-0.08	2.43	3.62	5.87	6.16
Cash	0.99	1.97	3.44	1.95	2.68	4.25
Real Estate	4.28	8.76	18.87	16.03	10.47	11.21
NCREIF	5.43	10.11	20.06	14.42	11.40	12.09
Alternative	8.60	16.28	23.95	7.36	-7.49	5.15

For the trailing ten-year period, the fund is outpacing its policy index by 7 basis points, which is largely due to stronger relative performance in international equity and fixed income. The more recent one-year period shows that the fund outperformed its policy index by a larger margin, outpacing the policy index by 135 basis points.

Performance Overview
Returns for Period Ending December 31, 2005

Performance vs. Risk

1/96 - 12/05



Created with MPI Stylus<sup>TM</sup>

	Annualized Retum, %	Annualized StdDev, %	MI Stati	
	Total	Total	Alpha, %	Sharpe Ratio
SERS	8.62	11.11	5.15	0.46
SERS Policy Index	8.55	10.82	5.06	0.46
91-Day Treasury Bill	3.85	0.91	0.00	NA

SERS has outperformed the policy index on an absolute and risk-adjusted basis over the last ten-year period.

### Asset Allocation Actual vs. Benchmark June 30, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference			
Domestic Equity	46.00%	Russell 3000	46%	0.00%			
Fixed Income	22.40%	LB Aggregate	23%	-0.60%			
Intl. Equity	18.30%	MSCI ACWI ex US (Developed - 50% Hdg)	16%	2.30%			
Real Estate	10.20%	Custom RE (1 Qtr arrears)	10%	0.20%			
Venture Capital	1.90%	S&P (1 Qtr arrears) + 3%	3%	-1.10%			
Short Term	1.20%	Citigroup 30 Day T-Bill	2%	-0.80%			
December 31, 2005							

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	45.11%	Russell 3000	46%	-0.89%
Fixed Income	20.92%	LB Aggregate	23%	-2.08%
Intl. Equity	19.53%	MSCI ACWI ex US (Developed - 50% Hdg)	16%	3.53%
Real Estate	10.45%	Custom RE (1 Qtr arrears)	10%	0.45%
Venture Capital	2.28%	S&P (1 Qtr arrears) + 3%	3%	-0.72%
Short Term	1.71%	Citigroup 30 Day T-Bill	2%	-0.29%

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

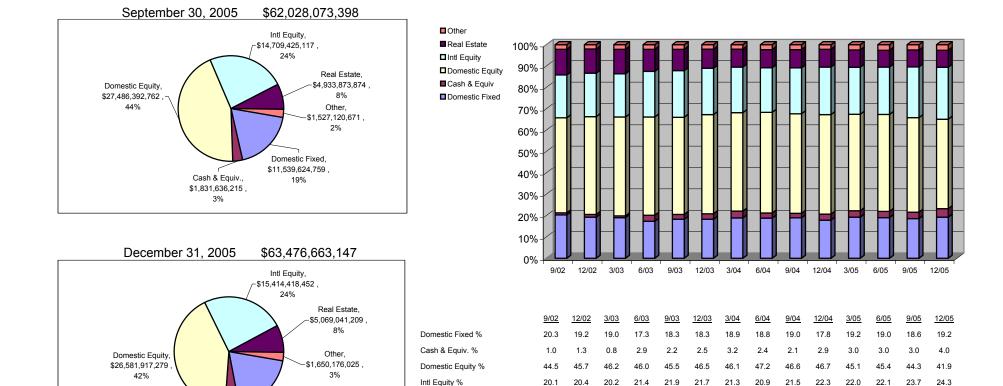
#### Asset Allocation

Domestic Fixed,

19%

\$12,214,945,674

#### **Asset Allocation**



12.0

416

11.3

2.0

43.8

42.4

10.3

47.3

48.5

52.8

8.5

2.3

54.3

2.3

54.2

58.2

2.1

54 4

8.1

2.5

2.6

59.1

2.5

62.0

8.0

2.6

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 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

Real Estate %

Total Value (\$bil)

Other %

Cash & Equiv.,

\$2,546,164,508

4%

### Quarter Ending 12/31/2005

				T
	Quarter	Quarter		
Label	Start	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)
			2.00	91-Day Treasury Bill
	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)
			2.00	91-Day Treasury Bill
			2.00	or Bay Troadary Biii
	Mar-97	Jun-97	45.00	Standard & Poors 500
		0001	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
			2.00	31-Day Heasury Dill

	Quarter	Quarter		
Label	Start	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)
			2.00	91-Day Treasury Bill
	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)
			2.00	91-Day Treasury Bill
	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 twelve years.

## Quarter Ending 12/31/2005

	Quarter	Quarter		
Label	Start	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-05	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.

Performance Overview
Returns for Period Ending December 31, 2005

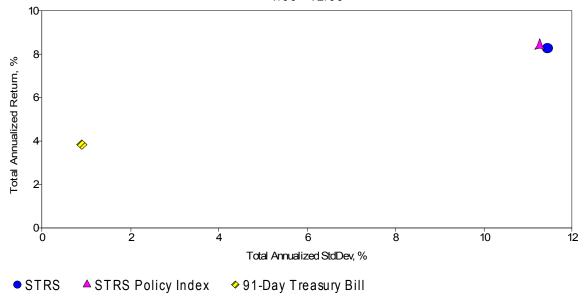
	<u>1 Qtr</u>	2 Qtrs	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	3.37	9.05	12.08	16.37	5.62	8.26
Policy Index	2.95	7.75	10.60	15.01	5.16	8.39
Domestic Equity Domestic Equity Segment Median Wilshire 5000	2.52	6.71	6.59	15.82	1.51	8.24
	2.19	6.88	7.32	17.89	3.66	9.88
	2.22	6.34	6.39	16.36	2.13	9.18
International Equity International Equity Segment Median MSCI EAFE	5.79	20.03	25.94	27.77	8.98	7.44
	4.55	16.45	16.54	24.99	6.85	7.86
	4.08	14.88	13.54	23.68	4.55	5.84
Fixed Income Fixed Income Segment Median LB Aggregate	0.64	0.50	3.04	4.99	6.76	6.95
	0.61	0.21	2.63	4.63	6.33	6.50
	0.59	-0.08	2.43	3.62	5.87	6.16
Cash	0.99	1.85	3.25	1.93	2.31	4.03
Real Estate	6.96	15.71	26.78	19.73	13.67	13.24
NCREIF	5.43	10.11	20.06	14.42	11.40	12.09
Alternative	6.45	7.32	29.46	16.70	2.34	5.35

Over the trailing ten-year period, the fund is underperforming its policy index by 13 basis points. This is primarily due to weaker relative underperformance in domestic equity, which lagged the Wilshire 5000 index by 94 basis points. Over the more recent one-year period, the fund outperformed its policy index by 148 basis points, as stronger relative performance was recognized across all asset classes.

Performance Overview
Returns for Period Ending December 31, 2005

Performance vs. Risk

1/96 - 12/05



Created with MPI Stylus<sup>TM</sup>

	Annualized Retum, %	Annualized StdDev, %	MF Stati	PT stics
	Total	Total	Alpha, %	Sharpe Ratio
STRS	8.26	11.45	4.86	0.42
STRS Policy Index	8.39	11.28	4.96	0.44
91-Day Treasury Bill	3.85	0.91	0.00	NA

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

### Asset Allocation Actual vs. Benchmark June 30, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	46.00%	Russell 3000	45%	1.00%
Fixed Income	22.40%	Lehman Universal	23%	-0.60%
Intl. Equity	18.30%	Intl. Hybrid Benchmark	20%	-1.70%
Real Estate	10.20%	NCREIF Hybrid	9%	1.20%
Venture Capital	1.90%	Alt. Inv. Actual Return	2%	-0.10%
Short Term	1.20%	3 Month T-Bill	1%	0.20%

### December 31, 2005

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	41.88%	Russell 3000	45%	-3.12%
Fixed Income	19.24%	Lehman Universal	23%	-3.76%
Intl. Equity	24.28%	Intl. Hybrid Benchmark	20%	4.28%
Real Estate	7.99%	NCREIF Hybrid	9%	-1.01%
Venture Capital	2.60%	Alt. Inv. Actual Return	2%	0.60%
Short Term	4.01%	3 Month T-Bill	1%	3.01%

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

# Appendix 1.1 - ORSC Performance Attribution

The following exhibits provide an analysis of the impact of asset allocation and active management for the past eight 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 Ret	urn				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.

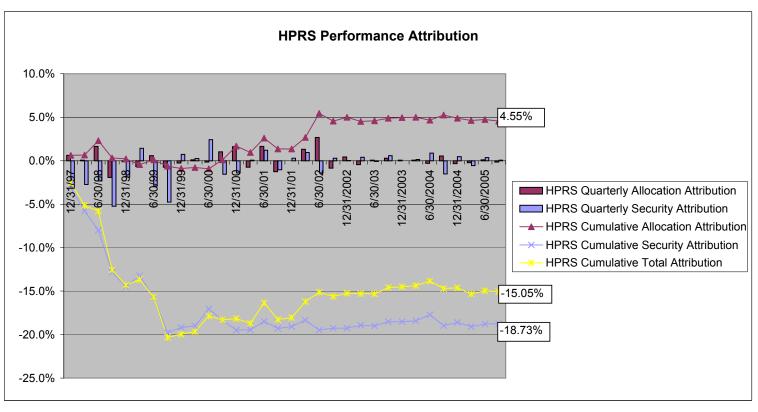
## Appendix 1.2 - ORSC Performance Attribution

The analysis shows that SERS and STRS achieved positive total attribution results over the past eight years. SERS exhibited the strongest total attribution result, while HPRS posted the weakest total attribution result for the trailing eight-year period. From an asset allocation perspective, all funds except PERS benefited for the same time period. The analysis also illustrates that active management of its investment managers has detracted from total performance for all funds except SERS over the past eight years.

#### **Breakdown of Attribution Results - Last 8 Years**

	Asset Attribution	Selection Attribution	Total Attribution
HPRS	0.56%	-2.56%	-2.02%
<b>PERS</b>	-0.33%	-0.25%	-0.57%
OP&F	0.10%	-0.29%	-0.18%
<b>SERS</b>	0.30%	0.02%	0.32%
STRS	0.32%	-0.12%	0.21%

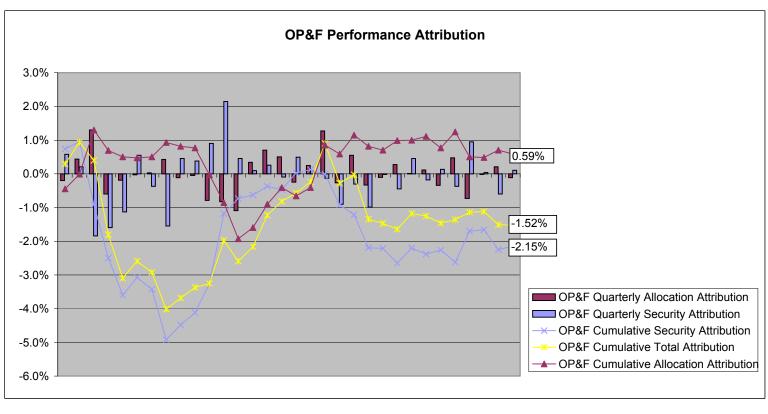
## Appendix 1.3 - ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Eight Years
Asset Allocation Attribution	-0.675%	0.001%	0.877%	0.558%
Security Selection Attribution	0.273%	0.223%	-0.099%	-2.560%
Total Attribution	-0.404%	0.228%	0.783%	-2.018%

The graph above provides eight-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 eight years (+4.55%). The blue line represents the cumulative measure of the value added to (or subtracted from) the portfolio from active management over the past eight years (-18.70%). The yellow line represents the total value added to (or subtracted by) a combination of asset allocation strategies and active portfolio management (-15.05%). The above graph demonstrates that over the past eight years, HPRS' asset allocation strategy has added 4.55% to the return of the fund, while over the same period, the active management of their investment managers has subtracted 18.73% from the fund's performance. The cumulative effect of active management and asset allocation has subtracted 15.05% from the fund's performance over the past eight years, however the fund has added value over three- and five-year periods.

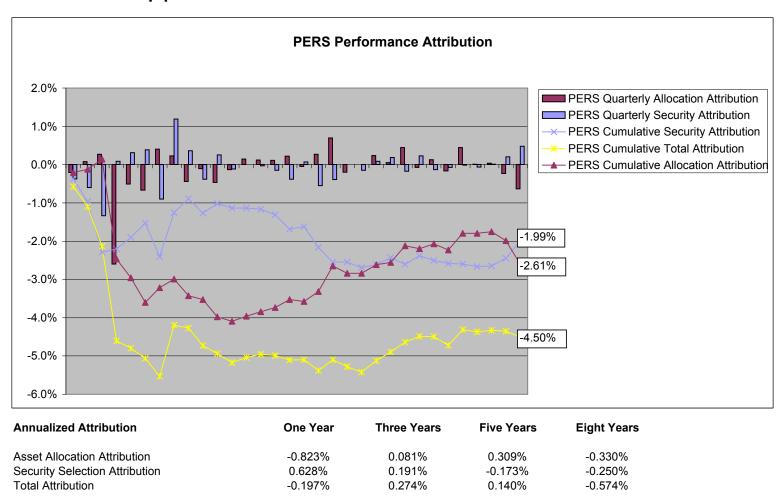
# Appendix 1.4 - ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Eight Years
Asset Allocation Attribution	-0.653%	-0.002%	0.288%	0.104%
Security Selection Attribution	0.487%	-0.418%	-0.197%	-0.291%
Total Attribution	-0.161%	-0.416%	0.093%	-0.180%

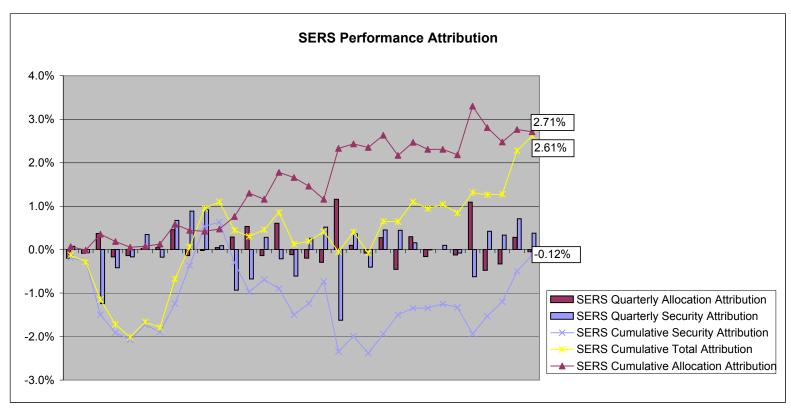
The graph above shows that for the eight-year period, OP&F's active management of the fund's investment managers detracted from overall performance, while asset allocation decisions contributed to overall performance for the same period. OP&F has exhibited negative total attribution results for one-, three- and eight-year periods.

# Appendix 1.5 - ORSC Performance Attribution



The above graph shows that both asset allocation and manager selection decisions negatively impacted total performance over the eight-year period. For the trailing three-and five-year periods, PERS' asset allocation decision contributed to overall performance.

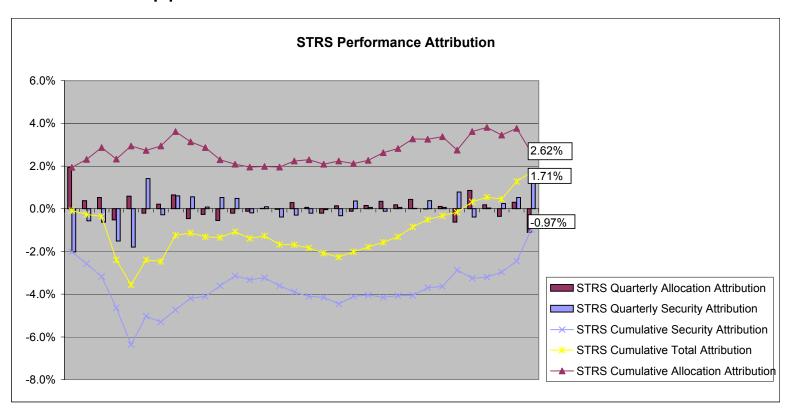
# Appendix 1.6 - ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Eight Years
Asset Allocation Attribution	-0.564%	0.092%	0.384%	0.302%
Security Selection Attribution	1.856%	0.630%	0.036%	0.018%
Total Attribution	1.283%	0.726%	0.428%	0.323%

The graph above shows that SERS has added most value through asset allocation decisions over the trailing eight-year period. SERS benefited from active management of their investment managers for all time periods, which catapulted total attribution as a result.

# Appendix 1.7 - ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Eight Years
Asset Allocation Attribution	-0.966%	0.164%	0.105%	0.324%
Security Selection Attribution	2.357%	1.078%	0.445%	-0.122%
Total Attribution	1.385%	1.252%	0.556%	0.212%

The graph above shows that STRS has added most value through asset allocation decisions over the past eight years. STRS posted positive total attribution results for one, three- and five-year periods, which was mostly due to its manager selection.

### **Appendix 2.1 - Ohio Retirement Systems Asset Allocation Comparison Analysis**

Comparison of Asset Allocation versus Russell Total Public Fund Universe

	U.S. Equity	Fixed Income	Non-U.S. Equity	Real Estate	Alternatives	Cash
PERS (DB) - ACTUAL	45.25%	24.79%	20.48%	7.24%	1.29%	0.95%
PERS (DB) - TARGET	45.96%	25.64%	20.00%	6.36%	1.04%	1.00%
STRS - ACTUAL	41.88%	19.24%	24.28%	7.99%	2.60%	4.01%
STRS - TARGET	45.00%	23.00%	20.00%	9.00%	2.00%	1.00%
OP&F - ACTUAL	47.58%	22.35%	22.77%	4.26%	2.18%	0.86%
OP&F - TARGET	46.00%	23.00%	20.00%	8.00%	3.00%	0.00%
SERS - ACTUAL	45.11%	20.92%	19.53%	10.45%	2.28%	1.71%
SERS - TARGET	46.00%	23.00%	16.00%	10.00%	3.00%	2.00%
HPRS - ACTUAL	57.13%	21.27%	16.13%	5.27%	0.00%	0.20%
HPRS - TARGET	48.00%	25.00%	15.00%	12.00%	0.00%	0.00%
Maximum	59.36%	81.62%	29.87%	11.21%	15.12%	10.27%
ith	55.01%	40.75%	26.53%	10.55%	11.55%	7.65%
25th	49.41%	29.57%	21.79%	6.91%	7.71%	5.25%
Median	40.76%	26.77%	18.70%	5.35%	4.18%	4.25%
75th	35.69%	22.68%	15.68%	2.73%	2.10%	1.63%
5th	26.81%	18.56%	10.52%	0.00%	0.87%	0.00%
Minimum	13.05%	13.20%	7.60%	0.00%	0.65%	0.00%

#### Note:

Report is based upon plans that have submitted asset class data greater than 70% of the total market value.

Fifty-five institutions represented the universe run.

Source: Russell Trust Universe Quarter Ended December 31, 2005

### **Appendix 2.2 - Ohio Retirement Systems Asset Allocation Comparison Analysis**

Comparison of Asset Allocation versus Russell Billion Dollar Public Fund Universe

	U.S. Equity	Fixed Income	Non-U.S. Equity	Real Estate	Alternatives	Cash
PERS (DB) - ACTUAL	45.25%	24.79%	20.48%	7.24%	1.29%	0.95%
PERS (DB) - TARGET	45.96%	25.64%	20.00%	6.36%	1.04%	1.00%
STRS - ACTUAL	41.88%	19.24%	24.28%	7.99%	2.60%	4.01%
STRS - TARGET	45.00%	23.00%	20.00%	9.00%	2.00%	1.00%
OP&F - ACTUAL	47.58%	22.35%	22.77%	4.26%	2.18%	0.86%
OP&F - TARGET	46.00%	23.00%	20.00%	8.00%	3.00%	0.00%
SERS - ACTUAL	45.11%	20.92%	19.53%	10.45%	2.28%	1.71%
SERS - TARGET	46.00%	23.00%	16.00%	10.00%	3.00%	2.00%
HPRS - ACTUAL	57.13%	21.27%	16.13%	5.27%	0.00%	0.20%
HPRS - TARGET	48.00%	25.00%	15.00%	12.00%	0.00%	0.00%
Maximum	59.36%	81.62%	29.87%	9.94%	15.12%	6.78%
5th	56.65%	37.85%	26.77%	9.33%	12.09%	6.69%
25th	48.80%	27.72%	22.37%	6.59%	8.32%	5.34%
Median	39.74%	23.97%	18.80%	4.44%	4.55%	4.80%
75th	35.38%	20.65%	16.14%	2.30%	2.20%	2.05%
95th	27.72%	18.17%	12.63%	0.00%	1.14%	0.00%
Minimum	13.05%	13.20%	9.54%	0.00%	0.65%	0.00%

#### Note:

Report is based upon plans that have submitted asset class data greater than 70% of the total market value.

Thirty-seven institutions represented the universe run.

HPRS total assets for period ended December 31, 2005 was \$713,695,062.

Source: Russell Trust Universe Quarter Ended December 31, 2005

### **Appendix 3.1 - 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 2005, 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 40.0 basis points (a basis point is one one-hundredth of a percent) for SERS to a low of 14.7 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 47.2 basis points for SERS to a low of 16.5 basis points for PERS. Expenses, not surprisingly, are directly related to the size of the fund in most cases. As illustrated on the following page, the largest fund (PERS) had the lowest expenses, on a percentage basis, while the second smallest fund (SERS) had the highest expenses.

This represents our second 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:
    - 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 3.2 - Ohio Retirement Systems Investment Operating Cost Analysis**

Summary of All Plans 2005 (in thousands)

Internal and External Investment Management		HPR	S		OP&	F		PER	:S		SER	s		STR	s	All Plans		
Costs (\$000's)		Total	% of Total		Total	% of Total		Total	% of Total		Total	% of Total		Total	% of Total		Total	Avg. % of Total
Domestic Equity - Large Cap	\$	972	32%	\$	3,245	9%	\$	13,383	12%	\$	6,099	14%	\$ 1	2,349	9%	\$	36,048	15%
Domestic Equity - Small Cap	\$	715	23%	\$	4,278	12%	\$	3,207	3%	\$	4,419	10%	\$	8,031	6%	\$	20,650	11%
Foreign Equity	\$	443	14%	\$	5,022	14%	\$	25,016	22%	\$	6,290	14%	\$ 1	6,701	12%	\$	53,472	15%
Emerging Equity				\$	1,753	5%	\$	5,052	4%	\$	1,179	3%	\$ 1	5,102	11%	\$	23,086	5%
Domestic Fixed Income	\$	297	10%	\$	2,079	6%	\$	3,125	3%	\$	3,300	8%	\$	1,986	1%	\$	10,787	5%
Foreign Fixed Income							\$	2,324	2%				\$	1,957	1%	\$	4,281	1%
Inflation Indexed				\$	634	2%										\$	458	0%
High Yield Bonds				\$	2,015	6%	\$	2,967	3%				\$	3,138	2%	\$	8,120	2%
Fixed Income - Other				\$	287	1%										\$	287	0%
Cash & Equivalents				\$	80	0%	\$	376	0%				\$	134	0%	\$	590	0%
TAA																		0%
REITs							\$	339	0%	\$	846	2%	\$	216	0%	\$	1,401	0%
Real Estate ex REITs	\$	314	10%	\$	6,051	17%	\$	25,977	23%	\$	7,397	17%	\$ 1	4,350	10%	\$	54,089	15%
Other Real Assets													\$	2,146	1%	\$	2,146	0%
Hedge Funds:																		0%
Fund of Funds																		0%
Not Fund of Funds													\$	241	0%	\$	241	0%
Venture Captial/LBO																		0%
Fund of Funds				\$	2,662	7%				\$	1,980	5%				\$	4,118	2%
Not Fund of Funds				\$	1,956	5%	\$	19,546	17%	\$	5,426	12%	\$ 4	10,668	28%	\$	67,596	13%
Other Private Equity																		0%
Overlay Programs																		0%
Total Investment Management Costs	\$	2,740	89%	\$	30,062	84%	\$	101,350	89%	\$	36,936	85%	\$ 12	25,618	88%	\$	296,706	87%
(basis points)		38.4			28.9			14.7			40.0			20.6				28.5
	•														•			•
Oversight, Custodial & Other - asset related (\$000	)'s)																	
Oversight of the Fund	\$	3	0%		2,762	9%	\$	5,590	5%		1,991	5%		9,300	6%		19,646	5%
Trustee & Custodial	\$	127	4%	\$	2,079	12%	\$	5,559	5%		3,445	8%	\$	6,012	4%	\$	17,222	7%
Consulting and Performance Measurement	\$	180	6%	\$	861	14%	\$	704	1%	\$	990	2%	\$	1,675	1%	\$	4,410	5%
Audit	\$	16	1%	\$	79	5%	\$	310	0%	\$	123	0%	\$	102	0%	\$	630	1%
Other				\$	66	6%	\$	633	1%	\$	101	0%	\$	613	0%	\$	1,413	1%
Total Oversight, Custodial & Other Costs	\$	326	11%	\$	5,847	0%	\$	12,796	11%	\$	6,650	15%	\$ 1	7,702	12%	\$	43,321	10%
(basis points)		4.6			5.6			1.9			7.2			2.9				4.4
•																		
Total 2005 Operating Costs (\$000's)	\$	3,067	100%	\$	35,909	100%	\$	114,146	100%	\$	43,586	100%	\$ 14	3,320	100%	\$	340,028	
(basis points)		43.0			34.5			16.5			47.2			23.6				33.0
Total 2004 Operating Costs (\$000's)	\$	3,582		\$	37,873		\$	107,717		\$	37,017		\$ 13	31,966		\$	318,155	
(basis points)		52.5			35.0			17.5			41.8			23.8				34.1
Total Assets (\$000's)	\$	713,695		\$ 10	0,415,309		\$6	69,020,768		\$ 9	9,621,415		\$63,47	6,663		\$	153,247,850	
																		•

### **Appendix 3.3 - Ohio Retirement Systems Investment Operating Cost Analysis**

Summary of All Plans 2005 (in thousands)

		HPF	RS			OP	&F			PERS	3			SERS		STRS			All Plans		
External Investment Management Costs (\$000's)		Passive	A	Active		<b>Passive</b>		Active		Passive	Δ	Active		Passive	Active	Passive	Active		Total	% of Total	
Domestic Equity - Large Cap	\$	22	\$	950	\$	118	\$	3,127	\$	767 \$	6	5,270	\$	249 \$	5,850	\$	6,495	\$	23,848	9%	
Domestic Equity - Small Cap	\$	32	\$	683			\$	4,278		\$	3	3,207		\$	4,419	\$	7,836	\$	20,455	8%	
Foreign Equity	\$	36	\$	407	\$	109	\$	4,913		\$	25	5,016	\$	47 \$	6,243	\$	14,989	\$	51,760	19%	
Emerging Equity							\$	1,753		\$	5	5,052		\$	1,179	\$	13,618	\$	21,602	8%	
Domestic Fixed Income			\$	297			\$	2,079		\$	1	1,122		\$	3,300			\$	6,798	3%	
Foreign Fixed Income										\$	2	2,324				\$	1,957	\$	4,281	2%	
Inflation Indexed							\$	634										\$	634	0%	
High Yield Bonds							\$	2,015		\$	2	2,959				\$	3,138	\$	8,112	3%	
Fixed Income - Other							\$	287										\$	287	0%	
Cash & Equivalents										\$		61									
TAA																					
REITs														\$	846			\$	846	0%	
Real Estate ex REITs			\$	314			\$	6,051		\$	25	5,977		\$	7,397	\$	6,796	\$	46,535	17%	
Other Real Assets																\$	2,146	\$	2,146	1%	
Hedge Funds:																					
Fund of Funds																					
Not Fund of Funds																\$	241	\$	241	0%	
Venture Captial/LBO																					
Fund of Funds							\$	2,662						\$	1,980	\$	8,597	\$	13,239	5%	
Not Fund of Funds							\$	1,956		\$	19	9,546		\$	5,426	\$	40,668	\$	67,596	25%	
Other Private Equity																					
Overlay Programs																					
Total	\$	90	\$ 2	2,650	\$	227	\$	29,755	\$	767 \$	91	1,533	\$	296 \$	36,640	\$ - \$	106,483	\$	268,441	100%	
	1								l							L		I			
Total Internal and External Assets (\$000's)	\$	713,695			\$ 10	,415,309			\$69	9,020,768			\$ 9	9,621,415		\$ 63,476,663		\$	153,247,850		

### **Appendix 3.4 - Ohio Retirement Systems Investment Operating Cost Analysis**

Summary of All Plans 2005 (in thousands)

	HPRS		OP&F		Р	ERS		SERS			STRS		All Plans		
Internal Investment Management Costs (\$000's)	Passive	Active	Passive	Active	Passiv	a	Active	Passive	Active	Pass	ive	Active		Total	% of Total
Domestic Equity - Large Cap					\$ 1,169	\$	5,177			\$ 1	95 \$	5,659	\$ 1	2,200	43%
Domestic Equity - Small Cap											\$	195	\$	195	1%
Foreign Equity											\$	1,712	\$	1,712	6%
Emerging Equity											\$	1,484	\$	1,484	5%
Domestic Fixed Income						\$	2,003				\$	1,986	\$	3,989	14%
Foreign Fixed Income															
Inflation Indexed						\$	40								
High Yield Bonds					\$ 8	i									
Fixed Income - Other															
Cash & Equivalents			\$	80		\$	315				\$	134	\$	529	2%
TAA															
REITs						\$	339				\$	216	\$	555	2%
Real Estate ex REITs											\$	7,554	\$	7,554	27%
Other Real Assets															
Hedge Funds:															
Fund of Funds															
Not Fund of Funds															
Venture Captial/LBO															
Fund of Funds															
Not Fund of Funds															
Other Private Equity															
Overlay Programs															
Total	\$ - \$	-	\$ - \$	80	\$ 1,177	\$	7,873	\$ - \$	-	\$ 1	95 \$	18,940	\$ 2	28,265	100%
Total Internal and Futernal Access (\$000)	ф 742 cos		£40.445.200		¢ 60,000,760			¢ 0.624.445			60		¢ 452.04	7.050	
Total Internal and External Assets (\$000's)	\$ 713,695		\$ 10,415,309		\$69,020,768			\$ 9,621,415		\$63,476,6	03		\$ 153,24	1,850	

### **Appendix 3.5 - PERS Investment Operating Cost Analysis**

2005 Summary (in thousands)

Investment Management Costs	(\$000's)

investment management costs (\$000 s)		Inte	rnal			Exte	rnal			
		<b>Passive</b>		Active		<b>Passive</b>		Active	Total	% of Tota
Domestic Equity - Large Cap	\$	1,169	\$	5,177	\$	767	\$	6,270	\$ 13,383	12%
Domestic Equity - Small Cap							\$	3,207	\$ 3,207	3%
Foreign Equity							\$	25,016	\$ 25,016	22%
Emerging Equity							\$	5,052	\$ 5,052	4%
Domestic Fixed Income			\$	2,003			\$	1,122	\$ 3,125	3%
Foreign Fixed Income							\$	2,324	\$ 2,324	2%
Inflation Indexed			\$	40						
High Yield Bonds	\$	8					\$	2,959	\$ 2,967	3%
Fixed Income - Other										
Cash & Equivalents			\$	315			\$	61	\$ 376	0%
TAA										
REITs			\$	339					\$ 339	0%
Real Estate ex REITs							\$	25,977	\$ 25,977	23%
Other Real Assets										
Hedge Funds:										
Fund of Funds										
Not Fund of Funds										
Venture Captial/LBO										
Fund of Funds										
Not Fund of Funds							\$	19,546	\$ 19,546	17%
Other Private Equity								•	·	
Overlay Programs										
Total Investment Management Costs	\$	1,177	\$	7,873	\$	767	\$	91,533	\$ 101,350	89%
(basis points)		·		·				•	14.7	
,									•	
Oversight, Custodial & Other - asset related	(\$00	00's)								
Oversight of the Fund									\$ 5,590	5%
Trustee & Custodial									\$ 5,559	5%
Consulting and Performance Measurement									\$ 704	1%
Audit									\$ 310	0%
Other									\$ 633	1%
Total Oversight, Custodial & Other Costs									\$ 12,796	11%
(basis points)									1.9	
, ,										
<b>Public Employees Retirement System of Oh</b>	nio To	otal Opera	ting	Costs in	200	05 (\$000's	5]		\$ 114,146	100%
(basis points)		•	·			•	•		16.5	
, ,									- 1	
Public Employees Retirement System of Or	nio To	otal Asset	s as	of Dec. 3	31, 2	2005 (\$000	)'s		\$	69,020,768
Public Employees Retirement System of Oh									\$	64,631,917
. •					•	, .	-			
Average Holdings [(12/31/05 + 12/31/04) / 2]										

### **Appendix 3.6 - STRS Investment Operating Cost Analysis**

2005 Summary (in thousands)

Investment Management Costs	(\$000's)

-		Internal		External					
		<b>Passive</b>		Active	Passive	Active		Total	% of Total
Domestic Equity - Large Cap	\$	195	\$	5,659	\$	6,495	\$	12,349	9%
Domestic Equity - Small Cap			\$	195	\$	7,836	\$	8,031	6%
Foreign Equity			\$	1,712	\$	14,989	\$	16,701	12%
Emerging Equity			\$	1,484	\$	13,618	\$	15,102	11%
Domestic Fixed Income			\$	1,986			\$	1,986	1%
Foreign Fixed Income					\$	1,957	\$	1,957	1%
Inflation Indexed						-			
High Yield Bonds					\$	3,138	\$	3,138	2%
Fixed Income - Other					·	-,	ļ .	-,	
Cash & Equivalents			\$	134			\$	134	0%
TAA			•				,		
REITS			\$	216			\$	216	0%
Real Estate ex REITs			\$	7,554	\$	6,796	\$	14,350	10%
Other Real Assets			Ψ	1,001	\$	2,146	\$	2,146	1%
Hedge Funds:					Ψ	2,110	۳	2,110	170
Fund of Funds									
Not Fund of Funds					\$	241	\$	241	0%
Venture Captial/LBO					Ψ	271	Ψ	271	0 70
Fund of Funds					\$	8,597			
Not Fund of Funds					\$	40,668	\$	40,668	28%
Other Private Equity					Ψ	70,000	Ψ	40,000	20 /0
Overlay Programs									
Total Investment Management Costs	\$	195	Ф	18,940	\$ - \$	106,483	\$	125,618	88%
(basis points)	Ψ	195	φ	10,940	φ - φ	100,403	Ψ	20.6	00 /0
(basis points)	ļ						<u> </u>	20.0	
Oversight, Custodial & Other - asset relate	na (\$00	10'e)					l I		
Oversight of the Fund	<del>σα (ψου</del>	10 3)					\$	9.300	6%
Trustee & Custodial							\$	6,012	4%
Consulting and Performance Measurement							\$	1,675	1%
Audit							\$	1,073	0%
Other								613	0%
Total Oversight, Custodial & Other Costs							\$	17,702	12%
_ :							Ф		1270
(basis points)							<u>                                     </u>	2.9	
State Teachers Retirement System of Ohio	o Total	Operation	a C	oete in 20	05 (\$000's)		\$	143,320	100%
_	o i otai	Operatin	y C	0313 111 20	05 (\$000 5)		Ψ	23.6	100 /0
(basis points)							<u> </u>	23.0	
State Teachers Retirement System of Ohio	n Total	Assate 2	s of	Dec 31	2005 (\$000'e'		\$		63,476,663
State Teachers Retirement System of Ohio							\$		58,237,750
State reachers Retirement System of Office	UTULA		3 UI	Dec. 31,	±υυ <del>+</del> (φυυυ 5)		Ψ		50,251,150

Average Holdings [(12/31/05 + 12/31/04) / 2] - used by CEM to calculate basis points

60,857,207

### **Appendix 3.7 - OP&F Investment Operating Cost Analysis**

2005 Summary (in thousands)

Investment	Management (	Costs (\$000's)
------------	--------------	-----------------

mirestinent management eeste (4000 5)	Intern	al		Exte	rna	I			
	Passive	Active		Passive		Active		Total	% of Total
Domestic Equity - Large Cap			\$	118	\$	3,127	\$	3,245	9%
Domestic Equity - Small Cap					\$	4,278	\$	4,278	12%
Foreign Equity			\$	109	\$	4,913	\$	5,022	14%
Emerging Equity					\$	1,753	\$	1,753	5%
Domestic Fixed Income					\$	2,079	\$	2,079	6%
Foreign Fixed Income									
Inflation Indexed					\$	634	\$	634	2%
High Yield Bonds					\$	2,015	\$	2,015	6%
Fixed Income - Other					\$	287	\$	287	1%
Cash & Equivalents	\$	80					\$	80	0%
TAA									
REITs									
Real Estate ex REITs					\$	6,051	\$	6,051	17%
Other Real Assets									
Hedge Funds:									
Fund of Funds									
Not Fund of Funds									
Venture Captial/LBO									
Fund of Funds					\$	2,662	\$	2,662	7%
Not Fund of Funds					\$	1,956	\$	1,956	5%
Other Private Equity									
Overlay Programs									
Total Investment Management Costs	\$ - \$	80	\$	227	\$	29,755	\$	30,062	84%
(basis points)								28.9	
	•							•	
Oversight, Custodial & Other - asset related	(\$000's)								
Oversight of the Fund							\$	2,762	8%
Trustee & Custodial							\$	2,079	6%
Consulting and Performance Measurement							\$	861	2%
Audit							\$	79	0%
Other							\$	66	0%
Total Oversight, Custodial & Other Costs							\$	5,847	16%
(basis points)								5.6	
Ohio Police & Fire Pension Fund Total Oper	ating Costs in 2	005 (\$000's	5)				\$	35,909	100%
(basis points)								34.5	
Ohio Police & Fire Pension Fund Total Asse	te as of Doc 21	2005 (\$00)	ובי				\$		10,415,309
							\$		
Ohio Police & Fire Pension Fund Total Asse	is as of Dec. 31,	ZUU4 (\$UUI	JS				Ф		9,734,113
<u></u>									

Average Holdings [(12/31/05 + 12/31/04) / 2] - used by CEM to calculate basis points

10,074,711

### **Appendix 3.8 - SERS Investment Operating Cost Analysis**

2005 Summary (in thousands)

Investment	Management	Costs (	\$000's)

investment management ecote (\$000 e)		Inter	nal		Exte	ernal				
		Passive	Active	9	Passive		Active		Total	% of Total
Domestic Equity - Large Cap				\$	249	\$	5,850	\$	6,099	14%
Domestic Equity - Small Cap						\$	4,419	\$	4,419	10%
Foreign Equity				\$	47	\$	6,243	\$	6,290	14%
Emerging Equity						\$	1,179	\$	1,179	3%
Domestic Fixed Income						\$	3,300	\$	3,300	8%
Foreign Fixed Income										
Inflation Indexed										
High Yield Bonds										
Fixed Income - Other										
Cash & Equivalents										
TAA										
REITs						\$	846	\$	846	2%
Real Estate ex REITs						\$	7,397	\$	7,397	17%
Other Real Assets										
Hedge Funds:										
Fund of Funds										
Not Fund of Funds										
Venture Captial/LBO										
Fund of Funds						\$	1,980	\$	1,980	5%
Not Fund of Funds						\$	5,426	\$	5,426	12%
Other Private Equity							•	ļ ·	ŕ	
Overlay Programs										
Total Investment Management Costs	\$	_	\$ -	\$	296	\$	36,640	\$	36,936	85%
(basis points)				'			,	ļ ·	40.0	
, ,									•	
Oversight, Custodial & Other - asset related	(\$000	0's)								
Oversight of the Fund								\$	1,991	5%
Trustee & Custodial								\$	3,445	8%
Consulting and Performance Measurement								\$	990	2%
Audit								\$	123	0%
Other								\$	101	0%
Total Oversight, Custodial & Other Costs								\$	6,650	15%
(basis points)									7.2	
School Employees Retirement System of O	hio To	otal Opera	ting Costs	in 20	005 (\$000'	s)		\$	43,586	100%
(basis points)									47.2	
Cabaal Employees Datinomant Cyatam of O	bia Ta	4-1 44-	f D	24	2005 (00	101-1		φ.		0.604.445
School Employees Retirement System of O								\$		9,621,415
School Employees Retirement System of O	1110 10	JIAI ASSETS	s as of Dec	. 51,	∠004 (\$00	IU S		\$		8,856,241
Average Holdings [(12/31/05 + 12/31/04) / 2]	- use	d by CEM	to calculate	e ba	sis points			\$		9,238,828
<u> </u>										, -,

### **Appendix 3.9 - HPRS Investment Operating Cost Analysis**

2005 Summary (in thousands)

Investment Management Costs	(\$000's)

	Internal		External						
	Passive	Active		<b>Passive</b>		Active		Total	% of Total
Domestic Equity - Large Cap			\$	22	\$	950	\$	972	32%
Domestic Equity - Small Cap			\$	32	\$	683	\$	715	23%
Foreign Equity			\$	36	\$	407	\$	443	14%
Emerging Equity									
Domestic Fixed Income					\$	297	\$	297	10%
Foreign Fixed Income									
Inflation Indexed									
High Yield Bonds									
Fixed Income - Other									
Cash & Equivalents									
TAA									
REITs									
Real Estate ex REITs					\$	314	\$	314	10%
Other Real Assets									
Hedge Funds:									
Fund of Funds									
Not Fund of Funds									
Venture Captial/LBO									
Fund of Funds									
Not Fund of Funds									
Other Private Equity									
Overlay Programs									
Total Investment Management Costs	\$ - \$	_	\$	90	\$	2,650	\$	2,740	89%
(basis points)			Ċ			•		38.4	
, ,	•								
Oversight, Custodial & Other - asset related	(\$000's)								
Oversight of the Fund	,						\$	3	0%
Trustee & Custodial							\$	127	4%
Consulting and Performance Measurement							\$	180	6%
Audit							\$	16	1%
Other							\$	-	0%
Total Oversight, Custodial & Other Costs							\$	326	11%
(basis points)								4.57	
Highway Patrol Retirement System of Ohio 1	Total Operating C	osts in 20	05	(\$000's)			\$	3,067	100%
(basis points)								42.97	
Highway Patrol Retirement System of Ohio 1	Total Assets as o	FDec 31	200	5 (\$000'e)			\$		713,695
Highway Patrol Retirement System of Ohio							\$		681,038
inginay i and inclinement dystem of Office	Oldi Assels as U	Dec. 31,	200	<del> (</del> \$000 5)			Ψ		001,000
Average Holdings [(12/31/05 + 12/31/04) / 2] -	used by CFM to	calculato	had	oic points			\$		697,367

