STATE OF WEST VIRGINIA

FULL PERFORMANCE EVALUATION OF THE

Investment Management Board

**Investment Management Board Fulfills
The Investment Management Role for Which
It Was Created and Should be Continued**

**Costs to Invest the Consolidated Fund Have
Been Reevaluated and Costs to Invest Pension Funds
are In Line with Comparable Public Funds**

**IMB Should Provide A Comprehensive
Analysis Covering A Longer Time Period
to Justify the Shift to a Larger Proportion of
Actively Managed Investments**

**IMB's Rate of Return for Pension Funds
Compares Favorably With the Investment
Performance of Other Public Pension Funds**

**IMB Still Cannot Comply with the Legislative Auditor's
1995 Recommendation that Called for the Development of
Annual Projections of Daily Cash Flows for the General Revenue Fund**

Internal Auditor is Independent of IMB Management.

**OFFICE OF LEGISLATIVE AUDITOR
Performance Evaluation and Research Division
Building 1, Room W-314
State Capitol Complex**

**CHARLESTON, WEST VIRGINIA 25305
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July 2002

PE02-11-243

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Issue 2: Costs to Invest the Consolidated Fund Have Been Reevaluated and Costs to Invest Pension Funds are In Line with Comparable Public Funds.

The total cost for investing the state's operating funds (Consolidated Fund) and Pension Funds has increased from approximately $4 million in FY 1996 to $12 million in FY 2001 since the IMB took over the investment function from the former Board of Investments (BOI) in 1997. The primary reason for the higher cost is the IMB's investment activity in stock. The Legislative Auditor's concern is that the Consolidated Fund is not invested in stock, yet the IMB has charged it about $1 million more in fees than the BOI. **The Legislative Auditor cannot determine if costs charged to the Consolidated Fund are higher under the IMB than under the BOI.** The primary reason is that the manner in which the BOI charged funds did not accurately reflect actual costs. As a result, funds were either over or under charged from one year to the next. **However, the IMB has reevaluated its fee schedule which will lower the annual administrative cost to the Consolidated Fund by over $400,000.** Also, available data on public retirement funds around the country indicate that administrative costs for the Pension Funds are in line with those of similarly-managed public funds.

Issue 3: The IMB Should Provide A Comprehensive Analysis Covering A Longer Time Period to Justify the Shift to a Larger Proportion of Actively Managed Investments.

Investments are generally considered active or passive in nature. Under passive management, the investment strategy is set to mirror a market index and does not attempt to beat the market. Alternatively, with active management, a return in excess of a specified benchmark is sought which is generally accomplished by more frequent trading of securities. As a result, active investing is more expensive than passive investing. Currently, 63% of IMB Pension Funds are actively managed and there is discussion by the IMB to commit more of the portfolio to active management. **Currently, there is no apparent justification to increase the proportion of actively-managed funds, when considering rates of return and additional costs.** There is industry debate that asserts that active management in the long run does not out perform passive management. The higher costs of active management are, therefore, unwarranted. The Legislative Auditor does not take a side in this particular debate. The IMB should, however, conduct a thorough analysis to justify a more active approach. This should include a longer time period of IMB investment experience. It may be inappropriate to assume a more active approach based on only three years experience with current advisors and current investment objectives.

Issue 4: The IMB's Rate of Return for Pension Funds Compares Favorably With the Investment Performance of Other Public Pension Funds.

The IMB Pension Funds rate of return compares favorably with pension funds operated by other states. A Legislative Auditor's survey of 32 states noted only one state (South Carolina) out-performed the Pension Funds in 2001. In addition to the Legislative Auditor's survey, R.V. Kuhns and Associates collected data on the seventy-nine largest public funds in the U.S. for FY 2001. These data indicate that the IMB's one-year investment performance exceeded the median rate of return for other public funds. Only six of the 79 funds reported positive one-year returns. The 0.5% return earned by the Pension Funds exceeded that of the vast majority of funds in the survey; however, the Pension Funds performed less favorably over a three-year period, with a return of 5.1% versus the median of 5.7%. This may be explained by the fact that the Pension Funds were not fully invested in equities until the end of calendar year 2000. As a result, the Pension Funds did not earn the higher returns possible from equity investments during the late 1990's.

Issue 5: The IMB Still Cannot Comply with the Legislative Auditor's 1995 Recommendation that Called for the Development of Annual Projections of Daily Cash Flows for the General Revenue Fund.

The report on the 1995 performance evaluation of the former Board of Investments, the precursor to the IMB, included the following recommendation.

> *The BOI should work with the Legislative Auditor's Budget and Fiscal Affairs Division to develop annual projections of daily cash flow for the General Revenue Fund for the upcoming fiscal year. Thereafter, the BOI [IMB] will develop these projections on its own. These twelve-month projections should then be made available to advisors every month.*

The intent of this recommendation was to encourage the development of long-term daily flow projections that would indicate appropriate amounts to be invested at various maturities. This would help maximize investment earnings for the State.

At the time of the last update on the performance evaluation of the IMB, September 1999, the IMB stated that the level of interagency cooperation required to obtain data on all sources of state revenue would make compliance with this recommendation impractical for the foreseeable future. At present, both the IMB and the Treasurer's Office feel that making daily cash flow projections is still impractical.

Issue 6: The Internal Auditor is Independent of IMB Management.

A review of the Audit Committee Minutes, Internal Audit Plan, Audit Charter and Internal Audit Reports indicates the Internal Auditor is functioning independently of IMB management. The Legislative Auditor had concerns that the Internal Auditor may lack independence. The organizational chart on the IMB's web site discloses the Internal Auditor as reporting directly to the Chief Financial Officer (CFO) in addition to reporting to the IMB Board of Trustees (Board). Further analysis has determined that the Internal Auditor reports to the CFO at the request of the external audit firm, KPMG. A review of the Internal Audit Reports noted that the Internal Auditor and IMB management do not always agree on audit findings. It is apparent that the findings in these reports are not dictated by IMB management.

Recommendations

1. *The Legislative Auditor recommends that the Investment Management Board be continued.*

2. *The Investment Management Board should continue to make periodic reviews of its cost allocation to ensure funds are charged an appropriate amount.*

3. *The Investment Management Board should complete a comprehensive analysis to determine whether a more active investment style is beneficial. This analysis should be provided to the Joint Committee on Government Operations, and the Joint Committee on Finance.*

4. *The Investment Management Board should report its total rate of return separately for stocks and fixed income assets and compare these returns against the returns of the same asset categories of other public funds. The report should also include a comparison of asset allocation percentages.*

Review Objective, Scope and Methodology

This is a full performance evaluation of the West Virginia Investment Management Board (IMB). Although this report was originally scheduled as a preliminary performance review by WVC §4-10-5, at the request of the Legislature, the review has been upgraded to a full performance review. The Legislature created the IMB in 1997 as a successor agency to the former Board of Investments (BOI), to operate "...as an independent board with its own full-time staff of financial professionals immune to changing political climates, in order to provide a stable and continuous source of professional financial management."

Objective

The objective of this review is to examine the following issues:

(1) Is the IMB needed and should it be continued?
(2) Have expenses charged against the Consolidated Fund been excessive and have expenses charged against the Pension Funds been in line with those of other public funds?
(3) Is the IMB's recent decision to shift a larger proportion of funds to an active investment management style justified?
(4) Does the investment performance and asset allocation of IMB-managed funds compare favorably to similar public funds in other states?
(5) Has the IMB been able to incorporate daily cash projections for state agency operating funds as identified in the original 1995 preliminary performance review report?
(6) Does the IMB's Internal Auditor operate independently of management control?

Scope

The scope of this review is from fiscal year 1991 to 2001 in order to make comparisons between the BOI and the IMB. The report also includes investment performance data for calendar year-to-date 2002. Nineteen-ninety-seven was a transitional year, during which the Consolidated Fund and the Consolidated Pension Fund (now designated in statute as "other accounts" or "other pools") were managed by both the BOI and, after April, the IMB. For that reason, 1997 data are not used in this comparison.

Methodology

The Legislative Auditor's Office obtained data on the BOI from annual reports dating from 1991 to the end of the agency's existence in 1997. Similar data on the IMB also came from 1997 through 2001 annual reports and budget documents, as well as other information provided by the IMB. An external investment advisor provided investment performance data for the Consolidated Fund and the other pools, as well as economic index data.

The sources of investment performance data for other states' public funds were R.V. Kuhns and Associates' survey of 79 public funds, as well as investment performance data gathered on 32 individual states' pension funds by the Legislative Auditor's Office. Data gathered by the Legislative Auditor's Office includes annual reports, web site information and information requested from various state retirement agencies. *Pensions and Investments Magazine* was the source of data on the national ranking of the Investment Management Board's funds as well as the average asset allocations of public defined benefit plans among the top 1,000 pension funds in the country. This evaluation followed Generally Accepted Government Auditing Standards.

Issue 1: The Investment Management Board Fulfills the Investment Management Role for Which it was Created and Should be Continued.

A full performance evaluation requires a determination to be made as to whether an agency is needed and whether it should be continued. A major change in public policy occurred with the passage of the Modern Investment Management Amendment to the State Constitution in 1997, which lifted the constitutional ban on equity investments. Senate Bill 563 created the Investment Management Board (IMB) later in 1997. The IMB was designed to operate "...as an independent board with its own full-time staff of financial professionals immune to changing political climates, in order to provide a stable and continuous source of professional financial management." SB 563 transferred all functions and assets of the West Virginia Trust Fund and the Board of Investments to the IMB.

The need to invest public funds is obvious and the legislative intent to modernize investment management to earn the highest rate of return is important for the State's financial well being. The investment activities of the IMB are, therefore, necessary and should be continued. However, the need for the IMB itself is a separate issue. Other states have agencies that simultaneously administer pension plans and invest the pension funds. Furthermore, the State's operating funds can be invested by the State Treasurer's Office. **To discontinue the IMB and place its investment activities in one or two other agencies would have to be justified by significant cost savings or improved performance. At this time, the Legislative Auditor finds no such justification.** This review illustrates that the IMB's investment performance and asset allocation compare favorably with those of retirement funds in other states. It is not clear that placing any of the investment activities in another agency would be a significant cost savings to the state. For the short period of time the IMB has been in existence, the Legislative Auditor has determined that the IMB satisfactorily performs the investment function for which it was created, therefore, the following recommendation is made.

Recommendation 1

The Legislative Auditor recommends that the Investment Management Board be continued.

Issue 2: Costs to Invest the Consolidated Fund Have Been Reevaluated and Costs to Invest Pension Funds are In Line with Comparable Public Funds.

The total cost for investing the state's operating funds (Consolidated Fund) and Pension Funds has increased from approximately $4 million in FY 1996 to $12 million in FY 2001 since the IMB took over the investment function from the former Board of Investments (BOI) in 1997. The primary reason for the higher cost is the IMB's investment activity in stock. The Legislative Auditor's concern is that the Consolidated Fund is not invested in stock, yet the IMB has charged it about $1 million more in fees than the BOI (see Table 1). **The Legislative Auditor cannot determine if costs charged to the Consolidated Fund are higher under the IMB than under the BOI.** The primary reason is that the manner in which the BOI charged funds did not accurately reflect actual costs.[1] As a result, funds were either over or under charged from one year to the next. **However, the IMB has reevaluated its fee schedule which will lower the annual administrative cost to the Consolidated Fund by over $400,000.**

Table 1
Investment Fees Charged the Consolidated Fund
Under the BOI and IMB

	Board of Investments		Investment Management Board	
Year*	Total Fees	Fees as % of Net Assets:	Total Fees	Fees as % of Net Assets:
1992	$448,000	0.05		
1993	$394,000	0.04		
1994	$470,000	0.04		
1995	$829,000	0.06		
1996	$643,000	0.05		
1998			$1,658,000	0.11
1999			$1,688,000	0.09
2000			$1,690,000	0.09
2001			$1,902,000	0.10

** 1997 was a transitional year, during which the Consolidated Fund was managed by both the BOI and, after April, the IMB. For that reason, 1997 data are not used in this comparison.*

Allocation of Administrative Costs Has Been Reevaluated

[1] *See "Preliminary Performance Review of the West Virginia State Board of Investments", Office of Legislative Auditor, July 1995, pp. 21-22.*

The IMB charges several fees that are directly or indirectly associated with investing funds. Among these fees is a management fee charged for the indirect administrative expenses for investing funds, most of which is for IMB salaries, rent, office equipment and supplies. For the Consolidated Fund, the management fee is typically between 50% and 60% of total fees charged. The Legislative Auditor's initial concern is that the IMB's manner of allocating management fees does not reflect actual costs. By law (WVC §12-6-9), all fees that can be directly attributed to an entity or fund should be charged to that entity or fund. All other fees are to be charged as a percentage of assets. For the past three fiscal years, the IMB has allocated approximately an equal amount of management fees to the Consolidated Fund and Pension Funds. Table 2 shows that as a percentage of net assets, fees charged to the Consolidated Fund were nearly three times higher. This suggests that the IMB determined that administering the Consolidated Fund required three times more staff time and resources than the Pension Funds.

Table 2
Management Fees Charged
to the Consolidated Fund and Consolidated Pension Fund

Fiscal Year	Total Management Fees	Management Fees Charged to Consolidated Fund	Percent of Net Assets (End of Fiscal Year)	Management Fees Charged to Pension Funds	Percent of Net Assets (End of Fiscal Year)
1998	$1,870,000	$939,000	0.061%	$931,000	0.0199%
1999	$1,804,000	$946,000	0.049%	$858,000	0.0172%
2000	$1,784,000	$919,000	0.047%	$865,000	0.0160%
2001	$2,026,000	$1,013,000	0.052%	$1,013,000	0.0187%

Source: IMB Annual Reports

The Legislative Auditor did not conduct an analysis to determine if more staff time is needed to administer the Consolidated Fund than Pension Funds. The IMB provided the following reasons for the allocation decision:

- *Fixed income securities are more complicated to account for than stocks. The* CF [Consolidated Fund] *is 100% fixed income, and therefore more complicated from an accounting standpoint than the large part of the long-term assets under management allocated to stocks.*
- *Two of the three funds in the CF are priced and closed out daily, to allow for maximum liquidity for the State. Effectively, the IMB closes the books each business day. By contrast, all but one (small asset size) of the long-term funds are priced and closed out only once a month. It is far more time-consuming and, thus, costly to close books 30 times a month than once a*

month.

- *For many years, the CF held many small real estate loans arising out of the flood relief efforts of 1985. The administrative effort associated with administering these loans was very disproportionate to the actual dollar amount involved.*
- *For many years, the Board was responsible for final approval on all Economic Development loans funded from CF assets. This effort required lots of administrative activity, and created associated administrative cost.*

Although the IMB's explanations for cost allocation decisions are anecdotal, they are reasonable. Furthermore, the IMB has reevaluated the administrative cost allocation and has determined that a more appropriate cost allocation for FY 2003 would be in the range of 30% to the Consolidated Fund and 70% to the Pension Funds. The IMB cited several positive developments to warrant the change, including but not limited to the following:

- *Legislation passed in 2001 created one revolving credit line with the Economic Development Authority for all its loans. Instead of multiple loans, the IMB now has to account for and track only one loan. Moreover, the IMB is no longer responsible for final approval of EDA loans. This legislation has significantly reduced staff time and cost associated with the EDA pool.*
- *The IMB's portfolio of real estate arising out of the flood relief effort in 1985 was fully, finally and completely sold in 2001. The administrative cost associated with management of these investments has been eliminated.*
- *One of the IMB's long-term fixed income managers for the pension portfolios recently began trading more frequently, and in more complex investments, which has resulted in increased administrative costs associated with management of these long-term assets.*

If the IMB allocates 30% of administrative costs to the Consolidated Fund, this will reduce the fund's annual expenses by over $400,000, based on 2001 management fees.

Investment Advisor Costs For the Consolidated Fund Have not Changed Much

Table 3 shows that the amount paid to investment advisors for the Consolidated Fund was similar under both the BOI and the IMB. This should not be surprising since this fund is not being invested in stock and therefore, has investment objectives similar to those at the time of the BOI. Investment advisor fees are the second largest cost charged to the Consolidated Fund.

Table 3
BOI and IMB Investment Advisors Payments for the Consolidated Fund: 1995-2002

Year	Board of Investments	Investment Management Board
1995	$432,296	
1996	$594,809	
1998		$494,569
1999		$559,393
2000		$543,390
2001		$593,979
2002*		$547,472

Source: BOI data provided by the West Virginia Treasurer's Office, and data provided by the IMB.
** Totals for fiscal year to date 2002 as of May 8, 2002.*

Pension Fund Costs Are Comparable to Other Public Funds

The IMB's total investment expenses for Pension Funds for 2001 are comparable to the average expenses calculated by R.V. Kuhns and Associates' survey of 79 public funds. The IMB's Pension Funds had total assets of $5,369,178,591 at the end of 2001. This makes the fund comparable in size to surveyed funds in the $5-$10 billion size category. The survey average for all investment management fees, including external fees and in-house expenses, was equal to 0.17% of average net assets. The IMB's investment management fees also amounted to 0.17%. Survey results indicated that the average for total expenses was 0.21%. The IMB's figure of 0.19% closely follows this.

Conclusion

The IMB has charged the Consolidated Fund approximately $1 million more in fees than the former BOI. However, the Legislative Auditor cannot precisely determine if the IMB's charge to the Consolidated Fund is actually $1 million higher because the BOI's manner of calculating service fees did not accurately reflect actual costs. Some BOI costs may also have been paid from special revenue accounts in addition to general revenue funds. This further complicates the identification of all BOI costs. A 1995 review of the BOI by the Legislative Auditor showed that the BOI overcharged the pension funds in most years and undercharged in other years. The report did not determine if the Consolidated Fund was overcharged or undercharged, however, it is possible that it was undercharged at times.

Part of the cost charged to the Consolidated Fund includes an equal division of administrative expenses (management fees). When management fees are measured as a percent of net assets, the percentage is nearly three times higher for the Consolidated Fund compared to the Pension Funds. This suggests that the Consolidated Fund required three times more staff time and resources to administer. The Legislative Auditor did not attempt to determine if the time and resources needed to administer the Consolidated Fund were three times greater than for the Pension Funds. The IMB has given anecdotal, yet reasonable arguments to support its decision. Furthermore, the IMB has reevaluated this allocation and has determined that for several reasons a 70-30 allocation is more appropriate. If the IMB allocates 30% of administrative costs to the Consolidated Fund, this will reduce the fund's annual expenses by over $400,000 based on 2001 management fees.

A review of investment advisors costs for the Consolidated Fund indicates that the IMB has similar costs to those under the BOI. This should be expected since the investment objectives are similar to the BOI's. Also, available data on public retirement funds around the country indicate that administrative costs for the Pension Funds are in line with those of similarly-managed public funds.

Recommendation 2

The Investment Management Board should continue to make periodic reviews of its cost allocation to ensure funds are charged an appropriate amount.

Issue 3: The IMB Should Provide A Comprehensive Analysis Covering A Longer Time Period to Justify the Shift to a Larger Proportion of Actively Managed Investments.

Investments are generally considered active or passive in nature. Under passive management, the investment strategy is set to mirror a market index and does not attempt to beat the market. Alternatively, with active management, a return in excess of a specified benchmark is sought which is generally accomplished by more frequent trading of securities. As a result, active investing is more expensive than passive investing. Currently, 63% of IMB Pension Funds are actively managed and there is discussion by the IMB to commit more of the portfolio to active management. **Currently, there is no apparent justification to increase the proportion of actively-managed funds, when considering rates of return and additional costs.** There is industry debate that asserts that active management in the long run does not out perform passive management.[2] The higher costs of active management are, therefore, unwarranted. The Legislative Auditor does not take a side in this particular debate. The IMB should, however, conduct a thorough analysis to justify a more active approach. This should include a longer time period of IMB investment experience. It may be inappropriate to assume a more active approach based on only three years experience with current advisors and current investment objectives.

Active Investing is Costly

The Legislative Auditor compared the average advisor cost for passive and active managers. As seen in Table 4 the average advisor cost for active managers is substantially greater than passive managers. **As a further illustration of the cost differential, it is interesting to note that although 63% of IMB Pension Funds are actively managed, the active managers assume 98% of the Pension Funds total advisor costs.**

Table 4
Average IMB Advisor Costs

Advisor Management Style	1999	2000	2001
Passive*	$125,000 (1)	$100,800 (2)	$95,700 (2)
Active*	$248,800 (15)	$437,200 (15)	$551,900 (15)

Source : Data provided by IMB.
** The number of investment advisors employed by IMB are in parenthesis.*

It is Debatable More Active Management Would Yield Higher Returns

[2] *"Determinants of Portfolio Performance", Gary P. Brinson, L. Randolph Hood and Gilbert P. Beebower, Financial Analysts Journal, July/August 1986.*

"The Inefficient Markets Argument for Passive Investing", Dr. Steven Thorley, *www.indexinvesting.net/PFarticles/1999_ineff_adv_ind_RS.htm.*

"Indexing: Why Passive Investment continues to grow but not dominate", George Palmer, *www.assetpub.com/archive/ps/95-10psnov/nov95PS46.html*.

The Legislative Auditor has seen no evidence that would indicate that an active approach taken by the IMB would achieve greater returns. The past performance of the IMB's Large Cap Equity and Fixed Income Pools, both of which contain both active and passive managers, has given no clear indication that active managers have consistently out performed passive managers (see **Table 5**). In the year 2000, active managers out performed passive managers generally, however in 2001, passive managers performed better than two active managers in the Large Cap Equity Pool and did well against compared to active managers in the Fixed Income Pool.

Table 5
Comparison of Active and Passive Investment Returns

Large Cap Equity			
	1999	**2000**	**2001**
State Street Global Advisors - (Passive)	23.30	7.20	-14.80
NYLIM/QED - (Active)	NA	14.90	-19.40
Alliance - (Active)	NA	24.40	-34.30
Chartwell - (Active)	NA	3.00	11.90
Fixed Income			
	1999	**2000**	**2001**
Western Asset Management - (Active)	2.60	4.80	12.60
Hoisington - (Active)	NA	7.50	8.40
Barclays - (Passive)	NA	3.40	12.20

Source: Data provided by IMB.

A similar concern was expressed in a performance review conducted in 2000 by the Florida Legislature's Office of Program Policy Analysis and Government Accountability. The report concluded that the State Board of Administration (SBA) "could achieve additional earnings, reduce external management fees, and reduce brokerage commissions by increasing the percentage of its domestic equity assets invested by passive style managers." The report further stated:

> *The SBA uses a combination of passive and active style managers to invest its domestic equities funds. In contrast, passive style managers typically buy and hold selected securities with the goal of achieving rather than exceeding the performance of a group or sector of stocks. Active style managers select stocks based on various strategies with the goal of exceeding the performance of a market index. Passive style managers engage in minimal trading activity and incur lower transaction costs and charge lower fees than active style investment managers.*

Research has concluded that it is difficult for active style managers to achieve higher rates of returns than passive style managers over long periods of time.*[Emphasis added]*

Conclusion

The Legislative Auditor does not understand the IMB's proposed decision to a greater commitment to an active managed portfolio. Clearly, based upon the limited amount of time IMB has been in existence, evidence to justify moving towards a more active style is not present. The Legislative Auditor recommends the IMB give careful analysis over a longer period of time to determine whether moving towards a more active investment style is beneficial.

Recommendation 3

The Investment Management Board should complete a comprehensive analysis to determine whether a more active investment style is beneficial. This analysis should be provided to the Joint Committee on Government Operations, and the Joint Committee on Finance.

Issue 4: The IMB's Rate of Return for Pension Funds Compares Favorably With the Investment Performance of Other Public Pension Funds.

The IMB Pension Funds rate of return compares favorably with pension funds operated by other states (see Table 6). A Legislative Auditor's survey of 32 states noted only one state (South Carolina) out-performed the Pension Funds in 2001. In addition to the Legislative Auditor's survey, R.V. Kuhns and Associates collected data on the seventy-nine largest public funds in the U.S. for FY 2001. These data indicate that the IMB's one-year investment performance exceeded the median rate of return for other public funds. Only six of the 79 funds reported positive one-year returns. The 0.5% return earned by the Pension Funds exceeded that of the vast majority of funds in the survey; however, the Pension Funds performed less favorably over a three-year period, with a return of 5.1% versus the median of 5.7%. This may be explained by the fact that the Pension Funds were not fully invested in equities until the end of calendar year 2000. As a result, the Pension Funds did not earn the higher returns possible from equity investments during the late 1990's.

Table 6
Rates of Return
IMB vs. Various Public Funds

	2001	3-Year Return	5-Year Return
West Virginia IMB Pension Funds	0.5	5.1	N/A
79 Largest Public Funds Median Rate of Return	-4.8	5.7	10.8
Legislative Auditor's Survey of 32 State Pension Funds	-6.1	5.1	10.1
Legislative Auditor's Survey of 32 State Pension Funds: Low/High Ranges	-25.8 / 7.5	1.4 / 11.8	5.6/13.4

Source: Summit Strategies, Inc. provided data on IMB investment performance. The Legislative Auditor's Office gathered data for other states' funds from annual reports and web site data. R.V. Kuhns and Associates survey data provided information on 79 of the largest public funds.

Data provided by the IMB's investment advisor Summit Strategies, Inc. made a comparison of the Pension Funds to comparable market indices (see Table 7). **The three-year rates of return for five of the seven IMB investment pools equal or exceed their comparable indices.** The data indicate that large cap equity investments declined in total returns after 1999. A comparison of the S&P 500 and Russell 2500 indices, shows that small and mid cap stocks out performed large cap stocks during both 2000 and 2001. During these two years, returns on large cap equity investments fell dramatically as returns on non-large cap equity investments grew substantially. **The Year 2001 returns on non-large cap equity (14.7%) were an important factor in the Pension Funds' higher total return than similar funds in other states.** International equity investments suffered severely during 2001 as this category of investment went from having the greatest rate of return in 2000 (29.5%) to being tied for last in 2001 (-14.8%). The most recent data indicate that equity investments have begun recovering during 2002. Returns on fixed income investments grew during 2000 and 2001, increasing from a rate of 1.7% in 1999 to 12.0% in 2001. Fixed income investments ranked as the Pension Funds second highest performing category of investment during 2001, after non-large cap equity.

Table 7 Total Returns for Pension Funds: FY 1999-2001 and Year to Date as of March 31, 2002					
IMB Pools and Comparable Indices*	1999	2000	2001	3-Year Returns	YTD March 31, 2002
Large Cap Equity	**22.4**	**8.5**	**-14.6**	**4.3**	**0.0**
S&P 500	*22.8*	*7.3*	*-14.8*	*3.9*	*0.3*
Non-Large Cap Equity	**1.2**	**7.2**	**14.7**	**7.6**	***8.0***
Russell 2500	*5.3*	*18.3*	*2.4*	*8.5*	*3.7*
Total Domestic Equity	**15.3**	**8.2**	**-5.2**	**5.7**	**2.9**
Domestic Index	*16.9*	*11.4*	*-9.4*	*5.7*	*1.4*
International Equity	**0.6**	**29.5**	**-14.8**	**3.3**	**2.0**
EAFE	*7.9*	*17.4*	*-23.3*	*-1.0*	*0.6*
Total Global Equity	**11.4**	**13.1**	**-7.8**	**5.2**	**2.7**
Global Index	*14.7*	*12.9*	*-13.1*	*4.3*	*1.5*
Fixed Income	**1.7**	**4.5**	**12.0**	**6.0**	**0.0**
Salomon Broad Investment Grade	*3.1*	*4.5*	*11.3*	*6.2*	*0.1*
Cash	**6.5**	**5.6**	**6.2**	**6.1**	**0.4**
Salomon 180 Day T-Bill	*5.0*	*5.5*	*5.9*	*5.4*	*0.5*
Pension Funds Total	**7.0**	**7.9**	**0.5**	**5.1**	**1.6**
Source: Summit Strategies, Inc. ** IMB Funds are bolded, and comparable indices are below in italics.*					

IMB's Asset Allocation Is In Line With Other Public Funds

Table 8 presents data on the asset allocations of various public retirement systems. These data were compiled by the Legislative Auditor's Office through a survey of 32 states and also data provided by R.V. Kuhns and Associates on 79 public funds. The data indicate that the allocation of IMB Pension Funds is similar to that of the average public retirement fund, particularly with respect to the proportion of domestic and international equity.

Data collected by *Pensions and Investments Magazine* on the top 1,000 retirement plans, in terms of asset size, provides further evidence that the IMB's asset allocation is comparable to that of other public funds. While the IMB is somewhat more heavily invested in fixed income than the average public defined benefit plan in the top 1,000, the proportions of domestic and international equity are similar. In January 2001, *Pensions and Investments Magazine* ranked the IMB's pension funds the 234th largest in the nation.

Table 8
Asset Allocations of Various State Retirement System Funds: 2001

	Fixed Income	Domestic Equity	International Equity	Real Estate	Other*
West Virginia IMB Pension Funds	37.7%	42.9%	13.9%	--	5.5%
79 Public Funds Weighted Average	30.2%	44.2%	13.6%	5.3%	5.5%
Public Defined Benefit Plans in the Top 1,000 Retirement Plans	31.8%	43.6%	13.0%	4.4%	7.2%
Legislative Auditor's Sample of 32 Funds	30.5%	44.4%	14.0%	7.0%	5.8%
Legislative Auditor's Sample of 32 Funds: Low/High Ranges**	21.1/51.9%	35.7/53.0%	4.7/21.9%	0.3/9.7%	0.01/25.7%

Source: Summit Strategies, Inc. provided data on IMB asset allocation. The Legislative Auditor's Office gathered data for other states' funds from annual reports and web site data. R.V. Kuhns and Associates survey data provided information on 79 of the largest public funds. Pensions and Investments Magazine ranked the top 1,000 pension plans in the United States.
**Category includes assets such as cash, short-term investments, mortgages and alternative or statutory investments.*
***High/low range data does not include South Carolina because available data for this state combined domestic and international equity percentages. South Carolina had a combined domestic and international equity total of 22.3%, giving it the lowest proportion of equity investments for surveyed states.*

Asset allocation is an important factor affecting a portfolio's rate of return. During periods when stock values are up, portfolios with large holdings of stock will experience greater rates of return than portfolios with large holdings in fixed income assets. Recently, stock values have been down, therefore, West Virginia benefitted from having a higher percentage of its portfolio in fixed income assets than other states. Most states surveyed by the Legislative Auditor for the year 2001 had negative returns while West Virginia had a small positive return of 0.5%. As a further example, the only state surveyed that had a higher return than West Virginia was South Carolina. This was due to South Carolina's high allocation of assets in fixed income investments. South Carolina recently passed legislation permitting the state to invest in equities, much like West Virginia. South Carolina had not yet completed the process of converting part of its fixed income portfolio into equity investments. For that reason, it still had 51.9% of its assets invested in fixed income and only 22.3% invested in equities. As a comparison, the typical public fund allocated an average of only 30.2% of assets in fixed income and 57.8% to equities. Although South Carolina's asset allocation was beneficial due to the poor performance of stocks during 2001, in the long term, such an allocation historically would yield a lower return than if it had included a higher proportion of equity investments. South Carolina's 5-year return was only 7.3% as opposed to a median rate of 10.8% for 79 of the largest public funds. This indicates that conservative restrictions on stock investment is beneficial when stocks are down, but less beneficial when stocks are up. It also demonstrates that over longer periods of time, equity investments provide better growth potential than fixed income investments.

Conclusion

The Legislative Auditor concludes that the investment performance of IMB Pension Funds compares favorably to investment indices and the performance of other public funds. In addition, the Legislative Auditor concludes that the asset allocation of the Pension Funds is comparable to that of other public funds.

The performance of invested funds is dependent on asset allocation. Although the IMB's performance was better than most public funds in 2001, this can be attributed to its relatively high allocation in fixed income assets. Therefore, the IMB's performance can at times be "good" simply because of the fortuitous asset allocation restrictions imposed by the Legislature rather than efficient investment operations. On the other hand, the IMB's performance can be "poor" at times because of the asset allocation restrictions. In order to provide the Legislature with a good measure of how well the IMB performed, it would be more revealing for the IMB to separately break down the total rate of return for stocks and fixed income assets and compare these returns against the returns of the same categories of other public funds. This comparison should also include asset allocation percentages. This type of reporting would be more indicative of performance, and it would allow the Legislature to see if the statutory restrictions on asset allocation are appropriate.

Recommendation 4

The Investment Management Board should report its total rate of return separately for stocks and fixed income assets and compare these returns against the returns of the same asset categories of other public funds. The report should also include a comparison of asset allocation percentages.

Issue 5: The IMB Still Cannot Comply with the Legislative Auditor's 1995 Recommendation that Called for the Development of Annual

Projections of Daily Cash Flows for the General Revenue Fund.

The report on the 1995 performance evaluation of the former Board of Investments, the precursor to the IMB, included the following recommendation.

> *The BOI should work with the Legislative Auditor's Budget and Fiscal Affairs Division to develop annual projections of daily cash flow for the General Revenue Fund for the upcoming fiscal year. Thereafter, the BOI [IMB] will develop these projections on its own. These twelve-month projections should then be made available to advisors every month.*

The intent of this recommendation was to encourage the development of long-term daily flow projections that would indicate appropriate amounts to be invested at various maturities. This would help maximize investment earnings for the State.

At the time of the last update on the performance evaluation of the IMB, September 1999, the IMB stated that the level of interagency cooperation required to obtain data on all sources of state revenue would make compliance with this recommendation impractical for the foreseeable future. In March 2002, the IMB provided a statement on the current status of this outstanding issue.

> *...In our opinion, there is nothing the WVIMB can do to further the goal of improving cash management. This has always been an interagency issue, requiring the cooperation of several parties, principally the Treasurer, the Auditor and the Administration. The Treasurer is in charge of participant accounting for the Consolidated Fund accounts. This is the critical information needed to develop cash flow schedules. We are not in a position to demand that the Treasurer do anything with that information. The IMB's investment decisions and allocations are dependent on the information provided by the Treasurer. I suspect, though, that the Treasurer is handcuffed by the willingness of other agencies to cooperate and, possibly, interpretations of statutory responsibility...*

The IMB is, therefore, still unable to comply with this recommendation.

The Treasurer's Office provided the following response when asked to comment on this issue.

> *Since 1995 this issue has been reviewed regularly. It has been consistently determined by both the B.O.I. and the I.M.B. that projections of daily cash flows are impossible to create and even if created, would not change the investment process.*
>
> *There would be many obstacles to overcome to provide the state with the ability to create daily cash projections. These may include: changing the budgetary process to include daily projections from the agencies and changing the disbursement process to restrict agencies to daily allotments. The cost/benefit of these changes would need to be analyzed to determine if these changes would result in any*

additional interest earnings for the state.

In addition, the General Revenue Fund only represents about one third of total state revenues. There are many other approaches that the State Treasurer's Office is taking towards improving total interest earnings for the state. Electronic Government, especially with the use of ACH debits, has improved cash flows, as has the expansion of paper lockboxes. The ability to collect revenues faster allows us to earn one or two days additional interest. We have recently installed a reverse positive pay system for state checks. This system will provide stronger controls and allow us to develop better clearance patterns, which will tie into account funding and maximizing investments.

I believe that it is time to rethink whether this is truly an outstanding issue.

Conclusion

Unless the Treasurer's Office, in cooperation with other state agencies, can obtain the necessary data to make daily cash flow projections, the IMB will continue to be unable to comply with this recommendation. Both the IMB and the Treasurer's Office feel that this issue cannot realistically be addressed in the foreseeable future.

Issue 6: The Internal Auditor is Independent of IMB Management.

A review of the Audit Committee Minutes, Internal Audit Plan, Audit Charter and Internal Audit Reports indicates the Internal Auditor is functioning independently of IMB management. The Legislative Auditor had concerns that the Internal Auditor may lack independence. The organizational chart on the IMB's web site discloses the Internal Auditor as reporting directly to the Chief Financial Officer (CFO) in addition to reporting to the IMB Board of Trustees (Board). Further analysis has determined that the Internal Auditor reports to the CFO at the request of the external audit firm, KPMG.

WVC § 12-6-4(d) states the following:

The trustees shall retain an internal auditor to report directly to the trustees...

The November 18, 1999 Audit Committee Minutes state the following:

KPMG suggested that the internal audit function should have the independence to report to the Audit Committee, however, there should be some form of a daily oversight responsibility by a senior member of management, such as the Consolidated Fund.

This suggestion was offered by KPMG to allow the Board to have some assurance that the internal audit plan that has been approved by the Audit Committee is in fact being timely and appropriately executed by the Internal Auditor. Although the internal auditor is ultimately responsible for the completion of the Audit Plan, the CFO is responsible to monitor progress to see that the plan is being executed. The KPMG Fiscal Year 2000 and 2001 audit reports have not reported additional IMB internal audit structure concerns.

Conclusion

Obviously, the Internal Auditor must remain independent of management to effectively carrying out his or her duties. An analysis of the Audit Committee Minutes, Internal Audit Plan, Audit Charter as well as Internal Audit Reports, reiterates that the Internal Auditor is in fact independent of management. The Internal Auditor reports directly to the Board on a quarterly basis. A review of the Internal Audit Reports noted that the Internal Auditor and IMB management do not always agree on audit findings. It is apparent that the findings in these reports are not dictated by IMB management. Furthermore, the Audit Committee determines the Internal Auditor's compensation. In conclusion, the Internal Auditor is independent of management although management does offer daily oversight at the request of the external auditor.

APPENDIX A

Transmittal Letter to Agency

APPENDIX B

Rates of Return for Various Public Funds

Rates of Return for Various Public Funds			
Agency	2001	3-Year Return	5-Year Return
Alabama Retirement Systems: Employees' Retirement System	-25.8	2.7	7.0
Alaska Public Employees' Retirement System	-5.3	4.9	9.4
Arizona State Retirement System	-6.7	6.2	11.9
Arkansas Public Employees Retirement System	-3.8	4.4	8.8
California Public Employees Retirement System	-7.2	4.9	10.6
Delaware Public Employees' Retirement System	-5.1	7.2	11.4
Georgia Teachers Retirement System	N/A	4.3	11.5
Idaho Public Employee Retirement System	-6.1	5.9	10.8
Illinois State Board of Investment	-7.1	5.1	13.4
Indiana Public Employees' Retirement Fund: Consolidated Retirement Investment Fund	-2.5	5.0	7.3
Iowa Public Employees' Retirement System	-4.7	6.8	11.7

Agency	2001	3-Year Return	5-Year Return
Kansas Public Employees Retirement System	-7.3	5.5	9.4
Louisiana State Employees' Retirement System	-6.1	4.4	8.5
Maryland State Retirement and Pension System	-9.4	N/A	N/A
Mississippi Public Employees Retirement System	-7.1	3.9	9.9
Montana Public Employees' Retirement Board: Public Employees' Retirement System	-5.0	4.8	9.9
Nevada Public Employees Retirement System	-3.4	N/A	8.0
New Hampshire Retirement System	-6.7	6.2	10.8
New Jersey State Investment Council Pension Funds	-10.4	11.8	11.9
New York State and Local Retirement Systems: Employees' Retirement System	-8.7	5.4	11.1
North Dakota Retirement and Investment Office: Public Employees Retirement System	-4.1	5.1	10.0
Ohio Public Employees Retirement System	-4.6	2.0	6.6

Agency	2001	3-Year Return	5-Year Return
Oklahoma Public Employees Retirement System	-5.9	4.3	9.8
Oregon Public Employees Retirement System	-8.1	7.0	11.6
Pennsylvania State Employees' Retirement System	-7.9	4.1	9.2
Rhode Island Employees' Retirement System	-19.0	1.4	5.6
South Carolina Retirement System	7.5	5.0	7.3
South Dakota Retirement System	-2.9	7.2	10.1
Virginia Retirement System: Pension Trust Funds	-7.4	6.2	11.5
Washington State Department of Retirement Systems	-6.0	6.2	11.1
Wisconsin Investment Board: Fixed Retirement Trust Fund	-5.4	10.3	11.4
Median	-6.1	5.1	10.1

Source: 2001 agency annual reports and web site data.

Appendix C

2001 Asset Allocations of Various State Retirement System Funds

Asset Allocations of Various State Retirement System Funds: 2001					
Agency	Fixed Income	Domestic Equity	International Equity	Real Estate	Other*
Alabama Retirement Systems: Employees' Retirement System	43.7	40.0	6.6	5.1	4.7
Alaska Public Employees' Retirement System	31.6	43.8	17.3	7.3	0.01
Arizona State Retirement System	30.0	53.0	17.0	--	--
Arkansas Public Employees Retirement System	44.0	40.0	9.0	--	7.0
California Public Employees Retirement System	26.9	40.4	17.8	8.1	6.9
Delaware Public Employees' Retirement System	30.9	44.9	11.5	--	12.7
Georgia Teachers Retirement System	41.7	56.9		--	1.4
Idaho Public Employee Retirement System	28.3	43.7	21.9	0.6	5.5
Illinois State Board of Investment	23.7	44.0	18.5	4.1	9.7

<table>
<tr><th>Agency</th><th>Fixed Income</th><th>Domestic Equity</th><th>International Equity</th><th>Real Estate</th><th>Other*</th></tr>
<tr><td>Indiana Public Employees' Retirement Fund: Consolidated Retirement Investment Fund</td><td>41.7</td><td>52.2</td><td>4.7</td><td>--</td><td>1.4</td></tr>
<tr><td>Iowa Public Employees' Retirement System</td><td>38.0</td><td>36.0</td><td>14.0</td><td>6.0</td><td>6.0</td></tr>
<tr><td>Kansas Public Employees Retirement System</td><td>33.0</td><td>41.0</td><td>13.0</td><td>7.0</td><td>6.0</td></tr>
<tr><td>Kentucky Retirement Systems</td><td>24.0</td><td colspan="2">51.0</td><td>4.5</td><td>20.5</td></tr>
<tr><td>Louisiana State Employees' Retirement System</td><td>28.3</td><td>45.6</td><td>14.5</td><td>0.6</td><td>11.0</td></tr>
<tr><td>Maryland State Retirement and Pension System</td><td>27.6</td><td>46.8</td><td>19.1</td><td>5.0</td><td>2.2</td></tr>
<tr><td>Mississippi Public Employees Retirement System</td><td>33.5</td><td>52.5</td><td>13.7</td><td>--</td><td>0.3</td></tr>
<tr><td>Montana Public Employees' Retirement Board: Public Employees' Retirement System</td><td>34.5</td><td>43.8</td><td>7.4</td><td>0.3</td><td>14.0</td></tr>
<tr><td>Nevada Public Employees Retirement System</td><td>44.9</td><td>35.7</td><td>10.0</td><td>9.4</td><td>--</td></tr>
<tr><td>New Hampshire Retirement System</td><td>26.1</td><td>46.9</td><td>7.9</td><td>9.5</td><td>9.6</td></tr>
</table>

Agency	Fixed Income	Domestic Equity	International Equity	Real Estate	Other*
New Jersey Investment Council	27.9	48.7	14.1	--	9.3
New Mexico Public Employees Retirement Association	41.4	44.0	14.3	--	0.4
New York State and Local Retirement Systems: Employees' Retirement System	31.4	45.9	10.7	4.2	7.8
North Dakota Retirement and Investment Office: Public Employees Retirement System	39.6	38.4	12.4	5.8	3.8
Ohio Public Employees Retirement System	21.1	47.9	19.8	9.7	1.6
Oklahoma Public Employees Retirement System	42.4	44.8	12.3	--	0.5
Pennsylvania State Employees' Retirement System	17.5	35.3	20.5	10.3	16.4
Rhode Island Employees' Retirement System	28.1	46.6	19.7	--	5.6

<table>
<tr><th>Agency</th><th>Fixed Income</th><th>Domestic Equity</th><th>International Equity</th><th>Real Estate</th><th>Other*</th></tr>
<tr><td>South Carolina Retirement Systems: South Carolina Retirement System</td><td>51.9</td><td colspan="2">22.3</td><td>--</td><td>25.7</td></tr>
<tr><td>South Dakota Retirement System</td><td>23.0</td><td>50.0</td><td>16.4</td><td>5.7</td><td>5.0</td></tr>
<tr><td>Vermont State Treasurer's Office: State Employees Retirement Fund</td><td>28.0</td><td>44.0</td><td>17.0</td><td>9.0</td><td>2.0</td></tr>
<tr><td>Virginia Retirement System: Pension Trust Funds</td><td>25.0</td><td>48.0</td><td>15.0</td><td>--</td><td>12.2</td></tr>
<tr><td>Washington State Department of Retirement Systems</td><td>25.6</td><td>37.4</td><td>13.8</td><td>8.5</td><td>14.7</td></tr>
<tr><td>West Virginia IMB Other Investment Pools</td><td>37.7</td><td>42.9</td><td>13.9</td><td>--</td><td>5.5</td></tr>
<tr><td>Wisconsin Investment Board Fixed Retirement Trust Fund</td><td>23.9</td><td colspan="2">54.9</td><td>0.9</td><td>20.3</td></tr>
<tr><td colspan="6">Source: 2001 agency annual reports and web site data.
*Category includes assets such as cash, short-term investments, mortgages and alternative or statutory investments.</td></tr>
</table>

APPENDIX D

Agency Response