

REPORT OF
MISSOURI DEPARTMENT OF TRANSPORTATION
AND HIGHWAY PATROL EMPLOYEES'
RETIREMENT SYSTEM

JUNE 30, 2013

INDEPENDENT AUDITORS' REPORT

The Board of Trustees
Missouri Department of Transportation and
Highway Patrol Employees' Retirement System

Report on the Financial Statements

We were engaged to audit the accompanying financial statements of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System), which comprise the statements of plan net position as of June 30, 2013 and 2012, and the related statements of changes in plan net position for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with U.S. generally accepted auditing standards. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the System's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the plan net position of the System at June 30, 2013 and 2012, and the changes in plan net position for the years then ended, in conformity with U.S. generally accepted accounting principles.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 3 through 6 and the schedules of funding progress and employer contributions on pages 25 and 26 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context.

We have applied certain limited procedures to the required supplementary information in accordance with U.S. generally accepted auditing standards, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audits were conducted for the purpose of forming opinions on the financial statements that collectively comprise the System's financial statements as a whole. The additional information presented on pages 27 through 29 is presented for purposes of additional analysis and is not a required part of the financial statements. The additional information is the responsibility of management and was derived from and related directly to the underlying accounting and other records used to prepare the financial statements. The additional information has been subjected to the auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with U.S. generally accepted auditing standards. In our opinion, the additional information presented on pages 27 through 29 is fairly stated in all material respects in relation to the financial statements as a whole.

Williams-Keeper LLC

November 6, 2013

MISSOURI DEPARTMENT OF TRANSPORTATION AND HIGHWAY PATROL EMPLOYEES' RETIREMENT SYSTEM MANAGEMENT'S DISCUSSION AND ANALYSIS

The management of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System, or MPERS) provides this discussion and analysis of the System's financial performance for the fiscal years ended June 30, 2013 and 2012. While this discussion is intended to summarize the financial status of MPERS, readers should consider this information in conjunction with the information that is furnished in the more detailed financial statements and corresponding notes.

DESCRIPTION OF BASIC FINANCIAL STATEMENTS

As required by the Governmental Accounting Standards Board (GASB) accounting standards, this financial report consists of *Management's Discussion and Analysis* (this section), the basic financial statements (including notes to the basic financial statements), and other required supplementary information.

Financial Statements report information about MPERS, using accounting methods similar to those used by private-sector companies, by using the economic resources measurement focus and accrual basis of accounting. These statements provide both long-term and short-term information about the System's overall financial status. These statements follow this *Management's Discussion and Analysis* section:

- The *Statement of Plan Net Position* includes all the System's assets and liabilities, with the difference between the two reported as net position.
- The *Statement of Changes in Plan Net Position* accounts for all the current year's additions (income) and deductions (expenses), regardless of when cash is received or paid.

Notes to the Financial Statements are included following the financial statements. The notes to the financial statements provide additional information that is essential for a full understanding of the data provided in the financial statements.

Required Supplementary Information follows the notes and further supports the information in the financial statements.

ANALYSIS OF FINANCIAL POSITION AND RESULTS OF OPERATIONS

Overall, the financial position of MPERS improved by \$144 million, reported as the "change in net position." This is primarily a result of net appreciation in the fair value of investments for the year ended June 30, 2013. Even with this net increase in value in FY13, the funded status of the plan showed a decrease of 0.07%, due to a change in actuarial assumptions (assumed investment rate of return lowered from 8.25% to 7.75%).

The following schedules present summarized comparative data from the System's financial statements for each of the fiscal years ended June 30, 2013, 2012, and 2011. Following each schedule is a brief summary providing explanation and analyses of the major reasons for changes in the condensed financial statements.

Summarized Comparative Statements of Plan Net Position

	As of June 30, 2013	As of June 30, 2012	As of June 30, 2011	% Change 2013/2012	% Change 2012/2011
Cash and Receivables	\$39,152,820	\$17,123,877	\$37,735,045	129%	-55%
Investments	1,651,622,264	1,533,375,977	1,548,229,721	8%	-1%
Invested Securities Lending Collateral	92,327,975	57,498,405	60,133,588	61%	-4%
Capital Assets	2,627,203	2,914,845	3,287,289	-10%	-11%
Other Assets	69,961	5,448	6,794	1184%	-20%
Total Assets	\$1,785,800,223	\$1,610,918,552	\$1,649,392,437	11%	-2%
Accounts Payable	5,298,016	11,356,972	32,898,778	-53%	-65%
OPEB Obligation	554,370	459,906	364,124	21%	26%
Securities Lending Collateral	94,215,127	57,698,128	60,339,959	63%	-4%
Long-Term Debt/Payable	0	0	108,900	0%	-100%
Total Liabilities	\$100,067,513	\$69,515,006	\$93,711,761	44%	-26%
Total Net Position	\$1,685,732,710	\$1,541,403,546	\$1,555,680,676	9%	-1%

The increase in cash and receivables is primarily attributable to higher investment sales receivables as of June 30, 2013. Some fluctuations in this area are normal, based on investment activity. The decrease from FY11 to FY12 is primarily attributable to lower investment sales receivables which were normal fluctuations based on investment activity.

The System's investments represent the main component of total assets. These investments include holdings of stock, government-sponsored enterprises, bonds, mortgages, real estate, timber, securities lending collateral, limited partnerships, and other fixed income investments. The increase in fair value of investments as of June 30, 2013 is due to more favorable market conditions experienced during FY13. The FY13 investment return was 13.42%. The decrease in fair value from FY11 to FY12 is due to lower than expected investment returns, resulting in an outflow of cash to fund benefit payments that was larger than inflows generated by investment returns.

Capital assets decreased in FY13 and FY12 due to depreciation of existing assets and only minimal purchases of new equipment during the year.

The largest component of liabilities is securities lending collateral. This represents the amount owed for collateral to be returned as the result of securities lent. The increase in securities lending collateral from FY12 to FY13 is due to the increase in the fair value of investments. The decrease in securities lending collateral from FY11 to FY12 is due to the decrease in the fair value of investments. The corresponding securities lending collateral asset is valued at lower amounts at June 30, 2013, 2012 and 2011 due to the market value of the securities on loan being less than the par value.

The decrease in accounts payable for FY13 and FY12 is primarily attributable to lower investment purchases payable. Some fluctuations in this area are normal, based on investment activity.

The decrease in long-term debt/payable for FY12 reflects the reduction in the obligation for the technology project, as installment payments became due.

The OPEB obligation of \$554,370 at June 30, 2013, \$459,906 at June 30, 2012, and \$364,124 at June 30, 2011 represents a liability recorded pursuant to GASB Statement No. 45, which was implemented in FY08. This liability reflects the System's provision of post-employment health care benefits through its participation in the MoDOT and MSHP Medical and Life Insurance Plan. As allowed by the GASB, this reporting requirement is being implemented prospectively, as prior years' data is not available. This plan is an internal service fund of the

Missouri Department of Transportation (MoDOT); therefore, assets have not been set aside. With this, the increases from FY12 to FY13 and from FY11 to FY12 are expected.

The System's total net position was \$1.685 billion at June 30, 2013, a \$144 million increase from the \$1.541 billion at June 30, 2012. This is an offset to the slight decrease of the previous year, when net position decreased \$14 million from the June 30, 2011 amount of \$1.556 billion to the June 30, 2012 amount of \$1.541 billion.

Summarized Comparative Statements of Changes in Plan Net Position

	Year Ended June 30, 2013	Year Ended June 30, 2012	Year Ended June 30, 2011	% Change 2013/2012	% Change 2012/2011
Contributions	\$173,703,401	\$166,256,835	\$168,130,790	4%	-1%
Net Investment Income	198,139,438	42,091,564	279,612,052	371%	-85%
Other Income	1,650	13,760	33,141	-88%	-58%
Net Additions	\$371,844,489	\$208,362,159	\$447,775,983	78%	-53%
Benefits	\$224,518,100	\$219,704,320	\$202,153,768	2%	9%
Administrative Expenses	2,997,225	2,934,969	2,658,849	2%	10%
Total Deductions	\$227,515,325	\$222,639,289	\$204,812,617	2%	9%
Change in Net Position	\$144,329,164	(\$14,277,130)	\$242,963,366	-1111%	-106%
Net Position-Beginning	1,541,403,546	1,555,680,676	1,312,717,310	-1%	19%
Net Position-Ending	\$1,685,732,710	\$1,541,403,546	\$1,555,680,676	9%	-1%

The main component of the changes in contributions to MPERS is employer contributions. In FY13 the contribution rate for the non-uniformed Highway Patrol and MoDOT increased by 5.47% from the FY12 rate, therefore increasing the FY13 amount of employer contributions, even though the contribution rate for the uniformed Highway Patrol decreased by 3.6%. This increase in total employer contributions, despite one rate decreasing, is an effect of the active member population distribution between groups. In FY12, contributions decreased slightly despite an increase in contribution rates from the prior year for all active members. This was due to a large one time transfer in from another retirement system during FY11.

Net investment income, a primary component of plan additions, resulted in income of \$198 million for FY13. The income represented a 13.42% return for the fiscal year ended June 30, 2013. In comparison, the FY12 gain of \$42 million represented an investment return of 2.75%. Annual fluctuations within the broad investment markets are outside of the control of the System and are expected to fluctuate from year to year. The Board of Trustees has approved a diversified asset allocation that, over time, is expected to realize the assumed actuarial rate of investment return of 7.75%. Additional information regarding investments can be found in the *Investment Section* of this report.

Benefits increased primarily due to increases in benefit rolls for all of the years shown.

CURRENTLY KNOWN FACTS AND RECENT EVENTS

Based on the June 30, 2012 actuarial valuation, the Board of Trustees approved an increase in the required state contribution, effective July 1, 2013. The rate applied to non-uniformed payroll (MoDOT, civilian patrol, and MPERS) will increase from 50.92% to 54.25%. The rate applied to uniformed patrol payroll will increase slightly from 55.03% to 55.23%. The increase in the non-uniformed rate is primarily due to the decrease in number of employees by MoDOT, thus causing a significant decrease in covered payroll dollars.

Based on the June 30, 2013 actuarial valuation, the Board of Trustees approved an increase in the required state contribution rate, effective July 1, 2014. The rate applied to non-uniformed payroll (MoDOT, civilian patrol, and MPERS) will increase from 54.25% to 58.76%. The rate applied to uniformed patrol payroll will

increase from 55.23% to 58.19%. The increase in both rates is partially due to a change in actuarial assumptions. The assumed investment rate of return was lowered from 8.25% to 7.75%, thus causing upward pressure on the contribution rates. Lower than expected covered payroll dollars for MoDOT was also a factor in the increase in contribution rate for that group of active members.

In June 2012, the Governmental Accounting Standards Board approved new accounting and reporting standards for pensions provided by state and local governments. The new statements are GASB 67, Financial Reporting for Pension Plans and GASB 68, Accounting and Financial Reporting for Pensions. GASB 67 applies to MPERS and other state and local pension plans established as trusts, to be implemented in fiscal years beginning after June 15, 2013. GASB 68 applies to the employers that participate in MPERS as well as other governmental employers that sponsor or contribute to pension plans, to be implemented in fiscal years beginning after June 15, 2014. The new accounting and reporting standards break the link between accounting and funding. While these changes will affect the accounting measures, they do not have an effect on the actuarial methods and assumptions used by MPERS to determine the employer contributions needed to fund the plan. The new standards will, however, impact the financial statement presentation for pension accounting and related disclosures for MPERS and participating employers.

CONTACTING THE RETIREMENT SYSTEM'S MANAGEMENT

This financial report is designed to provide a general overview of the System's finances. Questions about this report or requests for additional financial information should be sent to:

MoDOT and Patrol Employees' Retirement System
PO Box 1930
Jefferson City, MO 65102-1930
mpers@modot.mo.gov

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

Jefferson City, Missouri

STATEMENTS OF PLAN NET POSITION

As of June 30, 2013 and 2012

	2013	2012
<u>ASSETS:</u>		
Cash	\$ 94,346	\$ 103,802
Receivables		
Contributions	7,094,490	6,563,911
Accrued Interest and Income	3,587,888	3,763,748
Investment Sales	28,354,363	6,675,816
Other	21,733	16,600
Total Receivables	39,058,474	17,020,075
Investments, at Fair Value		
Stocks and Rights/Warrants	\$ 538,614,992	\$ 454,126,321
Government Obligations	119,241,225	129,547,979
Corporate Bonds	30,906,710	39,478,021
Real Estate	178,171,999	150,601,879
Mortgages and Asset-Backed Securities	125,215,805	106,471,971
Absolute Return	173,502,695	135,413,759
Tactical Fixed Income	7,974,681	22,155,767
Short-Term Investments	38,068,642	52,458,363
Venture Capital & Partnerships	439,925,515	443,121,917
Total Investments	1,651,622,264	1,533,375,977
Invested Securities Lending Collateral	\$ 92,327,975	\$ 57,498,405
Prepaid Expenses	69,961	5,448
Net Investment in Capital Assets		
Land	84,000	84,000
Building	581,619	581,619
Furniture, Equipment and Software	3,479,053	3,423,799
Accumulated Depreciation	(1,517,469)	(1,174,573)
Net Investment in Capital Assets	2,627,203	2,914,845
TOTAL ASSETS	\$ 1,785,800,223	\$ 1,610,918,552
<u>LIABILITIES:</u>		
Short-Term Payable	\$ -	\$ 108,900
Accounts Payable	1,427,820	1,377,330
OPEB Obligation	554,370	459,906
Security Lending Collateral	94,215,127	57,698,128
Investment Purchases	3,870,196	9,870,742
TOTAL LIABILITIES	\$ 100,067,513	\$ 69,515,006
NET POSITION HELD IN TRUST FOR PENSION BENEFITS	\$ 1,685,732,710	\$ 1,541,403,546

See accompanying Notes to the Financial Statements.

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

Jefferson City, Missouri

STATEMENTS OF CHANGES IN PLAN NET POSITION

For the Years Ended June 30, 2013 and 2012

	2013	2012
<u>ADDITIONS:</u>		
Contributions-Employer	\$ 170,836,117	\$ 164,880,140
Contributions-Employee	503,550	202,843
Contributions-Service Transfers from Other System	1,727,834	264,954
Contributions-Other	635,900	908,898
Total Contributions	173,703,401	166,256,835
Investment Income from Investing Activities		
Net Appreciation in Fair Value of Investments	\$ 186,554,238	\$ 24,342,528
Interest and Dividends	32,892,138	34,245,407
Less: Investment Expenses	21,481,798	16,706,404
Net Investment Income	197,964,578	41,881,531
Income from Securities Lending Activities		
Security Lending Gross Income	\$ 222,357	\$ 173,381
Less: Securities Lending Expenses (Income), net	47,497	(36,652)
Net Income from Securities Lending Activities	174,860	210,033
Other Income	\$ 1,650	\$ 13,760
NET ADDITIONS	\$ 371,844,489	\$ 208,362,159
<u>DEDUCTIONS:</u>		
Monthly Benefits	\$ 224,518,100	\$ 219,704,320
Administrative Expenses	2,997,225	2,934,969
TOTAL DEDUCTIONS	\$ 227,515,325	\$ 222,639,289
NET INCREASE (DECREASE)	\$ 144,329,164	\$ (14,277,130)
NET POSITION HELD IN TRUST FOR PENSION BENEFITS		
Beginning of Year	1,541,403,546	1,555,680,676
End of Year	\$ 1,685,732,710	\$ 1,541,403,546

See accompanying Notes to the Financial Statements.

MISSOURI DEPARTMENT OF TRANSPORTATION AND HIGHWAY PATROL EMPLOYEES' RETIREMENT SYSTEM

NOTES TO THE FINANCIAL STATEMENTS

For the Years Ended June 30, 2013 and 2012

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

As established under Section 104.020 of the Revised Statutes of Missouri (RSMo), the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (MPERS) is a body corporate and an instrumentality of the State of Missouri (State). Due to the nature of MPERS' reliance on funding from the Missouri Department of Transportation (MoDOT) and the Missouri State Highway Patrol (MSHP) and control of the overall plan document by the legislative and executive branches of state government, MPERS is considered a part of the State of Missouri financial reporting entity and is included in the State's financial reports as a component unit shown as a pension trust fund.

Note 1 (a) - Basis of Accounting

The financial statements were prepared using the accrual basis of accounting. Contributions are due to MPERS when employee services have been performed and paid. Contributions are recognized as revenues when due, pursuant to statutory requirements. Benefits are recognized when due and payable and expenses are recorded when the corresponding obligations are incurred. Dividend income is recognized when dividends are declared. Interest income is recognized when earned.

Note 1 (b) - Method Used to Value Investments

Investments are reported at fair value on a trade date basis. Bonds and stocks traded on a national or international exchange are valued at the reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments, and are discounted at

prevailing interest rates for similar instruments. The fair value of real estate and timber investments are based on net asset value estimates provided by the general partners' administrators or portfolio managers, which are compared to independent appraisals. Investments that do not have an established market are reported at estimated fair value. The fair value of the absolute return, venture capital and partnership portfolios are based on valuations of the underlying companies as reported by the general partner or portfolio manager.

Note 1 (c) - Net Investment in Capital Assets

MPERS capitalizes assets with an expected useful life greater than one year and a cost greater than \$1,000. Capital assets are depreciated on the straight-line method over the estimated useful lives of the related assets. The estimated useful lives are as follows:

Furniture, Equipment and Software	3 - 10 years
Building and Improvements	30 years

Note 1 (d) - Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

NOTE 2 - PLAN DESCRIPTIONS AND CONTRIBUTION INFORMATION

MPERS is a body corporate and an instrumentality of the state as a multiple-employer, public employee retirement system with one plan that has three benefit structures known as the Closed Plan, the Year 2000 Plan, and the Year 2000 Plan-2011 Tier. The plan provides retirement, survivor, and disability benefits for employees of MoDOT, MSHP, and MPERS' staff. The plan is administered in accordance with the requirements of a cost sharing, multiple-employer, public employee retirement plan under the Revised Statutes

of Missouri. In MPERS are vested the powers and duties specified in sections 104.010 to 104.312, 104.601 to 104.805, and 104.1003 to 104.1093, RSMo., and such other powers as may be necessary or proper to enable it, its officers, employees, and agents to carry out fully and effectively all the purposes outlined pursuant to these sections. Responsibility for the operation and administration of the System is vested in the Board of

Trustees. Detailed information regarding contributions can be found in Note 5.

Generally, all covered employees hired before July 1, 2000 are eligible for membership in the Closed Plan. All covered

employees hired on or after July 1, 2000 and before January 1, 2011 are eligible for membership in the Year 2000 Plan. All covered employees hired on or after January 1, 2011 are eligible for membership in the Year 2000 Plan's 2011 Tier.

Membership in the Closed Plan, Year 2000 Plan, and 2011 Tier as of June 30

	2013			2013	2012
	Closed	Year 2000	2011 Tier	Total	Total
Retirees, Beneficiaries, and Disabilities					
Currently Receiving Benefits	5,146	3,180	0	8,326	8,068
Terminated Employees Entitled to					
But Not Yet Receiving Benefits	1,630	523	0	2,153	2,038
Active Employees					
Vested	3,627	2,391	0	6,018	6,232
Non-Vested	0	659	659	1,318	1,212
Total Membership	10,403	6,753	659	17,815	17,550

Closed Plan Description

Employees covered by the Closed Plan are fully vested for benefits upon receiving 5 years of creditable service. Under the Closed Plan, MoDOT and civilian employees may retire with full benefits upon the earliest of attaining:

- Age 65 with 4 or more years of creditable service (active);
- Age 65 with 5 or more years of creditable service (terminated & vested);
- Age 60 with 15 or more years of creditable service (active or terminated & vested); or
- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active or terminated & vested).

The following provisions apply for uniformed patrol members of the Closed Plan:

- Age 55 with 4 or more years of creditable service (active);
- Age 55 with 5 or more years of creditable service (terminated & vested);
- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active or terminated & vested); or
- Mandatory retirement at age 60 (active).

All non-uniformed members may retire early, with reduced benefits, at age 55 with at least 10 years of creditable service.

The base benefit in the Closed Plan is equal to 1.6% multiplied by the final average pay multiplied by years of creditable service. For members of the uniformed patrol, the

base benefit is calculated by applying the same formula, then multiplying the product by 1.333333.

Retired uniformed members will receive an additional benefit of \$90 per month, plus cost-of-living adjustments (COLAs), until attainment of age 65. This payment, however, is reduced by any amount earned during gainful employment. This benefit is not available to uniformed members hired after January 1, 1995.

For members employed prior to August 28, 1997, COLAs are provided annually based on 80% of the increase in the consumer price index for all urban consumers for the United States (CPI-U). The minimum rate is 4% and the maximum rate is 5%, until the cumulative amount of COLAs equals 65% of the original benefit. Thereafter, the 4% minimum rate is eliminated and the annual COLA rate will be equal to 80% of the increase in the CPI-U (annual maximum of 5%). For members employed on or after August 28, 1997, COLAs are provided annually based on 80% of the increase in the CPI-U, up to a maximum rate of 5%.

The BackDROP is a payment option that is available to eligible members upon retirement. This option provides for a benefit to be calculated as if the member elected to retire at a previous date. If the BackDROP is elected, the monthly benefit payable on the actual retirement date is based on the benefit that would have been received by the member had he/she left employment and retired on the BackDROP date. In addition, the member will receive a lump sum payment equal to 90% of the life income annuity amount the member would have received during the BackDROP period. This lump sum amount includes any COLAs and other benefit increases; also, credit will be received for the unused sick leave balance as of the date of retirement.

The life income annuity payment option (which contains no provision for survivorship) and the life income with 60 or 120 month guaranteed payment options are available to all members. Joint and 50% or 100% survivor options are available if married at the time of retirement. In the Closed Plan, the reduction for the joint & 100% survivor option is based on the difference between the age of the member and the survivor. There is no reduction for the joint and 50% survivor option.

If a reduced joint and survivor option is chosen at the time of retirement and the spouse precedes the member in death, the benefit will revert back (pop-up) to a normal annuity.

Members may name a new spouse as beneficiary if:

- They were single at retirement and since married;
- They elected a spouse option at the time of retirement, the spouse preceded the member in death, and then a remarriage occurred.

The member has 1 year from the date of marriage to re-elect a payment option and name a new spouse.

All members who retire from active employment or long-term disability, or begin receiving normal or work-related disability benefits, on or after September 28, 1985, are provided a \$5,000 death benefit payable to designated beneficiaries.

Year 2000 Plan Description

Employees covered by the Year 2000 Plan are fully vested for benefits upon earning 5 years of creditable service. Under the Year 2000 Plan, MoDOT and civilian employees may retire with full benefits upon the earliest of attaining:

- Age 62 and with 5 or more years of creditable service (active or terminated & vested);
- “Rule of 80” – at least age 48 with sum of member’s age and service equaling 80 or more (active).

The following provisions apply for uniformed patrol members of the Year 2000 Plan:

- “Rule of 80” – at least age 48 with sum of member’s age and service equaling 80 or more (active);
- Mandatory retirement at age 60 with 5 or more years of creditable service (active only).

All members may retire early with reduced benefits at age 57 with at least 5 years of creditable service.

The base benefit in the Year 2000 Plan is equal to 1.7% multiplied by the final average pay multiplied by years of creditable service. Members retiring under the Rule of 80, and uniform patrol members retiring at the mandatory retirement age (currently 60) with 5 years of creditable service, receive an additional temporary benefit until age 62.

The temporary benefit is equivalent to 0.8% multiplied by final average pay multiplied by years of creditable service.

COLAs are provided annually based on 80% of the increase in the CPI-U, up to a maximum rate of 5%.

The BackDROP is a payment option that may be available to members upon retirement. This option provides for a monthly benefit to be calculated as if the member elected to retire at a previous date. If the BackDROP is elected, the monthly benefit payable on the actual retirement date is based on the benefit that would have been received by the member had he/she left employment and retired on the BackDROP date. In addition, the member will receive a lump sum payment equal to 90% of the life income annuity amount the member would have received during the BackDROP period. This lump sum amount includes any temporary benefits, COLAs and other benefit increases; also, credit will be received for the unused sick leave balance as of the date of retirement.

The life income annuity payment option (with no provision for survivorship) and the life income with 120 or 180 months guaranteed payment options are available to all members. Joint and 50% or 100% survivorship options are available if married at the time of retirement. The reduction for the joint and 50% or 100% survivor options is based on the member’s age at retirement, as well as the age difference between the member and the survivor.

If a reduced joint and survivor option is chosen at the time of retirement and the spouse precedes the member in death, the benefit will revert back (pop-up) to a normal annuity.

Members may name a new spouse for survivor benefits if:

- They were single at retirement and since married;
- They elected a spouse option at the time of retirement, the spouse preceded the member in death, and then a remarriage occurred.

The member has 1 year from the date of marriage to re-elect the payment option and name a new spouse.

All members who retire from active employment or long-term disability, or begin receiving work-related disability benefits, on or after July 1, 2000, are provided a \$5,000 death benefit payable to designated beneficiaries.

Year 2000 Plan-2011 Tier Description

Employees covered by the 2011 Tier are fully vested for benefits upon earning 10 years of creditable service. Under the 2011 Tier, MoDOT and civilian employees may retire with full benefits upon the earliest of attaining:

- Age 67 and with 10 or more years of creditable service (active or terminated & vested);

- “Rule of 90” – at least age 55 with sum of member’s age and service equaling 90 or more (active only).

Active MoDOT and civilian employees may retire early with reduced benefits at age 62 with at least 10 years of creditable service.

The following provisions apply for uniformed patrol members of the 2011 Tier:

- Age 55 and with 10 or more years of creditable service (active only);
- Mandatory retirement at age 60 with no minimum service amount (active only).

Terminated and vested uniformed patrol employees may retire at age 67 with 10 or more years of creditable service. The base benefit in the 2011 Tier is equal to 1.7% multiplied by the final average pay multiplied by years of creditable service. Members retiring under the Rule of 90, and uniform patrol members retiring at the mandatory retirement age (currently 60) or at age 55 with 10 years of creditable service, receive an additional temporary benefit until age 62. The temporary benefit is equivalent to 0.8% multiplied by final average pay multiplied by years of creditable service.

COLAs are provided annually based on 80% of the change in the CPI-U, up to a maximum rate of 5%.

The life income annuity payment option (with no provision for survivorship) and the life income with 120 or 180 months guaranteed payment options are available to all members. Joint and 50% or 100% survivorship options are available if married at the time of retirement. The reduction for the joint and 50% or 100% survivor options is based on

the member’s age at retirement, as well as the age difference between the member and the survivor.

If a reduced joint and survivor option is chosen at the time of retirement and the spouse precedes the member in death, the benefit will revert back (pop-up) to a normal annuity.

Members may name a new spouse for survivor benefits if:

- They were single at retirement and since married;
- They elected a spouse option at the time of retirement, the spouse preceded the member in death, and then a remarriage occurred.

The member has 1 year from the date of marriage to re-elect the payment option and name a new spouse.

All members who retire from active employment or long-term disability, or begin receiving work-related disability benefits, on or after January 1, 2011, are provided a \$5,000 death benefit payable to designated beneficiaries.

Contributions

Beginning January 1, 2011, employee contributions of 4% of gross pay are required for those covered by the Year 2000 Plan-2011 Tier.

Employer contributions are determined through annual actuarial valuations. Administrative expenses are financed through contributions from MoDOT, MSHP and MPERS, and investment earnings. MoDOT, MSHP and MPERS are required to make contributions to the plan based on the actuarially determined rate. Prior to August 13, 1976, contributions by all plan members were required. Accumulated employee contributions made prior to that time, plus interest, were refunded to applicable members. Maximum contribution rates were eliminated August 13, 1976.

Schedule of Funded Status and Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Percent Funded (a/b)	Annual Covered Payroll (c)	UAAL Percentage of Covered Payroll ((b-a)/c)
6/30/2013	\$1,657,402,393	\$3,583,975,559	\$1,926,573,166	46.24%	\$329,481,506	584.73%

The schedules of funding progress, presented as required supplementary information (RSI) following the Notes to the Financial Statements, present multiyear trend information

about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Additional Information as of the June 30, 2013 Actuarial Valuation follows:

Valuation Date	6/30/2013
Actuarial Cost Method	Entry Age
Amortization Method	Closed, Level Percent of Payroll
Remaining Amortization Period	18 Years*
Asset Valuation Method	3-Year Smoothing
Actuarial Assumptions:	
Investment Rate of Return	7.75%
Projected Salary Increases	3.5% to 10%
COLAs	2.4% Compound
Price Inflation	3.5%

*single equivalent period

NOTE 3 – DEPOSITS AND INVESTMENTS

The Board of Trustees has established policies and procedures by which funds are invested by bank custodians and investment managers. Section 104.150, RSMo, provides the authority for the board to invest MPERS funds.

Note 3 (a) - Deposit and Investment Risk Policies

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. Within the traditional asset classes (equities and fixed income), the consultant will aggregate exposures across asset classes to create measures of concentration including industries, countries and security issuer for Investment staff review.

Investment Custodial Credit Risk

Custodial credit risk is an investment risk in that, in the event of the failure of the counterparty to a transaction, the System will not be able to recover the value of its investment or the collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the System, and are held by either: a) the counterparty or b) the counterparty's trust department or agent but not in the System's name. It is the policy of the System to require that all investments be clearly marked as to ownership and, to the extent possible, shall be registered in the name of the System.

Cash Deposit Custodial Credit Risk

Cash deposit custodial credit risk is the risk that, in the event of the failure of depository financial institution, the System will not be able to recover deposits or will not be

able to recover collateral securities that are in the possession of an outside party. Missouri state law requires that all public funds must be collateralized with acceptable securities having market values of at least 100% of the amount of funds on deposit (less any amount covered by FDIC insurance).

Market Risk

Market risk is the risk that the fair value of an investment will be adversely impacted due to a change in value of the underlying market. The three primary market risks prevalent in the System's investment portfolio are equity prices, interest rates, and foreign currencies. Equity risk is the risk that stock prices fall and/or the volatility in the equity market increases. Interest rate risk is the risk that fixed income securities (or any investment primarily valued on a yield basis) will drop in value due to an increase in interest rates. Currency risk is the risk that changes to foreign exchange rates will adversely impact the fair value of non-U.S. Dollar denominated assets. The System protects the portfolio against market risks by adopting a diversified asset allocation that limits the amount of exposure to each underlying market risk. Market risks are also controlled by monitoring the types, amounts, and degree of risk that each investment manager takes for their specific mandate.

Investment Credit Risk

Investment credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Unless authorized under a separate Investment Management Agreement or operating agreement, it is the policy of the System to limit fixed income managers to purchasing securities that possess a minimum credit rating of "Baa" by Moody's and "BBB" by Standard & Poor's. Issues subsequently downgraded below these ratings must be

brought to the attention of the Chief Investment Officer. Where counterparty risk is present, the System's investment managers seek to control credit risk through counterparty credit evaluations and approvals, counterparty credit limits and exposure monitoring procedures.

Note 3 (b) - Cash Deposits

Cash balances include short-term securities held by the custodial bank to meet future obligations and operating balances held by the depository bank. As of June 30, 2013 and 2012, MPERS had carrying amount of deposits of (\$410,524) and (\$1,073,610), respectively, and a bank balance of \$4 and \$9, respectively. The FDIC covered the bank balances. To maximize investment income, cash is

invested in overnight repurchase agreements, thus causing the negative cash amounts disclosed above. The balances in these repurchase agreements at June 30, 2013 and 2012 were \$504,870 and \$1,177,412, respectively. As of June 30, 2013 and 2012, no investments were held as repurchase agreements that were uninsured or unregistered, with securities held by the counterparty or by its trust department or agent but not in MPERS' name.

Note 3 (c) - Concentrations

No investments in any one organization (other than those issued or sponsored by the U.S. government and those in pooled investments) represent 5% of plan net position.

Note 3 (d) – Investments

Summary of Investments by Type at June 30

	2013		2012	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Government Obligations	\$117,944,807	\$119,241,225	\$122,110,534	\$129,547,979
Corporate Bonds	30,914,319	30,906,710	38,384,346	39,478,021
Stock and Rights/Warrants	403,933,256	538,614,992	410,279,544	454,126,321
Real Estate	170,548,899	178,171,999	148,005,102	150,601,879
Mortgages & Asset-Backed Securities	119,446,304	125,215,805	116,279,532	106,471,971
Absolute Return	137,715,038	173,502,695	111,906,908	135,413,759
Tactical Fixed Income	5,353,448	7,974,681	14,586,515	22,155,767
Venture Capital & Partnerships	402,814,997	439,925,515	432,653,541	443,121,917
Short-Term Investments	38,573,512	38,573,512	53,633,283	53,635,775
Securities Lending Collateral	92,327,975	92,327,975	57,498,405	57,498,405
Total Investments	\$1,519,572,555	\$1,744,455,109	\$1,505,337,710	\$1,592,051,794

Reconciliation to Statement of Plan Net Position:

Less: Repurchase Agreements	(\$504,870)	(\$1,177,412)
Less: Securities Lending Collateral	(92,327,975)	(57,498,405)
Investments per Statement of Plan Net Position	\$1,651,622,264	\$1,533,375,977

Note 3 (e) – Investment Interest Rate Risk

The following table summarizes the maturities of government obligations, corporate bonds,

convertible corporate bonds, mortgages, asset-backed securities, and tactical fixed income which are exposed to interest rate risk.

Summary of Weighted Average Maturities

Investment Type	Fair Value	Investment Maturities (in years) as of 6/30/13			
		less than 1	1 - 5	6 - 10	more than 10
Asset-Backed Securities	\$19,581,347	\$0	\$2,561,078	\$11,135,203	\$5,885,066
Commercial Mortgage-Backed Securities	58,212,905	0	0	1,915,877	56,297,028
Corporate Bonds	19,906,691	0	4,122,344	1,305,147	14,479,200
Government Agencies	26,312,698	0	305,728	5,419,462	20,587,508
Government Bonds	8,617,951	0	0	0	8,617,951
Government Mortgage-Backed Securities	27,534,467	0	0	8,713,240	18,821,227
Government-issued Commercial Mortgage-Backed	5,623,704	0	2,707,839	2,915,865	0
Index Linked Govt Bonds	34,185,870	0	10,806,499	15,917,097	7,462,274
Municipal/ Provincial Bonds	50,124,705	1,685,708	1,240,282	5,082,848	42,115,867
Non-Govt Backed C.M.O.s	14,263,382	0	0	0	14,263,382
Total	\$264,363,720	\$1,685,708	\$21,743,770	\$52,404,739	\$188,529,503
Pooled Investments	19,637,070				
Grand Total	\$284,000,790				

Note 3 (f) – Investment Credit Ratings

The following table summarizes the credit ratings of the government obligations, corporate bonds,

mortgages and asset-backed securities, and tactical fixed income on the Statement of Plan Net Position.

Summary of Credit Ratings

Investment Type	Quality Rating	6/30/2013 Fair Value	6/30/2012 Fair Value
Asset-Backed Securities	AAA	\$3,946,068	\$1,211,982
Asset-Backed Securities	AA	15,160,005	1,784,315
Asset-Backed Securities	A	0	409,230
Asset-Backed Securities	CC	0	242,114
Asset-Backed Securities	not rated	475,274	435,635
Commercial Mortgage-Backed Securities	AAA	3,702,411	5,068,397
Commercial Mortgage-Backed Securities	A	3,888,478	5,976,159
Commercial Mortgage-Backed Securities	BBB	9,105,964	6,050,936
Commercial Mortgage-Backed Securities	BB	361,805	2,129,918
Commercial Mortgage-Backed Securities	B	19,236,831	18,075,809
Commercial Mortgage-Backed Securities	CCC	6,668,218	813,272
Commercial Mortgage-Backed Securities	D	2,643,228	2,576,921
Commercial Mortgage-Backed Securities	not rated	12,605,970	8,926,729
Corporate Bonds	AA	3,302,911	792,531
Corporate Bonds	A	250,638	860,505
Corporate Bonds	BBB	1,905,928	2,913,716
Corporate Bonds	BB	601,269	967,174
Corporate Bonds	not rated	13,845,945	13,050,854
Government Agencies	AA	25,762,583	39,620,880
Government Agencies	A	0	15,060,180
Government Agencies	us gov guar	550,115	590,175
Government Bonds	us gov guar	8,617,951	10,371,603
Government Mortgage-Backed Securities	us gov guar	27,534,467	33,921,551
Govt issue Commercial Mortgage-Backed Securities	us gov guar	5,623,704	0
Index Linked Government Bonds	us gov guar	34,185,870	36,044,114
Municipal/ Provincial Bonds	AAA	11,198,788	9,011,138
Municipal/ Provincial Bonds	AA	30,517,833	10,109,656
Municipal/ Provincial Bonds	A	379,762	940,024
Municipal/ Provincial Bonds	not rated	8,028,322	7,800,208
Non-Government Backed C.M.O.s	AAA	427,513	6,715,580
Non-Government Backed C.M.O.s	AA	2,033,703	0
Non-Government Backed C.M.O.s	A	1,871,664	302,100
Non-Government Backed C.M.O.s	BBB	0	155,518
Non-Government Backed C.M.O.s	BB	638,396	732,819
Non-Government Backed C.M.O.s	B	134,070	0
Non-Government Backed C.M.O.s	CCC	481,830	1,458,536
Non-Government Backed C.M.O.s	CC	101,820	460,999
Non-Government Backed C.M.O.s	D	1,116,817	544,616
Non-Government Backed C.M.O.s	not rated	7,457,569	8,478,835
Pooled Investments	not rated	19,637,070	43,049,008
Total		<u>\$284,000,790</u>	<u>\$297,653,737</u>

Note 3 (g) – Investment Foreign Currency Risk

Exposure to Foreign Currency Risk as of June 30

Foreign Currency	Cash and Equivalents	Equities	Real Estate/ Partnerships	6/30/13 Total	6/30/12 Total
Australian Dollar	\$0	\$1,467,212	\$0	\$1,467,212	\$872,961
British Pound Sterling	504	726,169	0	726,673	330,018
Canadian Dollar	6	0	0	6	432,615
Euro	46,981	1,438,524	16,587,440	18,072,945	17,096,120
Hong Kong Dollar	0	1,087,805	0	1,087,805	986,115
Japanese Yen	2,212	1,541,259	0	1,543,471	521,951
Singapore Dollar	0	1,025,322	0	1,025,322	435,943
Swiss Franc	432	0	0	432	432
Total Exposure Risk	\$50,135	\$7,286,291	\$16,587,440	\$23,923,866	\$20,676,155

Note 3 (h) – Securities Lending

In accordance with the Board of Trustees' investment policy, MPERS participates in a securities lending program. The Northern Trust Company administers the program. There are no restrictions on the amount of securities that may be lent.

Securities that may be loaned include U.S. government and agency securities, corporate equity, and fixed income securities. Collateral may include cash, U.S. government securities and irrevocable letters of credit. U.S. securities are loaned in exchange for collateral valued at 102% of the market value of the securities, plus any accrued interest. Non-U.S. securities are loaned in exchange for collateral valued at 105% of the market value of the securities, plus any accrued interest. On June 30, 2013 and 2012, MPERS had no credit risk exposure to borrowers, since the amount of collateral exceeded the amount of the loans.

Non-cash collateral cannot be pledged or sold unless the borrower defaults. The average term of the System's loans was approximately 68 days and 96 days, as of June 30, 2013 and June 30, 2012, respectively. Cash open collateral is invested in a short-term investment pool, which had an

interest sensitivity of 43 days and 39 days, as of June 30, 2013 and June 30, 2012, respectively. Cash collateral may also be invested separately in "term loans", in which case the investments match the loan term. These loans can be terminated on demand by either lender or borrower. There were no known violations of legal or contractual provisions, or borrower or lending agent default losses. There were no dividends or coupon payments owing on the securities lent. Securities lending earnings are credited on approximately the fifteenth day of the following month.

Indemnification deals with a situation in which a client's securities would not be returned due to the insolvency of a borrower and Northern Trust would fail to live up to its contractual responsibilities relating to the lending of those securities. Northern Trust's responsibilities include performing appropriate borrower and collateral investment credit analyses and demanding adequate types and levels of collateral.

The collateral held (including both cash collateral recognized in the Statement of Plan Net Position and non-cash collateral) was as follows at June 30:

Collateral Held

Investment Type	2013	2012
Equities	\$82,736,400	\$46,061,696
Government & government sponsored securities	8,787,747	10,674,816
Corporate bonds	2,690,980	961,616
	\$94,215,127	\$57,698,128

Note 3 (i) – Derivatives

A derivative financial instrument is an investment whose value depends on the values of one or more underlying assets, financial indexes, or commodity prices. These investments include futures contracts, options contracts, and forward foreign currency exchange. Derivative financial instruments involve credit risk and market risk, as described in Note 3 (a), in varying levels. The notional value related to these derivative instruments are generally not recorded on the

financial statements; however, the change in market value of these instruments is incorporated in performance. The notional/market value of \$9,013,164 and \$21,061,606 for the various contracts in MPERS' portfolio as of June 30, 2013 and 2012, respectively, is recorded in investments on the Statement of Plan Net Position. The change in fair value of \$9,401,640 and \$21,061,606 for the years ended June 30, 2013 and 2012, respectively, is recorded in investment income on the Statement of Changes in Plan Net Position.

Investment Derivatives as of June 30, 2013

Type	Classification	Notional/ Market Value	Cost	Unrealized Gain (Loss)
Futures Contracts	Investments, at fair value	\$9,675,765	\$0	\$9,675,765
Swap Contracts	Investments, at fair value	(662,370)	0	(662,370)
Options Contracts	Investments, at fair value	0	(388,476)	388,476
Foreign Currency Forward Contracts	Investments, at fair value	(231)	0	(\$231)
		\$9,013,164	(\$388,476)	\$9,401,640

NOTE 4 – RECEIVABLES

Receivables at June 30 consisted of the following:

Receivables

Type	2013	2012
Contributions-MoDOT	\$4,472,323	\$3,970,864
Contributions-MSHP Non-Uniformed	921,997	823,181
Contributions-MSHP Uniformed	1,677,475	1,749,387
Contributions-Retirement System	22,695	20,479
Commission Recapture	2,716	379
Securities Lending	19,017	16,221
Investment Interest & Income	3,587,888	3,763,748
Investment Sales	28,354,363	6,675,816
	\$39,058,474	\$17,020,075

NOTE 5 – CONTRIBUTIONS

MoDOT, the Highway Patrol, and MPERS make contributions to the System, as well as employees covered under the Year 2000 Plan-2011 Tier. MPERS permanent funding policy provides for actuarially determined employer contributions using the entry-age normal cost method on a closed group basis (consisting of normal cost and amortization of any unfunded accrued liabilities over a 30-year period, beginning July 1, 2006). (The objective is to reduce the period by one year each year.) A temporary accelerated policy has been adopted where the total contribution is based on entry-age normal cost plus a 15-year amortization period for unfunded retiree liabilities and a 30-year amortization period for other unfunded liabilities. Both amortization periods are closed periods starting July 1, 2010. This temporary accelerated policy was adopted by the MPERS' Board of Trustees on September 17, 2009 and will remain in effect until such time as the retiree liability becomes 100% funded or the permanent policy produces a higher contribution rate.

Actuarially determined rates, expressed as percentages of annual covered payroll, provide for amounts sufficient to fund those benefits designated by state statute to be funded in advance. Actuarial assumptions used to compute contribution requirements are the same as those used to compute the pension benefit obligation. The employee contribution rate for members of the Year 2000 Plan-2011 Tier is set by statute.

Required employer contributions totaling \$170,836,117 and \$164,880,140 for fiscal years 2013 and 2012, respectively, represent funding of normal costs and amortization of the unfunded accrued liability. Actual contributions made were 100% of required contributions. Contribution rates as determined by the System's actuary for the years ended June 30, 2013 and 2012 are shown below. The Board established actual rates to be the same as the actuarially determined rates.

Contribution Rates

2013			2012		
MoDOT, MPERS & Civilian Patrol	Uniformed Patrol	2011 Tier Employee	MoDOT, MPERS & Civilian Patrol	Uniformed Patrol	2011 Tier Employee
50.92%	55.03%	4.00%	45.45%	58.63%	4.00%

NOTE 6 – RELATED PARTY TRANSACTIONS

MoDOT rented office space from MPERS. The contract began in June 2008 and was effective through December 2011. This amounted to other income of \$13,760 during FY12. As of

January 1, 2012, MoDOT no longer rents the space.

NOTE 7 – PERSONAL SERVICES AND RETIREMENT PLAN

MPERS employed 15 full-time employees on June 30, 2013 and 14 on June 30, 2012. Six former MPERS employees have retired. Full-time employees are also members of the System. For these employees, MPERS accrued 50.92% of payroll during FY13, amounting to \$562,535, which was equal to the

required contribution. The net obligations for FY13 and the two preceding years are shown below. These amounts are recorded as both a contribution and administrative expense. Information regarding the retirement plans can be found in Notes 2 and 5.

Net Obligations

Year Ended June 30	Annual Required Contribution		Percent Contributed	Net Obligation
	Percent	Dollars		
2011	39.46% ⁽¹⁾	365,073	100%	\$0
2012 ⁽²⁾	45.45% ⁽¹⁾	435,074	100%	\$0
2013	50.92% ⁽¹⁾	562,535	100%	\$0

⁽¹⁾ The Annual Required Contribution rate is equal to the Actuarially Required Contribution rate.

⁽²⁾ New assumptions and/or methods adopted.

NOTE 8 – OTHER POST-EMPLOYMENT BENEFITS (OPEB)

In addition to the retirement benefits described previously, MPERS provides a portion of health care insurance through the MoDOT and MSHP Medical and Life Insurance Plan (Insurance Plan) in accordance with Missouri State statutes. For the purpose of reporting OPEB costs and obligations in accordance with Governmental Accounting Standards Board (GASB) Statement 45, the Insurance Plan is considered an agent multiple-employer defined benefit plan administered by MoDOT. Medical insurance benefits are established by the Insurance Plan's Board of Trustees and are approved by the Missouri Highways and Transportation Commission. Benefits include general inpatient and outpatient medical services; mental, nervous and substance abuse care; and prescriptions. Eligible members are employees who retired from the System with a minimum of 5 years of service and who participate in the Insurance Plan. MoDOT issues a publicly available financial report that includes financial statements and required supplementary information for the Insurance Plan. Requests for this report should be addressed to MoDOT, Controller's Division, P.O. Box 270, Jefferson City, MO 65102.

Employer and member contributions are established by the Insurance Plan's Board of Trustees and are approved by the Missouri Highways and Transportation Commission.

Premiums vary by coverage categories, which include retirees, certain disabled employees, spouses, certain dependents, and survivors of deceased employees and retirees. Employer and member required contribution rates average approximately 52% and 48%, respectively. The Insurance Plan is financed on a pay-as-you-go basis and is an internal service fund of MoDOT.

MoDOT's actuarial valuations for the Insurance Plan are performed biennially. The July 1, 2011 actuarial valuation was used for the FY12 and FY13 financial statements. For these periods, the annual required contribution (ARC) is equal to the annual OPEB cost. MPERS contributed \$26,739 in both FY12 and FY13 (22.1% and 21.82% of the ARC respectively), including implicit rate subsidies. Although funding is not related to payroll amounts, an equivalent Annual Required Contribution (ARC) rate would be 11.51% and 12.75% of annual covered payroll of \$1,052,979 and \$960,456 for FY13 and FY12, respectively. MPERS' share of the net OPEB obligation was \$554,370 and \$459,906 at June 30, 2013 and 2012, respectively. MPERS' share of the changes in the Insurance Plan's net OPEB obligation is shown in the following table.

OPEB Cost and Obligation for the Year Ended June 30,

	2013	2012
Normal Cost	\$60,443	\$60,443
Amortization Payment	61,594	61,594
Interest	26,188	21,878
Adjustment to ARC	(27,022)	(21,394)
Annual OPEB Cost	121,203	122,521
Contributions	(26,739)	(26,739)
Increase in Net OPEB Obligation	94,464	95,782
Net OPEB Obligation - Beginning of Year	459,906	364,124
Net OPEB Obligation - End of Year	<u>\$554,370</u>	<u>\$459,906</u>

Because the Insurance Plan is an internal service fund of MoDOT, the Insurance Plan's assets have not been set aside. Because of this, there is no actuarial value of assets, so the entire actuarial accrued liability (AAL) is unfunded.

Based on an actuarial report dated July 1, 2011, MPERS' portion of the AAL is \$1,048,333, which is equal to MPERS' portion of the unfunded actuarial accrued liability (UAAL), as shown below.

Actuarial Accrued Liability

Actuarial Accrued Liability	\$1,048,333
Actuarial Value of Assets	0
Unfunded Actuarial Accrued Liability (UAAL)	<u>\$1,048,333</u>
Funded Ratio (Actuarial Value of Plan Assets/AAL)	0%
Covered Payroll	\$1,052,979
UAAL as a Percentage of Covered Payroll	100%

Actuarial valuations of an ongoing plan reflect long-term perspective and involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. These calculations are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future. A schedule of funding progress is presented as required supplementary information following the notes to the financial statements. As allowed by the GASB, this reporting requirement is being implemented prospectively. Data is not available for prior years. Over time, the schedule of funding progress will present trend information

about whether the actuarial value of plan assets is increasing or decreasing relative to the AAL for benefits.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employers and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. The actuarial methods and assumptions utilized in the valuation are shown on the following table.

Actuarial Methods and Assumptions

Actuarial Cost Method	Projected Unit Credit
UAAL Amortization Method	Level Dollar Amount
UAAL Amortization Period	30 Years
UAAL Amortization Approach	Open
Investment Return (Discount) Rate	4.5%
Healthcare Cost Trend Rate	8%, Decreasing To 5% After 2017
Admin Expense Trend (Inflation) Rate	4.0%

NOTE 9 – CAPITAL ASSETS

Summary of Changes in Capital Assets

	<u>6/30/2012</u>		<u>Deletions/</u>	<u>6/30/2013</u>
	<u>Balance</u>	<u>Additions</u>	<u>Retirements</u>	<u>Balance</u>
Land	\$84,000	\$0	\$0	\$84,000
Buildings	581,619	0	0	581,619
Furniture, Equipment and Software	3,423,799	85,534	(30,280)	3,479,053
Less: Accumulated Depreciation	(1,174,573)	(373,176)	30,280	(1,517,469)
Total	\$2,914,845	(\$287,642)	\$0	\$2,627,203

	<u>6/30/2011</u>		<u>Deletions/</u>	<u>6/30/2012</u>
	<u>Balance</u>	<u>Additions</u>	<u>Retirements</u>	<u>Balance</u>
Land	\$84,000	\$0	\$0	\$84,000
Buildings	581,619	0	0	581,619
Furniture, Equipment and Software	3,414,235	9,564	0	3,423,799
Less: Accumulated Depreciation	(792,565)	(382,008)	0	(1,174,573)
Total	\$3,287,289	(\$372,444)	\$0	\$2,914,845

NOTE 10 – OPERATING LEASES

As of June 30, 2013, MPERS is committed to three equipment and services related leases. The leases extend through August

2018. Expenditures for the years ended June 30, 2013 and 2012 amounted to \$11,284 and \$8,604, respectively.

Future Minimum Lease Payments

Year Ending June 30

2014	\$11,802
2015	8,736
2016	8,736
2017	8,736
2018	6,044
2019	110
Total minimum lease payments	<u><u>\$44,164</u></u>

NOTE 11 – RISK MANAGEMENT

MPERS is exposed to various risks of loss related to natural disasters, asset theft or damage, errors and omissions, torts, and employee injuries.

MPERS has purchased commercial insurance related to capital asset loss and damage. Ancillary coverage provided through the property policy includes coverage for accounts receivable, loss of money and securities, employee dishonesty, and forgery and alterations. MPERS carries a \$2 million umbrella liability policy. MPERS has coverage through Missouri Highway and Transportation Commission's Self-Insurance Fund related to workers'

compensation. MPERS' has also purchased an executive risk insurance package that includes directors and officers liability (\$1 million aggregate coverage), employment practices liability (\$1 million aggregate coverage) and fiduciary liability coverage (\$5 million aggregate coverage). These coverages are inclusive of legal defense costs and each policy carries a \$25,000 deductible. The State's Legal Expense Fund covers all state employees and officers, and MPERS has purchased surety bonds for the executive director and staff. Settlements have not exceeded coverages for each of the past three fiscal years.

NOTE 12 – COMMITMENTS

As of June 30, 2013, MPERS has \$176,885,890 unfunded commitments in alternative investments.

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF FUNDING PROGRESS

Year Ended June 30	Actuarial Asset Value	Accrued Liability – Entry Age	Unfunded Accrued Liability (UAAL)	Funded Ratio	Actuarial Covered Payroll ⁽¹⁾	UAAL as a Percentage of Covered Payroll
2008	\$1,783,902,280	\$3,019,633,781	\$1,235,731,501	59.08%	\$375,984,141	328.67
2009	1,471,496,660	3,113,393,645	1,641,896,985	47.26%	379,542,506	432.60
2010 ⁽²⁾	1,375,844,573	3,258,866,925	1,883,022,352	42.22%	378,063,006	498.07
2011	1,427,290,718	3,297,589,869	1,870,299,151	43.28%	362,654,376	515.72
2012 ⁽²⁾	1,531,033,613	3,306,278,671	1,775,245,058	46.31%	341,637,559	519.63
2013 ⁽²⁾	1,657,402,393	3,583,975,559	1,926,573,166	46.24%	329,481,506	584.73

⁽¹⁾ Values are estimated from contribution rate and amount.

⁽²⁾ New assumptions and/or methods adopted.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ended June 30	Uniformed Patrol			MoDOT, Civilian Patrol & MPERS		
	Annual Required Contribution Percent	Contribution Dollars	Percent Contributed	Annual Required Contribution Percent	Contribution Dollars	Percent Contributed
2008	42.61	\$29,147,429	100	31.01	\$95,368,363	100
2009	40.22	27,298,132	100	30.72	95,759,843	100
2010 ⁽¹⁾	39.95	26,936,683	100	31.40	97,540,023	100
2011	49.53	33,688,925	100	39.46	116,263,825	100
2012 ⁽¹⁾	58.63	42,750,061	100	45.45	122,134,406	100
2013 ⁽¹⁾	55.03	41,026,592	100	50.92	129,809,525	100

⁽¹⁾ New assumptions and/or methods adopted.

NOTES TO THE SCHEDULES OF TREND INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	June 30, 2013
Actuarial Cost Method	Entry Age
Amortized Method	Level Percent of Payroll
Remaining Amortization Period.....	18 Years (single equivalent period)
Amortization Approach.....	Closed
Asset Valuation Method.....	3-Year Smoothing
Actuarial Assumptions:	
Investment Rate of Return	7.75%
Projected Salary Increase	3.5% to 11%
Cost-of-Living Adjustments.....	2.4% Compound
Includes Wage Inflation at	3.5%

REQUIRED SUPPLEMENTARY INFORMATION

OTHER POST-EMPLOYMENT BENEFIT PLAN SCHEDULE OF FUNDING PROGRESS FOR MODOT AND MSHP MEDICAL AND LIFE INSURANCE PLAN

Year Ended June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a / b)
2008	\$0	\$1,178,303	\$1,178,303	0%
2010 ⁽¹⁾	0	1,036,681	1,036,681	0%
2012	0	1,048,333	1,048,333	0%

⁽¹⁾New assumptions adopted.

Actuarial valuations are performed biennially. The July 1, 2011 actuarial valuation was used for FY12 and FY13 financial statements, the July 1, 2009 actuarial valuation was used for FY10 and FY11 financial statements, and the July 1, 2007 actuarial valuation was used for FY08 and FY09 financial statements. As allowed by the GASB, this reporting requirement is being implemented prospectively, as prior years' data is not available.

Because this plan is an internal service fund of MoDOT, assets have not been set aside. Therefore, there is no actuarial value of assets. This results in a calculated funded ratio of zero percent.

NOTES TO THE SCHEDULE OF TREND INFORMATION

The information presented in the required supplementary schedule was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	July 1, 2011
Actuarial Cost Method	Projected Unit Credit
UAAL Amortization Method	Level Dollar Amount
UAAL Amortization Period	30 Years
UAAL Amortization Approach	Open
Investment Return (discount) Rate	4.5%
Healthcare Cost Trend Rate	8.0%, Decreasing to 5% after 2017
Admin Expense Trend (Inflation) Rate	4.0%

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

SCHEDULES OF ADMINISTRATIVE EXPENSES FOR THE YEARS ENDED JUNE 30, 2013 AND 2012

	<u>2013</u>	<u>2012</u>
<u>Personal Services:</u>		
Salary Expense	\$1,083,168	\$1,022,080
Employee Benefit Expense	930,439	799,599
Total Personal Services	\$2,013,607	\$1,821,679
<u>Professional Services:</u>		
Actuarial Services	\$86,534	\$113,141
Actuarial Audit Services	0	50,000
Audit Expense	32,000	30,900
Disability Program	11,552	13,120
Consultant Fees	105,354	56,401
Fiduciary Insurance	0	112,280
Other	22,469	31,744
Total Professional Services	\$257,909	\$407,586
<u>Miscellaneous:</u>		
Depreciation	\$373,177	\$382,008
Meetings/Travel/Education	88,283	85,752
Equipment/Supplies	80,456	38,429
Printing/Postage	81,229	80,238
Bank Service Charge	8,479	8,116
Building Expenses	39,009	43,525
Other	55,076	67,636
Total Miscellaneous	\$725,709	\$705,704
Total Administrative Expenses	\$2,997,225	\$2,934,969

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

SCHEDULES OF INVESTMENT EXPENSES FOR THE YEARS ENDED JUNE 30, 2013 AND 2012

	2013	2012
<u>Investment Income Expenses:</u>		
Management and Performance Fees		
Aberdeen Asset Management	\$18,414	\$73,610
ABRY Partners	293,239	334,037
Acadian Asset Management	828,701	684,292
AEW	210,394	252,917
Albourn	240,000	240,000
American Infrastructure MLP	275,532	204,949
Anchorage Capital	752,197	334,769
Apollo Real Estate	299,182	298,694
AQR Capital Management	274,202	288,319
Artio (formerly Julius Baer)	43,943	306,437
Audax Group	51,010	99,096
Barclays Global Investors	196,443	195,485
Black River	0	70,482
Blue Trend	370,851	0
Brevan Howard	822,236	725,868
Bridgewater Associates	547,970	1,221,976
CBRE	1,174,270	361,090
Cevian	573,370	241,340
Clifton	125,713	85,794
Colony Capital	25,000	52,450
CarVal Investors (CVI)	303,326	408,240
Deephaven Capital Management	1,680	3,574
EIF Management	151,941	127,507
Energy & Mineral Group Midstream Resource	257,255	0
Enhanced Investment Technologies (INTECH)	379,428	327,405
Golub	63,407	62,674
Grove Street Advisors	1,500,000	2,250,000
GSO	912,066	71,482
ING Clarion	613,605	557,535
Luxor	1,167,106	158,253
Natural Gas Partners	296,368	351,021
Och-Ziff Real Estate	159,862	128,876
Ospraie	1,664,932	528,048
Paulson and Co.	0	65,358
PFM	101,113	135,769
Pinnacle Associates	343,767	432,231
Principal Global Investors	1,001,104	854,471
RMK Timberland	119,973	119,973
Rothschild Asset Management	249,593	82,235
Silchester International Investors	580,572	530,853
Stark Investments (Shepard)	16,026	70,704
Stellium	711,020	604,864
Structured Portfolio Management (SPM)	448,390	568,436
Taconic	723,425	303,494
Tortoise	519,153	386,907
Urdang	65,990	140,452
ValueAct	1,039,985	177,770
Vectis	187,500	187,500
Walker Smith	33,078	141,988
Western Asset Management Company	132,612	282,419
Total Management and Performance Fees	\$20,866,944	\$16,131,644
Investment Custodial Fee	72,579	101,295
Performance Management	102,846	95,708
General Consultant (monitoring) Fee	312,000	312,000
Other Investment Expenses	127,429	65,757
Total Investment Income Expenses	\$21,481,798	\$16,706,404
<u>Securities Lending Expenses:</u>		
Borrower Rebates (Refunds)	(\$27,457)	(\$126,553)
Bank Fees	74,954	89,901
Total Securities Lending Expenses (Income)	\$47,497	(\$36,652)

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

SCHEDULES OF CONSULTANT AND PROFESSIONAL EXPENSES

FOR THE YEARS ENDED JUNE 30, 2013 AND 2012

	<u>2013</u>	<u>2012</u>
Actuarial Services	\$86,534	\$113,141
Actuarial Audit Services	0	50,000
Audit Services	32,000	30,900
Disability Administrative Services	11,552	13,120
Legislative Consultant	30,055	26,401
Board Governance Consultant	29,336	0
Customer Service and Benefit Delivery	10,700	10,000
Insurance Consultant	6,000	6,000
Other Consultant Fees	29,262	14,000
Fiduciary Insurance	0	112,280
Other	<u>22,470</u>	<u>31,744</u>
Total Consultant and Professional Expenses	<u><u>\$257,909</u></u>	<u><u>\$407,586</u></u>

**MISSOURI DEPARTMENT OF TRANSPORTATION
AND HIGHWAY PATROL EMPLOYEES'
RETIREMENT SYSTEM**

**COMMUNICATION OF
AUDIT RELATED MATTERS**

JUNE 30, 2012



CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS

2005 West Broadway, Suite 100, Columbia, MO 65203
OFFICE (573) 442-6171 FAX (573) 777-7800

3220 West Edgewood, Suite E, Jefferson City, MO 65109
OFFICE (573) 635-6196 FAX (573) 644-7240

www.williamskeepers.com

November 6, 2013

To the Audit Committee of the Board of Trustees of the
Missouri Department of Transportation and
Highway Patrol Employees' Retirement System

We have audited the financial statements of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System) for the year ended June 30, 2013, and have issued our report thereon dated November 6, 2013. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to the System's Chairman of the Board of Trustees dated July 9, 2013. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by the Plan are described in Note 1 to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during 2013. We noted no transactions entered into by the Plan during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

In June 2012, the Governmental Accounting Standards Board (GASB) issued Statements No. 67 - *Financial Reporting for Pension Plans*, which revises existing standards of financial reporting for pension plans, and No. 68 - *Accounting and Financial Reporting for Pensions*, which improves accounting and financial reporting by state and local governments for pensions. GASB No. 67 applies to the System and will be effective in fiscal years beginning after June 15, 2013. GASB No. 68 applies to the employers that participate in the System and will be effective in fiscal years beginning after June 15, 2014.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the financial statements were: fair value of investments, useful lives of capital assets, and plan funding and related disclosures.

Management's estimate of the fair value of investments is based on quoted market prices; input from outside investment managers, consultants, and general partners; and current economic conditions. Estimated useful lives of capital assets are generally based on past experience with similar assets. Plan funding and related disclosures are based on actuarial methods and assumptions determined in consultation with the System's actuary. We evaluated the key factors and assumptions used to develop those estimates in determining that they are reasonable in relation to the financial statements taken as a whole.

The disclosures in the financial statements are neutral, consistent and clear. Certain financial statement disclosures are particularly sensitive because of their significance to the financial statement users. The most sensitive disclosures affecting the financial statements were investments and the funded status of the plan.

Difficulties Encountered in Performing the Audit

We are pleased to report that we encountered no difficulties in dealing with management in performing and completing our audit. All system personnel cooperated with us fully during the conduct of our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. We noted no adjustments as a result of audit procedures that were material, either individually or in the aggregate, to the financial statements taken as a whole.

Disagreements with Management

For purposes of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated November 6, 2013.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the System's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the System's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

With respect to the supplementary information accompanying the financial statements, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine the information complies with U.S. generally accepted accounting principles, the method of preparation has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

We will be pleased to discuss these or any other matters deemed appropriate at your convenience. This information is intended solely for the use of the Board of Trustees and management of the System and is not intended to be and should not be used by anyone other than these specified parties.

We thank the System's management and staff for their assistance during the course of our audit.

Sincerely,

A handwritten signature in cursive script that reads "Williams-Keepers LLC".

WILLIAMS-KEEPERS LLC

**MISSOURI DEPARTMENT OF TRANSPORTATION
AND HIGHWAY PATROL EMPLOYEES'
RETIREMENT SYSTEM**

MANAGEMENT LETTER

JUNE 30, 2013



CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS

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November 6, 2013

To the Board of Trustees and Management of the
Missouri Department of Transportation and
Highway Patrol Employees' Retirement System

In planning and performing our audit of the financial statements of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System) for the year ended June 30, 2013, in accordance with U.S. generally accepted auditing standards, we considered the System's internal control over financial reporting (internal control) as a basis for designing our auditing procedures for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Systems' financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses. In addition, because of inherent limitations in internal control, including the possibility of management override of controls, misstatements due to error or fraud may occur and not be detected by such controls. Given these limitations, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

However, during our previous audits, we became aware of certain deficiencies in internal control that we consider to be control deficiencies. The items listed below summarize our comments and suggestions regarding those deficiencies.

PRIOR YEAR RECOMMENDATIONS PARTIALLY IMPLEMENTED

Information technology - MoDOT and MSHP services

We noted the System utilizes information technology (IT) services from the Missouri Department of Transportation (MoDOT) and the Missouri State Highway Patrol (MSHP). As part of its monitoring efforts, the System should ensure that IT internal controls at MoDOT and MSHP are suitably designed and operating effectively. While the System has obtained an understanding of IT internal controls through inquiry and observation, no testing of these controls had been performed to evaluate the on-going effectiveness of the IT controls at MoDOT and MSHP.

We recommended the System consider adding and implementing a right to audit clause within the operating agreements that are currently in place with MoDOT and MSHP to allow the System to monitor (either internally or through an external vendor) the on-going effectiveness of IT controls. In lieu of this, the System could consider the cost/benefit of bringing such functions in-house to eliminate the need to rely on third parties.

Information technology - Security reviews

We noted the System has not had IT internal audits or information security reviews conducted on a periodic basis. During 2010, a new pension software system, Pension Gold, was implemented. Because the System is heavily reliant on this web-based application which has internet-facing functionality, there is greater importance to perform regular reviews of IT security. Without performing audits of the operational and technical functions of IT, the System could be at risk for procedures or controls being circumvented or not followed resulting in internal system or data compromise. We further noted there is no one on staff at the System that is responsible for handling the IT function.

We recommended the System consider establishing a formal program of tests to be conducted on critical hardware devices and software applications, including an external vulnerability assessment of the Pension Gold application. We further recommended the System establish internal procedures to continuously monitor IT security. The hiring of an individual to be responsible for the IT function would assist in this process.

MANAGEMENT'S RESPONSE:

In January 2012, the System solicited a request for proposal (RFP) for the performance of an IT Architecture Assessment from twelve prospective bidders and received five responses. A contract was awarded to Brown Smith Wallace (BSW). BSW conducted the assessment and presented the results to the System's Audit Committee in August 2012. Based on BSW's observations and corresponding recommendations, along with the ensuing discussion on related risks associated with the noted problem areas, the Audit Committee agreed to proceed with this project. The Audit Committee requested BSW provide a proposal for services to facilitate the necessary actions to complete the next steps and outline options to simplify and improve the safety and reliability of the System's IT services. The proposal for additional technology advisory services was approved by the System's Board of Trustees at their September meeting. BSW worked with the System to develop an RFP for information technology services and identify prospective bidders.

The System solicited a RFP for information technology services in February 2013 from eight prospective bidders and received four responses. The System, with the help of BSW, evaluated compliant bidders by reviewing the responses, conducting interviews and checking references. The Audit Committee reviewed the evaluations and discussed staff recommendations and presented the recommendations to the full

Board of Trustees at their September meeting. The Board voted to contract with two outside vendors for IT services. One vendor will host the pension administration system and associated line of business applications and the other vendor will cover all other IT functions. The System feels this switch will address all prior year audit IT recommendations and improve IT security and overall IT functionality.

We will be pleased to discuss these or any other matters deemed appropriate at your convenience. This report is intended solely for the information and use of the Board of Trustees, management, and others within the System and is not intended to be and should not be used by anyone other than these specified parties.

Sincerely,

Williams-Keepers LLC

WILLIAMS- KEEPERS LLC