Joint Committee on Pensions

2022 Interim Report

Annapolis, Maryland
February 2023

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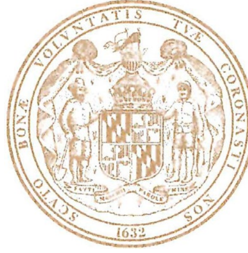

THE MARYLAND GENERAL ASSEMBLY
ANNAPOLIS, MARYLAND 21401-1991

JOINT COMMITTEE ON PENSIONS

December 16, 2022

The Honorable Bill Ferguson, Co-Chair
The Honorable Adrienne A. Jones, Co-Chair
Members of the Legislative Policy Committee

Dear President Ferguson, Speaker Jones, and Members:

During the 2022 interim, the Joint Committee on Pensions met twice. The joint committee addressed legislative proposals requested by the Board of Trustees for the State Retirement and Pension System and a legislative proposal regarding the amortization of unfunded system liabilities. The joint committee made recommendations on these items at its final meeting for the 2022 interim, voting to sponsor five legislative proposals. The joint committee also had briefings on the actuarial valuation of the system and the system's investments. A complete report of the joint committee's 2022 interim activities and legislative recommendations will be published in January 2023.

We thank the joint committee members for their diligence and attention to the work of the committee. Also, on behalf of the committee members, we thank Phillip S. Anthony, June Chung, and Katylee Cannon of the Department of Legislative Services, and the staff of the Maryland State Retirement Agency for their assistance.

Sincerely,

Senator Sarah K. Elfreth
Senate Chair

Delegate Brooke E. Lierman
House Chair

SKE:BEL/PSA:JC/kmc

cc: Ms. Victoria L. Gruber
Mr. Ryan Bishop
Mr. Jeremy Baker
Ms. Sally Robb

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Joint Committee on Pensions
2022 Interim Report

Over the course of two meetings during the 2022 interim, the Joint Committee on Pensions had briefings on legislative proposals requested by the Board of Trustees for the State Retirement and Pension System (SRPS) and its annual briefings on the actuarial valuation of the system and the system's investments. The joint committee also had briefings on the system's amortization policy.

Results of the 2021 Actuarial Valuation and Fiscal 2023 Contribution Rates

SRPS's funded status (the ratio of projected actuarial assets to projected actuarial liabilities) improved from 76.2% at the end of fiscal 2021 to 76.6% at the end of fiscal 2022. (These figures exclude funding for local governments that participate in the State plan.) In addition to the system's improved investment performance, the system has also benefited from reforms. The reformed benefit structure enacted in 2011 increased employee contributions, added additional caps to cost-of-living adjustments earned after 2011, increased the vesting period and reduced the multiplier for employees hired after 2011, and appropriated a share of savings as supplemental contributions. The State also eliminated the corridor funding method. From fiscal 2021 to 2022, the total State unfunded liability increased from $17.9 billion to $18.3 billion.

Fiscal 2024 Contribution Rates

Exhibit 1 shows that the fiscal 2024 employer contribution rates with reinvestment savings are relatively stable when compared with the fiscal 2023 rates. The aggregate contribution rate for all systems increases from 18.21% in fiscal 2023 to 18.52% in fiscal 2024. Based on projected payroll growth and other factors, the SRPS actuary estimates that total employer pension contributions will increase from $2.145 billion in fiscal 2023 to $2.256 billion in fiscal 2024. The funding levels and contribution amounts include the $75 million supplemental contribution required by Chapter 489 of 2015 but not the pension sweeper as required by Section 7-311 (j) of the State Finance and Procurement Article. The fiscal 2024 contribution rates are the actuarially determined contribution rates and reflect an investment return assumption of 6.8% adopted by the SRPS board for the current fiscal year.

Exhibit 1
State Pension Contributions
Fiscal 2023 and 2024 Projected
($ in Millions)

	2023		2024 Projected	
Plan	**Rate**	**Contribution**	**Rate**	**Contribution**
Teachers' Combined	15.29%	$1,208.2	15.48%	$1,265.8
Employees' Combined	21.30%	759.9	21.73%	800,5
State Police	77.30%	95.9	79.49%	103.0
Judges	40.02%	21.7	43.00%	24.2
Law Enforcement Officers	45.62%	59.5	46.76%	62.4
Aggregate	**18.21%**	**$2,145.2**	**18.52%**	**$2,255.8**

Note: Except for the Teachers' Combined System (TCS), contribution rates and dollar amounts reflect State funds only, excluding municipal contributions. For TCS, they reflect the combined total of State and local contributions. Figures also reflect the $75 million supplemental contribution required by Chapter 489 of 2015.

Source: Gabriel, Roeder, Smith, & Co., Results of the June 30, 2022, Actuarial Valuation for Fiscal Year 2024

Fiscal 2022 Investment Performance

The SRPS investment return for the fiscal year that ended on June 30, 2022, was -2.97%, which failed to meet the assumed rate of return of 6.8%. System assets decreased by $3.3 billion to a market value of $64.6 billion as of June 30, 2022. Investment returns have exceeded the assumed rate of return in 2 of the last 5 years. The system, as a whole, outperformed its policy benchmark by 0.51% (51 basis points). The 5-year weighted average annual return as of June 30, 2022, is 7.93%, which is 0.55% (55 basis points) above the plan return benchmark for that period. The weighted average annual return for the past 10 years is 7.79%, which is 0.65% (65 basis points) above its benchmark for that period. Both the 5- and 10-year averages also exceed the system's assumed rates of return. The system's investment approach is cautious and when returns are compared to other pension funds, returns tend to underperform in years with strong asset growth and overperform in years in which assets decline. All returns are calculated net of management fees.

Board Requested Legislation

Technical Clarification – Return of Accumulated Contributions

Current provisions of the State Personnel and Pensions Article do not authorize the State Retirement Agency (SRA) to refund the member contributions of a deceased nonvested former member to the deceased member's designated beneficiary, or if there is no beneficiary, to the deceased member's estate. Current law allows for the distribution of member contributions of a deceased former member if the member was vested in one of the several systems at the time of death. When the SRA staff has been faced with the death of a nonvested former member, the current practice of SRA has been to make such a distribution to the designated beneficiary of a deceased nonvested member or, if there is not designated beneficiary, to the deceased former member's estate. The board proposed legislation that would codify SRA's existing practice.

The joint committee will sponsor the requested legislation.

Correctional Officers' Retirement System – Modifications to 2016, 2017, 2018, and 2022 Legislation

Sick Leave Correction

Chapter 147 of 2022 provides that members of the Employees' Pension System (EPS) or Employees' Retirement System (ERS) who are employed by the Department of Juvenile Services (DJS) serving as certain case management specialists or group life mangers on or before June 30, 2022, will be transferred to the Correctional Officers' Retirement System (CORS) on July 1, 2022. In the past, when similar legislation has been enacted that transferred certain groups from the EPS or ERS to the CORS, those bills included provisions that preserved any unused sick leave that had been earned in the EPS or ERS prior to being transferred to the CORS. This provision was inadvertently omitted from Chapter 147. The board recommended legislation to correct this oversight and preserve the unused sick leave accrued in the EPS or ERS by the DJS employees who were transferred into the CORS on July 1, 2022.

The joint committee will sponsor the recommended legislation.

Opt-out Election to Move to Transfer Service to the CORS

Chapters 218 and 219 of 2016; Chapters 688, 689, and 690 of 2017; Chapters 579 and 580 of 2018; and Chapter 147 each transferred various groups of employees from the EPS or ERS to the CORS. The affected employees were employed on and before the effective date of each of these bills by either the Department of Public Safety and Correctional Services (DPSCS) or DJS. While each bill required the impacted employees to begin membership in the CORS, provisions of each bill also allowed these employees to elect to transfer their EPS or ERS service into the CORS.

These bills have had a significant impact on the retirement benefits of the members that were moved from the EPS to the CORS. The benefit multiplier for the EPS is 1.4% for each year of service earned prior to July 1, 1998, and 1.8% for each year of service earned on or after July 1, 1998. The CORS benefit multiplier is 1.82% for all service, regardless of when it is earned. Additionally, an individual who became a member of the EPS prior to July 1, 2011, is eligible for an unreduced service retirement allowance after accruing 30 years of eligibility service, regardless of age, or after reaching age 62, with 5 years of eligibility service. An individual who becomes a member of the EPS on or after July 1, 2011, is eligible for an unreduced service retirement allowance after satisfying the Rule of 90 (when the member's age plus service equals 90) or after reaching age 65 with 10 years of eligibility service. These eligibility provisions contrast considerably with the eligibility provisions for CORS, which require a member to accrue 20 years of eligibility service, regardless of age, or reach age 55 with 5 years of eligibility service if the individual became a member prior to July 1, 2011, or age 55 with 10 years of eligibility service if the individual becomes a member on or after July 1, 2011.

The differences in the EPS and CORS benefits can be better appreciated by way of example. On June 30, 2016, a 50-year-old case manager employed by DPSCS who had accrued 25 years of service in the EPS would be eligible to receive an unreduced service retirement allowance from the EPS equal to 42.2% of their average final compensation after accruing 5 additional years of service. On June 30, 2016, a member of the CORS with the same demographics would be immediately eligible to receive an unreduced service retirement allowance equal to 45.5% of the member's average final compensation. After considering these two scenarios, the board raised concerns about why the EPS case manager with 25 years of service would not choose to transfer to the CORS under the provisions of Chapter 218 and 219.

The member contribution rate for the CORS is 5% and has been since the inception of the plan in 1974. In the example above, the DPSCS case manager with 25 years of service on June 30, 2016, would have commenced membership in the EPS on July 1, 1991. If that individual elected to transfer their 25 years of EPS service into the CORS, they would have been charged the difference in member contributions between the EPS and CORS for those years when the EPS member contribution rate was less than the CORS member contribution rate (0% for 1991 to 1998, 2% for 1998 to 2006, 3% for 2006 to 2007, and 4% for 2007 to 2008). This amount would be reduced by the 2% excess member contributions made to the EPS for 2011 to 2016 (7% EPS contribution rate since 2011). After transferring the member's service from the EPS to the CORS, the member is not required to pay the difference in member contributions; however, if the member does not pay the difference their CORS account will carry a deficiency that will accrue interest until the member retires from the CORS. On retirement from the CORS, the member's allowance will be reduced by the actuarial equivalent of this deficiency.

Following the passage of the 2016, 2017, and 2018 legislation, SRA reached out to all of the members affected by the legislation, alerting them to the deficiencies they would incur if they transferred from the EPS to the CORS. Some of these deficiencies were substantial. The highest deficiency SRA was able to track down was nearly $100,000. Yet, even with carrying a deficiency on their accounts after transferring to the CORS, SRA determined that in every case, it was beneficial to the member to still transfer. The increase to their retirement from the CORS, with the

actuarial reduction of the deficiency, was always greater than the retirement allowance they would receive if they did not transfer their EPS service. Nevertheless, SRA found many members (fearful of carrying a large deficiency on their account, not trusting that even with paying the deficiency their CORS benefit would still be higher after transferring this service, and not fully understanding the decision before them) elected not to transfer their previous EPS service into the CORS.

With this group of CORS bills becoming effective four to six years ago, many of the members who did transfer their EPS service into the CORS have since retired. SRA staff is now finding that many of the members who were initially fearful to trust SRA when it reported their benefit would not be harmed by the deficiency and, as a result, opted not to transfer their service to the CORS, now wish to do so after seeing that the retirement benefits of their colleagues who have since retired suffered no negative impact. However, the provisions of the State Personnel and Pensions Article that govern transfers of service credit require a member to make such a transfer within a year of joining their new system. If the member misses this window, the regulations for SRA provide that the member may request a waiver of this one-year time limit to the executive director of SRA within four years of joining the new system, provided the member's request meets certain criteria. All of the members impacted by the 2016, 2017, and 2018 legislation are now past their four-year window to request a waiver to the requirement that they transfer within a year of joining their new system.

SRA believes that they will continue to hear from more members who now understand that it would have been to their benefit to transfer their service and now wish to do so. In retrospect, SRA also believes that rather than put the onus on the member to affirmatively make an election they may not completely understand, all impacted members should have been automatically transferred into the CORS, unless they requested to opt out. It has only been through the actual experience of implementing these bills that SRA has been able to determine that in every instance, it was to the advantage of the member to transfer their prior service. With this information, the board would now recommend that the 2016, 2017, and 2018 legislation be amended to require all members to transfer their prior service credit, unless an affirmative declaration to opt out is made. The legislation would require SRA to retroactively transfer the service credit of the DPSCS and DJS employees who have not already taken advantage of this option, unless they notify SRA not to perform such a transfer. While the members impacted by the 2022 legislation are still within their first year of joining their new system, and therefore, may still transfer on their own, the board recommended including this group in this proposed legislation to avoid future issues of members who may once again act out of fear or confusion, and consequently, not make an informed decision that is in their best interests.

The joint committee will sponsor the recommended legislation.

Administrative Fees – Amount and Timing of Billings

Prior to July 1, 2011, the administrative budget for SRA, based on statutory authority, was funded solely through special funds drawn down from the pension trust fund. Chapter 397 of 2011 changed this process and now requires SRA to apply a per employee charge on all employers

participating in the State Retirement and Pension System (SRPS). This proposal seeks to simplify the administrative fee process for both SRA and the participating employers of the system.

To calculate the amount owed by the State and each local participating employer, SRA determines the number of employees for each employer that are also members of the several systems as of June 30 of the second prior fiscal year and divides this number by the current member total of SRPS. This percentage is applied to the allowance that the Governor includes in the budget bill for the upcoming fiscal year. Each participating employer, including the State, then is notified of the amount that they will be required to pay for administrative fees to SRA for the next fiscal year. It is important to note that this calculation is based on the allowance that the Governor includes in the budget bill for the operating budget of SRA and not the actual amount that is appropriated for SRA once the budget bill is passed. Consequently, even before the legislative session has ended, the certified amount billed to the participating employers that each will be required to pay in administrative fees has been changed. The State is required to pay this amount to SRA on July 1 of the appropriate fiscal year, while local participating employers must pay their portion on a quarterly basis to SRA (October 1, January 1, April 16, and June 1).

Because the amount of administrative fees certified to the participating employers of SRPS is based on the Governor's allowance and not the final appropriation or actual expenditures for SRA, SRA is required to track any overpayments or underpayments made by SRPS's participating employers and recoup or refund these differences on or before June 30 of the second following fiscal year through the administrative expenses billed for that year to the participating employers. Additionally, any budget amendments that occur throughout the current fiscal year for administrative expenses are to be paid from SRPS's accumulation fund. Similar to any recoupment SRA tracks for the participating employers regarding differences between SRA expenditures and the Governor's initial budget allowance, these unanticipated budget expenses are also recouped from the participating employers on or before June 30 of the second following fiscal year through administrative expenses billed for that year to SRPS's participating employers.

From the outset, this process is fraught with problems. Because these rates must be certified on or before the February immediately preceding the start of the fiscal year in question, the certified rate has never equaled the amount that is actually included in the budget bill once it is enacted. Accordingly, the amount spent by SRA in any fiscal year based on its budget appropriation is never the same as the amount certified. These discrepancies create guaranteed surpluses or deficiencies that SRA and the Department of Budget and Management (DBM) must track and resolve to either refund or charge in the second fiscal year immediately following the fiscal year in question.

Additionally, SRA reports that it can be subject to any number of budgetary adjustments from DBM or budget amendments requested by SRA. Any such changes add to the final carryover balance (whether negative or positive) that also must be monitored by both SRA and DBM to be addressed and resolved in the second following fiscal year. SRA annually determines the certified administrative expense rate for the State and each participating local employer based on the number of employees each employer has. However, in years when there has been a surplus or deficiency that must be addressed, the rate certified is further adjusted to include each employer's

pro rata share of any surplus or deficiency that resulted from budget adjustments in the second prior fiscal year. For example, if SRA ends fiscal 2023 with a surplus, the participating employers of the system will not be reimbursed until fiscal 2025. Moreover, SRA reimburses participating employers at the same rate that each employer was billed initially. In other words, if a participating employer's pro rata share of SRA's administrative expenses was 1.5% in fiscal 2023, the amount reimbursed to this employer is based on this amount and not the current percentage for which the participating employer may be responsible in fiscal 2025. Accordingly, this requires additional rates that must be maintained by both SRA and DBM, as well as all budget adjustments from two years prior.

Both SRA and DBM have indicated that this process could be simplified. Rather than certify a rate for administrative expenses based on an allowance that has never been the actual appropriation, let alone what is actually spent by SRA in that fiscal year, it is recommended that the rate for administrative expenses be based on the actual amount that SRA spent during the second previous fiscal year. For example, the actual amount spent by SRA as of June 30, 2023 (fiscal 2023), would be determined by September 2023 (fiscal 2024). This amount would be used to certify the rates and the amount that will be billed to the State and local participating employers for SRA's fiscal 2025 administrative expenses. This two-year lag in certification and billing is similar to the certification and billing process in place when determining SRPS's annual employer contribution rate. While it is recognized and expected that this will result in a shortfall each year that would still need to be addressed in the second following fiscal year, it would eliminate the settling of the many other budget adjustments that occur. Moreover, if SRA certifies the rate due by the State and local employers for administrative expenses based on the prior year's actual spending, SRA could certify this rate as early as the September immediately prior to the fiscal year in question. This would provide both the State and local employers with an additional five months to plan for this expense in their budgets.

The board recommended legislation that requires the rate for administrative expenses to be based on the actual amount that SRA spent during the second previous fiscal year.

The joint committee will sponsor the requested legislation.

System Amortization Policy

In September 2021, the Board of Trustees for SRPS voted to recommend a change to the existing policy for amortizing gains and losses to its liabilities. As the current amortization policy is in statute, any change would require legislative action. The rationale for the board's recommendation is that the current policy may make State pension contribution rates more volatile as the current closed amortization, scheduled to end in fiscal 2038, approaches its final years. The board considered at least four different amortization policies, ultimately choosing to recommend one that leaves current liabilities unchanged but takes a different approach as to future liabilities that accrue on or after July 1, 2023.

Amortization Policy Smooths Liabilities Over Time

Funding models for public pension plans seek to set aside sufficient funding during a member's working life to pay for retirement benefits paid to that member at a future date. As such, funding models must project future benefit costs and the assets available to pay for them using assumptions about employees' behavior (*e.g.*, age at retirement) and economic performance (*e.g.*, real return on investments) to calculate a sufficient amount to contribute annually to the pension fund.

***Sources of Pension Liability Volatility*:** Pension funds generate liabilities from four major sources:

- ***Experience Gains and Losses:*** when actual experience (investment returns, retirement rates, etc.) differs from the assumptions used to calculate annual contributions;

- ***Assumption Changes:*** when the assumptions used to calculate employer contributions are changed;

- ***Method Changes:*** when the methods used to calculate future pension unfunded liabilities are changed; and

- ***Benefit Changes:*** when the plan sponsors change benefits earned by covered employees (either prospectively or retroactively).

As pension benefits are paid overtime, the pension system is able to amortize those liabilities over time; the plan sponsor is then responsible for making additional annual amortization payments to pay down the liabilities.

Current Amortization Policy

The current amortization policy, enacted by Chapters 475 and 476 of 2013, returned the system's funding policy back to full actuarial funding (by eliminating the corridor funding method), and addressed a looming spike in employer contribution rates prompted by the amortization policy in place as well as losses realized during the Great Recession. The termination of an amortized surplus, scheduled for fiscal 2020, would have caused contribution rates across all SRPS plans to spike, with the effect most pronounced for the State Police Retirement System. The current policy amortizes all liabilities, *regardless of source*, over a closed 25-year period, which eliminated the looming spikes in contribution rates under the prior policy. However, it also means that all future gains and losses are amortized over fewer and fewer years until the end of the 25-year period in 2038, creating the potential for volatility in State liability payments. For example, if the system experiences substantial actuarial losses during fiscal 2033, those losses would be amortized over just five years, which could potentially cause State contributions to spike to unaffordable levels. Therefore, action is warranted to address the potential volatility of the current amortization policy.

Alternatives Studied by SRPS Board

To mitigate the potential volatility of the current amortization policy, the SRPS board appointed an *ad hoc* committee to study alternative models. The committee reviewed four alternatives put forth by the system's actuary based on guidelines developed by the Conference of Consulting Actuaries (CCA). The alternatives distinguish among the main sources of new liabilities, which the current policy does not do. The first and second alternatives were the primary options under consideration by the board and are summarized in **Exhibit 2**.

Exhibit 2
Alternative Amortization Policies

	Alternative 1	Alternative 2
Current Liabilities	Continue Closed 25 Years	Continue Closed 25 Years
Gains or Losses	Closed 15 Years, Layered	Rolling 15 Years, Pooled
Assumption/Method Changes	Closed 25 Years, Layered	Closed 25 Years, Layered
Benefit Changes	10-15 Years, Layered	10-15 Years, Layered
Early Retirement Incentives	Closed 5 Years	Closed 5 Years

Source: Gabriel, Roeder, Smith & Company; Department of Legislative Services

Alternative 1 is deemed a "model practice" by CCA, whereas the other three alternatives are deemed "acceptable with conditions." The SRPS board voted to recommend adoption of Alternative 2, which was supported by its actuary. In its presentation to the board, the system's actuary advised that the model policy's use of closed layers for gains and losses would expose the system to "scheduled volatility" as the various layers terminate (Alternative 1), whereas the use of rolling amortization periods would mitigate any such volatility (Alternative 2).

The key difference between the model policy and the policy recommended by the SRPS board is the amortization of gains and losses. Under the model policy, gains and losses in a given year are amortized over a *closed* 15-year period. This creates a series of amortization "layers," with each year's gains and losses amortized separately. After 15 years, the Year 1 gains or losses are fully amortized; after 16 years, the Year 2 gains or losses are fully amortized; etc. This resembles the amortization policy in place prior to Chapters 475 and 476, which contributed to the looming spike in contribution rates at the time. For this reason, the system's actuary recommended against using the model policy. As noted above, the use of a 15-year *rolling*, pooled amortization approach in Alternative 2 mitigates the potential for volatility but carries a different disadvantage.

Under the rolling, pooled amortization period, unfunded liabilities are reset every year so that the system does not approach full funding in the same manner as the closed, layered policy.

Both the system's actuary and the General Assembly's consulting actuary have advised that the potential volatility of the model policy can be addressed through active management of the different amortization layers. As the different layers are created, authority to actively manage them can offset gains in one year with losses in another, thereby minimizing the potential for any one layer to create volatility. Additionally, there was consensus that the contribution rate should not drop below the annual normal cost contribution.

Alternative 1 is the only option identified as a model policy by CCA and its adoption may address issues with approaching full funding compared to the board's recommended policy. Additionally, the use of layered closed amortization bases for gains and losses adds additional transparency regarding the source of those liabilities. Granting the board authority to engage in active management of the various liability bases should provide protection against employer contribution rate volatility. This authority should apply to all liability bases, not exclusively to investment gains and losses. As future investment returns, demographic changes, retirement trends, and other plan design elements are unknown, setting specific boundaries for the use of this authority may have unintended consequences. Use of the active management authority is expected to be in accordance with best actuarial practices, and should be documented in the board's certification of the annual contribution rates which occurs prior to the annual legislative session of the General Assembly.

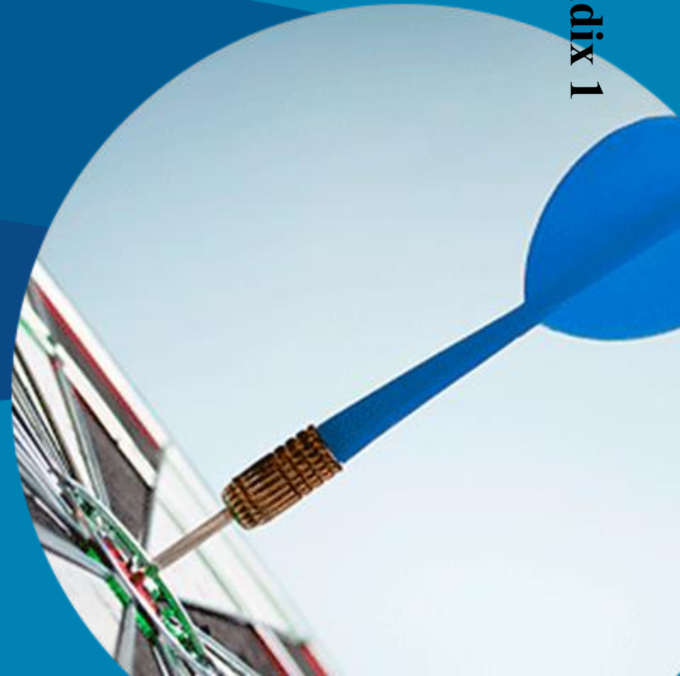
The joint committee will modify the board's recommended amortization policy in accordance with the CCA model policy (Alternative 1), using a layered closed 15-year amortization of system gains and losses, and granting the board authority to manage the various liability bases to mitigate contribution rate volatility. Additionally, the legislation should include prohibitions on the annual contribution rate being below the normal cost.

Appendix 1

Maryland State Retirement and Pension System

Results of the June 30, 2022
Actuarial Valuation for Fiscal Year 2024

December 6, 2022 Meeting of the
Joint Committee on Pensions



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- Amortization Policy

Background

Purposes of the Actuarial Valuation

- Measure the financial position of MSRPS
- Provide the Board with State and PGU contribution rates for certification
- Provide certain disclosure information for financial reporting
  - Included in separate GASB 67/68 report
- Analyze aggregate experience over the last year

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Funding Objectives

- Benefit security
  - Plan sponsor commitment, strong governance, effective administration, and accommodated by sources of revenue.
- Stable pattern of contribution rates
  - Average State Actuarial Contribution rate increased by 0.33% of payroll this year.
- Intergenerational equity with respect to plan costs
  - This is a long term goal. We will only know in hindsight if it is achieved. The break with corridor funding was a step in the right direction.
- Stable or increasing ratio of assets to liabilities
  - Funded ratio improved this year on an actuarial value of assets basis only.

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Primary Assumptions (No changes for 2022)

- Economic assumptions updated for 2021 valuation
  - Economic assumptions
    - 6.80% investment return; 2.75% payroll growth; 2.25% CPI
    - 1.96% COLA, 2.24% COLA, 2.25% COLA for service where COLA is capped at 3%, 5% or not capped, respectively
    - 1.30% COLA for service earned after July 1, 2011 where COLA is capped at 2.5% in years when the System earns at least the investment assumption or capped at 1% in years when the System earns less than the investment assumption
- Valuation asset method adjusted in 2021 valuation
  - 40% of FY 2021 investment gains recognized in initial year (rather than 20%)
    - 15% recognized in each following 4 years; 2022 recognizes 20% in all 5 years
- Demographic actuarial assumptions based on the 2014-2018 experience study (first used in 2019 Valuation)
  - Demographic Assumptions
    - Public Sector mortality tables with generational mortality projection using scale MP-2018
      - Calibrated to MSRPS experience
    - Retirement, termination, disability and seniority and merit salary increase rates based on plan experience

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Variables Affecting Valuation Results

- Benefits (Retirement, Disability, Survivor)
- Actual past experience
- Legislative changes
  - 2020 General Assembly passed HB 588
    - Member contributions cease upon reaching maximum benefit for State Police (28 yrs.) and LEOPS (32.5 yrs.)
  - 2018 General Assembly passed HB 1042 and 1049
    - Increased LEOPs maximum benefit and extended State Police DROP participation
  - 2017 General Assembly passed HB 28
    - Amended provisions of HB 72, below
    - Beginning in FY 2021 and continuing until the System is 85% funded, 25% of the budget surplus in excess of $10 million, up to a maximum of $25 million, would be made as an additional contribution to SRPS
  - 2016 General Assembly changed amortization policy for Municipal ECS
  - 2015 General Assembly passed HB 72
    - For FY 2017-2020, 50% of the budget surplus in excess of $10 million, up to a maximum of $50 million, would be made as an additional contribution to SRPS
    - $50 million was received in FY 2017
    - These excess funds were eliminated in the FY 2018 and FY 2019 budgets
  - 2011 General Assembly reforms result in a gradually decreasing normal cost rate, also increased participant contribution rates for most people

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Funding Policy

- Entry age actuarial cost method
- 5-year asset smoothing/20% market value collar
  - The 2021 valuation recognized 40% of the investment gain from FY 2021
    - The remaining 60% will be recognized in the 2023-2025 valuations (15% was already recognized in 2022)
- Amortization policy (how and when the unfunded liability is paid off)
  - State Systems
    - Single period closed amortization ending in FY 2039 (16 years remaining in 2022 valuation)
  - Municipal Systems
    - ECS: Single period closed amortization period ending in FY 2043. Phased-in at 20 years in 2022 valuation (FY 2024) and will decrease by 1 year going forward
    - LEOPS: Single period closed amortization period ending in FY 2040 (17 years remaining)
    - CORS: Single period closed amortization period ending in FY 2047 (24 years remaining)
  - Needs to be reconsidered to control volatility once remaining period falls below about 10-15 years
    - See Amortization Policy section for recommendations

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PARTICIPANT DATA

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Demographic Data

	Statistics as of June 30				
	2022			2021	
Number Counts	**State**	**PGU**	**Total**	**Total**	**% Chg**
Active Members	168,797	25,413	194,210	194,311	-0.1%
Vested Former Members	41,340	6,163	47,503	48,051	-1.1%
Retired Members	151,978	20,257	172,235	169,368	1.7%
Total Members	362,115	51,833	413,948	411,730	0.5%
Total Valuation Payroll ($ in Millions)	$11,801.3	$1,400.5	$13,201.8	$12,749.2	3.5%
Active Member Averages					
Age	46.1	49.0	46.5	46.4	0.1%
Service	12.5	11.3	12.3	12.4	-0.8%
Pay	$ 69,914	$ 55,111	$ 67,977	$ 65,613	3.6%
Total Retiree Benefits ($ in Millions)	$4,169.2	$347.5	$ 4,516.8	$ 4,263.8	5.9%
Average Retiree Benefit	$ 27,433	$ 17,157	$ 26,225	$ 25,175	4.2%

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ASSET DATA

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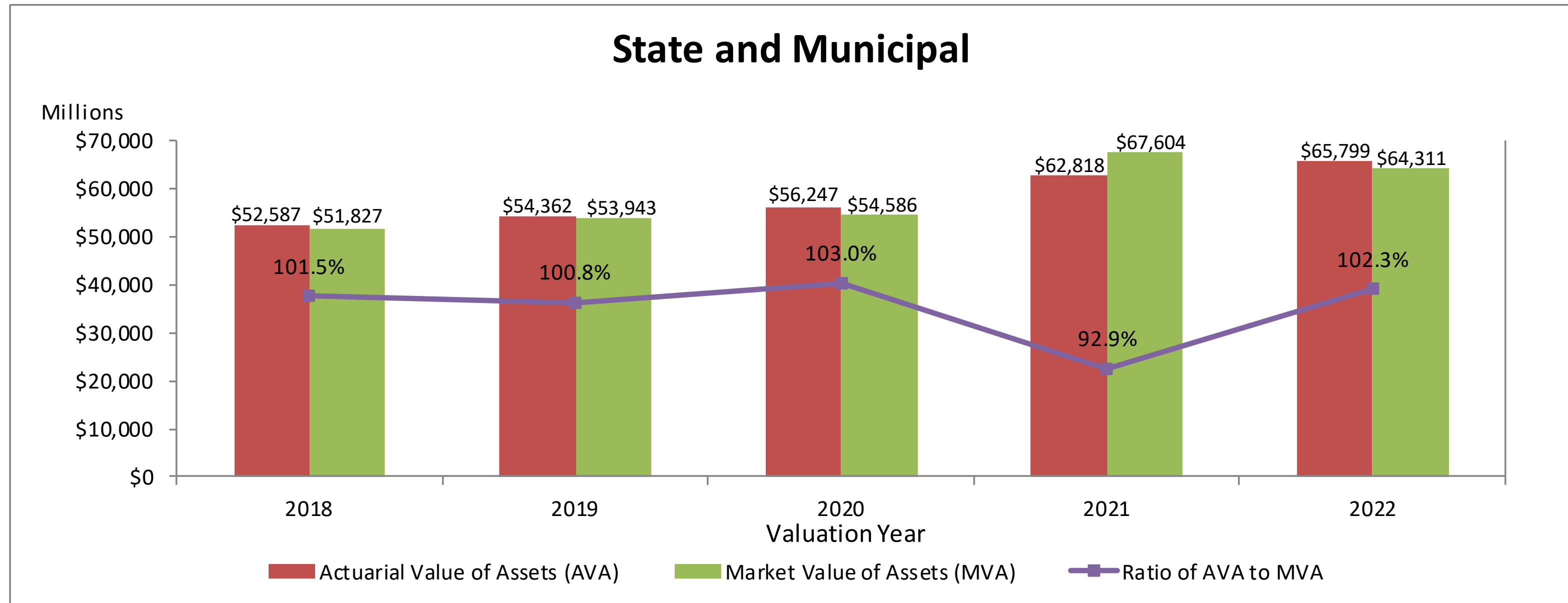
Actuarial Value of Assets - ($ Millions)



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The actuarial valuation is not based directly upon market value, but rather uses a smoothed value of assets that phases in each year's gain or loss above/below the investment return assumption over 5 years.

The 2022 $1.5B difference between the MVA and the AVA will be recognized over the next 4 valuations.

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STATE RESULTS

Aggregate Experience Net Increase in State Rates

Downward Forces

- More Investment Return (6.97% actuarial, -2.90% market[1]) than 6.80% assumed
- Payroll increase of 3.4% vs. 2.75% assumed (affects UAAL rate)
- More Members in Reformed Systems

Upward forces

- Individual Pay Increases above assumptions
- FY 2023 COLA above assumption (4.698% vs. 2.25% for unlimited, 3% vs. 1.96% for 3% Cap, and 2.5% vs. 1.30% for Reformed)

[1] Rate shown is based on actuarial estimation method and differs modestly from figures reported by State Street.

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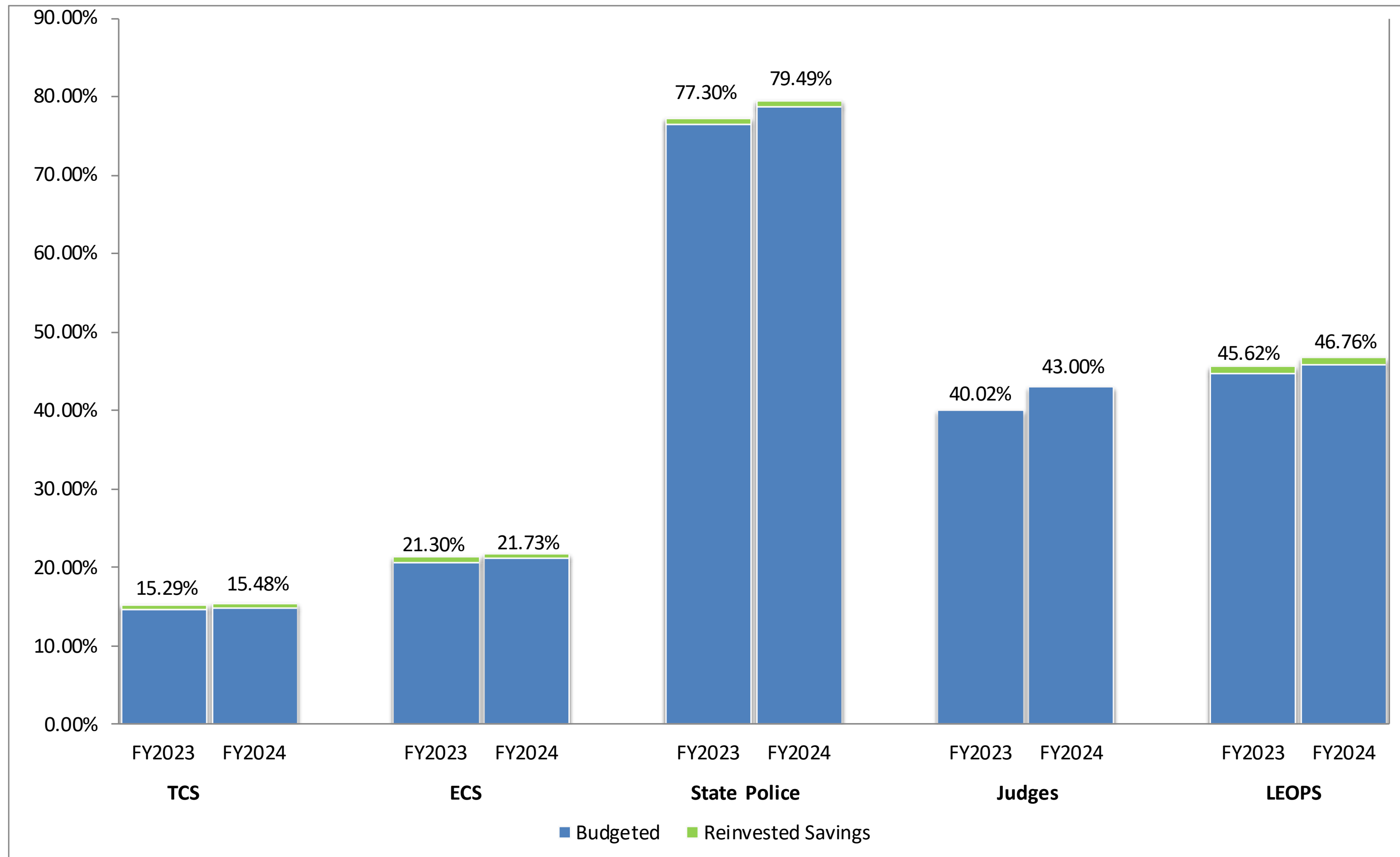
Actuarially Determined Contribution Rates (% of Pay)



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Year to Year Comparison of Results: STATE Systems

(STATE ONLY except as noted, $ in Millions)

	Teachers' Combined System	Employees' Combined System	State Police	Judges	LEOPS	Total
FY 2024 Contr. Rate (w. Reinv. Savings)[1]	15.48%	21.73%	79.49%	43.00%	46.76%	18.52%
FY 2023 Contr. Rate (w. Reinv. Savings)[1]	15.29%	21.30%	77.30%	40.02%	45.62%	18.21%
Increase/(Decrease) from Prior Year	*0.19%*	*0.43%*	*2.19%*	*2.98%*	*1.14%*	*0.31%*
FY 2024 Actuarial Contribution Rate[2]	14.86%	21.13%	78.68%	43.00%	45.89%	17.88%
FY 2023 Actuarial Contribution Rate[3]	14.65%	20.68%	76.45%	40.02%	44.73%	17.55%
Increase/(Decrease) from Prior Year	*0.21%*	*0.45%*	*2.23%*	*2.98%*	*1.16%*	*0.33%*
2022 Actuarial Value of Assets	$ 40,034	$ 16,593	$ 1,863	$ 596	$ 933	$ 60,020
2022 Unfunded Actuarial Liability	9,634	7,395	796	70	438	18,333
2021 Unfunded Actuarial Liability	9,419	7,245	756	52	424	17,896
Increase/(Decrease) from Prior Year	*215*	*150*	*41*	*18*	*14*	*437*
Funded Ratios						
2022	80.6%	69.2%	70.1%	89.5%	68.1%	76.6%
(Including Municipal)[4]		72.5%			68.9%	77.2%
2021	80.2%	68.7%	70.1%	91.6%	67.4%	76.2%
(Including Municipal)		72.1%			68.7%	76.9%
Increase/(Decrease) from Prior Year	*0.4%*	*0.5%*	*(0.0%)*	*(2.1%)*	*0.7%*	*0.4%*
(Including Municipal)		*0.4%*			*0.2%*	*0.3%*

[1]Contribution rates with Reinvested Savings are illustrative only and are shown to facilitate comparison when including the $75M as a percent of payroll.
[2]FY 2024 Actuarial Contribution Rate assumes Reinvested Savings of $75 will be contributed in FY 2023.
[3]FY 2023 Actuarial Contribution Rate assumes Reinvested Savings of $75 will be contributed in FY 2022.
[4]Municipal Actuarial Value of Assets of $5,779 Million and Municipal Unfunded Actuarial Liability of $1,116 Million are also included in the development of the Total Funded Ratio of 77.2%. Contribution rates are percent of pay.

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Reconciliation of Employer Contribution Rates (% of Pay)

(STATE ONLY)

	Teachers' Combined System	Employees' Combined System	State Police	Judges	LEOPS	Total
FY 2023 Actuarial Contribution Rate	**14.65%**	**20.68%**	**76.45%**	**40.02%**	**44.73%**	**17.55%**
Change due to Investment Return	-0.06%	-0.07%	-0.21%	-0.15%	-0.04%	-0.07%
Change due to Demographic and Non-Inv. Exp.	0.48%	0.71%	3.77%	3.17%	1.38%	0.60%
Change due to Total Payroll Experience	-0.07%	-0.08%	-0.86%	-0.09%	0.13%	-0.08%
Change due to Other	-0.13%	-0.11%	-0.47%	0.05%	-0.31%	-0.12%
FY 2024 Actuarial Contribution Rate	**14.86%**	**21.13%**	**78.68%**	**43.00%**	**45.89%**	**17.88%**
Reinvested Savings Rate	0.62%	0.60%	0.81%	0.00%	0.87%	0.64%
Final FY 2024 Total Budgeted Contr. Rate	**15.48%**	**21.73%**	**79.49%**	**43.00%**	**46.76%**	**18.52%**
Investment Gain/Loss as % of Payroll	0.8%	0.8%	2.5%	1.5%	2.3%	0.8%
Non-Investment Gain/Loss as % of Payroll	-5.7%	-8.5%	-45.0%	-37.8%	-16.5%	-7.2%
Total Payroll Increase from Prior Year	3.5%	3.2%	4.5%	3.6%	2.3%	3.4%

Contributions for FY 2023 were based upon the June 30, 2021 valuation.

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Allocation of Contribution to Local Employers (Boards of Education)

Teachers Combined System

	FY2024 Contribution ($ in Millions)			
	% of Pay	Total	Local Employers	State
Employer Normal Cost	5.04%	$ 412.1	$ 380.2	$ 31.9
UAAL Amortization	9.82%	802.9	-	802.9
Reinvested Savings	0.62%	50.8	-	50.8
Total	15.48%	$ 1,265.8	**$ 380.2**	$ 885.6

	FY2023 Contribution ($ in Millions)			
	% of Pay	Total	Local Employers	State
Employer Normal Cost	5.12%	$ 404.6	$ 373.0	$ 31.6
UAAL Amortization	9.53%	752.8	-	752.8
Reinvested Savings	0.64%	50.8	-	50.8
Total	15.29%	$ 1,208.2	**$ 373.0**	$ 835.2

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MUNICIPAL RESULTS

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Year-to-Year Comparison of Results: MUNICIPAL Systems

(MUNICIPAL ONLY, $ in Millions)

	Employees' Combined System	LEOPS	CORS	Total
FY 2024 Basic (Pooled) Contribution Rate	7.79%	36.91%	11.87%	**9.58%**
FY 2023 Basic (Pooled) Contribution Rate	7.40%	36.20%	12.19%	**9.02%**
Increase/(Decrease) from Prior Year	*0.39%*	*0.71%*	*(0.32%)*	*0.56%*
2022 Actuarial Value of Assets	$ 5,284	$ 454	$ 41	$ 5,779
2022 Unfunded Actuarial Liability	923	188	5	1,116
2021 Unfunded Actuarial Liability	856	162	6	1,024
Increase/(Decrease) from Prior Year	*67*	*25*	*(0)*	*92*
Funded Ratios				
2022	85.1%	70.8%	88.7%	**83.8%**
2021	85.5%	71.8%	87.2%	**84.3%**
Increase/(Decrease) from Prior Year	*(0.4%)*	*(1.1%)*	*1.4%*	*(0.5%)*

ECS and LEOPS experienced actuarial losses overall, comprised mostly of higher than assumed COLAs and individual salary increases, offset slightly by an investment gain on the actuarial value of assets. ECS and LEOPS both saw total payroll increases that exceeded the assumption (which reduced the contribution rate slightly), however LEOPS saw payroll increase to a much greater degree, in part due to PGUs transferring members to LEOPS. CORS experienced a small actuarial gain (the only System to experience a gain overall).

Contribution rates are percent of pay.

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CONCLUSION

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Recommended Budgeted Contributions Fiscal Year 2024: STATE

System	Fiscal 2024 Budgeted Rate	Fiscal 2024 Illustrated Dollars (Millions)	Prior Year Budgeted Rate	Prior Year Illustrated Dollars (Millions)
TCS	**14.86%**	$1,215	14.65%	$1,157
ECS	**21.13%**	778	20.68%	738
State Police	**78.68%**	102	76.45%	95
Judges	**43.00%**	24	40.02%	22
LEOPS	**45.89%**	61	44.73%	58
Total	17.88%	$2,181	17.55%	$2,070
TCS Local Employer Portion		380		373
Total State Only Portion		$1,801		$1,697

Reinvested savings of $75 Million are to be added to the amounts above. The final Illustrated State Total for FY 2024 is therefore $1,876 Million plus any amounts resulting from the sweeper amendment. Contribution rates are percent of pay.

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Recommended Basic Contributions Fiscal Year 2024: MUNICIPAL

System	FY 2024	FY 2023
ECS	**7.79%**	7.40%
LEOPS	**36.91%**	36.20%
CORS	**11.87%**	12.19%

PGU Contributions consist of the basic pooled rate shown above, certain surcharges, deficits or credits related to pre-2001 ECS liability, and new entrant and withdrawal payments and credits, all of which are shown in the full report. Contribution rates are percent of pay.

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Concluding Comments

– Experience in total was unfavorable during FY 2022 leading to an increase in aggregate State employer contribution rates.
– Upward pressure on contribution rates expected through FY 2028 due to deferred asset losses.
– State Systems on a path to reach a 100% funded ratio by 2039.
– The current funding policy will need modification to avoid volatility associated with short amortization periods.

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AMORTIZATION POLICY

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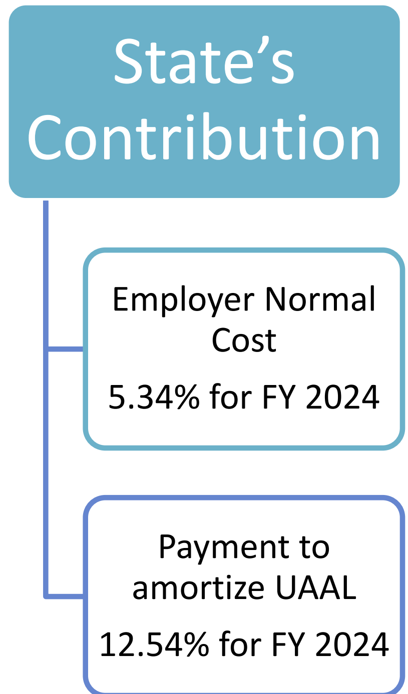
Amortization Policy Primer

- The State's contribution is comprised of two components:
  - Employer Normal Cost
    - The cost assigned to the current year to fund active members benefits less employee contributions
  - Payment to amortize the Unfunded Actuarial Accrued Liability (UAAL)
    - The UAAL is the liability assigned to the past that is not funded by current assets
    - Paid off gradually over time



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Amortization Policy Primer

- The UAAL is amortized, or paid off gradually over time
  - Analogous to a mortgage on a home
    - Requires paying principal and interest until the balance is paid off
- Unlike a mortgage
  - The UAAL (principal) changes with each valuation for various reasons
    - Actuarial gains and losses
    - Assumption or method changes
    - Benefit changes
  - The payment is usually calculated as a percent of payroll, rather than a fixed dollar amount
    - The actual payment dollars grow as the payroll grows

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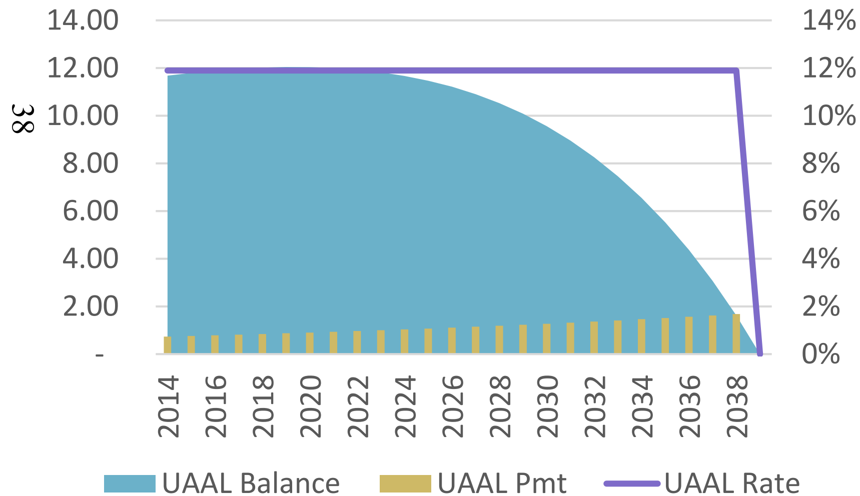
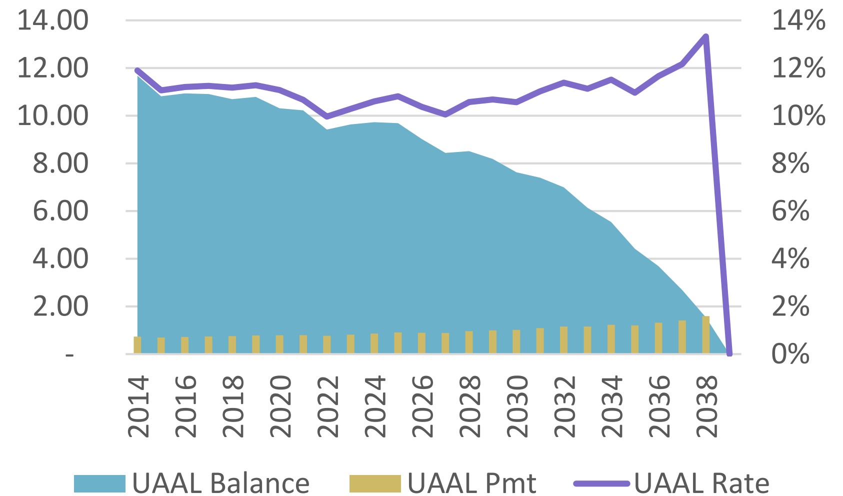
Amortization Policy Primer

Due to fluctuations in the UAAL caused by experience, assumptions changes, etc., the payment to amortize the UAAL will fluctuate at each valuation. The example below demonstrates a single 25-year closed amortization base.





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Amortization Policy Primer

- How the UAAL is amortized is dictated by the System's funding policy and Maryland statutes.

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Current Amortization Policy

- State Plans
  - 25-year closed for State plans ending June 30, 2039
    - 16 years remaining as of June 30, 2022 actuarial valuation
  - Corridor funding method eliminated
- Municipal Plans
  - ECS Municipal phased down to 20-year closed (for the June 30, 2022 valuation) ending June 30, 2043
  - LEOPS Municipal 17-year closed ending June 30, 2040
  - CORS Municipal 24-year closed ending June 30, 2047

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Current Amortization Policy

- The objective of the current funding policy (State Systems) is to be fully funded on June 30, 2039.
- The contribution rate is adjusted annually based an actual experience through the valuation date to ensure that the 2039 target is met.
- If contributions are made as required, and assumptions during Fiscal 2038 and 2039 are exactly realized, the objective will be met.
- **But, gains, losses, and other changes will be amortized over shorter and shorter periods as time passes, potentially producing extremely volatile contribution rates.**

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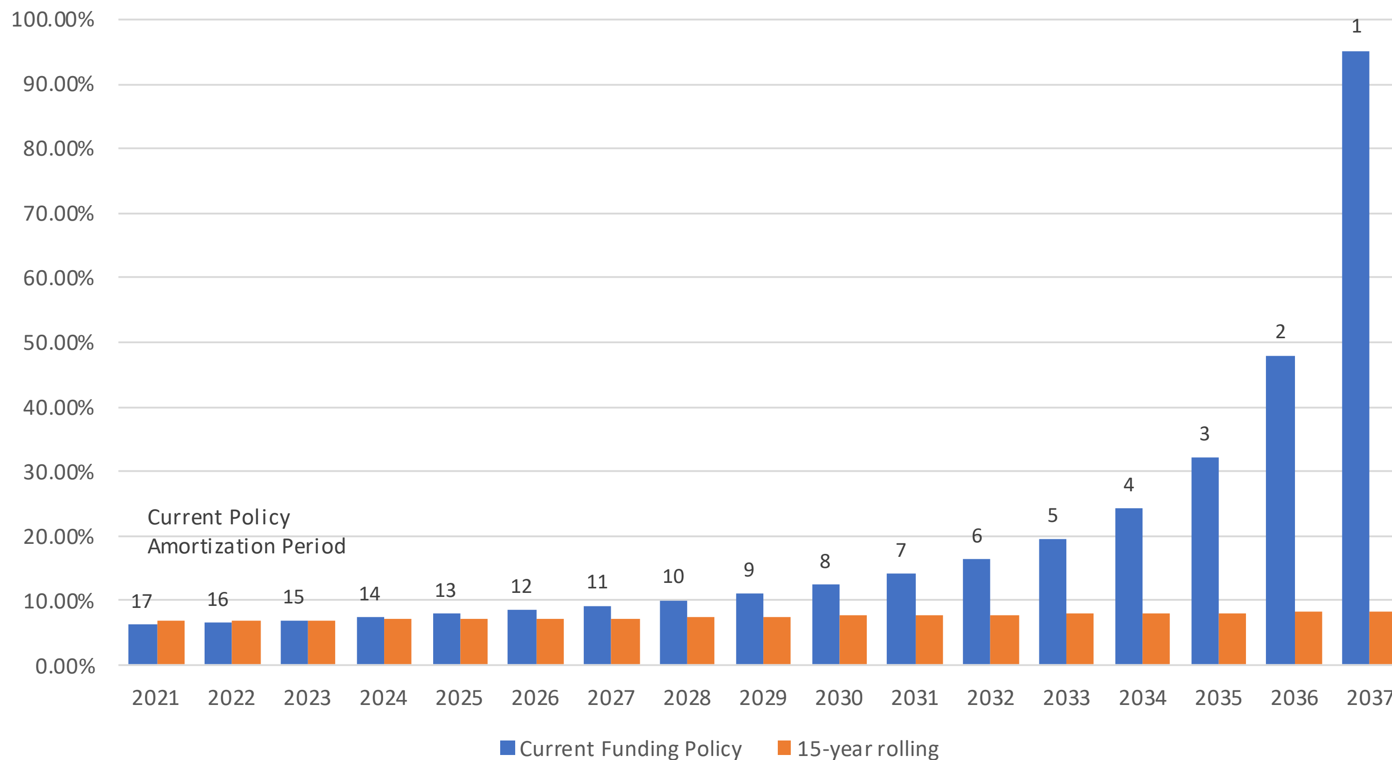
Illustration of Potential Contribution Volatility



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Amortization Policy Considerations

- The ideal solution would include moving to a policy that is compatible with the guidelines of the Conference of Consulting Actuaries (CCA) and the Board/Staff would have flexibility to make periodic adjustments as needed to avoid unnecessary volatility
- Possible alternatives were discussed by an Ad Hoc Committee and recommended to the Board in 2021

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Board Supported Amortization Policy

The Board supported the policy shown below at its September 2021 meeting. Legislation would be needed to enable this policy.

	Board Supported Amortization Policy
Policy Change Point	Current period reaches *15* years (2023 valuation)
Amortization of:	
Current UAAL	Continue closed schedule (16 years remaining in 2022)
Gains/Losses	15 years *pooled*; *rolling (open)*
Assumption Changes	25 years layered; closed
Plan Amendments	10-15 years layered depending on group affected; closed ERP: 5 years; closed
CCA Evaluation	*Acceptable with conditions*

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Amortization Policy Considerations

- An open amortization period is not considered a model practice by the CCA (however, it is considered acceptable with conditions)
- Closed amortization periods (the alternative to open amortization) can result in significant volatility in contribution rates as amortization bases are fully recognized, if not actively managed
  - Amortizing gains and losses over separate closed periods is expected to result in much more volatility than amortizing over a rolling period (and is one reason why the Board supported open amortization for gains and losses)

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Summary of Deliberations & Recommendation

- Current policy will lead to volatile contribution requirements
- In the near future the supported policy can moderate extreme contribution changes due to actuarial gains and losses
- We note the use of any open periods may result in a GASB crossover point
  - This could result in accounting liabilities being calculated at a lower rate than the funding valuation rate (6.8%), resulting in higher liabilities for accounting purposes

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Other Recommendations

- Don’t let contribution rate go below the Normal Cost
- Maintain flexibility to adjust policy as needed in order to avoid unnecessary scheduled volatility
- Reconsider portfolio risk as funding level increases
  - Ideal would be 100% funded at a relatively low level of risk
- Coordinate the Municipal funding policy with that for the State, but consider Municipal specific issues

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Disclosures

- This presentation is intended to be used in conjunction with the June 30, 2022 actuarial valuation reports. This presentation should not be relied on for any purpose other than the purpose(s) described in the valuation reports.

- This presentation shall not be construed to provide tax advice, legal advice or investment advice.

- The actuaries submitting this presentation (Brian Murphy, Brad Armstrong, and Amy Williams) are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

- The purposes of the actuarial valuation are to measure the financial position of MSRPS, assist the Board in establishing employer contribution rates necessary to fund the benefits provided by MSRPS, and provide certain actuarial reporting and disclosure information for financial reporting. There is an additional report and documents with other actuarial reporting and disclosure information for financial reporting.

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Disclosures

- Future actuarial measurements may differ significantly from the current and projected measurements presented in this presentation due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.
- This presentation was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.
- This is one of multiple documents comprising the actuarial reports for the combined systems and the municipal corporations. Additional information regarding actuarial assumptions and methods, and important additional disclosures are provided in the Actuarial Valuations as of June 30, 2022.
- If you need additional information to make an informed decision about the contents of this presentation, or if anything appears to be missing or incomplete, please contact us before relying on this presentation.

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Appendix 2

2023 Board Requested Legislation

The following legislative proposals are recommended by the Board of Trustees for the State Retirement and Pension System (System) for the Joint Committee on Pensions' consideration for the 2023 legislative session.

Technical Clarification – Return of Accumulated Contributions

Staff for the State Retirement Agency (Agency) has determined that there currently is not a provision in the State Personnel and Pensions Article that authorizes the Agency to refund the member contributions of a deceased non-vested former member to the deceased member's designated beneficiary, or if there is no beneficiary, to the deceased member's estate. Current provisions of the State Personnel and Pensions Article allow for the distribution of member contributions of a deceased former member, if the member was vested in one of the several systems at the time of death. When staff has been faced with the death of a non-vested former member, the current practice of the Agency has been to make such a distribution to the designated beneficiary of a deceased non-vested member, or if there is not designated beneficiary, to the deceased former member's estate. The Board is proposing legislation that would codify the Agency's existing practice.

Correctional Officers' Retirement System – Modifications to Chapters 218 and 219 of 2016, Chapters 688, 689, and 690 of 2017, Chapters 579 and 580 of 2018, and Chapter 147 of 2022

Sick Leave Correction

Chapter 147 of 2022 provides that members of the Employees' Pension System (EPS) or Employees' Retirement System (ERS) who are employed by the Department of Juvenile Services (DJS) serving as certain case management specialists or group life mangers on or before June 30, 2022, will be transferred to the Correctional Officers' Retirement System (CORS) on July 1, 2022. In the past, when similar legislation has been enacted that transferred certain groups from the EPS or ERS to the CORS, those bills included provisions that preserved any unused sick that had been earned in the EPS or ERS prior to being transferred to the CORS. This provision was inadvertently omitted from Chapter 147. The Board is recommending legislation to correct this oversight and preserve the unused sick leave accrued in the EPS or ERS by the DJS employees who were transferred into the CORS on July 1, 2022.

Opt-out Election to Move to Transfer Service to the CORS

Chapters 218 and 219 of 2016, Chapters 688, 689, and 690 of 2017, Chapters 579 and 580 of 2018, and Chapter 147 of 2022 each transferred various groups of employees from the EPS or ERS to the CORS. The affected employees were employed on and before the effective date of each of these bills by either the Department of Public Safety and Correctional Services

(DPSCS) or DJS. While each bill required the impacted employees to begin membership in the CORS, provisions of each bill also allowed these employees to elect to transfer their EPS or ERS service into the CORS.

These bills have had a significant impact on the retirement benefits of the members that were moved from the EPS to the CORS. The benefit multiplier for the EPS is 1.4% for each year of service earned prior to July 1, 1998, and 1.8% for each year of service earned on or after July 1, 1998. The CORS benefit multiplier is 1.82% for all service, regardless of when it is earned. Additionally, an individual who became a member of the EPS prior to July 1, 2011, is eligible for an unreduced service retirement allowance after accruing 30 years of eligibility service, regardless of age, or after reaching age 62, with five years of eligibility service. An individual who becomes a member of the EPS on or after July 1, 2011, is eligible for an unreduced service retirement allowance after satisfying the Rule of 90 or reaching age 65 with 10 years of eligibility service. (The Rule of 90 is satisfied when the member's age plus service equals 90.) These eligibility provisions contrast considerably with the eligibility provisions for CORS, which require a member to accrue 20 years of eligibility service, regardless of age, or reach age 55 with five years of eligibility service if the individual became a member prior to July 1, 2011, or age 55 with 10 years of eligibility service if the individual becomes a member on or after July 1, 2011.

The differences in the EPS and CORS benefits can be better appreciated by way of example. On June 30, 2016, a 50-year old case manager employed by DPSCS who had accrued 25 years of service in the EPS, would be eligible to receive an unreduced service retirement allowance from the EPS equal to 42.2% of their average final compensation after accruing five additional years of service. On June 30, 2016, a member of the CORS with the same demographics would be immediately eligible to receive an unreduced service retirement allowance equal to 45.5% of the member's average final compensation. After considering these two scenarios, one might wonder why the EPS case manager with 25 years of service would not choose to transfer to the CORS under the provisions of Chapter 218 and 219 of 2016. The answer to this can be found by looking more closely at the differing member contribution rates of each plan.

The member contribution rate for the CORS is 5% and has been since the inception of the plan in 1974. The history of the member contribution rate for the EPS is outlined in Table 1.

Table 1

Date	Member Contribution Rate
January 1, 1980 – June 30, 1998	0%
July 1, 1998 – June 30, 2006	2%
July 1, 2006 – June 30, 2007	3%
July 1, 2007 – June 30, 2008	4%
July 1, 2008 – June 30, 2011	5%
July 1, 2011 – present	7%

A DPSCS case manager with 25 years of service on June 30, 2016, would have commenced membership in the EPS on July 1, 1991. If that individual elected to transfer their

25 years of EPS service into the CORS, they would have been charged the difference in member contributions between the EPS and CORS for those years when the EPS member contribution rate was less than the CORS member contribution rate (5% for 1991-1998, 3% for 1998-2006, 2% for 2006-2007, and 1% for 2007-2008). This amount would be reduced by the 2% excess member contributions made to the EPS for 2011 to 2016. After transferring the member's service from the EPS to the CORS, the member is not required to pay the difference in member contributions. However, if the member does not pay the difference, their CORS account will carry a deficiency that will accrue interest until the member retires from the CORS. On retirement from the CORS, the members allowance will be reduced by the actuarial equivalent of this deficiency.

Following the passage of the 2016, 2017, and 2018 legislation, the Agency reached out to all of the members affected by the legislation, alerting them to the deficiencies they would incur if they transferred from the EPS to the CORS. Some of these deficiencies were substantial. The highest deficiency staff was able to track down was nearly $100,000. Yet, even with carrying a deficiency on their accounts after transferring to the CORS, the Agency determined that in every case, it was beneficial to the member to still transfer. The increase to their retirement from the CORS, with the actuarial reduction of the deficiency, was always greater than the retirement allowance they would receive if they did not transfer their EPS service. Nevertheless, many members, fearful of carrying a large deficiency on their account, not trusting that even with paying the deficiency their CORS benefit would still be higher after transferring this service, and not fully understanding the decision before them, elected not to transfer their previous EPS service into the CORS.

With this group of CORS bills becoming effective four to six years ago, many of the members who did transfer their EPS service into the CORS have since retired. Staff for the Agency is now finding that many of the members who were initially fearful to trust the Agency when it reported their benefit would not be harmed by the deficiency and, as a result, opted not to transfer their service to the CORS, now wish to do so after seeing that the retirement benefits of their colleagues who have since retired suffered no negative impact. However, the provisions of the State Personnel and Pensions Article that govern transfers of service credit, require a member to make such a transfer within a year of joining their new system. If the member misses this window, the regulations for the Agency provide that the member may request a waiver of this one-year time limit to the Executive Director of the Agency within four years of joining the new system, provided the member's request meets certain criteria. All of the members impacted by the 2016, 2017, and 2018 legislation are now past their four-year window to request a waiver to the requirement that they transfer within a year of joining their new system.

We believe that we will continue to hear from more members who now understand that it would have been to their benefit to transfer their service, and now wish to do so. In retrospect, we also believe that rather than put the onus on the member to affirmatively make an election they may not completely understand, all impacted members should have been automatically transferred into the CORS, unless they requested to opt out. It has only been through the actual experience of implementing these bills, that the Agency has been able to determine that in every instance, it was to the advantage of the member to transfer their prior service. With this information, we would now recommend that the 2016, 2017, and 2018 legislation be amended to

require all members to transfer, unless an affirmative declaration to opt out is made. This legislation would require the Agency to retroactively transfer the service credit of the DPSCS and DJS employees who have not already taken advantage of this option, unless they notify the Agency not to perform such a transfer. While the members impacted by the 2022 legislation are still within their first year of joining their new system, and therefore, may still transfer on their own, we would recommend including this group in this proposed legislation to avoid future issues of members who may once again act out of fear or confusion, and consequently, not make an informed decision that is in their best interests.

Administrative Fees – Amount and Timing of Billings

Prior to July 1, 2011, the administrative budget for the Agency, based on statutory authority, was funded solely through special funds drawn down from the pension trust fund. Chapter 397 of 2011 changed this process and now requires the Agency to apply a per employee charge on all employers participating in the System. This proposal by staff would seek to simplify the administrative fee process for both the Agency and the participating employers of the System.

To calculate the amount owed by the State and each local participating employer, the Agency determines the number of employees for each employer that are also members of the several systems as of June 30 of the second prior fiscal year and divides this number by the current member total of the System. This percentage is applied to the allowance the Governor includes in the budget bill for the upcoming fiscal year. Each participating employer, including the State, then is notified of the amount they will be required to pay for administrative fees to the Agency for the next fiscal year. It is important to note that this calculation is based on the allowance the Governor includes in the budget bill for the operating budget of the Agency, and not the actual amount that is appropriated for the Agency, once the budget bill is passed. Consequently, even before the legislative session has ended, the certified amount billed to the participating employers that each will be required to pay in administrative fees has been changed. The State is required to pay this amount to the Agency on July 1 of the appropriate fiscal year, while local participating employers must pay their portion on a quarterly basis to the Agency (October 1, January 1, April 16, and June 1).

Because the amount of administrative fees certified to the participating employers of the System is based on the Governor's allowance and not the final appropriation or actual expenditures for the Agency, the Agency is required to track any over or under payments made by the System's participating employers and recoup or refund these differences on or before June 30 of the second following fiscal year through the administrative expenses billed for that year to the participating employers. Additionally, any budget amendments that occur throughout the current fiscal year for administrative expenses are be paid from the System's accumulation fund. Similar to the any recoupment the Agency tracks for the participating employers regarding differences between the Agency's expenditures and the Governor's initial budget allowance, these unanticipated budget expenses are also recouped from the participating employers on or before June 30 of the second following fiscal year through administrative expenses billed for that year to the System's participating employers.

From the outset, this process is fraught with problems. Because these rates must be certified on or before the February immediately preceding the start of the fiscal year in question, the certified rate has never equaled the amount that is actually included in the budget bill once it is enacted. Accordingly, the amount spent by the Agency in any fiscal year based on its budget appropriation, is never the same as the amount certified. These discrepancies create guaranteed surpluses or deficiencies that the Agency and the Department of Budget and Management (DBM) must track and resolve to either refund or charge in the second fiscal year immediately following the fiscal year in question.

To muddy the accounting waters further, during any given fiscal year, the Agency may be subject to any number of budgetary adjustments from DBM or budget amendments requested by the Agency. These changes all add to the final carryover balance (whether negative or positive) that also must be monitored by both the Agency and DBM to be addressed and resolved in the second following fiscal year. The Agency annually determines the certified administrative expense rate for the State and each participating local employer based on the number of employees each employer has. However, in years when there has been a surplus or deficiency that must be addressed, the rate certified is further adjusted to include each employer's pro rata share of any surplus or deficiency that resulted from budget adjustments in the second prior fiscal year. For example, if the Agency ends fiscal 2023 with a surplus, the participating employers of the System will not be reimbursed until fiscal 2025. Moreover, the Agency reimburses participating employers at the same rate that each employer was billed initially. In other words, if a participating employer's pro rata share of the Agency's administrative expenses was 1.5% in fiscal year 2023, the amount reimbursed to this employer is based on this amount and not the current percentage for which the participating employer may be responsible in fiscal 2025. Accordingly, this requires additional rates that must be maintained by both the Agency and DBM, as well as all budget adjustments from two years prior.

The Agency and DBM both feel this is a process that could be simplified. Rather than certify a rate for administrative expenses based on an allowance that has never been the actual appropriation, let alone what is actually spent by the Agency in that fiscal year, it is recommended that the rate for administrative expenses be based on the actual amount that the Agency spent during the second previous fiscal year. For example, the actual amount spent by the Agency as of June 30, 2023 (fiscal 2023), would be determined by September 2023 (fiscal 2024). This amount would be used to certify the rates and the amount that will be billed to the State and local participating employers for the Agency's fiscal 2025 administrative expenses. This two year lag in certification and billing is similar to the certification and billing process in place when determining the System's annual employer contribution rate. While it is recognized and expected that this will result a shortfall each year that would still need to be addressed in the second following fiscal year, it would eliminate the settling of the many other budget adjustments that occur. The adjustments that would be avoided include: (1) those budgetary changes made during the legislative session prior to budget bill being enacted, but after the administrative expense rates have been certified to local employers; and (2) any budgetary adjustments made throughout the fiscal year as a result of State personnel issues that may arise during that time; and (3) any requested budget amendments by the Agency. Moreover, if the Agency certifies the rate due by the State and local employers for administrative expenses based

on the prior year's actual spending, the Agency could certify this rate as early as the September immediately prior to the fiscal year in question. This would provide both the State and local employers with an additional five months to plan for this expense in their budgets.

Appendix 3

Annual State Retirement and Pension System Investment Overview

Presented to the
Joint Committee on Pensions

Department of Legislative Services
Office of Policy Analysis
Annapolis, Maryland

December 2022

Annual State Retirement and Pension System's Investment Overview

At the request of the Joint Committee on Pensions, the Department of Legislative Services (DLS) annually reviews the investment performance of the State Retirement and Pension System (SRPS) for the preceding fiscal year. This report is intended to provide an overview of SRPS performance, a comparison of this performance to its peers, and an identification of issues meriting further comment by the State Retirement Agency (SRA).

State Retirement and Pension System Investment Performance

Asset Allocation

The SRPS Board of Trustees sets the allocation of assets to each investment class and continuously monitors the appropriateness of the allocation in light of its investment objectives. The SRPS *Investment Policy Manual* sets forth the investment objectives:

> The Board desires to balance the goal of higher long-term returns with the goal of minimizing contribution volatility, recognizing that they are often competing goals. This requires taking both assets and liabilities into account when setting investment strategy, as well as an awareness of external factors such as inflation. Therefore, the investment objectives over extended periods of time (generally, 10 to 20 years) are to achieve an annualized investment return that:
>
> 1. In nominal terms, equals or exceeds the actuarial investment return assumption of the System adopted by the Board. The actuarial investment return assumption is a measure of the long-term rate of growth of the System's assets. In adopting the actuarial return assumption, the board anticipates that the investment portfolio may achieve higher returns in some years and lower returns in other years.
>
> 2. In real terms, exceeds the U.S. inflation rate by at least 3%. The inflation-related objective compares the investment performance against the rate of inflation as measured by the Consumer Price Index (CPI) plus 3%. The inflation measure provides a link to the system's liabilities.
>
> 3. Meets or exceeds the system's Investment Policy Benchmark. The Investment Policy Benchmark is calculated by using a weighted average of the board-established benchmarks for each asset class. The Policy Benchmark enables comparison of the system's actual performance to a passively managed proxy and measures the contribution of active investment management and policy implementation.

The assets allocation is structured into five categories:

- ***Growth Equity:*** public equity (domestic, international developed, and international emerging markets) and private equity investments;

- ***Rate Sensitive:*** investments in bonds, loans, or associated derivatives with an average portfolio credit quality of investment grade;

- ***Credit:*** investments in bonds, loans, or associated derivatives with an average portfolio credit quality of below investment grade;

- ***Real Assets:*** investments whose performance is expected to exceed the rate of inflation over an economic cycle; and

- ***Absolute Return:*** consists of investments that are expected to exceed the three-month U.S. Treasury bill by 4% to 5% over a full market cycle and exhibit low correlation to public stocks.

Included within these asset classes are sub-asset classes. The board approves adjustments to the asset allocations and sets transitional targets. The board also approves target ranges for sub-asset classes as well as constraints on hedge fund exposure, with total hedge fund investments capped across all asset classes. In fall 2021, the board adjusted the system's asset allocation. **Exhibit 1** shows system asset allocations in relation to the strategic targets in effect on June 30, 2021, and under the changes adopted in September 2021.

Exhibit 1

State Retirement and Pension System Asset Allocation

Asset Class	Actual June 30, 2021	Target July 1, 2022
Growth Equity		
U.S. Equity	16%	15%
International Equity	10%	9%
Emerging Markets Equity	11%	10%
Private Equity	13%	16%
Subtotal	***50%***	***50%***
Rate Sensitive		
Long-term Government Bonds	10%	10%
Securitized Bonds	5%	3%
Corporate Bonds	n/a	3%
Inflation-linked Bonds	4%	5%
Subtotal	***19%***	***21%***
Credit/Debt		
High Yield Bonds and Bank Loans	7%	7%
Emerging Market Debt	2%	1%
Subtotal	***9%***	***8%***
Real Assets		
Real Estate	10%	10%
Natural Resources and Infrastructure	4%	5%
Subtotal	***14%***	***15%***
Absolute Return	**8%**	**6%**
Total Fund	**100%**	**100%**

Note: Columns may not add to total due to rounding.

Source: State Street – State Retirement Agency of Maryland – Rates of Return – Net Mgr – Periods Ending June 30, 2021; State Retirement and Pension System, *Investment Policy Manual*

The system's asset allocation is reflective of a decision to restructure the portfolio in fiscal 2008 and 2009. The overall strategy is part of an approach by the board to decrease risk through diversification in the wake of the 2008 financial crisis. Increased investment in private

equity has resulted in positive returns for the system with less experienced volatility than public equity. Lower allocations to public equity investments are expected to result in lower returns when public equities are in growth patterns. However, as public equity can be a highly volatile asset class, a more diverse investment allocation should reduce volatility to provide protection when equity markets perform poorly or decline. While mitigating volatility will result in not taking full advantage of highly performing public equity markets, more stable investment returns will also mitigate swings in employer contribution rates. The board of trustees and the investment committee monitor the allocation of assets and continue to discuss the appropriate allocation (in consultation with the system's investment staff and investment consultants) that will achieve the system's investment return needs. Given the certain nature of defined benefit payment obligations, prudent allocation strategy should consider both achieving positive returns as well as being positioned to avoid losses. While investment division staff have some authority to make tactical, short-term adjustments to asset allocations, the *Investment Policy Manual* states an objective of long-term investment strategy, acknowledging the system's long-term investment horizon may lead to short-term volatility. The manual will reflect actions of the board altering the asset allocation and can be found on SRA's website.

Investment Performance

The system's investment return for fiscal 2022 was -2.97% net of management fees below the assumed rate of return of 6.80%. The system exceeded its policy benchmarks for the system as a whole. As shown in **Exhibit 2**, the system's assets' market value totaled $64.6 billion as of June 30, 2022 – a decrease over the $67.9 billion in assets at the end of fiscal 2021.

Exhibit 2

State Retirement and Pension System of Maryland

Fund Investment Performance for Periods Ending June 30, 2022

($ in Millions)

			Time Weighted Total Returns		
	Assets	**% Total**	**1 Year**	**5 Years**	**10 Years**
Growth Equity					
Public Equity	$18,426	28.5%	-19.38%	6.44%	8.90%
Private Equity	13,881	21.5%	24.53%	21.38%	17.69%
Subtotal	***$32,307***	***50.0%***	***-5.04%***	***11.33%***	***11.67%***
Rate Sensitive					
Nominal Fixed Income	$8,535	13.2%	-18.03%	0.77%	1.93%
Inflation Sensitive	2,838	4.4%	-5.61%	3.25%	2.18%
Subtotal	***$11,373***	***17.6%***	***-15.28%***	***1.41%***	***2.16%***
Credit/Debt					
High Yield Bonds and Bank Loans	$2,735	4.2%	-10.03%	2.69%	n/a
Private Credit	1,789	2.8%	15.70%	8.28%	9.79%
Credit Hedge Fund	41	0.1%	-0.40%	-2.02%	0.96%
Non-U.S. Credit	515	0.8%	-19.37%	-1.27%	–1.55%
Subtotal	***$5,080***	***7.9%***	***-4.54%***	***3.44%***	***5.27%***
Real Assets					
Real Estate	$7,127	11.0%	30.64%	10.72%	11.06%
Natural Resources and Infrastructure	2,693	4.2%	13.70%	n/a	n/a
Subtotal	***$9,820***	***15.2%***	***25.70%***	***9.22%***	***4.81%***
Absolute Return	**$4,897**	**7.6%**	**1.40%**	**3.97%**	**3.15%**
Multi Asset	**$246**	**0.4%**	**-19.04%**	**n/a**	**n/a**
Cash	**$912**	**1.4%**	**-0.23%**	**4.23%**	**3.29%**
Total Fund	**$64,634**	**100.0%**	**–2.97%**	**7.93%**	**7.79%**

Note: Returns beyond one year are annualized. Returns are net of fees. Columns may not add to total due to rounding.

Source: State Street – State Retirement Agency of Maryland – Rates of Return – Net Mgr – Periods Ending June 30, 2022

Significant investment gains or losses can impact the allocation of the investment portfolio to certain asset classes. The asset allocation targets set by the board are intended to maintain an acceptable risk tolerance for the system, providing protection for the system against investment volatility. The investment returns of each asset class can result in deviation from the target allocations, requiring additional oversight to maintain the overall asset allocation within the system's established risk tolerance.

In spite of the losses in fiscal 2022, **Exhibit 3** shows that the system performed 0.51% (51 basis points) above the benchmark.

Exhibit 3

State Retirement and Pension System of Maryland

Benchmark Performance for Year Ending June 30, 2022

	Return	Return Benchmark	Excess
Growth Equity	**-5.04%**	**-3.79%**	**-1.25%**
Public Equity	-19.38%	-18.05%	-1.34%
Private Equity	24.53%	24.00%	0.53%
Rate Sensitive	**-15.28%**	**-13.70%**	**-1.58%**
Nominal Fixed Income	-19.97%	-17.74%	-2.23%
Inflation Sensitive	-5.61%	-5.73%	0.11%
Credit	**-4.54%**	**-12.57%**	**8.03%**
High Yield Bonds and Bank Loans	-10.03%	-10.85%	0.82%
Private Credit	15.70%	n/a	n/a
Credit Hedge Fund	-0.40%	-2.80%	2.40%
Non-U.S. Credit	-19.37%	-20.80%	1.43%
Real Assets	**25.70%**	**19.88%**	**5.82%**
Real Estate	30.64%	28.71%	1.94%
Natural Resources and Infrastructure	13.70%	2.28%	11.43%
Absolute Return	**1.40%**	**2.99%**	**-1.59%**
Multi Asset	**-19.04%**	**-3.48%**	**-15.56%**
Cash and Cash Equitization	**-0.23%**	**0.19%**	**-0.43%**
Total Fund	**-2.97%**	**-3.48%**	**0.51%**

Source: State Street – State Retirement Agency of Maryland – Rates of Return – Net Mgr – Periods Ending June 30, 2022

DLS requests SRA to comment on the fiscal 2022 return performance in relation to the policy benchmarks. For any asset classes and asset sub-classes that underperformed the benchmark, SRA should comment on the factors that led to the underperformance, whether those factors are expected to negatively affect performance in fiscal 2023, and what actions are being taken to mitigate those factors from impacting the fiscal 2023 returns.

Performance Relative to Other Systems

One method of evaluating the system's investment performance is to compare the system's investment performance with the performance of other systems. The Wilshire Trust Universe Comparison Service (TUCS) rankings are useful for providing a big picture, snapshot assessment of the system's performance relative to other large public pension plans. In the TUCS analysis, the one-hundredth percentile represents the lowest investment return, and the first percentile is the highest investment return. According to TUCS, the system's fiscal 2022 total fund investment performance was rated in the thirty-seventh percentile among the public pension funds with at least $25 billion in assets, as shown in **Exhibit 4**. As the system has historically had a low allocation to equity investments compared to its peers – and domestic equity in particular – the system's investment policy will have a low TUCS ranking when equity markets are experiencing strong performance, as has been the case for a number of recent years. The long-term relative performance rankings have placed SRPS' relative total fund performance in the bottom quartile, with improvement in recent years. The TUCS rankings are based on returns gross of fees.

Exhibit 4
TUCS Percentile Rankings for Periods Ending June 30
Fiscal 2019-2022

	2019	2020	2021	2022
1 Year	60	53	64	37
3 Years	92	60	57	37
5 Years	88	71	75	43
10 Years	87	87	88	75

TUCS: Wilshire Trust Universe Comparison Service

Note: Rankings for systems greater than $25 billion.

Source: Wilshire Trust Universe Comparison Service

The impact of asset allocation on total system TUCS rankings can be seen in the system's TUCS rankings on performance within individual asset classes. When the system as a whole has experienced relatively low rankings when compared to peer systems, the system has experienced better relative performance by asset class. **Exhibit 5** shows the difference in relative rankings

between the system as a whole and the system by asset class. The asset allocation has impacted the relative ranking of the total system return, with the system having lower allocations to public equity and domestic public equity in particular. This effect can also be seen in the ranking for total equity. The system does not have a bias to U.S. equity, which had strong performance in recent years. A system with higher allocations to well performing asset classes will have better relative performance. Fiscal 2022 losses in equity and fixed income were mitigated by the allocations to private equity and real estate performing well above average in those asset classes. The system's 5- and 10-year returns by asset class indicate sustained above average performance in multiple asset classes. With public equity – particularly U.S. public equity – comprising very efficient public investment markets, the system's long-term average performance indicates a measured approach to balance risk and return in those volatile asset classes.

Exhibit 5

TUCS Percentile Rankings for Periods Ending June 30, 2022

Asset Class	1-year	3-year	5-year	10-year
Total Equity	96	88	88	68
U.S. Equity	75	45	55	56
International Developed	55	26	27	65
International Emerging	50	12	31	n/a
Fixed Income	94	22	10	28
Private Equity	20	8	12	1
Real Estate	21	25	29	45

TUCS: Wilshire Trust Universe Comparison Service

Note: Rankings for systems greater than $1 billion.

Source: Wilshire Trust Universe Comparison Service

DLS requests that SRA comment on the relative TUCS performance rankings by asset class and how overall asset allocation impacts the total system's TUCS rankings.

Recent historical returns have seen both exceptionally strong and exceptionally weak returns in public equity, which demonstrates how highly volatile this asset class is. Allocations that limit exposure to more volatile assets should result in more stable employer contribution rates over time. An allocation that would result in mitigating volatility of returns (whether excess gains, returns below the assumed rate of return, or investment losses) will also mitigate the impact to employer contributions from contribution rate increases. A system's asset allocation should be impacted by a number of considerations that reflect a system's risk tolerance. A system's maturity

(ratio of retirees to active members), funded status, assumed rate of return, benefit structure, regularity of full contributions, and other considerations factor into a system's risk tolerance. The importance of these factors will vary from plan to plan, leading to different tolerances for risk, variation in investment allocations, and differences in annual returns.

TUCS provides data on the risk-return profile of its members that shows that the system's level of risk over the three-year period ending June 30, 2022, was below the median for other public funds with assets greater than $25 billion. This is consistent with the system's comparatively lower allocation to public equity that can be a highly volatile asset class. The system's asset allocation strategy is intended to protect against more extreme losses in down markets. Due to the nature of the benefits that the system's investments ultimately fund, there is prudence in setting an asset allocation that achieves the necessary investment returns with the lowest level of risk capable of achieving those returns. The system's allocation strategy has appeared to have achieved its intended result in fiscal 2022. Despite having a return of -2.97%, many other plans experienced significantly higher investment losses that will require even higher future returns to recover the experienced losses.

DLS requests that SRA comment on how the system's asset allocation strategy mitigated investment losses in fiscal 2022 and the impact to the system of those mitigated losses.

Investment Management Fees

As shown in **Exhibit 6**, SRPS incurred $569 million in investment management fees during fiscal 2022, an increase from $544 million in fiscal 2021 fees. Management fees for the plan have grown substantially since the system adjusted its asset allocation to invest more heavily in alternative asset classes with higher fee structures. The shift of public equity assets to global and emerging market equity managers, which are almost all active managers, has also contributed to the growth in fees over the past few years. As a percent of assets under management, management fees in fiscal 2022 were slightly less than in fiscal 2021 by 3 basis points.

Exhibit 6
Asset Management Fees Paid by Asset Class
Fiscal 2021-2022
($ in Millions)

	2021				2022			
Asset Class	Management Fee	Incentive Fee	Total	Fees as % of Asset	Management Fee	Incentive Fee	Total	Fees as % of Asset
Equity	$77.6	$21.0	$98.6	0.53%	$72.9	$12.7	$85.6	0.56%
Rate Sensitive	14.2	19.9	34.1	0.50%	14.5	8.6	23.1	0.41%
Credit	7.5	n/a	7.5	0.17%	7.2	n/a	7.2	0.18%
Private Equity	125.3	n/a	125.3	1.27%	134.8	n/a	134.8	1.01%
Real Estate	38.1	0.4	38.5	0.81%	45.7	8.4	54.0	0.89%
Real Return	14.8	n/a	14.8	0.65%	15.0	0.1	15.1	0.56%
Absolute Return	52.6	91.5	144.1	2.75%	61.1	70.2	131.3	2.45%
Multi Asset	1.1	n/a	1.1	0.18%	1.3	n/a	1.3	0.23%
Private Credit/Debt	21.4	n/a	21.4	1.43%	18.0	n/a	18.0	0.99%
Equity Long Short	14.1	36.3	22.5	2.68%	17.2	72.0	89.2	4.43%
Service Providers	8.1	n/a	8.1	n/a	9.3	n/a		n/a
Total Fund	**$374.9**	**$169.2**	**$544.0**	**0.87%**	**$397.0**	**$172.0**	**$569.0**	**0.84%**

Note: Columns may not sum to total due to rounding. “Fees as % of Asset” column indicates fees as a percentage of the average market value of the asset under management.

Source: State Retirement Agency

Review of the SRPS fees by the system’s investment consultant has noted that SRPS has been effective at negotiating more favorable fee arrangements than peer systems. Transitioning assets to internal management is also expected to result in fee savings to the system.

Active Management

While active management of assets results in higher overall fees, the system has benefited from active management. The system has found passive investment strategies to be effective where available. However, active management is able to add more diversification to system investments by investing in assets where active management can generate returns in assets where passive investment is not available or efficient. **Exhibit 7** shows the system’s fiscal 2022 performance

where active and passive management are utilized. Actively managed emerging market equities slightly underperformed the passively managed assets for the whole fiscal year but did mitigate losses in the short term. With respect to U.S. nominal fixed income, active management outperformed passively managed assets for the fiscal year by avoiding more substantial losses. Longer term performance shows greater benefit from active management with actively managed U.S. equity tracking closely with passive assets, and both active emerging market equity and U.S. nominal fixed income providing significant returns above the passively managed assets.

Exhibit 7

Active and Passive Management Performance

Periods Ending June 30, 2022

($ in Millions)

	Assets	1 Month	3 Months	FYTD	3-year	5-year
U.S. Equity						
Passive Management	$3,075.2	-8.38%	-16.36%	-13.43%	9.33%	10.20%
Active Management	$3,264.5	-7.75%	-17.90%	-18.00%	9.18%	10.26%
Emerging Market Equity						
Passive Management	$36.7	-6.51%	-11.28%	-25.25%	0.73%	2.64%
Active Management	$5,028.4	-5.79%	-11.02%	-25.62%	2.94%	3.68%
U.S. Nominal Fixed Income						
Passive Management	$3,674.3	-1.75%	-10.30%	-17.00%	-1.83%	0.99%
Active Management	$4,082.7	-2.06%	-7.92%	-13.46%	-0.10%	2.09%

FYTD: fiscal year-to-date
Note: Returns are net of fees.

Source: State Street – State Retirement Agency of Maryland – Rates of Return – Net Mgr – Periods Ending June 30, 2022

Absolute Return Fees

Absolute return fee structures typically include base fixed management fees and incentive compensation based on performance. Fees paid for absolute return were $131.3 million in fiscal 2022, which represents approximately 23.1% of all management fees. Absolute return comprises 7.6% of SRPS investments. With the exception of the fiscal 2021 returns, the absolute return investment return has consistently performed well below the system's assumed rate of return

as well as additionally performing below the benchmark. The system's *Investment Policy Manual* describes the absolute return asset class as, "investments whose performance is expected to exceed the three-month U.S. Treasury bill by 4% to 5% over a full market cycle and exhibit low correlation to public stocks."

In fiscal 2022, managers achieved returns of 1.40% against a benchmark of 2.99%. Performance relative to benchmarks was mixed within the asset class, with a little less than half of the absolute return managers achieving returns above the asset class benchmark. Returns varied considerably between under- and over-performance. A significant number of investments sustained losses with nine managers underperforming their benchmarks by more than -10%, four underperforming by more than -20%, and one underperforming by almost -50%. Three managers exceeded the benchmark by over 30%.

Absolute return has returned below benchmarks for the 1-, 3-, 5-, and 10-year periods ending June 30, 2022. Since inception, the returns have exceeded the benchmarks, but that return is only 3.48% against a benchmark of 2.73%. In contrast, the system's cash assets (1.4% of total system assets) have returned 3.39% since inception (against a benchmark of 0.52%) and have outperformed the absolute return assets over the 5- and 10-year periods ending June 30, 2022.

Given the historic low rate of return, underperformance relative to benchmarks (less than half the benchmark in fiscal 2022), and high management fee structures, DLS requests SRA to comment on the returns of the absolute return asset class, including the market conditions leading to the low level of returns and benchmark underperformance, and what market conditions would result in markedly improved returns for investments in the asset class.

Private Equity Fees

Management fees for private equity comprised nearly 23.7% of total management fees, while constituting 21.5% of system assets in fiscal 2022. The reason for the higher amount of fees in private equity involves a substantial degree of active management. Fee structures typically include a fixed base management fee, plus a portion of earnings referred to as "carried interest." The management fees only reflect the base fees, not carried interest. Because of the nature of private equity fee arrangements, carried interest fees are tied to performance. When the system pays higher carried interest fees, a higher return on investment is earned by the system. SRA indicates that private equity returns are reported net of management fees and carried interest.

The private equity return was 24.53%, with a benchmark of 24.00%. Investment in private equity has resulted in positive returns for the system with less experienced volatility than public equity. Returns for the 1-, 3-, 5-, and 10-year periods ending June 30, 2022, were 24.53%, 24.67%, 21.38%, and 17.69%, respectively. Returns for those same periods also provided excess returns over the asset class benchmarks. Private equity investment performance has also outperformed peer systems consistently, as noted in Exhibit 5, with the system ranking first for its 10-year returns in the TUCS rankings.

SRA has also been utilizing co-investments in private equity. Such investments are companion investments to private equity funds that SRPS is already investing in but would not carry the same associated fee structure. Under this approach, SRPS is effectively reducing its fees for any private equity investments it co-invests by increasing the invested funds with the co-invested portion of the investment being subject to a lower fee structure. One potential risk in co-investing is that it can result in decreased diversification by consolidating private equity assets in fewer investments. Management of private equity assets will play a crucial role in the continued success of the asset class.

In the past five years, calls for greater transparency in the reporting of carried interest have led to changes in the investment management industry. Carried interest is earned by investment managers in private markets (*e.g.*, private equity, private real estate) and is the amount that a general partner (investment manager) retains as an ownership interest in the investment profits generated by the partnership. Carried interest typically represents a percentage of the profits generated, with that proportion negotiated among the parties involved. As carried interest represents shared profits that are retained by the general partner rather than paid by the investor, it is not typically reported as investment management fees.

DLS requests SRA to provide an update on estimated carried interest for calendar 2022.

Investment Division Staffing

Chapters 727 and 728 of 2018 granted the board authority to set the compensation of personnel in the SRA Investment Division and to establish positions within the division, subject to certain limitations. Investment Division staff are now to be "off-budget" and funded as system expenses. Investment positions are also now outside the State personnel system. The legislation included the creation of the Objective Criteria Committee (OCC) that is charged with making recommendations to the board on the objective criteria to be used for setting compensation and governing the payment of financial incentives to eligible Investment Division staff. OCC made recommendations to the board, and the board included provisions governing the compensation (including incentive compensation) for division staff.

The stated purpose of the legislation by SRA and the board was twofold. First, SRA's Chief Investment Officer (CIO) noted that the ability to create positions and set compensation would reduce compensation-related turnover in the division and help in recruitment to adequately staff the division to perform its existing functions. Testimony submitted in support of the legislation noted that the authority is expected to enhance system investment performance by maintaining and adding staff. The testimony noted that additional staffing resources will "enable the division to expand the universe of potential managers or investments to pursue, enhance the methodology of evaluating those opportunities, or design tactical strategies to adjust the mix of investments for intermediate-term performance." Additional staffing is also intended to free senior investment staff of administrative duties, resulting in increased focus on enhancing investments. The testimony noted that providing the board with authority over positions and compensation "will not result in paying the existing staff more money for doing the same job, but instead, will allow these positions

to be more focused on the investment process rather than the administrative and reporting functions." The request for staffing authority contemplated SRA's need to expand its staff resources, as both the complexity of the fund assets and the size of the assets under management is expected to grow.

Since the passage of Chapters 727 and 728, SRA has been able to hire additional staff and move forward into internal management of assets. The Investment Division has grown by an additional 21 positions since passage of the legislation. Periodic review of the division's operations will evaluate the need for additional future positions. Chapters 727 and 728 included limitations on the amount compensation may be increased in a fiscal year, which had led to issues with disparate compensation for division staff who were hired prior to the compensation authority being granted to the board. Chapter 356 of 2022 gave the board authority to "catch-up" these employees' salaries to the salary midpoint for their position.

DLS requests SRA comment on the use of the compensation adjustment authority provided under Chapter 356 and whether there are any remaining compensation disparity issues.

Incentive Compensation

Fiscal 2020 was the first year in which Investment Division staff and the CIO were eligible for incentive compensation under Chapters 727 and 728. Due to restrictions included in the legislation on payment of incentive compensation in years in which State employees are subject to a furlough, incentive payments are subject to deferral to ensure compliance with this restriction. Incentive compensation is paid out over a two-year period. Incentive compensation is earned based on the performance of assets under an employee's management. The incentive compensation earned is based on the performance of assets related to the system's actuarial rate of return, the system's policy benchmark, and asset class-specific performance benchmarks.

DLS requests SRA update the committee on the use of incentive compensation for recruitment and retention and provide information on the number of division staff eligible for incentive compensation based on fiscal 2022 returns.

Internal Management of Assets

The second purpose under Chapters 727 and 728 was that the authority over positions and compensation would be necessary to expand and begin moving externally managed assets to internal management by division staff. The timeline indicated for internal management contemplated beginning with passively managed assets toward the end of an initial 2-year phase-in. Internal management would be broadened in years 3 through 5 to types of assets directly managed, including co-investment in private assets. By year 10, as much as 50% of assets could be managed internally. One of the arguments for internal management is that it can reduce fees paid for asset management. SRA estimates savings opportunity through internal management of assets. SRA noted that fee savings of just 1 basis point would net the system approximately $5 million. DLS has previously noted that SRA has been effective at negotiating favorable fee arrangements with external managers, and external management provides SRPS with options to

select asset managers and to diversify the management of assets among multiple managers. DLS also previously noted that a shift to internal management would require significant operational changes. Performance measures would need to be adopted to monitor and evaluate the effectiveness of internal management of system assets compared to external management. Additionally, guidelines and reporting requirements would need to be implemented to track the internal management of system funds as well as any expansion or reduction of internal management once implemented.

Since the passage of Chapters 727 and 728, the system has begun to move assets under internal management. A U.S. Treasury Inflation Protected Securities passive portfolio was initially funded for July 1, 2019. A Long Government Bond portfolio was funded for March 1, 2020. The Russell 1000 portfolio was funded for October 1, 2020. The Corporate Bond portfolio was funded at the end of fiscal 2021. In fiscal 2022, portfolios for securitized bonds and small capital domestic equity were funded. **Exhibit 8** shows the performance of the system's internal management program. While these assets all experienced losses during the fiscal year, they all tracked closely with the asset benchmarks. The internally managed assets do not carry the same fee expenses as externally managed assets, and the performance shown in Exhibit 8 does not reflect fee savings.

Exhibit 8
SRPS Internal Management Performance
Investment Performance for Periods Ending June 30, 2022
($ in Millions)

	Total Assets	Fiscal 2022 Actual	Fiscal 2022 Benchmark	Inception Actual	Inception Benchmark	Inception Date
MD TIPS	$2,615.1	-5.77%	-5.73%	2.95%	2.97%	7/1/2019
MD Long Government Bonds	2,542.9	-21.45%	-21.20%	-10.22%	-10.28%	3/1/2020
MD U.S. Large Cap Equity	2,726.0	-12.98%	-13.04%	7.60%	7.60%	10/1/2020
MD Investment Grade Corporate Bonds	609.0	-14.76%	-14.19%	-14.76%	-14.19%	7/1/2021
MD Securitized Bonds	522.5	n/a	n/a	-9.19%	-9.05%	10/1/2021
MD US Small Cap Equity	349.2	n/a	n/a	-14.31%	-14.37%	10/1/2021

MD: Maryland
TIPS: Treasury inflation-protected securities

Source: State Retirement Agency

DLS requests SRA to comment on the estimated fee savings attributable for internally managed assets.

Additionally, DLS requests SRA to provide an update on the Investment Division's internal management of system assets and the development of necessary compliance and controls on the use of internal asset management. More specifically, SRA should comment on how the Investment Division:

- **has developed proficiency in managing assets currently being managed internally;**
- **will develop proficiency before expanding into internal management of additional asset classes;**
- **will evaluate the performance of internal management compared to available external management services; and**
- **will develop methodologies for determining fee savings achieved through internal management.**

Investment Climate Risk

The impact of climate change on the invested assets of public (and private) retirement systems has been receiving increasing attention over the last few years. As climate-related risk to investments is becoming more well understood and manifest, investment fiduciaries are becoming more aware of the potential risks to current assets and the potential for future opportunities to invest as climate risks manifest. Much of the discussion around climate risk has focused on divesting from carbon-producing and -using businesses or severing relationships with entities who are divesting from carbon producing and using businesses. In 2022, the Maryland General Assembly adopted an approach centered around the requirement for system fiduciaries to prudently invest the assets of the system. Chapters 24 and 25 of 2022 codified the responsibility of a fiduciary of SRPS, when managing assets of the system and in accordance with statutory fiduciary responsibilities, to consider the potential systemic risks of the impact of climate change on the system's assets.

The legislation does not require the system to take any specific action from any particular asset. Instead, the goal of the legislation is to ensure that the system fiduciaries are well informed of the potential climate related risks to system assets, just as they have duties to stay informed of any other financial risks to system assets. The legislation is intended to ensure that the system is aware of developing information regarding climate risk so that it is able to respond prudently and efficiently when climate related risk – or opportunity – arises. In many ways, the legislation codifies activity that the system has already established as regular practice. The system has received analysis from its primary investment consultant modeling the impact of climate risk to the system's assets during the system's periodic review of the asset allocation. Previously, the

system has noted its ownership interests in businesses have provided access to engage with companies on climate risk issues. The system's *Investment Policy Manual* also has a number of policies for shareholder proxy voting on climate-related issues.

As Chapters 24 and 25 included requirements that would either continue current practices or require the build out of new activities for the system's Investment Division, it is expected that additional positions and consultants may be needed. Fortunately, as noted previously, Chapters 727 and 728 granted the Board of Trustees the authority to establish positions within the Investment Division. Recently, the system created and filled a new Senior Governance Manager position in the division to oversee activity related to environmental, social, and governance investment matters.

DLS requests SRA to provide an update on the implementation of Chapters 24 and 25.

Terra Maria Program

The Terra Maria program is the system's emerging manager program. One of the Terra Maria program's stated goals is to achieve returns in excess of benchmarks. The program has demonstrated the ability to achieve excess returns over benchmarks, with instances of significant returns over benchmarks at times. Over the past few years, SRPS reorganized the program to better utilize the asset diversification that the program can bring to SRPS. The program transition included eliminating mandates for allocations to large-cap domestic equity and increasing mandates for international small-cap and emerging markets. The program consolidated under five program managers. Program investments in domestic equity in recent years were tracking close to markets, making it more difficult to achieve excess returns in an asset class where it is already difficult to outperform the market in addition to incurring active management fees. The program has maintained a diverse roster of managers through the transition.

Total assets devoted to the program decreased to $2.2 billion in fiscal 2022, down from $2.7 billion in fiscal 2021. As a proportion of total assets, Terra Maria decreased from 4.0% of total assets in fiscal 2021 to 3.4% in fiscal 2022. **Exhibit 9** provides an overview of the Terra Maria program by program manager and asset class.

Exhibit 9

Terra Maria Program Performance

Investment Performance for Periods Ending June 30, 2022
($ in Millions)

		Performance			
	Total Assets	**Fiscal 2022 Actual**	**Fiscal 2022 Benchmark**	**Inception Actual**	**Inception Benchmark**
Program Manager					
Attucks International Equity	$538.0	-20.69%	-16.76%	9.39%	6.41%
Attucks US Equity/Rate Sensitive	938.6	-14.13%	-15.19%	10.52%	10.20%
Xponance	292.0	-21.95%	-23.21%	7.97%	8.25%
Leading Edge	422.6	-25.42%	-16.76%	8.11%	6.41%
Asset Class[1]					
U.S. Equity	$306.7	-22.26%	-25.10%	6.97%	6.97%
International Developed Equity	1,250.2	-22.61%	-18.55%	2.51%	1.50%
Rate Sensitive	578.5	-9.20%	-9.15%	1.59%	1.21%
Credit/Debt	53.4	-8.22%	-8.17%	1.90%	1.70%
Total	**$2,191.3**	**-19.17%**	**-17.17%**	**8.11%**	**6.41%**

[1] Excludes $2.5 million in emerging market investments.

Note: Actual returns are net of fees; returns beyond one year are annualized. Total assets may not sum to total due to rounding.

Source: State Street – State Retirement Agency of Maryland – Rates of Return – Net Mgr – Periods Ending June 30, 2021

In fiscal 2021, the program experienced return losses of -19.17%, underperforming the program benchmark by -2.00%%. Three of the four program managers had returns below the benchmark. By asset class, only U.S. equity outperformed the benchmark. Since inception, all four program managers have had returns above the system's assumed rate of return, with three of the four outperforming their benchmarks.

Of particular note, the actively managed Terra Maria portfolio had significantly better performance in its rate sensitive assets compared to non-Terra Maria assets. For U.S. nominal fixed income investments, Terra Maria returned -9.20% compared to returns of -13.46% for actively managed non-Terra Maria investments and -17.00% for passively managed investments.

Currency Program

Adopted in fiscal 2009, the program is designed to protect against losing value when the dollar appreciates relative to some foreign currencies in countries in which the system holds assets. During periods when the dollar is weak, the currency management program's cost manifests as a slight drag on international equity holdings. However, when the dollar appreciates, the program provides gains that help offset the currency losses generated by the strengthening dollar. As of June 30, 2021, the currency program added total value of $385.9 million since inception (up from $274.7 million through June 30, 2021). Gains when the dollar is strong should outweigh losses when the dollar is weak, and the system has taken steps to lock in program gains. The primary objective of the program is to lower volatility related to currency fluctuations.

The currency hedging program has limited application and is only applied to a relatively small portion of the system's total assets. In addition, not all foreign currencies are included in the hedging program. Due to liquidity constraints and higher transaction costs in some currencies, the program is currently limited to the euro, Japanese yen, Swedish krona, Swiss franc, Canadian dollar, Australian dollar, and British pound.

Appendix 4

State Retirement Agency

Response to Questions Received from DLS

December 17, 2022

DLS requests SRA to comment on the fiscal 2022 return performance in relation to the policy benchmarks. For any asset classes and asset sub-classes that underperformed the benchmark, SRA should comment on the factors that led to the underperformance, whether those factors are expected to negatively affect performance in fiscal 2023, and what actions are being taken to mitigate those factors from impacting the fiscal 2023 returns.

In fiscal year 2022, the System achieved an investment return of -2.97%. While this performance did not meet the long-term assumed actuarial rate of 6.8%, it exceeded the Board's policy benchmark by 0.51%, or 51 basis points. The fiscal year performance also outperformed the median return of the System's peer group, resulting in savings of more than $1 billion and demonstrating the effectiveness of the Board's risk-balanced asset allocation policy. In fact, based on a commonly-used measure of risk-adjusted investment returns, the System's performance over the last five years ranks in the top decile among a peer universe of similar plans. The policy benchmark is the weighted average of each of the individual asset class benchmarks and represents what the System would have returned if the asset class benchmark returns were achieved. The System's excess return relative to its policy benchmark equates to approximately $337 million in added value. The total fund excess return of 51 basis points was a product of strong performance in the asset classes of private equity, credit and real assets. Over the ten years ending June 30, 2022, the System has achieved an average annualized return of 7.79%, beating the policy benchmark of 7.14% by 65 basis points annualized net of all fees and expenses.

The Board of Trustees does not expect each asset class to outperform every year, but instead over time and across economic cycles. Investment Division staff reviews the performance of underperforming asset classes to assess whether the performance is consistent with expectations, or a sign of a longer-term problem. In fiscal year 2022, three major asset classes trailed the performance of their respective benchmarks – public equity, rate sensitive and absolute return.

The underperformance of public equity and rates sensitive for the fiscal year is due to security and sector selection by investment managers. Fiscal year 2022 was marked by significant volatility for stocks and bonds, with both broad asset classes down more that ten percent. The worst performing sector of the stock market was technology companies. Due to the high-growth nature of these companies and a greater focus on future earnings, they are more sensitive to duration, or changes in interest rates. Longer duration assets performed poorly in fiscal year 2022 as yields increased significantly across the treasury curve. The System's public equity portfolio had more exposure to these technology companies than the benchmark, which contributed to the underperformance for the fiscal year. Conversely, the best-performing sector of the equity market in fiscal year 2022 was energy. To the extent the System's managers were underweight this sector, this led to underperformance.

The fixed income markets also struggled in fiscal year 2022 as the Federal Reserve raised interest rates to combat inflation. The sectors of the bond market most sensitive to this environment are longer duration bonds whose values decrease more as rates rise, and corporate debt, particularly lower quality debt, which is more closely linked to the equity market with greater credit risk. The System's managers were overweight these sectors in fiscal year 2022, which contributed to the relative underperformance.

While the System's public equity and bond portfolios underperformed their respective benchmarks in fiscal year 2022 due to security and sector allocation, these factors are not expected to persist as the market environment evolves and transitions to another economic regime. Over the longer term, these asset classes have achieved strong relative performance, as shown in the tables below.

Table 1
MSRPS Public Equity Performance
As of June 30, 2022

	1-Year	3-Years	5-Years	10-Years
Maryland Public Equity	-19.38%	5.93%	6.44%	8.90%
Public Equity Benchmark	-18.05%	4.94%	6.00%	8.37%
Excess	-1.34%	+0.98%	+0.44%	+0.53%

Table 2
MSRPS Rate Sensitive Performance
As of June 30, 2022

	1-Year	3-Years	5-Years	10-Years
Maryland Rate Sensitive	-15.28%	-0.84%	1.41%	2.16%
Rate Sensitive Benchmark	-13.70%	-0.96%	1.38%	1.91%
Excess	-1.58%	+0.12%	+0.03%	+0.25%

While the absolute return segment lagged its benchmark in fiscal year 2022, the portfolio provided meaningful diversification and downside protection, returning +1.40% when stocks and bonds generated double-digit negative returns. The objective of the absolute return portfolio is to generate a positive return over cash of 4% over time with low correlation to stocks and bonds. While this portfolio did not meet the spread target of 4% in fiscal year 2022, it was able to produce a positive return in a very challenging environment.

The absolute return segment is invested primarily in hedge funds and other strategies that focus on public market securities so returns will not be as smooth as a cash plus 4% target. To enable a more relevant analysis and comparison over the shorter term, the Board has adopted a benchmark comprised of other managers who employ similar absolute return strategies since publicly traded benchmarks are not available in this asset class. In November 2021, the Board approved a benchmark change for the absolute return portfolio. The former benchmark was the HFRI Fund of Funds Conservative Index + 100 basis

points while the current index is a strategy-blended benchmark consisting of 50% HFRI Relative Value, 25% HFRI Event-Driven and 25% HFRI Macro. The reason for the change was the dwindling number of universe observations in the HFRI Fund of Funds Conservative Index. The effective date of this change was December 1, 2021. These two benchmarks have similar long-term return histories but vary over shorter periods because of the differences in strategy composition.

The timing of this change distorted the benchmark return for the absolute return portfolio for fiscal year 2022 as the linked returns, comprised of 5 months of the old benchmark and 7 months of the new benchmark, overstates the performance of the asset class for the full year by over 1%. Table 3 below shows the full year performance of the two HFRI indices compared to the linked combination of the two.

Table 3

Benchmark	***Fiscal Year 2022 Return***
Absolute Return Benchmark	2.99%
HFRI FOF Conservative +1% (old benchmark)	1.10%
HFRI Blended 50/25/25 Benchmark (new Benchmark)	1.82%

In looking at the two HFRI benchmarks, one would expect the total absolute return benchmark to fall somewhere in between 1.10% and 1.82%, since it represents a combination of the two HFRI indices. The reason for the distortion is the timing of the change from the old to the new benchmark. The 2.99% asset class benchmark for the fiscal year includes five months of the old benchmark (July 1, 2021 – November 30, 2021) and seven months of the new benchmark (December 1, 2021 – June 30, 2022). The former benchmark performed significantly better than the new benchmark during the first five months of the fiscal year, while the current benchmark did much better in the last seven months of the year. This disparity is demonstrated in Table 4 below.

Table 4

	July 1, 2021 – November 30, 2021	December 1, 2021 – June 30, 2022
HFRI FOF Conservative +1% (old benchmark)	1.42%	-0.32%
HFRI Blended 50/25/25 (new Benchmark)	0.07%	1.75%

This disparity, due to the timing of the benchmark change, has resulted in an overstated absolute return benchmark return for fiscal year 2022 relative to the two individual benchmarks on a stand-alone basis, as well as the actual performance of the asset class. In fiscal year 2022, the absolute return portfolio

achieved a return of 1.40%, which is more consistent with the returns generated by the two individual benchmarks.

While the absolute return portfolio provided a significant positive contribution to the System's performance in fiscal year 2022, it did not achieve its longer-term objective of cash plus 4%. Over the three years ending June 30, 2022, the portfolio's performance exceeded cash by 3.93%. For the five-year period, the absolute return program outpaced the cash return by 2.88%. Staff, in collaboration with external consultants, will continue to adjust the portfolio, through strategy allocation and manager changes, to best position the portfolio to meet long-term risk and return objectives.

DLS requests that SRA comment on the relative TUCS performance rankings by asset class and how overall asset allocation impacts the total system's TUCS rankings.

As noted in the DLS Investment Overview, the System's one-year total fund performance compared against a peer group of other large public pension plans ranked in the 37th percentile, which means the System outperformed 63% of the peer group. Peer group rankings are driven mainly by two factors – asset allocation and implementation of the asset allocation. Asset allocation refers to the way the fund assets are distributed to the various asset classes, and implementation refers to staff's ability to select skillful managers and tactically position the portfolio to take advantage of market opportunities.

An effective method to determine which of these factors is driving the total fund peer rankings is to analyze the peer ranking of each individual asset class. As noted in the DLS report, most of the System's asset classes have achieved above median returns over time. Private equity, the System's best-performing asset class, representing 21.5 percent of total fund assets, has consistently ranked in the top quartile of the peer group over time. In fact, for the ten-year period ending June 30, 2022, the System's private equity portfolio is ranked in the 1st percentile. That the individual asset class rankings are higher than those of the total fund supports the notion that the mix of asset classes is mainly driving the results, and not the performance of the individual asset classes. For example, the System has higher target allocations to non-U.S. equities than the average peer in the universe. Over the past ten years, U.S. stocks have significantly outperformed foreign stocks. The System's relative underweight to U.S. stocks has resulted in a lower peer ranking than would be assumed based solely on rankings of individual asset classes. This is also demonstrated by the System's total equity ranking in the 96th percentile for the fiscal year, while the rankings of the regional components are significantly better.

While the asset class rankings for the System's fixed income portfolio are strong over the longer-term, the performance trailed the peer group in fiscal year 2022. This is due to the longer duration profile of the System's portfolio relative to peers, who typically hold more core and shorter-duration bonds. Yields increased significantly over the fiscal year, with the ten-year treasury rate increasing from 1.5 percent to 3.0 percent. Longer-duration bonds are more sensitive to changes in interest rates and lost more in value in fiscal year 2022 than shorter-duration debt. The System allocates more to long-duration bonds for greater protection in disinflationary environments, to better match the plan's longer-term liabilities and to hedge against stock market drawdowns to preserve more principle. While bonds did not provide the desired protection in fiscal year 2022 as both stocks and bonds produced negative

returns, the correlation between the two asset classes is typically negative, meaning as stocks go down, bonds will increase in value.

The System typically reports its peer rankings against a relatively small universe of roughly thirty public pension plans on a gross-of-fee basis. Given the System's asset allocation, with a relatively higher allocation to private market investments like private equity, private credit and real estate, it might also be instructive to measure performance against a larger universe on a net-of-fee basis. Private investments typically do not report gross investment returns, but only performance net of all fees. As a result, the System's gross returns are a combination of gross and net performance. To the extent the System invests more heavily in private investments, the difference between the gross and net numbers will be smaller relative to a peer plan that employs a higher allocation to traditional assets. This is illustrated in Table 5 below, which ranks the System's performance against a larger universe of sixty-four public pension plans after investment expenses have been netted out.

Table 5
Total System vs. Public Plans > $1 Billion Universe
(June 30, 2022 net of fees)

	1 Year	3 Years	5 Years	10 Years
Total System	**-2.97%**	**8.38%**	**7.93%**	**7.79%**
Rank	**14**	**8**	**13**	**47**

* **Represents the InvMetrics Public Defined Benefit > $1 billion peer group**

The focus on investment performance tends to be on returns. However, the Board and staff recognize that risk is equally important. To get a more complete picture of the System's investment program, risk-adjusted returns should also be evaluated. The System's risk profile, as measured by the dispersion of returns around the mean, falls in the bottom quartile of the peer group. This lower risk posture has been achieved by targeting a lower relative weighting to public stocks versus the peer group. Sharpe ratio is another metric that accounts for risk in the assessment of investment performance, and represents risk-adjusted returns, or returns per unit of risk. Based on the Sharpe ratio measure, the System ranks in or near the top decile (better than 90% of funds) over the last three and five years. This is illustrated in Table 6 below, which ranks the System's Sharpe ratio against a larger universe of sixty-four public pension plans after investment expenses have been netted out.

Table 6
Total System vs. Public Plans > $1 Billion Universe
Sharpe Ratio Comparison
(June 30, 2022 net of fees)

	3 Years	5 Years
Total System	**1.0%**	**0.9%**
Rank	**7**	**7**

Represents the InvMetrics Public Defined Benefit > $1 billion peer group

DLS requests that SRA comment on how the system's asset allocation strategy mitigated investment losses in fiscal year 2022 and the impact to the system of those mitigated losses.

The Board's asset allocation policy is designed to achieve the actuarial rate of return over long periods of time by assembling a diversified portfolio of asset classes, each of which may have a large or small, positive or negative return in any given year. By assembling assets that exhibit distinct risk and return characteristics in different market environments, the Board expects more stable investment returns over time than a less diversified portfolio. This lower risk portfolio should result in a larger asset pool for the System's beneficiaries than a more volatile portfolio with the same average return. This diversified approach allowed the System to significantly outperform its peers in fiscal year 2022, resulting in savings of more than a $1 billion relative to the median peer return.

Fiscal 2022 was a challenging year for investment returns, marked by high inflation, rising interest rates and slowing growth. These conditions are not conducive for generating attractive returns in traditional stocks and bonds. Historically, bonds have acted as a ballast to a declining stock market and slowing economy, as interest rates typically fall in anticipation of stimulative monetary policy. That was not the case in fiscal year 2022, as central banks were raising interest rates to curb inflation, with the ten-year Treasury yield climbing from roughly 1.5% to 3.0% over the course of the year. As a result, both stocks and bonds generated returns of roughly -15% in fiscal year 2022.

While fiscal year 2022 was challenging for publicly traded stocks and bonds, other alternative asset classes performed quite well. The System's more diversified and balanced asset allocation provides exposure to asset classes like private equity, real estate, private credit and hedge funds. These asset classes generated positive returns in fiscal year 2022. Real estate was the System's best performing asset class for the year, producing a return of over 30%. Private equity, which represented 21.5% of the total portfolio, achieved a return of over 24%, and remains the System's top performing asset class over the last ten years. Private credit, a subset of the credit portfolio, represented just under 3% of System assets and provided a return of 15.7% for the year. The absolute return portfolio, which consists of mostly lower risk hedge funds that are largely not dependent on the performance of traditional asset classes, generated a positive return of 1.4%.

A simple allocation consisting of 60% stocks and 40% bonds would have produced a negative total return of less than ten percent. This return profile would have increased the State's contribution for fiscal year 2024 by an amount equivalent to approximately $118 million. While the System's -2.97% return did not

meet the long-term target, it helped preserve the value of System assets and reduce the required future performance to maintain and improve the funded ratio. This demonstrates the importance of a diversified and balanced asset allocation that provides exposure to several different asset classes whose investment performance is linked to many different economic variables. The Board of Trustees recognizes the importance of risk management and has adopted an asset allocation that is designed to meet the long-term objectives of the fund while providing meaning protection against significant drawdowns in asset valuation.

Given the historic low rate of return, underperformance relative to benchmarks, and high management fee structures, DLS requests SRA to comment on the returns of the absolute return asset class, including the market conditions leading to the low level of returns and benchmark underperformance, and what market conditions would result in markedly improved returns for investments in the asset class.

The objective of the System's absolute return asset class is to provide diversification and risk reduction to the total fund by having little exposure to the common risk factors found in the rest of the portfolio. The return objective is to outperform a cash return by 4% over a full market cycle, recognizing that shorter-term performance can deviate from this objective significantly. The portfolio has a further objective of maintaining diversification when equity markets are volatile, and returns are negative. While the long-term return objective was not met in fiscal year 2022, the absolute return portfolio provided meaningful downside protection by generating a positive return of +1.4% when stocks and bonds were down roughly 15%. However, over the longer-term, this return objective has not been met. There are several reasons for this underperformance related to the market environment and exposure to common risk factors.

Hedge funds comprise most of this asset class and are characterized by trading strategies that attempt to take advantage of relative value opportunities between different securities and asset classes. The most favorable environment for this type of trading is one where volatility is high, correlations are low, and dispersion is high. Volatility is the degree to which asset prices fluctuate, correlation is the degree to which assets move in the same direction, and dispersion refers to the difference in asset price movements regardless of whether they are moving in the same direction. Essentially, hedge funds have historically performed best in more chaotic markets. If high dispersion and uncertainty remain in the markets, and stocks and other risk assets do not move consistently higher, hedge funds are likely to do well.

The absolute return asset class has struggled to outperform its benchmark, which was recently changed from the HFRI Fund of Funds Conservative Index plus 100 basis points to a strategy-blended benchmark consisting of 50% HFRI Relative Value, 25% HFRI Event-Driven and 25% HFRI Macro. The HFRI benchmark captured most of the risk and return nature of the asset class, but it is comprised of funds of funds that have significant exposure to the direction of stocks. The benchmark does not have the attribute of protecting asset values when stocks are falling sharply. Much of the past underperformance can be attributed to purposeful portfolio design to have less equity risk relative to this benchmark to offer better downside protection in a period of strong stock market returns which were partially reflected in the benchmark. In addition, the portfolio was overly concentrated in low volatility, low correlation multi-strategy relative value managers that were mostly focused on investing in the U.S. Essentially, the

portfolio was too conservative, running with less volatility than the benchmark and did not include an appropriate number of return drivers.

The absolute return portfolio has been able to provide significant downside protection during equity drawdowns due to its lower risk posture and lower equity sensitivity. The fourth quarter of 2018, first quarter of 2020 and the first half of calendar 2022 are examples of a market where absolute return performed significantly better than stocks. Going forward, the objective is to continue to preserve value when equity markets struggle but also keep pace during normal equity environments.

The absolute return portfolio has undergone a significant amount of change over the last several years. In December of 2021, the benchmark was changed, and in the first half of calendar year 2022, the portfolio's target allocation was lowered from 8% to 6%. Those two changes to the mandate prompted a re-balancing of the portfolio to align with the new benchmark at the lower target allocation. In 2022, three managers have been hired through December 1st, representing $425 million dollars in committed value. Additionally, three managers have been terminated through this period.

Staff has continued to focus on increasing the efficiency of the portfolio through improved cash management and seeking higher-return or diversifying mandates that will better position the portfolio for the future. Staff continues to focus on improving management fee arrangements by lowering the base management fees in exchange for higher manager performance incentives, thereby improving alignment between the manager and the System. Staff has not closed any new co-investments in calendar year 2022, due to the need to reach the lower target allocation. However, staff expects to increase co-investment activity in 2023 and has several opportunities in the pipeline. The changes implemented to date have improved the performance of the asset class over the last few years, as the absolute return portfolio has generated excess returns relative to cash equal to 3.93%, very close to the longer-term target.

The restructuring to date, in addition to what is planned for the near future, will result in a more diversified and balanced strategy allocation that should increase the volatility to a level closer to target, provide more consistent returns relative to the benchmark, and still provide diversification benefits to the plan during challenging market periods.

As a result of the recent asset allocation, the Board reduced the target allocation to absolute return from 8% to 6% of the total fund. This change acknowledges the continued attractiveness of the risk and return profile of the asset class, but at a reduced level, in recognition of the diversifying properties of other asset classes with lower cost structures.

DLS requests SRA to provide an update on estimated carried interest for calendar year 2022.

The System records carried interest earned by its managers on a calendar year basis to align with the reporting schedule for audited financial statements for most of the System's alternative investment vehicles. In calendar year 2021, the System's managers earned carried interest of $370.3 million. It is important to distinguish the difference between management fees and carried interest, or performance incentives, as many private market investors do not consider incentive fees to be management fees. Management fees are contractual obligations that must be paid regardless of performance. Incentive fees,

which primarily apply only to private market investments and not traditional asset classes, represent a portion of investment profits that is earned by a manager, and are only paid if performance thresholds are achieved and generally after the investor has recouped all management fees and expenses. They are used to motivate the manager to make profitable investments, and to ensure alignment of interests. The percentage of profits that is allocated to the manager is substantially lower than the amount received by the System. Because of this disproportionate sharing of profits, the amounts realized by the System would far exceed any incentive fees paid to managers. Large amounts of carried interest should be considered a positive result, as this would imply much greater gains to the System at a level of roughly fourfold. Based on the amount of carried interest earned in 2021, the implied gains to the System over a period of several years would equate to approximately $1.5 billion. While the System would like to see an improved profit-sharing allocation in favor of the investor, and negotiates contract terms aggressively where possible, the overall market, consisting of both managers and investors, establishes the sharing percentages. If the System avoided these investments based on the fee structure alone, it would not have experienced the superior net-of-fee returns provided by private equity relative to all other asset classes.

DLS requests SRA comment on the use of the compensation adjustment authority provided under Chapter 356 of 2022 and whether there are any remaining compensation disparity issues.

At the request of the Board of Trustees, during the 2018 session, the General Assembly enacted legislation that provided the Board with the authority to determine and create the type and number of Investment Division staff, as well as compensation for these positions, subject to certain constraints. These constraints included limiting annual increases to no more than 10%. This annual cap on salary increases has resulted in a disparity between legacy employees hired prior to the 2018 legislation and newer employees hired within the last few years under the new classification and salary structure. We were able to offer these recent hires a higher salary closer to the market midpoint, while legacy employees with the similar skills, experience and responsibilities would have to wait several years to reach an equivalent salary level.

During the 2022 legislative session, the Board requested the Joint Committee on Pensions to sponsor legislation to address this disparity. The Joint Committee agreed and on July 1, 2022 this legislation became effective. This legislation authorizes the Board of Trustees to provide two adjustments before June 30, 2024, to the compensation for legacy employees within the Investment Division whose salary is below the midpoint for their positions. The legislation specifically provides that these adjustments do not preclude the Board from also providing annual salary increases to all employees of the Investment Division.

Nine legacy employees have a current salary below the midpoint of the approved range. In October of 2022, the Board approved salary adjustments for these individuals closer to the midpoint of their respective ranges. For employees with a salary closer to the midpoint or target salary, the Board approved a one-time adjustment to be effective in November 2022. For individuals with a significant difference between current salaries and the midpoint or target salary, the implementation of the salary adjustments will occur in two stages. The first increase to be effective in November 2022, and the second adjustment to be implemented in the Spring of 2023 to coincide with the regular schedule of salary

reviews for the entire Investment Division. Once these second adjustments are implemented, there will be no remaining compensation disparity issues among investment-focused employees.

The 2018 legislation requires the Board to engage a compensation consultant and reconstitute the objective criteria committee every five years. This activity is scheduled for 2023. The consultant and committee will consider two ongoing challenges of the legislation.

The Investment Division has experienced challenges in recruiting for positions in the accounting and operations area, marked by lower response rates to job postings and a mismatch in skills, qualifications and experience. Employees in this unit were included in the 2018 legislation that granted the Board authority to create positions and set compensation levels for Investment Division employees, but the authority was limited, tying compensation to that of others in state government with similar responsibility rather than public pension plan peers. These individuals are included in state compensation actions unlike the rest of the investment staff and are not eligible for incentive compensation. This hybrid designation for one group has kept salaries from being competitive in the marketplace and has been viewed as a lower tier group of employees, creating disparity within the division where different compensation policies are applied to the two groups.

This year, with a period of high inflation, the 10% salary adjustment limit for most of the investment staff presents a challenge to adjust the salary scale to keep up with inflation and provide any meaningful merit increases or promotions. In comparison, state employees covered under the standard salary schedule received salary increases totaling more than 10% in calendar 2022, more than most investment staff are eligible to receive.

DLS requests SRA update the Committee on the use of incentive compensation for recruitment and retention, and provide information on the number of division staff eligible for incentive compensation based on fiscal 2022 returns.

In June 2019 the Board approved an incentive program for certain positions within the Investments Division based on recommendations from the Board's compensation consultant and the Objective Criteria Committee. This program has been an important tool in recruiting and retaining skilled and experienced investment personnel as only one employee resigned from the System in fiscal year 2022 and there have been no departures to date in fiscal 2023. This program is subject to certain constraints, which are highlighted below:

- Financial incentives in any fiscal year shall not exceed 33% of a position's salary
- Any financial incentives paid shall be paid over multiple fiscal years in equal installments
- The Board may not pay out financial incentives in a fiscal year in which state employees are subject to a furlough
- Financial incentives shall be paid on the dates set by the Board at the time of award, and an individual who has been awarded financial incentives but separates from employment in the Investment Division may not receive any remaining financial incentives due to be paid after the date of separation from employment, except for retirement.

The Board also approved the performance metrics for determining incentive awards, which are highlighted below:

- Net total fund returns vs. total fund policy benchmark over 3 years
- Net total fund returns vs. actuarial assumed rate of return over 3 years
- Net asset class returns vs. asset class benchmarks over 3 years

For the three years ending June 30, 2022, the System achieved a net annualized investment return of 8.38%, exceeding the policy benchmark of 7.40 by 98 basis points. This level of excess return resulted in the maximum incentive of 33% for this component of the calculation. A second part of the incentive calculation focuses on the actuarial rate of return, which averaged 7.2% over the last three years. For the three years ending June 30, 2022, the 8.38% return exceeded the actuarial rate by 118 basis points. As a result, staff was eligible to receive the maximum incentive based on this metric.

The last piece of the incentive calculation is based on the performance of the individual asset classes. Most of the asset class teams exceeded the performance of their respective benchmarks and were eligible for incentive compensation based on this metric, while a few were not. In fiscal year 2022, a total of twenty-four employees in the Investment Division were eligible for incentive compensation.

DLS requests SRA to comment on the estimated fee savings attributable for internally managed assets.

The Board and Investment Division have a three-pronged plan to enhance the ability of achieving the investment objectives of the plan. The first prong focuses on continual improvement in the asset allocation process. The second is improving implementation of that asset allocation through improved staffing and resourcing of the division and the third is to lower the cost of managing the assets through direct fee negotiations, direct management of public assets and direct management of private assets through co-investment. To evaluate the effectiveness of the cost improvement plan, the division is using 2017 as a baseline for the cost of the System's investment management program. As shown in Table 7 below, the System ended 2017 with a fee structure that was approximately 64 basis points (0.64%), or $317 million per year on an annual run rate. This figure does not include incentive fees or carried interest, as those are variable making year to year comparisons difficult to interpret and generally carried interest means the System has had a positive investment experience.

Through 2022, the System's asset allocation changed to include more higher cost asset classes (private equity, private real estate and emerging market stocks) so the fees should have moved higher to 71 basis points. In fact, the fees on the policy portfolio fell to 63.5 bps by the end of 2020, reflecting a combination of lower fees negotiated with managers and the growth of the co-investment portfolio and the small amount of assets being managed internally. The division will use this methodology to track its effectiveness in lowering the cost of managing assets over the ensuing years and expect an additional 17 bps of annual fee savings through 2029. The associated costs of achieving these savings are expected to be on the order of 2-3 basis points.

Table 7

Management Fee Model

Stylized Model of Fees (Excluding Incentives)		
	BPS	Dollars (millions)
2017 Actual Allocation and Actual Fees	64.0	$317
2017 Board Allocation and Actual Fees	64.0	$317
2029 Fees with 2017 Asset Allocation and Fees	64.0	$557
Impact of Board Asset Allocation Changes through 2022	8.1	$54
Impact of Fee Savings Achieved Through 2022	(20.4)	($137)
Subtotal - Impact of Asset Allocation and Fee Reduction	(12.3)	(224.0)
2022 Board Asset Allocation and Fees	51.7	$333
Impact of Fee Savings Projected to 2024	(3.0)	($20)
Impact of Fee Savings Projected to 2025 -2029	(6.0)	($40)
2029 Fees	42.7	$373
2029 Fees with 2017		$557
Projected Annual Fee Savings	(21.3)	($186)

Additionally, DLS requests SRA to provide an update on any Investment Division implementation of internal management of system assets and the development of necessary compliance and controls on the use of internal asset management. More specifically, SRA should comment on how the Investment Division:

- **has developed proficiency in managing assets currently being managed internally;**
- **will develop proficiency before expanding into internal management of additional asset classes;**
- **will evaluate the performance of internal management compared to available external management services; and**
- **will develop methodologies for determining fee savings achieved through internal management.**

The System has been working to develop its internal management capabilities since 2016. The initial efforts were geared to building the ability to execute trades internally. Elements of this process included establishing procedures to evaluate and select brokers, create operational processes to execute and communicate trades to the custodian and procure contracts with Futures Clearing Merchants. These processes supported the level of activity that was occurring historically and were necessary steps toward building an internal management process.

In 2019, staff worked with the Attorney General's office and external counsel to create policies and procedures for internal management including enhanced policies governing staffs' personal trading, conflicts of interests and handling of material non-public information. These policies and procedures

were approved by the Board or codified in the Division's Operations Manual in early 2020. In 2020, the System procured a trade order management system to handle the processing of trades including pre-trade compliance and straight-through processing.

The proficiency of internal staff to manage internal portfolios has come in two ways. Existing staff had prior experience in managing assets directly and prior direct management experience was a major factor in the hiring process for new staff members.

The System has a rigorous product development process, the elements of which include:

1. Identify a potential product for internal management that staff expects to be able to execute as well or better than external managers
2. Develop guidelines that detail the performance objective, portfolio construction limits, and reporting requirements
3. Create portfolio management tools to execute the strategy
4. Manage a paper portfolio with pre-approval of every trade and creation of complete reporting package
5. Test the trading platform and provide training to middle and back office team as needed
6. Engage with the General Consultant for an independent operational due diligence evaluation and address any shortcomings identified
7. After demonstrating proficiency, present a full diligence memo to the internal investment committee and respond to questions and other follow up items
8. With internal investment committee approval, establish a portfolio inception date with the Chief Investment Officer including a source of funding

As of June 30, 2022, six internal portfolios valued at $9.4 billion had been established following this process: U.S. TIPS, U.S. Long Government Bonds, Russell 1000 large-cap U.S. equity, investment-grade corporate bonds, U.S. small cap equity and U.S. securitized bonds. As of October 31, 2022, these six internally managed portfolios totaled $8.9 billion, representing 14.5% of the total fund. Staff is currently in the development process to implement additional internal portfolios, including enhanced cash, currency hedging and international equity. Staff also expects to gradually increase the level of active management within the existing passive portfolios.

The division has built a process that is designed to evaluate the internal products in a manner similar to the selection and oversight of external managers. This includes presenting the strategy to the internal investment committee in the same manner as external managers. It also includes independent annual evaluation of the product by the System's general consultant. The division has also created an Internal Management Oversight Committee to provide independent evaluation of the efficacy of the strategies and managers. This group exists so that the investment teams are not put in the position of evaluating their own products. Finally, each quarter, every asset class reports to the internal investment committee on the performance of the asset class including individual manager performance. At these meetings, the committee members often challenge the team on the efficacy of continuing to retain underperforming managers.

DLS requests SRA to provide an update on the implementation of Chapters 24 and 25 of 2022.

Some of the provisions of Chapters 24 and 25 of 2022 codify existing practices of the System relating to climate change investment risk, while others require the development of new policies and procedures. To support its ongoing activities in governance and evaluating ESG risks, in 2021, the System created a new Corporate Governance Manager position that was filled on October 5, 2022. This position will lead the implementation. In addition, staff has been working to incorporate the provisions of the legislation into the System's Investment Policy Manual, having presented drafts to the Investment Committee in September and November. Staff has also been attending industry conferences and meeting with peers, industry groups and consultants to learn how other plans are incorporating climate risk into the investment process and identify industry standards and best practices. Going forward, staff will continue to implement the requirements of this legislation through more direct engagement with managers, companies and industry advocacy groups. Staff will also develop a more robust process to identify and report on investment opportunities related to the transition to a lower carbon economy.