# 2020 NCPERS Public Retirement Systems Study

January 19, 2021

Study conducted by the

National Conference on Public Employee Retirement Systems and

Cobalt Community Research

# **Contents**



This study
reviews funds'
current fiscal
condition and
steps they are
taking to ensure
fiscal and
operational
integrity.

Overview	3
Who Responded	5
Fund Confidence	7
Expenses	8
Actuarial Assumptions	10
Trends in Plan Changes	13
Trends in Retirement Benefits	14
Cost-of-Living Adjustments	15
Trends in Business Practices	16
Trends in Communication	17
Trends in Oversight Practices	18
Investment Returns	19
Investment Asset Allocation	21
Funding Levels	23
Sources of Funding	25
Health Plans	26
Reducing Liability	27
Innovations and Best Practices	30
Appendix A: Other Investments	33
Appendix B: 2020 Study Instrument	35

### Overview

Over the last 10 years, funds have continued to take a serious look at the concerns and challenges that face public pensions. They continue to take significant actions to address them.

### About Cobalt Community Research

Cobalt Community Research is a national 501c(3) nonprofit, non-partisan coalition that helps local governments, schools, and membership organizations affordably engage their communities through high-quality data, benchmarking, geofencing, and community engagement. Cobalt is headquartered in Charlotte, Michigan.

### **Executive Summary**

From September to December 2020, the National Conference on Public Employee Retirement Systems (NCPERS) undertook a comprehensive study exploring the retirement practices of the public sector. In partnership with Cobalt Community Research, NCPERS has collected and analyzed the most current data available on funds' fiscal condition and steps they are taking to ensure fiscal and operational integrity.

The 2020 NCPERS Public Retirement Systems Study includes responses from 138 state and local government pension funds with more than 12.8 million active and retired members and assets exceeding \$1.5 trillion. Statewide and local pension funds were represented in roughly equal measure (51 percent and 49 percent, respectively).

NCPERS is the largest trade association for public-sector pension funds, representing approximately 500 funds throughout the United States and Canada. The membership is a unique network of public trustees, administrators, public officials, and investment professionals who collectively oversee nearly \$3 trillion in retirement funds managed on behalf of seven million retirees and nearly 15 million active public servants - including firefighters, law enforcement officers, teachers, and other public servants.

Founded in 1941, NCPERS is the principal trade association working to promote and protect pensions by focusing on advocacy, research, and education for the benefit of public-sector pension stakeholders.

To access the interactive 2020 NCPERS Public Retirement Systems Study dashboard, please contact Amanda Rok, communication and social media manager, at <a href="mailto:Amanda@NCPERS.org">Amanda@NCPERS.org</a>.

To view previous editions of this report, please visit: <a href="https://www.NCPERS.org/surveys">www.NCPERS.org/surveys</a>.

# 2020 Executive Summary

- COVID-19 has accelerated trends in the adoption of communication capabilities. The
  ability of board members to participate and vote by phone or videoconference rose
  from 19 percent to 58 percent. About 54 percent of funds now offer live web
  conferences to members, with another 19 percent considering it. 2020 also showed a
  5 percentage point increase in the implementation of enhanced online portals to allow
  members to access account information. This rose from 47 percent to 52 percent.
- 2. Reporting funds saw, on average, 1-year returns of around 8.1 percent. The 5-year average was slightly below the assumed rate of return, while the 10-year average returns outperformed the assumption. The 20-year returns fell below the assumed rate of return as the strong performance of the late 1990s began to roll off the average. Those funds that responded in both 2019 and 2020 reported 1-year and 10-year returns above the assumed rate of return, with the 5-year and 20-year returns slightly below. As a result, funded levels rose to 75.1 percent, up from 72.4 percent in 2019.
- 3. The average investment assumed rate of return for responding funds is 7.26 percent, compared with 7.24 percent last year. The inflation assumption is 2.7 percent, which is 0.1 percentage point lower than last year.
- 4. The overall average expense for all respondents to administer the funds and to pay investment management fees is 60 basis points (100 basis points equals 1 percentage point). This is up slightly from 55 basis points in the prior year. According to the 2020 Investment Company Fact Book, the average expense of most hybrid funds is 62 basis points.
- 5. The average cost-of-living adjustment (COLA) offered to members was 1.7 percent, which is slightly higher than the COLA of 1.6 in 2019. Many responding funds did not offer a COLA in the most recent fiscal year.
- 6. About 71 percent of respondents noted that they are not having a problem attracting and retaining skilled staff as people retire, an improvement from the 63 percent reported last year. About 19 percent are starting to experience or anticipate a problem in this area, down from 27 percent last year.

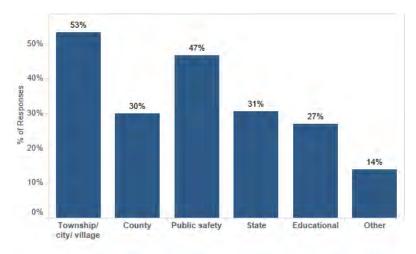
# Who Responded

Overall, 138 public retirement funds responded to the 2020 NCPERS Public Retirement Systems Study. There were 155 respondents in 2019. Of the 138 respondents, 90 also completed the study in 2019.

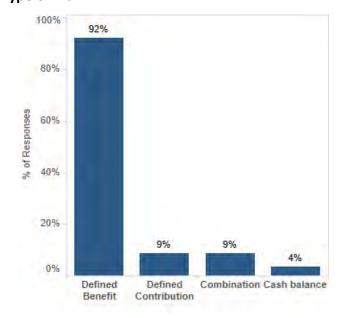
About 53 percent of all 2020 responding funds serve township, city, and village employees and beneficiaries. About 47 percent of the responding funds serve police and fire employees. The top graph below shows the distribution of employee types served by the funds. The bottom graph shows response by type of plan provided. Totals may exceed 100 percent because of multiple responses.

The overall distribution of the groups served by responding funds is similar to prior years; however, statewide funds were a larger proportion of the response compared with last year.

### **Employee / Retiree Type**



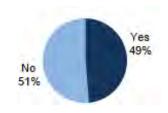
### Type of Plan



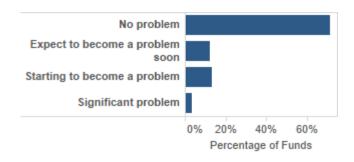
### Members' Social Security Eligibility



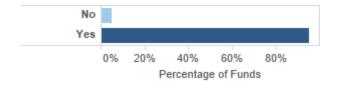
### **Includes Overtime in Benefit Calculation**



### Attracting / Retaining Skilled Staff



#### **Call and Vote via Conference Call**



About 71 percent of responding funds have members who are eligible for Social Security, and 29 percent are not eligible. In this report, breakdowns are presented for funds whose members are or are not eligible for Social Security.

Funds whose members are not eligible for Social Security tend to offer higher levels of benefits to make up for the loss of income typically supplemented by Social Security.

Inclusion of overtime in the calculation of a retirement benefit has been an area of interest to public funds.

According to the 2020 respondent funds, 51 percent of respondent funds do not include overtime in the benefit calculation, which is 4 percentage points fewer than last year; however, the cohort of respondents who participated in the study in both 2019 and 2020 showed an increase in exclusion, from 52 percent to 60 percent.

For 2020, fewer respondents note that they are having a problem attracting and retaining skilled staff as people retire. About 19 percent are starting to experience or anticipate a problem in this area, compared with 27 percent last year.

The ability of board members to participate and vote by phone or video-conference has soared from 58 percent in 2019 to 95 percent.

### **Fund Confidence**

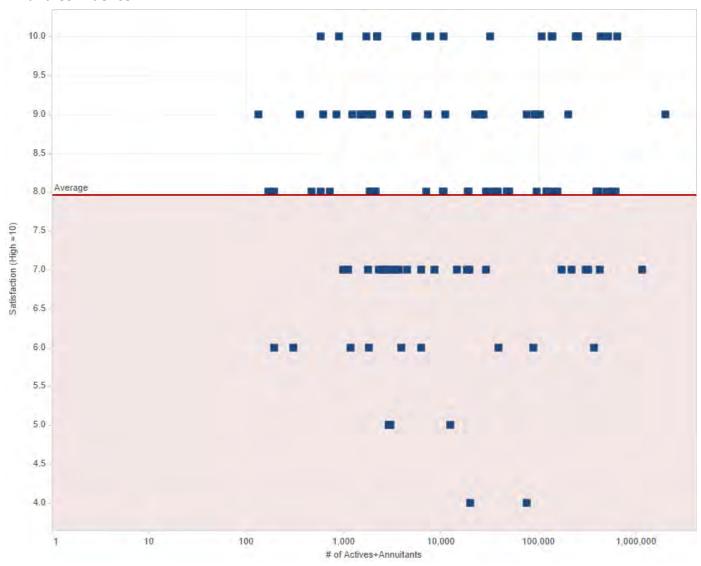
The study asked respondents, "How satisfied are you with your readiness to address retirement trends and issues over the next two years?" Respondents provided an overall "confidence" rating of 8.0 on a 10-point scale (very satisfied = 10). This is slightly above the 7.9 reported last year and well above the 7.4 in 2011. The responses of funds that also participated in last year's study were unchanged from 2019.

Over the last 10 years, responding funds have generally become increasingly confident in their ability to adapt and address issues in the volatile environment surrounding public pensions.

Responding funds have been proactive in making changes to their plan assumptions and benefits to ensure sustainability.

Funds with Social Security-eligible and not eligible members responded with a rating of 7.7 and 8.1, respectively. Large funds (more than 100,000 participants) rated their confidence the highest, with an average score of 8.4.

### **Fund Confidence**



# **Expenses**

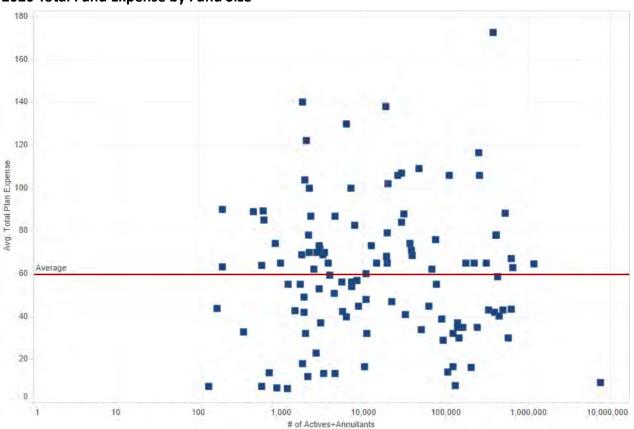
The overall average expense for all respondents to administer the funds and to pay investment management fees is 60 basis points (100 basis points equals 1 percentage point). This is up from 55 basis points in the prior year.

According to the 2020 Investment Company Fact Book, the average expense of most hybrid funds is 62 basis points.

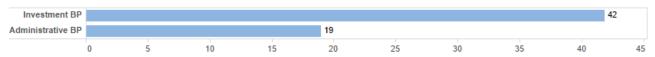
The top graph below shows the distribution of total expenses (in basis points) on the vertical axis and the size of the fund (by total participants) on the horizontal. The red line represents the average expense.

The bottom graph shows the average administrative and investment expenses. Note: The averages below do not total the average expenses because not all funds reported both investment and administrative numbers.

### 2020 Total Fund Expense by Fund Size

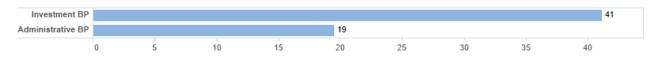


### 2020 Average Fund Expenses (Basis Points)

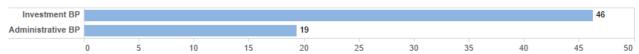


Below are average expenses separated by funds whose members are and are not eligible for Social Security. Total expenses are 59 and 65, respectively. Note: The averages below do not total the average expenses because not all funds reported both investment and administrative numbers.

### **Average Fund Expenses: Social Security Eligible (Basis Points)**

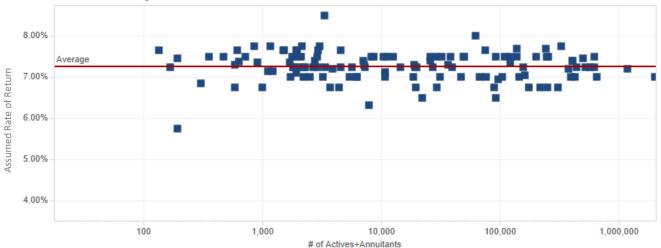


### **Average Fund Expenses: Not Social Security Eligible (Basis Points)**



# **Actuarial Assumptions**

### **Investment Assumptions**



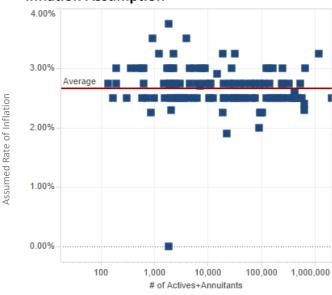
Retirement funds utilize a long-term planning horizon to ensure that liabilities are fully funded at the time they are due to be paid. To set contribution rates and measure progress toward meeting their financial obligations, funds make actuarial assumptions to estimate the likely investment and demographic experience over that time horizon.

Such assumptions have powerful effects on the funded level of a plan and on required contributions to pay for future benefits. Overly optimistic assumptions (high market returns, lower-than-expected retirement rates) tend to increase a plan's funded level and reduce the contribution rates an employer is obligated to pay today. Conversely, overly pessimistic assumptions reduce the funded level and increase short-term contribution rates.

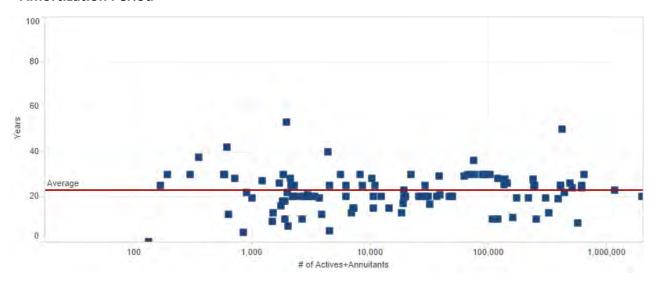
The average investment assumed rate of return for responding funds is 7.26 percent, compared with 7.24 percent last year. Plans that responded both years saw the assumed rate rise 0.05 percentage points, to 7.24 percent.

The aggregated assumed rate of inflation is 2.7 percent, which is 0.1 percentage points lower than last year.

#### **Inflation Assumption**



#### Amortization Period



Pension funds are designed to fund liabilities over a period of time, which ensures long-term stability and makes annual budgeting easier through more predictable contribution levels.

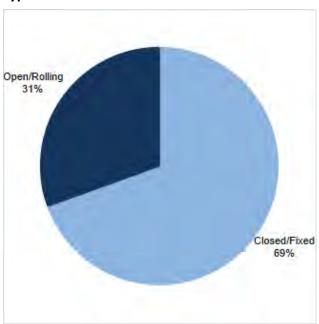
For responding funds, that period of time averages 22.9 years, up from 22.4 years in 2019. Funds that responded both years saw a reduction in the period of time by about 0.5 years.

Groups can tighten their amortization period by adjusting the period in years or using a fixed (or closed) method that pays all liabilities in a fixed time frame.

Open (or rolling) amortization periods are used to determine the actuarially required payment, but they are recalculated each year. The same number of years is used in determining the payment each year. Overall, the percentage of closed / fixed funds rose from 67 percent to 69 percent.

Larger funds are much more likely to have closed / fixed amortization periods – about 88 percent are closed.

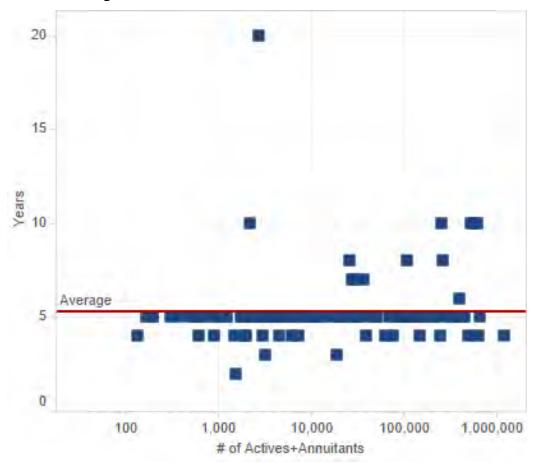
**Type of Amortization Period** 



The investment-smoothing period is a key factor in calculating the assets currently held by the fund and the contribution levels required to continue moving toward full funding over the amortization period. By smoothing investments, funds dampen sharp changes in short-term investment returns. This helps stabilize contribution levels over time without undermining the long-term integrity of the funding mechanism.

The average investment-smoothing period for respondents remained at 5.3 years, but it rose to 5.4 among participants in both the 2019 and 2020 studies. The distribution of responding funds on the graph below shows that the majority have smoothing periods of 5 years or shorter. For funds with Social Security- eligible members, the smoothing period fell 0.1 years, to 5.4 years. Funds with members who are not Social Security eligible have an average smoothing period of 4.9 years, up 0.2 from last year. Large plans average 5.8 years.

### **Investment Smoothing**

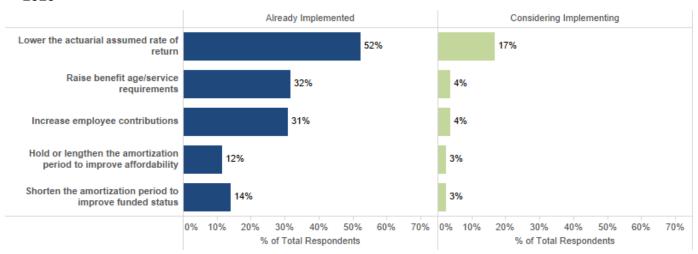


# Trends in Plan Changes

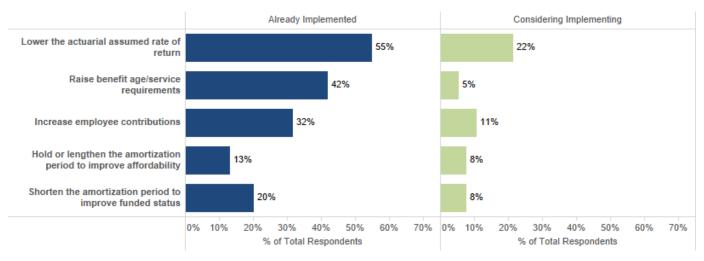
As changes emerge in the political, economic, and demographic landscape, funds are adapting their design and assumptions to respond and to maintain their sustainability. Funds in 2020 in general reduced the number of strategies they have implemented or are considering. Still, reducing the actuarial assumed rate of return, raising benefit age / service requirements, and increasing employee contributions remain widely used strategies.



#### 2020

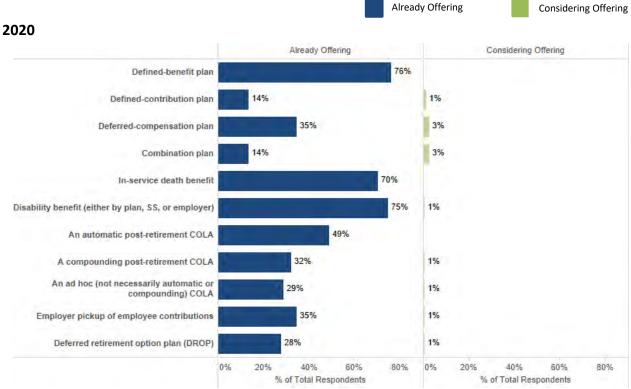


### 2019

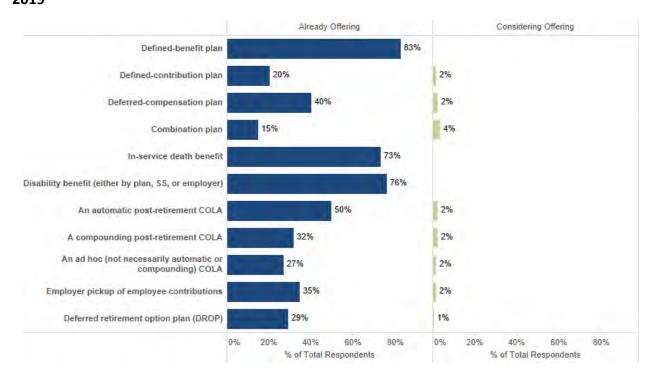


### Trends in Retirement Benefits

There remains minimal activity in terms of responding funds considering offering additional benefits to their members. Most funds provide a disability benefit, an in-service death benefit, and some variation of a cost-of-living adjustment (COLA). Overall, 7 percentage points fewer respondents are offering a defined-benefit plan; however, funds responding in 2019 and 2020 show a slight increase year over year.



### 2019

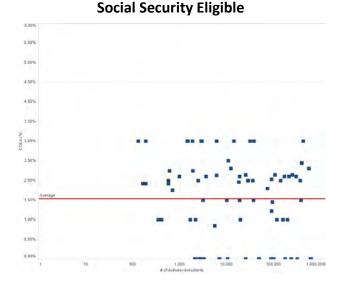


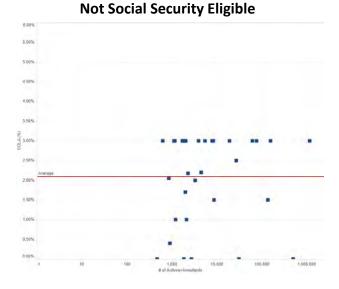
# Cost-of-Living Adjustments

The top chart below shows the distribution of funds offering various percentages of cost-of-living adjustments (COLAs). The aggregated average COLA offered to members was 1.7 percent, which is 0.1 percentage points higher than in 2019. Many responding funds did not offer a COLA in the most recent fiscal year.

Funds with members who are not eligible for Social Security tend to offer higher COLAs (2.1 percent) than those with members who are eligible for Social Security (1.5 percent). Large funds have an average COLA 0.4 percentage points lower than small and medium-sized funds.

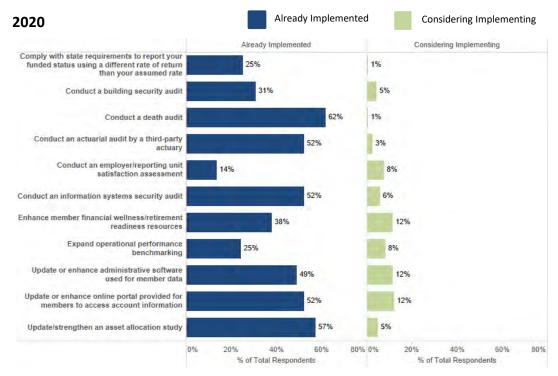




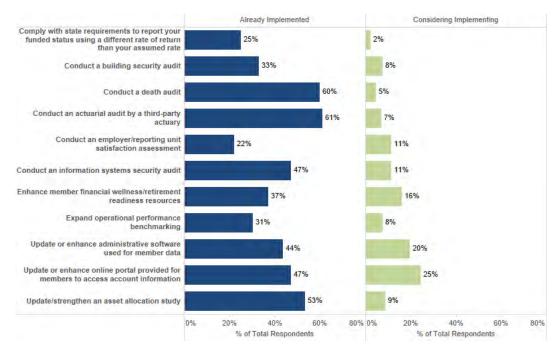


### Trends in Business Practices

Conducting a death audit and updating / strengthening an asset allocation study were the most commonly implemented business practices. The practices under consideration include enhancing member financial wellness / retirement readiness resources, updating administrative software used for member data, and updating the online portal provided for member access to account information.

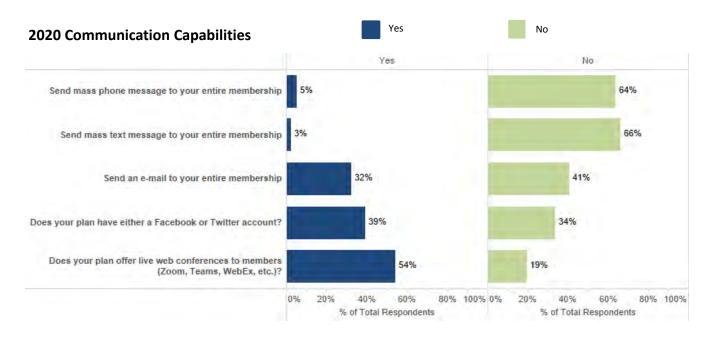


#### 2019

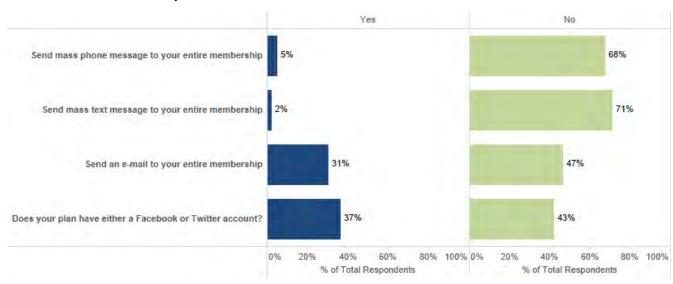


### Trends in Communication

Overall, many responding funds have begun providing live web conferences to members. Other communication channels have remained comparable to those used in 2019.

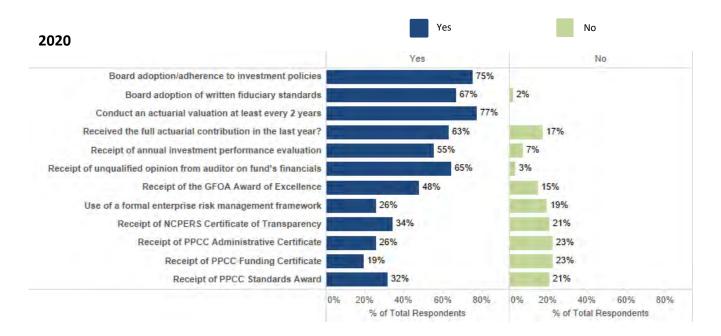


### 2019 Communication Capabilities

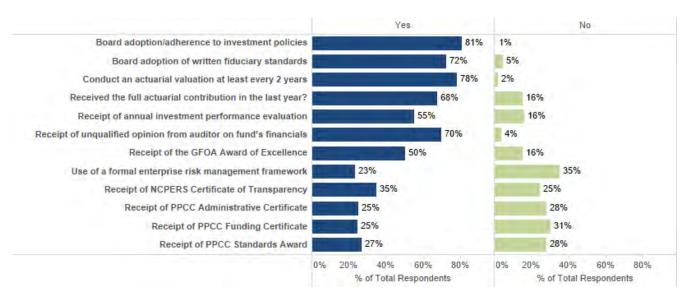


# Trends in Oversight Practices

Overall, responding funds showed very similar practices to last year. There was a slight reduction in board adoption of / adherence to investment policies, adoption of fiduciary standards, receipt of full actuarial contributions, PPCC Funding Certificate receipt, and PPCC Standards Award receipt. These differences did not emerge for those funds that also participated in the survey last year. This cohort shows an 8 percentage point increase in receipt of the NCPERS Certificate of Transparency.



#### 2019



### **Investment Returns**

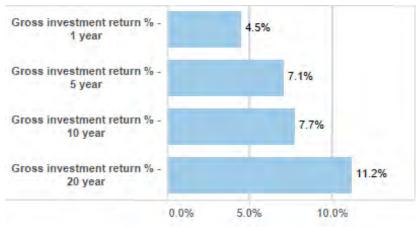
Reporting funds saw, on average, 1 year returns of around 8.1 percent. The 5 year average was slightly below the assumed rate of return, while the 10-year average returns outperformed assumptions. The 20-year returns fell below the average assumed rate of return as the strong performance of the late 1990s began to roll off the average. Those funds that responded in both 2019 and 2020 report 1-year and 10-year returns above the assumed rate of return, with the 5-year and 20-year returns slightly below.

It is important to note that not all responding funds have the same fiscal year-end date. The timing of a fiscal year-end accounts for a significant share of the difference in investment experience between funds. Funds that have a December fiscal year-end date saw 1-year returns of 16.8 percent, which is much higher than the returns of those closing at other times.

**2020 Study Investment Returns** 

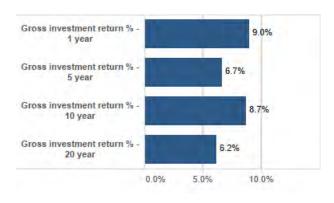


**2019 Study Investment Returns** 



Funds with members who are Social Security eligible reported higher one-year returns than funds with members who are not Social Security eligible.

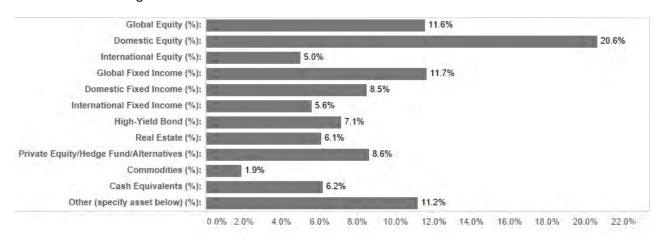
### 2020 Returns: Social Security Eligible



### 2020 Returns: Not Social Security Eligible



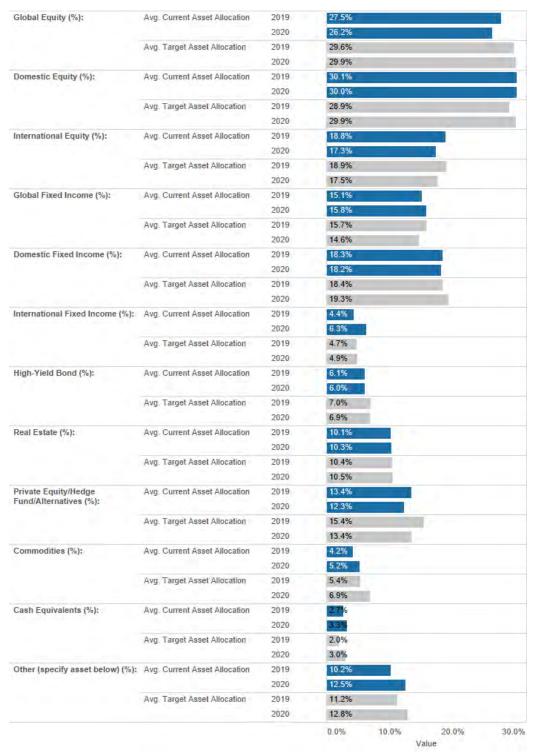
The graph below shows the one-year gross investment returns based on the various asset classes in which responding funds are invested. Domestic equity, global fixed income, global equity, and "other" saw the largest returns.



### **Investment Asset Allocation**

Responding funds had similar allocations to asset classes as they did in 2019. There was a modest decrease in allocations to global equities, international equity, and private equity. There was a modest increase in international fixed income, commodities, and "other."

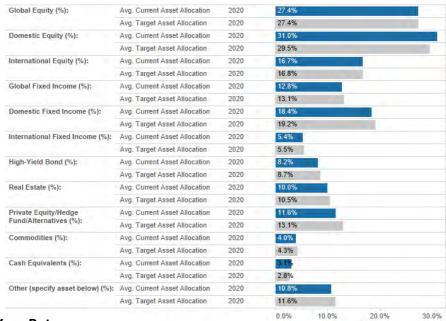
Note: Average allocations in each asset class do not total to 100 percent because of how individual allocations were reported.



Below are two graphs that show the asset allocations for those funds that reported higher-than-average 1-year and 10-year investment returns, respectively.

A factor with a major impact on return appears to be the timing of the fiscal year-end, as funds with a December close had a much higher return than those closing in other periods.

**Highest 1-Year Return** 



**Highest 10-Year Return** 

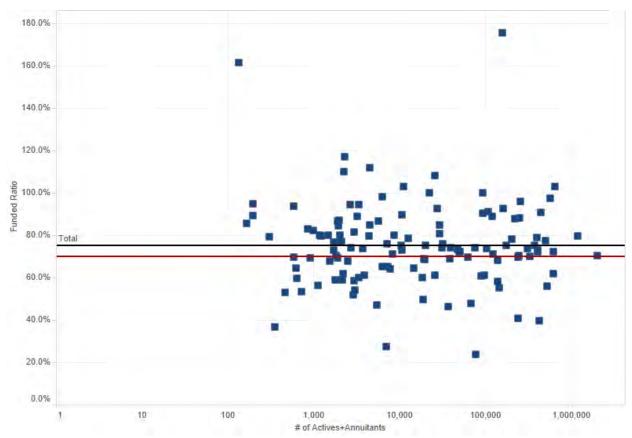


# **Funding Levels**

The average funded level is 75.1 percent, up from 72.4 percent in 2019. Funds whose members are eligible for Social Security tended to have higher funded levels.

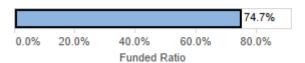
The graph below shows the distribution of funded levels and fund size. The vertical axis shows the level of funding, and the horizontal axis shows the size of the fund by total active and retired participants. The black center line denotes the average of 75.1 percent, and the red center line denotes the 70 percent funding target that Fitch Ratings considers to be adequate.

### 2020 Funded Level Distribution

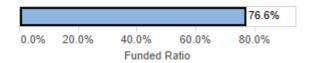


Many funds include members who are not eligible to receive Social Security at the time of retirement. These funds often have higher benefit levels to offset the loss of this source of retirement income. Those funds that include such members report an average funded level of 74.7 percent, which is above the 68.7 percent reported in the 2019 study. Similarly, funds with members who are eligible for Social Security saw funding levels rise from 74.8 percent reported in 2019 to 76.6 percent in 2020.

### **Not Social Security Eligible**

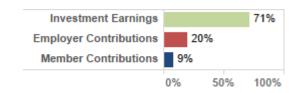


### **Social Security Eligible**



# Sources of Funding

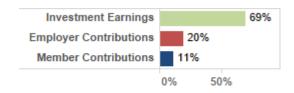
#### **Overall Sources of Revenue**



### **Social Security Eligible**



### **Not Social Security Eligible**



### Contribution Rates as a Percentage of Payroll– All Respondents

	2019	2020
Member Contributions	9%	9%
Employer Contributions	22%	20%
All Contributions	31%	29%

### Contribution Rates as a Percentage of Payroll–Respondents in Both Years

	2019	2020
Member Contributions	9%	9%
Employer Contributions	21%	20%
All Contributions	30%	29%

Income used to fund pension programs generally comes from three sources: member contributions, employer contributions, and investment returns. The chart to the left shows the proportion of funding provided by each of these sources based on reported data.

Investment returns are by far the most significant source of revenue (71 percent). Employer contributions fell by 2 percentage points compared with last year, and member contributions remained flat.

The graphs to the left also show revenue sources for whose funds members are and are not eligible for Social Security.

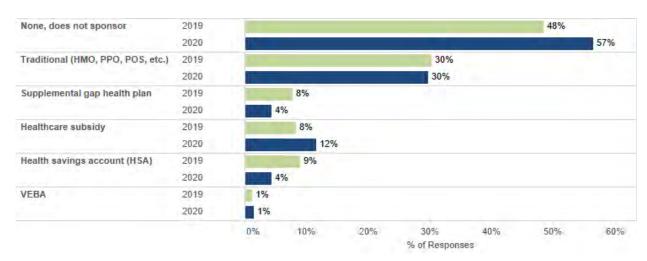
Funds whose members are eligible Social Security show income sourced from employer contributions dropped by 3 percent and member contributions dropping by 1 percentage point. Funds whose members are not eligible for Social Security also showed a slight decrease in income sourced by employer contributions (by 1 percentage point), and member contributions increased by 1 percentage point.

The tables to the left show contribution rates as a percentage of payroll. The top table shows contribution rates for all survey responses, while the bottom table shows responses for those who participated in both 2019 and 2020. Contribution rates were stable, with just a slight decline for employers.

### **Health Plans**

Responding funds were asked whether the plan sponsor offers a health plan. In 2020, coverage declined. About 43 percent offered a plan or subsidy, while about 57 percent of funds did not sponsor a plan. In 2019, about 52 percent offered such coverage, and 48 percent did not. For funds responding in both study years, we saw a 4 percentage points drop in coverage between 2019 and 2020. For this cohort, traditional coverage fell 6 percentage points and healthcare subsidy rose by 2 percentage points.

### What type of health plan does your pension plan sponsor?



The funds that do offer a health plan or subsidy were also asked to report which types of members are eligible to participate.

About 98 percent of the sponsors offering a health plan or subsidy include retirees, and 76 percent include beneficiaries. For 2020, this question changed to focus on plans for retirees and beneficiaries only instead of also including active participants. For this reason, the percentages reported for 2020 are higher than those reported in 2019 (which are not shown here).

### Who is eligible for the health plan?



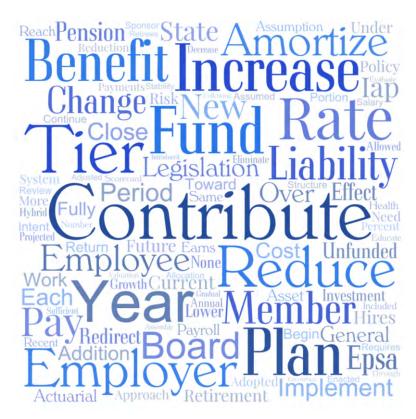
# **Reducing Liability**

Respondents were asked to share strategies they have put in place to reduce accrued actuarial liabilities beyond traditional amortization. Below is a text cloud showing the words that appear most often in respondents' comments. Larger words appear more often. The themes relating to these words are listed to the left, and the verbatim comments are provided below.

**Tier** – Employers have added new tiers of benefits to reduce benefit levels for new hires

**Contribute** – Funds have increased contribution levels directly for employers and members (legislation or policy)

**Reduce** – Funds have reduced cost-ofliving adjustments for plan members, negotiated investment fees, changed assumptions to reduce unfunded liabilities



### **Verbatim Comments**

- State implemented 2-tier plan in 2010.
- Tier 2 plan which decreased member benefits.
- ALM, risk mitigation, discount rate reduction, shorten amortization.
- Working with stakeholders to bring funding legislation for our upcoming legislative year.
- The board adopted a funding policy with a closed funding period and a pension funding scorecard. The scorecard is a risk tool
  that combines input from a variety of metrics to measure the financial health of the plan.
- Currently reviewing COLA; currently directing all contributions to fund pension and none to fund health care; evaluating the need for benefit plan design changes for future new hires.
- The Kentucky General Assembly has stated their intent to fully fund going forward. The enacted state budget has been adopted that fully funds the system through 2021.
- Tier 2 which reduced benefits for new hired.
- Increased communication with employers to educate them on UAAL and encourage pay off.
- Closed amortization; lowered expected rate of return.
- Introduced legislation to increase funding.
- Introduced legislation to increase contributions.
- Reduce admin and investment costs; employers paying additional contributions towards unfunded liability.

### Verbatim Comments, continued

- IAP redirect starting July 1, 2020, SB 1049 requires that members earning more than \$2,500 per month have a portion of their 6% IAP (DC Component of the Hybrid Plan) contributions redirected to a new Employee Pension Stability Account (EPSA) for each member. Funds from your EPSA will be used to pay for part of your defined pension benefits at retirement. The IAP Redirect is in effect when the PERS system is less than 90% funded. The portion of the 6% redirected to a member's EPSA depends on their membership type: Tier One and Tier Two 2.5% will go to your EPSA. OPSRP 0.75% is redirected to your EPSA. The remainder of your 6% will be contributed to the IAP as usual. 2020-2024 SB 1049 Changes: Work After Retirement Limitations removed for most retirees from January 1, 2020, through December 31, 2024, most retirees may work for a PERS-participating employer for an unlimited number of hours while continuing to receive their pension benefit. However, employers must pay employer contributions to these salaries, with these contributions going towards the UAL.
- Following the fiscal year 2019, the PSPRS Board of Trustees implemented a phased-in approach, effective with the June 30, 2020 valuation, to begin reducing its 3.5 percent assumed payroll growth assumption by 0.5 percent each year. The board will reevaluate the effects of this gradual reduction when the assumed payroll growth rate reaches 2 percent. At that time, the board will decide whether to continue reducing the payroll growth assumption until it reaches zero with the intent of eliminating negative amortization among the systems multi-plan employers. System employers, which are currently in 20 or 30-year closed amortization periods, will also use a 15-year closed-layered amortization schedule once they reach 15 years under their current (20 or 30 years) amortization schedules.
- Negotiated lower management fees/restructured investments.
- The City makes additional fixed contributions to eliminate the unfunded liability in 4 years.
- Individual employer units have been invited to make additional payments toward their unfunded liability.
- Allowing our employers many different options to address their AAL, including closing or freezing their DB Plan and going to a
  DC Plan, or Hybrid Plan. In addition, allowing employers to make changes to their benefit structure for the DB Plan for future
  service.
- Increase contribution rates for both employer and employee, monitoring of investment strategy and market liquidity, and make appropriate changes.
- None, the most recent actuarial projections show the Plan fully funded by 2038.
- UAAL can be reduced in three ways: IMRF earns more on its investments than its assumed rate of return of 7.5%. An employer
  pays the employer contribution rate set annually by IMRF. An employer makes voluntary payments specifically to pay down
  their UAAL.
- Pension Liability Surtax.
- Plan sponsors make additional payments towards the UAAL each year. Employees pay a portion of the UAAL contribution per bargained for MOU provisions.
- TMRS lowered its amortization period from 25 to 20 years for new losses effective 1/1/2020; allowed cities to contribute above
  the ADEC to accelerate time to full funding, and TMRS completed an experience study and adjusted actuarial assumptions.
- Seeking legislation to increase the normal retirement age, increase member contribution rate, increase reduction factor for early retirement, and change the final average earning period from the last three years to the last five years.
- Continue to review benefit structure and implement legislative changes to tighten costs.
- The Plan Sponsor has proposed several funding options, but these will have minimal impact on solvency.
- Employee and member contributions are projected to be sufficient. The State of NE also contributes 2% of member salary.
- Increase to contributions, benefit changes, the introduction of Tier II in 2012.
- Adjusted asset allocation, increased employer contributions, increased member contributions.
- Employee and member contributions are projected to be sufficient. The Plan has always been adequately funded.
- Pension reform legislation passed in 2018: increases employer contributions by 1.25% over a six-year period, and employee contribution by 0.25% in the sixth year. Reduced COLA from 2% to 1% for 5 years, then a gradual increase to 1.5% over the following five years. Eligibility for the first COLA changed to normal retirement age. Interest on deferred benefits eliminated.
- Adjusted asset allocation, increased employer contributions, increased member contributions.
- If the plan goes over 30-year amortization, then consider increasing member contribution rate, stop COLAs, look at DROP interest.
- A new tier was enacted in 2010 to reduce plan liability and increase plan sustainability. The Board has adopted a modified asset allocation and has systematically reduced the investment return assumption. While the assumption decrease does increase liability numbers in the short term, over the long term, we believe it is a prudent approach to plan funding.
- We have been focusing on education and awareness with our employers to explain how and why contributions will be increasing in the future. We encourage employers to utilize our Employers Reserve Fund to smooth the contribution volatility that will occur in future years.
- We recently implemented legislative changes in our benefit structure, including increased employee and employer contributions and reduced annual post-retirement benefit increases (COLA). These changes have led to a contribution sufficiency and a path to 100% funding within the amortization period.
- Increase of employer contributions effective 07/01/2020: Police Fire = 41% of payroll and General Employees = 24% of payroll.
- Same as General Plan.

### Verbatim Comments, continued

- Increased employers' contribution.
- Create a tier of unfunded liability/asset after each annual actuarial valuation and amortize each tier over a maximum of 20 years until tier amortized.
- Certain employees are making additional payments.
- We have implemented a contribution rate stabilization reserve fund to maintain a higher contribution rate than necessary under funding policy.
- The Governor and General Assembly have focused on reducing plan costs and liabilities with a multipronged approach that included: Accelerating repayment of deferred contributions, estimated to save \$60.5 million over six years; funding 100% of actuarially determined contribution rates earlier than anticipated, saving \$232 million over 20 years.
- State contributions are too low to begin reducing the unfunded liability. The board certifies both the amount required under state law and the amount required under the actuarial process (different cost method, shorter amortization) that does begin reducing the unfunded liability. This approach is needed because our funded status is too low.
- All URLs to be paid within 25 years by board policy.
- The legislature has made ad hoc appropriations to the Trust Fund in recent years to reduce the unfunded actuarial liability.
- Currently working with the plan sponsor to pay down the UAAL and implement an ADC strategy.
- Implemented a cash benefit plan for new hires after 3/1/2015. The vesting period for new hires after 3/1/2015 was also extended to 10 years.
- Reduced benefits and increased employee and employer contribution rates.

# Innovations / Best Practices

In the study, respondents were asked to share a success story regarding best practices or innovations that other plans might like to learn about. Below is a text cloud showing the words that appear most often in respondents' comments. Larger words appear more often. The themes relating to these words are listed to the left, and the verbatim comments are provided below.

**Retiree/member** – Increased efforts and resources for retiree/member portal and retirement planning

**System** – Improved software systems to enable staff and participants to address service requests remotely; additional portal tools; improved business systems and administration systems to enhance staff effectiveness

**Educate** – Expanded training opportunities on financial wellness and retirement planning; more seminars for participants and employers



### **Verbatim Comments**

- Implementation of pension administration system utilizing Deloitte software.
- In response to the COVID-19 pandemic, STRS Ohio quickly and efficiently implemented work-from-home measures for the vast majority of staff. All business functions including benefit payments, member services such as the call center and virtual counseling, and investments operations continued without interruption. An electronic invoice workflow system was implemented earlier this year that allows departments to easily review and approve invoices. The formerly paper-based process is now automated using workflow and electronic approvals. This results in a number of advantages to the retirement system, including improved visibility into the status of invoices, strengthens internal controls and enhances STRS Ohio's business continuity readiness.
- In an effort to extend the solvency of the health care fund, the OPERS Board approved significant changes in the delivery of health care for pre-Medicare retirees to begin January 1, 2022. The new model will replace the long-standing group plan with a Health Reimbursement Arrangement (HRA) model funded by OPERS through monthly allowances to retirees. The HRA model allows retirees the opportunity to select and fund an individual health plan most suitable to their needs. This model, in many forms, replicates the current model provided to over 100,000 Medicare retirees education and communication efforts with our members and retirees throughout the year were focused on the retiree health care program to make sure they understood the funding model, the issues we face, and the solutions that were being discussed. Our entire Member Services staff completed a comprehensive training on the Affordable Care Act (ACA) in preparation of the transition of our pre-Medicare retirees to the private market in 2022. The training included education on qualifying for a premium tax credit and plans available on healthcare.gov. Included in the training were several hands-on activities requiring the employees to search for plans on healthcare.gov for different personas and answer detailed questions on the outcomes.
- TRS On the Road-40 counselors travelled throughout the state and provided retirement estimates to members. Shared
  Responsibility plan that fully funds the health insurance benefit for retirees. Electronic voting of Trustees that was
  implemented by in-house information technology staff.
- We have updated our pension administration system utilizing production from Deloitte.
- Enhanced Board Governance practices.

### Verbatim Comments, continued

- We are planning to prepare and submit a CAFR for 2021.
- PSPRS is currently working to help employers find financing solutions to unfunded pension liabilities. Employers of PSPRS member beneficiaries each have their assets and liabilities, and PSPRS is helping employers understand the long-term costs associated with unfunded liabilities and to determine whether the historically low-interest rates present appropriate and cost-saving financing options. Unfunded liabilities accrue at the assumed earnings rate of the plan, currently set at 7.3 percent, while debt instruments like pension obligation bonds and certificates of participation can be issued at lower rates, resulting in substantial taxpayer savings. One employer, the City of Flagstaff, Arizona, recently paid its entire \$112 million unfunded pension liability by issuing certificates of participation at rates below 3 percent. This financing measure is anticipated to provide more than \$75 million of present value savings to city taxpayers.
- Pursuing Lean Six Sigma training/certification as an organization.
- Increased communications and educational webinars.
- The Plan verifies payments to all inactive members annually.
- This year we introduced a virtual employer training session to ensure our employer units receive efficiently and conveniently the information they need about the retirement plan, Board policies, and procedures to effectively do their iob.
- Providing an online portal for retirees so that they can make addresses, tax withholding, and other optional benefits without going through the Plan Administration office.
- Our Plan offers an individual educational session or sessions with all participants looking to retire, including helping with where to go and what to consider with Social Security and health care and other retirement income.
- IMRF is the first public pension plan to receive the Malcolm Baldrige National Quality Award.
- We are developing a Board Resource that contains information about every aspect of plan administration written in a format that is easy to understand. Contains At Glance sections at the beginning of each topic with a summary of the topic, then in-depth descriptions with references to board policies or statutes or other underlying authority contain spotlight sections highlighting key issues like gift rules or fiduciary standards. Intended primarily for new trustees but will be a resource for all trustees.
- A Cost-Effective Measurement (CEM) study was completed; legislation passed that improved operational efficiencies, and asset and liability studies were completed in conjunction with each other.
- Making payments through our custodial bank versus the State Auditor's Office to allow for direct deposit and other state tax withholdings, as well as cost savings to the plan.
- The advent of COVID-19 related shutdowns in March of 2020 required the CMERS IT team to procure, configure, and deploy multiple laptops and cell phones to accommodate the staff transitioning to work from home. We creatively procured devices as traditional channel sources had long lead times if able to provide devices at all. This included sourcing local bigbox retailers for suitable devices. All staff requiring work from home devices were outfitted and trained within 2 weeks resulting in little to no disruption to the services provided to our end-user community.
- MPERS is going paperless to improve efficiency. With our new pension administration system, we are also hoping to connect to most of our members electronically.
- We perform actuarial stress tests annually. Also, we perform experience studies every three years as opposed to our past practice of every five years.
- Successful delegating of manager selection to the CIO and team.
- We have a few trustees that are elected to our Board. We have implemented an electronic platform for this purpose, that was considerably more efficient than paper ballots.
- Pension Reform: The Governor and General Assembly have focused on reducing plan costs and liabilities with a multipronged approach that included: Implementing plan design changes (VRS Plan 2 for all employees and the Hybrid Retirement Plan nonpublic safety employees that have lowered future benefit costs). The Hybrid Retirement Plan is the dominant plan for all new hires except public safety employees. The Hybrid combined defined benefit and defined contribution plan: Reduces future benefit costs Introduces risk-sharing between employer and employee Lowers defined benefit-risk to employers by approximately one-third.
- myVRS Financial Wellness: In its quest to help members plan for tomorrow, today, VRS launched an innovative online program in 2017 to provide financial wellness education for its members, as well as free educational resources for citizens of the Commonwealth. The System continues to promote this education opportunity and enhance the available materials.-Recognizing that many VRS members would like to improve their knowledge but do not have access to personal finance education, VRS seized an opportunity to integrate financial wellness content on the public website and with the retirement planning tools within the agency's secure myVRS online member portal. VRS partnered with a service provider, iGrad, creator of Enrich financial literacy content, to develop myVRS Financial Wellness. VRS appears to be the first state retirement system to offer financial wellness content through its public website and personalized content based on the member's profile through a secure member portal. The program is aimed at helping members make informed and educated decisions on everyday financial matters while saving for the future and retirement security. Users find tools, tips, and time-savers that help them with debt and credit management, personal budgeting, spending habits, saving for goals, student loan repayment, and career-development strategies.

### Verbatim Comments, continued

- Advancements in Technology and Security: VRS continued the Modernization journey. Successfully transitioned retirement
  processing and disbursements to a cloud-based environment and decommissioned the legacy mainframe, including the
  transfer of over 400 million records.- Successfully disbursed more than 200,000 payments to retirees and beneficiaries
  under the new system in May 2019.
- myVRS Online Self-service Member Portal Enhancements: Enhancements to myVRS will enable members to complete their retirement applications online. The online system provides the user with regular feedback and embedded education to enhance the user experience. Continue to enhance the online Self-service portal to allow members and retirees to update and manage beneficiaries, change bank account information for direct deposits, and update Health Insurance Credit information.
- The Retirement System has successfully implemented payment of operating vendors via ACH; this has decreased processing time and increased security when compared to check issuance. Staff effectively-researched planned and implemented the ACH payment program, while still maintaining effective internal controls. The Retirement system has also implemented a mid-career seminar; this allows the system to connect with its active members earlier and properly educate active members on their retirement benefits, and to provide information to those members considering retirement or entering the DROP Program in the next 5-10 years.
- KPERS recently completed a thorough business assessment as part of a larger pension administration system modernization.
   The assessment was very helpful in identifying gaps in existing business processes and targeting resources to the gap areas.
- After conducting due diligence on our customer service metrics, we validated member feedback that our responsiveness to telephone calls and emails was not at what we consider to be acceptable levels. We retained a call center consulting firm to provide us with an assessment and recommendation, which led us to the initiation of a project to develop and implement a Contact Center to respond to all forms of customer contact. The implementation is underway and scheduled to be up and running by calendar year-end.

# Appendix A: Other Investments

Respondents were asked to specify what "other" asset classes they invested in. Below is a text cloud showing the words that appear most often in respondents' comments. Larger words appear more often. The themes relating to these words are listed to the left, and the verbatim comments are provided below.

Real - Real assets, real return

**Private** – Private credit; private equity; private investment partnerships

**Infrastructure** – Infrastructure, natural resources, global infrastructure, energy infrastructure



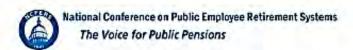
### **Verbatim Comments**

- (Current, Target, Return) Hedge Funds (9.3, 0.0, 5.2); Farmland (0.0, 5.0, 0.0).
- (Current, Target, Return) Timber (3.4, 3.0, 4.8); Hedge Funds (3.1, 3.0, 5.4); Farmland (0.0, 5.0, 0.0).
- Above same as General Fund.
- Above the same as General Fund.
- Absolute Return 8%/Natural Resources-Infrastructure 4%.
- Absolute Returns (8%) and Natural Resources/Infrastructure (4%).
- Broad Growth: Actual = 71.7%, Target = 68.0%; Principal Protection: Actual = 6.9%, Target = 8.0%; Crisis Risk Offset: Actual = 15.3%, Target = 16.0%; Real Return: Actual = 3.2%, Target = 8.0%; Opportunities: Actual = 0.2%, Target = 0.0%; Other: Actual = 2.8%, Target = 0.0%.
- Canadian Index Fund.
- Cash.
- Closed Plan No assets. Funded as a pay as you go plan by State's General Fund.
- Combination of Private Equity, Real Assets, and Diversifying Strategies.
- Convertible Bonds.
- Convertibles.
- Credit strategies, multi-asset public strategies, Private investment partnerships.
- Crisis Risk Offset class 4.2% gross return with actual allocation of 16% and target of 20%; Credit class 4.7 gross return with actual allocation of 12.6% and target of 14%; Risk Parity class 19.9 gross return with actual allocation of 12.6% and target of 14%.
- Current Asset Allocation & Target are Private Credit. Investment returns are all net; other is private credit measured in IRR
- Current asset Other: Emerging Equity 13.55%, Opportunistic Fixed Income 8.47, MACS 5.40%, Emerging Fixed Income 3.48. Target asset Other: Core Fixed Income 13%, Opportunistic Fixed Income 13%, Emerging Equity 13%. Gross investment return: see details on www.lsers.net>Investments>Investment Reports.
- Current: Non-core FI=18.66; Real Return=11.0. Target: Non-core FI=20.0; Real Return=10.0; Gross Investment Return Non-Core FI=7.89; Real Return=15.83; Private Equity/Hedge Fund/Alternatives 1 year return= Private Equity=12.39; Absolute Return = 5.14.

### Verbatim Comments, continued

- Diversified Assets MA PRIT Fund.
- Dynamic Asset.
- Global Asset Allocation.
- Global Listed Infrastructure.
- High Yield & alternative credit are included in other.
- Infrastructure.
- Infrastructure & Timber.
- Innovation allocation.
- Liquid alternatives.
- Master Limited Partnership.
- Master Limited Partnerships.
- Midstream energy (MLP).
- MLPs.
- Multi-asset portfolios.
- Multiasset: risk parity and global tactical asset allocation.
- Natural Resources.
- Opportunistic Fixed Income.
- Other = Global Asset Allocation International FI is defined as Emerging Market Debt.
- Other = Multiasset Class.
- Other- Public Global Equity 41.73% 47% 12.42%; Other- Private Equity 11.05% 13% 7.04%; Other- Fixed Income 15.86%.
   11% 8.00%; Other- Credit (%) 8.18% 7% 2.20%; Other- Real Assets (%) 11.84% 12% -9.13%; Other- Risk Mitigation (%).
   9.76% 10% -0.76%; Other- Unique Strategies (%) 0.01% 0% N/A.
- Other: Inflation sensitive assets: Target allocation 15.5 Multi-Assets 4 Inflation sensitive Investment return: 8.4% Multi-asset return: 20.6%.
- Portfolio Completion Strategies 8-14% / performance (-4.9%); Value-Added Fixed Income 5-11% / performance (-3.2%);
   Commodities equates to Timberland; performance figures as of 6/30/2020 gross of fees; Investments managed by PRIM
- Preferred/Convertible.
- Private Credit/Opportunistic Debt.
- Private Equity.
- PSPRS has attempted to conform its FY19 allocation (then current) and target asset allocations and performance as accurately as possible to the presented format. PSPRS will separately provide NCPERS with its own current and target allocations and performance. Please feel free to contact PSPRS with any questions.
- Public Real Assets.
- Real Return.
- Residual accounts in liquidation.
- Risk Parity 7.8 vs 8.0, Infrastructure 2.9 vs. 3.0, MLPs 2.1 vs. 3.0. PSERS reports net of fee returns only. Gross returns not
  available.
- Risk Parity, GTAA, Other Pension Assets, and Rebalancing.
- STIP, TIPS, Broad Fixed Income, Investment Grade Credit, Agency Mortgage-Backed Securities, Diversified Strategies.
- The above is all the same as the General Fund.
- Timber & Infrastructure.
- TIPS, Global Inflation-Linked Bonds, Infrastructure, Timber.
- Treasuries.
- US TIPS, Midstream energy infrastructure (MLPs), real assets, private credit.
- We are part of the State of MA-PRIT Fund.

# Appendix B: 2020 Study Instrument





### 2020 NCPERS PUBLIC RETIREMENT SYSTEMS STUDY

Please share your feedback so we can continue to provide the most up-to-date data addressing retirement issues for public pension plans across the nation. Your most recent Comprehensive Annual Financial Report will help answer most questions.

If you administer more than one plan, please copy this survey for each and note the name of the fund. If you are a multiple employer plan, you may use aggregate numbers from your CAFR and respond to the questions in the generally applicable way for most of the plans you administer.

Please enter your ID number from the cover email:				
Plan name:				
What type of plan is this? (Mark all tha	t apply.)		2000	
Defined Benefit Plan (Traditional Pensi	on Plan)	Combination Contribution		efined Benefit & Defined
Defined Contribution Plan (Mandatory I	Retirement Account)	Cash Balano	A STATE OF	
	Plan Stat	istics		
Fund statistics from most recently comple the field - it is numeric only.	eted fiscal year (if applicat	ole). <u>Please do n</u>	ot use commas,	dollar signs or percentage ma
Total number of members (actives + deferre	ed + retirees + beneficiaries	s):		
Total number of staff who administer the fur	nd (full-time equivalent):			
Fiscal year of your CAFR referenced for this	s survey (MM/DD/YYYY):			
Market value of plan assets (\$ in thousands	from actuarial valuation):			
Total pension assets (a) (\$ in thousands fro	m actuarial valuation):			
Total pension liability (b) (\$ in thousands fro	m actuarial valuation):			
Current funded ratio (a divided by b) (%):			-	
Cost of Living Adjustment (COLA) offered b	y plan in last fiscal year (%	):		
Did your plan receive the full (100%) actuar	ially determined contribution	in the last fisca	al year?	Yes No
Member contributions as percent of payroll	(%):			
Employer contributions as percent of payro	ll (%):			
Investment manager expenses (basis point	s):			
Administrative expenses (basis points):				
Investment assumption/discount rate (%):				
Inflation assumption (%):				
Investment smoothing period (years):				
Amortization period (years):		7.7.		- 0
Type of amortization period:	Open/Rollin	g Closed	VFixed	
Gross investment return % (1 year):				
Gross investment return % (5 year):				
Gross investment return % (10 year):				
Gross investment return % (20 year):				

#### Current and Target Asset Allocation / Investment Return

For each of the asset classes below, please specify your CURRENT and TARGET asset allocation and your 1 YEAR GROSS INVESTMENT RETURN (%) for each asset class. Please note: percentages for asset allocation should equal 100%. CURRENT asset allocation: TARGET asset allocation (if a Gross investment return % (1 yr): range, please use middle of Global Equity (%): Global Equity (%): range): Domestic Equity (%): Domestic Equity (%): Global Equity (%): International Equity (%): International Equity (%): Domestic Equity (%): Global Fixed Income (%): Global Fixed Income (%): International Equity (%): Domestic Fixed Income (%): Domestic Fixed Income (%): Global Fixed Income (%): International Fixed Income (%): International Fixed Income (%): Domestic Fixed Income (%): High Yield Bond (%): High Yield Bond (%): International Fixed Income (%): Real Estate (%): Real Estate (%): High Yield Bond (%): Private Equity/Hedge Fund/ Private Equity/Hedge Fund/ Real Estate (%): Alternatives (%): Alternatives (%): Private Equity/Hedge Fund/ Commodities (%): Commodities (%): Alternatives (%): Cash Equivalents (%): Cash Equivalents (%): Commodities (%): Other (specify asset below) (%): Other (specify asset below) (%): Cash Equivalents (%): Other (specify asset below) (%): If you entered an "Other" asset class above, please specify the other class(es) in which your fund is currently invested: Which retirement benefits below does your plan offer or is considering offering? Please skip individual items below if not applicable. Already Offering Considering Offering Defined Benefit Plan (traditional pension plan in which the benefit is defined by a formula based on service and average wages) Defined Contribution Plan (retirement account such as a 403(b) or 401(k) in which an employer's contribution is specified and employee participation is generally mandatory) Deferred Compensation Plan (tax-deferred retirement savings account such as a 457 in which employee participation is voluntary) Combination Plan (blends Defined Benefit and Defined Contribution elements) In-service death benefit Disability benefit provided either within the plan, by Social Security or by employer An automatic post-retirement adjustment of payments (e.g. COLA) A compounding post-retirement adjustment of payments (e.g. COLA) An ad hoc (not necessarily automatic or compounding) post-retirement adjustment of payments (e.g. COLA) Employer pick up of employee contributions Deferred Retirement Option Plan (DROP - in all forms) Which retirement plan changes below have been implemented or are being considered by the plan or plan sponsors? Please skip individual changes below if not applicable. Considering Implementing Lower the actuarial assumed rate of return Raise benefit age/service requirements Increase employee contributions Hold or lengthen the amortization period to improve affordability Shorten the amortization period to improve funded status

Conduct a death audit				iklering Implement
Conduct an actuarial audit by a third party actuary (includes replication of valuation and opinion on actuarial assumptions)				
Conduct an information systems security audit	11			- (
Conduct a building security audit				
Jpdate/strengthen an asset allocation study				
Expand operational performance benchmarking				
Jpdate or enhance administrative software used for member data		10		
Jpdate or enhance online portal provided for members to access account information	- 1			
Conduct an employer/reporting unit satisfaction assessment				
Comply with new State statutory or regulatory requirements to report your funded status based on a rate of return different from your assumed rate of return	- 1			
Enhance member financial wellness/retirement readiness resources				
Which of the following communication methods does your plan or plan sponsor have the capacity to send a mass phone message to your entire membership	ability to	conduct?		No.
Capacity to send a mass text message to your entire membership				
Capacity to send an e-mail to your entire membership	11			
Does your plan have a Facebook or Twitter account?				
Which oversight practices below have been implemented? Please skip individual practices Receipt of the GFOA Award of Excellence for the most recent award cycle	s below	if not con	ducted.	No
Receipt of NCPERS Certificate of Transparency				
Receipt of PPCC Standards Award		ĦΞ		
Receipt of PPCC Administrative Certificate				
Receipt of PPCC Funding Certificate		Ħ		
Receipt of an unqualified opinion from the auditor on the fund's financial statements, nternal controls, and compliance with applicable laws and regulations				
Conduct an actuarial valuation at least every 2 years				
Board adoption and adherence to written investment policies	- 1			
Board adoption of written fiduciary standards				
Receipt of annual investment performance evaluation from an outside independent nvestment review entity				
Jse of a formal enterprise risk management framework		1		
low satisfied are you with your plan's readiness to address retirement trends and issues ov very Dissatisfied— 2 3 4 6 6	er the ne	ext 2 year	s? ø	Very Satis
		housed t	raditional am	ortization?

5. Which business practices below have been implemented or are being considered by the plan or plan sponsors? Please skip individual

Questions about you	ır fund (your resp	onses w	rill be confide	ntial)
What type of employees/beneficiaries does your fu  Local (township/city/village) Public safet  County State	y DE	all that app ducational ther	oly_)	
What type of health plan does your pension plan so None, does not sponsor (skip to Q15) Traditional (HMO, PPO, POS, etc.) Supplemental gap health plan	□ H:	ealthcare so ealth Saving	ubsidy gs Account (HSA)	ry Association (VEBA)
Who is eligible for the health plan? (Please mark a	II that apply_)	Retirees	Bene	ficiaries
Are your members eligible for Social Security cover	rage?	Yes	No	
Are your members eligible for Medicare coverage?		Yes	No	
o you include overtime in the calculation of the retirement benefit?		Yes	No	N/A
Does your plan allow Board Members the ability to teleconference or webconference (Zoom, Teams, W		Yes	□ No	
How is your fund's current ability to attract and reta your staff retire?	in skilled employees as [	skilled employees as Significant proble Starting to become		Expect to become a problem soon  No problem
Which role(s) best describe your relationship to the fund? ( <u>Please mark</u> all that apply <sub>e</sub> )		Staff Board member/ trustee		Plan consultant Other
	:?	Yes		No

### For more information:

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