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DEPARTMENT OF TREASURY
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DATE: April 4, 2023

TO: State of Michigan Local Governments

FROM: Rachael Eubanks, State Treasurer *Rachael Eubanks*

SUBJECT: Public Act 202 of 2017: Selection of Uniform Assumptions for Fiscal Year 2023

Summary:

A key component of Public Act 202 of 2017 (the Act) requires the State Treasurer to annually establish uniform actuarial assumptions of retirement systems that include, but are not limited to, investment returns, salary increase rates, mortality tables, discount rates, and health care inflation. Uniform Assumptions reported by local units are used for reporting purpose only and are not used to determine a local units underfunded status under PA 202. The reporting obtained using uniform assumptions allows all systems to be compared on a standard basis and provides a more conservative analysis of legacy debt. In the development of these assumptions, the Department of Treasury has partnered with an actuarial consultant to provide nationwide research and trends for each assumption, as well as final recommendations for consideration.

Fiscal year 2019 was the first year for which uniform assumptions were published and fiscal year 2020 was the first full year that all local units had to submit the Retirement System Annual Report (Form 5572) using uniform assumptions. The uniform assumptions being recommended within this memo would be used for Fiscal Year 2023 reporting.

The most significant change to the FY 2023 assumptions was a slight increase to the salary increase rate. Health care costs continue to remain high and did not decline as projected in 2022. Due to current high rates of inflation, assumptions will need to be monitored into 2023 and beyond for additional long-term impacts

Under the Fiscal Year 2022-23 budget¹, the Michigan Department of Treasury (Treasury) was appropriated \$750 million to establish and operate a local unit municipal pension principal payment grant program (Protecting MI Pension Grant²) for qualified retirement systems with a funded ratio below 60%, as defined in the Protecting Local Government Retirement and Benefits Act, Public Act 2020 of 2017. One of the components of this grant program is that local

¹ <http://legislature.mi.gov/doc.aspx?2022-HB-5783>

² <https://www.Michigan.Gov/MIpensionGrant>

governments that accept grant awards must attest to implement certain practices, including the implementation of specific uniform actuarial assumptions published as of December 31, 2021. Please note that the uniform actuarial assumptions proposed as part of this memo have no effect of the requirements of the Protecting MI Pension Grant program.

Impact of Uniform Assumptions Compared to Funding Assumptions:

For all local governments, fiscal year 2021 reporting included assets, liabilities, and actuarially determined contributions (ADC) using the uniform actuarial assumptions released in fall of 2020. An analysis of key data points used to determine underfunded status³ compares assumptions utilized by local governments for funding purposes with the data calculated and reported using the uniform actuarial assumptions.

FY 2021 Pension Reporting		
	Funded Ratio	ADC/Governmental Revenues
FY 2020 Audited Financial Data ⁴	77.8%	5.1%
FY 2020 Uniform Assumption Data ⁵	69.6%	6.4%

FY 2021 Retiree Health Care (OPEB) Reporting		
	Funded Ratio	ADC/Governmental Revenues
FY 2020 Audited Financial Data	39.8%	2.1%
FY 2020 Uniform Assumption Data	37.0%	2.1%

As demonstrated in the tables above, uniform assumption calculations, on average, do provide a more conservative outlook of local government retirement reporting data. The impact of uniform assumptions tended to be more pronounced in pension than in OPEB. Median funded ratios for pension systems decreased by 8.2% when using uniform assumptions while the median ADC as a percentage of governmental revenues increased by 1.3%. While less impactful, median OPEB system funded ratios decreased by 2.8% when using uniform assumptions, while the median ADC as a percentage of governmental revenues was consistent among funding and uniform assumptions

The data reported using uniform assumptions is not audited by Treasury, so variability may exist in these numbers.

A likely reason why the impact of uniform assumptions tends to be greater in pension systems than in OPEB systems, is due to the greater asset base that exists with pension systems. Since Michigan law requires pension systems to be prefunded, assets are much greater statewide, and thus assumption changes tend to have a greater impact. Conversely, OPEB systems, while progress has been made over the last several years, are still nearly 38% less funded in aggregate, and 21% of OPEB systems have \$0 assets.

³ [MCL 38.2805](#)

⁴ [Fiscal Year 2021 Local Retirement System Status Report](#)

⁵ [Fiscal Year 2021 System Supplemental Reporting and Uniform Assumptions](#)

Fiscal Year 2022 Assumptions:

The uniform actuarial assumptions listed below can have a large impact on the total pension and retiree health care liabilities for systems throughout Michigan, and careful consideration was given to the selection of each uniform assumption. In summary, assumptions set too low or too conservatively may overstate retirement liabilities. Conversely, setting assumptions too high or too aggressively may understate retirement liabilities. The table provides assumptions for fiscal year 2023, along with a comparison to last year's fiscal year 2022 assumptions.

Assumption	Uniform Assumptions 2023	Change from Fiscal Year 2022
Investment Rate of Return	Maximum of 6.85%	None
Discount Rate	Blended discount rate calculated using GASB Statements No. 67/68 and 74/75 methodology For periods in which projected plan assets are sufficient to make projected benefit payments: Maximum of 6.85% For periods in which projected plan assets are not sufficient to make projected benefit payments: Maximum of 3.54%	No change to maximum rate Increased the blended rate from 2.16% to 3.54% for periods in which plan assets are not sufficient to make projected benefit payments
Salary Increase	A minimum of 3.25% or based on an actuarial experience study conducted within the last five years	Increased salary increase assumption by 0.25%
Mortality Table	A version of the Pub-2010 mortality tables with future mortality improvement projected generationally using Scale MP-2021 or based on an actuarial experience study conducted within the last five years Pub-2010 tables with generational mortality improvement using Scale MP-2021	Generational mortality improvement updated to Scale MP-2021 from Scale MP-2020 Updated generational mortality improvement projection scale
Health care Inflation (for Medical and Drug) ⁶	Non-Medicare: Initial rate of 7.25% decreasing 0.25% per year to a 4.50% long-term rate ultimate rate Medicare: Initial rate of 5.50% decreasing 0.25% per year to a 4.50% long-term rate ultimate rate	Non-Medicare: Initial rate remained at 7.25% (failing to decline by 0.25% as projected in prior year assumption) Medicare: Initial rate remained at 5.50% (failing to decline by 0.25% as projected in prior year assumption)
Amortization of the Unfunded Actuarial Accrued liability	Local governments must amortize the unfunded actuarial accrued liability (UAAL) over a maximum closed period of: <ul style="list-style-type: none"> • Pension Systems: 16 Years • Retiree Health Care Systems: 26 Years 	Pension: Closed period reduced from 17 years to 16 years

⁶ Separate trend scales used to value other ancillary benefits can continue to be used as is.

	<p>Closed plans must use a level-dollar amortization method</p> <p>Open plans may use a level-dollar or percent of pay amortization method</p>	<p>Health Care: Closed period reduced from 27 years to 26 years</p>
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Rationale for the Established Assumptions:

The following sections within this memo outline the uniform assumptions and the rationale for their selection. An independent actuary firm was hired to assist in updating the uniform assumptions. In addition, feedback was solicited from multiple stakeholders representing Michigan’s state retirement systems, local governments, employees and retirees, actuaries, and accounting professionals.

Investment Rate of Return:

The investment rate of return assumption reflects the long-term rate of return on retirement assets. Unchanged from the prior year’s uniform actuarial assumption publications, the fiscal year 2023 uniform assumption for the investment rate of return is set to a maximum of 6.85%. The 6.85% investment return was based on a 2.5% inflation assumption plus a 4.35% assumed real rate of return above inflation, net of any investment expenses. The real rate of return assumption was determined based on the 50th percentile of expected investment returns using the average target asset allocation amongst most major pension systems⁷ and 2021 capital market assumptions⁸.

- The average target asset allocation as of 2021 was 47.6% public equity, 22.0% fixed income, 10.8% private equity, 6.7% real estate, 6.2% hedge funds, 2.5% commodities, 2.1% alternatives, and 2.1% cash.

For retirement systems that utilize an investment rate of return that is less than 6.85% for funding purposes, the local government should use the lower investment rate of return for the uniform assumption as well.

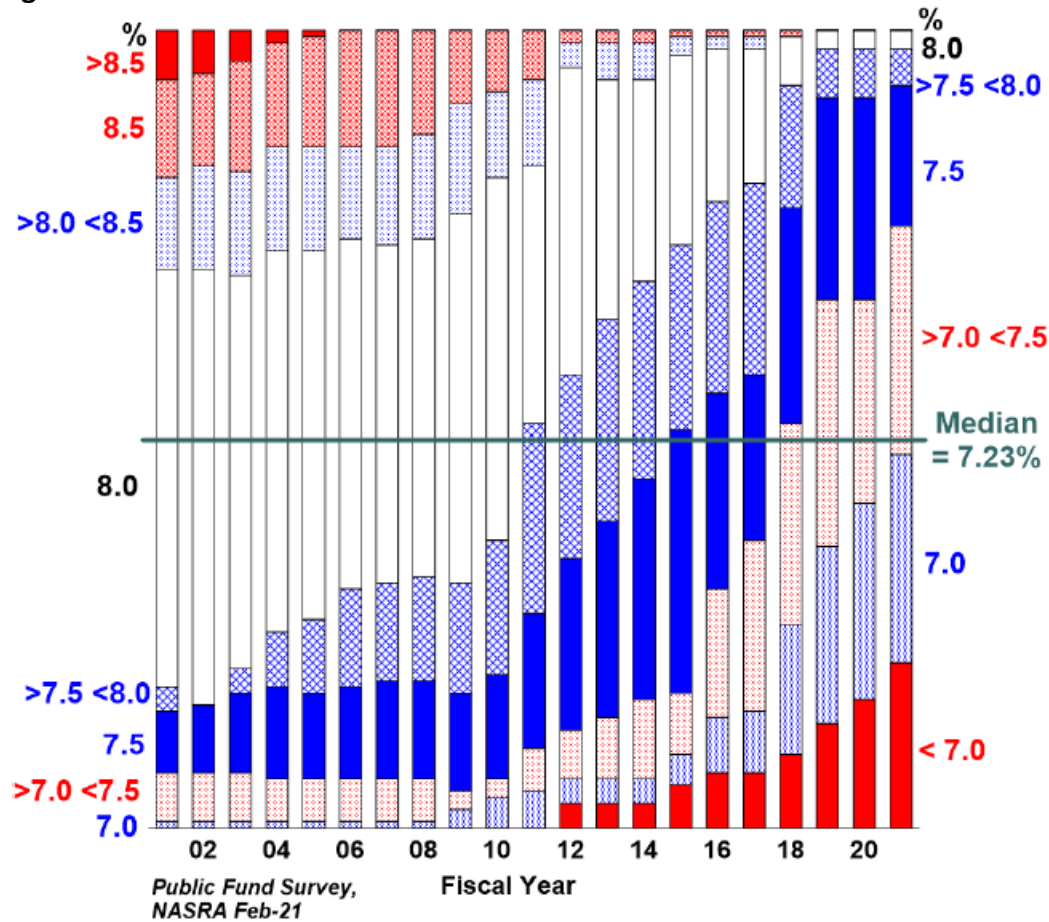
The sustained period of low interest rates since 2009 has influenced an unprecedented reduction in public pension plan investment return assumptions. Figure 1 is from the National Association of State Retirement Administrators (NASRA) Public Fund Survey, and it compares the distribution of pension plan’s investment return assumptions from 2001 through 2021. The graph illustrates a trend of reduced investment return assumptions, initially around 2009, with further dramatic reductions in 2012. For example, in 2001 about 80% of pension plans used an investment return assumption of 8% or greater. By 2020, less than 3% of pension plans used an investment return assumption of 8% or greater, and that number remained flat in 2021. The median return in 2021 was 7.23%, slightly below the 7.25% median in 2019 and 2020. Additionally, the group of systems with investment rates of return below 7.00% have seen the largest increases over the last 3-4 years. In fiscal year 2017, less than 20% of reviewed systems

⁷ Based on the June 2022 data release of the Public Plans Database of approximately 209 public pension plans with target asset allocation information <http://publicplansdata.org/public-plans-database/>

⁸ Horizon’s 2021 Survey of Capital Market Assumptions <https://www.horizonactuarial.com/blog/2021-survey-of-capital-market-assumptions>

had an assumed rate return at or below 7.00%, compared to nearly 50% of reviewed systems using an assumed rate of return at or below 7.00% in fiscal year 2021.

Figure 1⁹



The State of Michigan’s retirement systems were also again reviewed to set this uniform assumption. While the trend over the last several years to reduce the assumed rate of investment return is also true for the state’s retirement systems, the rates established by the state last year remained consistent with the assumptions utilized in the prior year. The table below compares the state’s assumptions from their 2021 and 2022 valuations:

	2020 Valuation	2021 Valuation
Michigan Public School Employees’ Retirement System (Legacy)	6.80%	6.00%
Michigan Public School Employees’ Retirement System (Pension Plus)	6.80%	6.00%
Michigan Public School Employees’ Retirement System (Pension Plus II)	6.00%	6.00%
Michigan State Employees’ Retirement System	6.70%	6.00%
Michigan State Police Retirement System (Legacy)	6.80%	6.15%
Michigan State Police Retirement System (Pension Plus) hybrid	6.85%	6.15%
Michigan Judges Retirement System	6.25%	6.00%

⁹ <https://www.nasra.org//Files/Website%20Images/historicreturnassumptionswtile.png>

The Municipal Employees' Retirement System of Michigan (MERS), which administers most local government pension plans in the state, also recently reduced its assumed investment rate of return from 8.00% in 2014 to 7.75% in the system's 2015 valuation, and to 7.35% within the system's 2019 valuation.

Ultimately, the decision to keep the assumed rate of investment return at 6.85% was based on three factors: 1) the trend nationally for public pension systems to decrease assumed investment rates of return, particularly the trend to reduce rates to below 7.00%; 2) the use of assumed rates of return of less than 7.00% for all major State of Michigan retirement systems; and 3) the continued philosophy of uniform assumptions being a more conservative set of assumptions, and thus providing a valuable perspective to local governments. Based on these three factors, a maximum rate of 6.85% will be used for fiscal year 2022. This important assumption will be reviewed annually. This assumption will continue to be reviewed in future years, with further adjustments made depending on actual and expected long-term market trends.

Discount Rate:

The discount rate is the single rate of return that results in the present value of all projected pension and retiree health benefit payments. The approach to calculating the discount rate should be consistent with GASB Statements No. 68 and 75 as follows: 1) to the extent the plan's fiduciary net position is projected to be sufficient to make all projected benefit payments, a local government may use a maximum discount rate of 6.85%, consistent with the assumed investment rate of return; and 2) to the extent the plan's fiduciary net position is not sufficient to make projected benefit payments, a discount rate of 3.54% shall be used.

- Additionally, in order to apply the maximum discount rate of 6.85%, the following must apply: 1) establishment of a qualified trust; 2) adoption of a formal funding policy; and 3) source of financing consistent with GASB standards with no projected depletion date.

The 3.54% lower rate is reflective of the index rate for 20-year, tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher as of June 30, 2022.

Historically, Michigan law requires local governments to prefund their pension system, so it is not anticipated that the blended discount rate will be necessary for many pension systems. However, many retiree health care plans are significantly underfunded or unfunded, and the use of a blended discount rate could be more prevalent.

Salary Increase Rate:

The salary increase rate assumption is the rate that salaries will increase over time. The higher the assumed salary increase assumption, the higher the projected pension benefit obligation. The uniform assumption for the salary increase rate is set at a minimum of 3.25%. However, if the local government has conducted an actuarial experience study within the last five years, and the experience study recommended a different rate be used, the local government may utilize this salary increase rate in lieu of the 3.25% minimum requirement.

The 3.25% salary increase assumption is based on a 2.25% inflation assumption plus a 1.00% real wage increase above inflation. The Consensus Revenue Agreement, Executive Summary dated May 20, 2022 indicates that Detroit's CPI is expected to increase similarly to the national CPI. Based on historical CPI and indicators of future expectations¹⁰, 2.25% is a reasonable long-term inflation assumption. Furthermore, the 2021 Old Age Survivors and Disability Insurance Trustees Report's intermediate cost assumptions for real wage increases are 1.15% per year, with the Consensus Revenue Agreement, Executive Summary dated May 20, 2022, includes a slightly higher real wage increase for the State of Michigan of 1.50% per year. While these rates are marginally higher, 1.00% remains a reasonable assumption

In setting this uniform assumption, we also reviewed the salary increase assumption utilized by the Michigan Public School Employees' Retirement System (MPSERS), the Michigan State Employees' Retirement System (SERS), and MERS. In reviewing 2020 valuation data, assumptions for MPSERS, and SERS have remained consistent from the previous year. MPSERS and SERS are both utilizing a 2.75% salary increase assumption. MERS continues to utilize a 3.00% salary increase assumption, having reduced this assumption from 3.75% to 3.00% beginning with the system's 2019 valuation based on their most recent experience study.

Historically, the recommended salary increase assumption has been lower than what was recommended by the actuarial contractor that provides the Department of Treasury with actuarial research and recommendations. The primary reason for this difference was to align with the assumptions used by the aforementioned MERS and State of Michigan retirement systems more closely. This difference has continued into the fiscal year 2023 assumption.

Primarily, the decision to increase the previous year's minimum salary increase rate was based on two factors: 1.) the current trend of increased inflation rates, and increases seen in the OASDI report and recent Consensus Revenue Estimating Conference; and 2) the stated objective for uniform actuarial assumptions to serve as a more conservative set of assumptions.

Mortality Table and Generational Improvement

The mortality assumption table provides the underlying projections for expected death rates used by actuaries. This assumption reflects the length of time system members will spend drawing a pension or retiree health benefit in retirement. The fiscal year 2023 uniform assumption for mortality is a version of the Pub-2010 mortality tables released by the Society of Actuaries (SOA) in January 2019 and created based upon mortality experience among public pension systems across the United States. The Pub-2010 mortality tables are the first tables created using exclusively public sector experience and are therefore the most appropriate mortality tables to be used by public sector pension and retiree health care plans. There are three variations of the Pub-2010 tables pertaining to local government job classifications: 1) Pub T-2010 for teachers; 2) PubS-2010 for public safety personnel; and 3) PubG-2010 for general employees.

¹⁰ [Horizon's 2021 Survey of Capital Market Assumptions, 2020 OASDI Trustees Report's Intermediate Cost Assumptions, and the spread between yields on 30-year US Treasury bonds with and without inflation indexing.](#)

➤ *Generational Mortality Improvement*

The SOA has released updated mortality improvement scales each October since 2014 with the most recent improvement scale, MP-2021. Overall, mortality improvement experience has not been as great as previously projected by the SOA studies. In addition to a version of the Pub-2010 mortality tables, the fiscal year 2022 uniform assumption requires the use of future mortality improvement projected generationally using the Scale MP-2021.

Consistent with last year’s guidance, if the local government has conducted an actuarial experience study within the last five years, and the experience study recommended a different mortality table and/or improvement scale be used, the local government may utilize the experience study recommendations in lieu of the Pub-2010 mortality tables or Scale MP-2021.

This uniform assumption will be reviewed annually and set to the most recent mortality tables and improvement scales issued by the SOA moving forward.

Health Care Inflation:

The health care inflation assumption is used to project expected growth rates in medical premiums and expenditures. The uniform assumption for health care inflation varies based on if the plan utilizes Medicare. The table below provides the uniform assumption for Medicare retiree benefits and another set for non-Medicare retiree benefits. Below chart agrees with Segal doc

Medicare/Non-Medicare	Initial Trend Rate	Annual Decrease to Long-Term Trend	Long-Term Trend
Non-Medicare – Medical and Drug	7.25 %	.25% annually	4.50%
Medicare – Medical and Drug	5.50%	.25% annually	4.50%

This uniform assumption is based on a survey of over 100 health insurers, managed care organizations, pharmacy benefit managers, and third-party administrators about forecasted health plan cost trends. Respondents included the five largest health insurance payers in the U.S., the five largest pharmacy benefits managers in the U.S., and the largest health insurance plan in the State of Michigan.¹¹

Initial Trend Rate:

The health care trend survey showed a 7.20% trend for commercial non-Medicare retiree PPO plans. For active and non-Medicare prescription drugs, the survey shows a 7.60% trend, prior to the impact of prescription drug rebates. Non-Medicare claim split is typically similar to active plans, where a 70%/30% medical and prescription drug split might be typical. Using this assumed 70%/30% split yields a weighted initial trend of 7.37%, which we rounded to 7.25% (the nearest 25 basis points).

The survey’s average Medicare supplement trend over the last three years is 3.83%. A three-year average was used, due to the significant variation in Medicare prescription drug trend over

¹¹ Health care trend survey published by Segal Consulting in Fall 2021

the period. The medical and prescription drug claim split depends heavily on how a plan coordinates with Medicare. Under a Medicare Supplement, a typical split might be 35%/65% between medical and prescription drugs. Using this assumed 35%/65% split yields a weighted initial trend of 5.55% which we rounded to 5.50% (the nearest 25 basis points).

Annual Decrease and the Long-Term Trend Rate:

Historically, medical cost increases have significantly outpaced the rate of inflation. It is generally accepted that it is unlikely that these increases will continue over the long-term to exceed the overall growth rate of the economy. This is because an unlimited growth in medical care expenses would eventually equal 100% of the Gross Domestic Product (GDP). As such, indicators for health care include a slow reduction in the annual health care inflation rate to a point in which the rise in health care cost is stabilized and sustainable for the long-term. The Congressional Budget Office, Centers for Medicare & Medicaid Services, Office of the Actuary, and the Social Security Income Trustees reports use inflation, real per-capita GDP, and “excess” (new technology, etc.) to determine long-term medical cost increases. Based on these reports, 4.50% remains within the range of ultimate rates over the projection period, consistent with prior year’s Uniform Actuarial Assumption publications. Long-term projections are usually at least 10 years for the trend to reach the long-term ultimate rate (instead of long-term), so the annual decrease was set as .25% annually. At .25%, it would take 11 years to get from an initial trend of 7.25% to a long-term ultimate trend of 4.50% and 4 years to get from an initial trend of 5.50% to a long-term ultimate trend of 4.50%.

Other Considerations:

Setting the uniform assumption for health care inflation is more challenging than setting the other uniform assumptions. Setting appropriate trend rates for a given plan depend on multiple factors, including the non-Medicare plan type offered (PPO, HMO, HDHP, etc.), Medicare plan type and/or coordination method, and consideration that some plans may exclude medical or prescription drugs entirely. We acknowledge that setting this uniform assumption will result in certain plans having a materially mismatched funding assumption with the uniform assumption, particularly for the initial trend rate.

We also reviewed the most recent health care inflation assumptions for the MPSERS and Michigan SERS. MPSERS pre-65 utilizes a 7.75% initial trend rate; .283 annual decrease; to a 3.50% long-term rate. Michigan SERS pre-65 utilizes a 7.50% initial rate; .267 annual decrease; to a 3.50% long term rate. MPSERS post-65 utilizes a 5.25% initial trend rate; .116 annual decrease; to a 3.50% long-term rate. Michigan SERS post-65 utilizes a 6.25% initial rate; .183 annual decrease; to a 3.50% long term rate.

Amortization of the Unfunded Actuarial Accrued Liability:

The calculation of the ADC includes the normal cost payment and the annual amortization payment for past service cost to fund the unfunded actuarial accrued liability (UAAL). There are many alternatives available to local governments when setting the amortization schedule in calculating the ADC. The amortization schedule determines how much of the UAAL the actuary will recommend be paid in the upcoming year.

For fiscal year 2019, the published uniform assumptions were listed as 20 years for pension systems and 30 years for health care systems, with the caveat that each year moving forward, the annual establishment of the uniform assumption base year will be reduced by one year (i.e. 20 to 19 for pension and 30 to 29 for retiree health care). This methodology recognizes that all local governments should be increasing funding to ensure that plans are 100 percent funded within the time period prescribed or sooner.

The uniform assumption for fiscal year 2023 is to calculate the ADC as normal cost plus a portion of the UAAL calculated on a closed amortization schedule not to exceed 16 years for pension and not to exceed 26 years for retiree health care. For plans that are utilizing an amortization period that is shorter for funding purposes, the local government should use the shorter timeframe for the uniform assumption as well. For plans that are closed to new entrants, the UAAL must be amortized using a level-dollar amortization method. For plans that are still open to new entrants, a level-dollar or percent of pay amortization method may be utilized.

The Government Finance Officers Association recommends that the ideal amortization period should fall between the 15-20 year¹¹ range. The decision to extend health care to 26 years is based on recent data showing many local governments got a late start on prefunding retirement health care. Each year moving forward, the annual establishment of the uniform assumption base year will be reduced by one year (i.e. 17 to 16 for pension and 27 to 26 for retiree health care).

While the FY 2023 uniform actuarial assumptions allow for systems open to new entrants to utilize either a level-dollar or percent of pay amortization method, future publications of uniform assumptions will review the requirement for all systems to use a level-dollar pay amortization method. Doing so may provide for a more conservative and consistent approach to funding retirement liabilities.

Fiscal Year 2023 Implementation:

The Form 5572 for fiscal year 2023 will again collect pension and retiree health care system assets, liabilities, funded ratio, and ADC (ADC/ARC¹²) when using the uniform assumptions. Again, this reporting will be in addition to the assets, liabilities, funded ratio, and ADC found in the audited financial statements, which are used in the determination of underfunded status.

All local governments must utilize the fiscal year 2023 uniform assumptions outlined in this memo within the fiscal year 2023 Form 5572. Each year moving forward, it is expected the annual uniform assumptions will be updated and utilized within the respective Form 5572 for that fiscal year (e.g. the fiscal year 2024 uniform assumptions will be utilized within the fiscal year 2024 Form 5572). Local governments should consult with their actuarial professional to obtain the required reporting data utilizing fiscal year 2023 uniform assumptions. Consistent with Governmental Accounting Standards Board (GASB) statements No. 68 and 75, actuarial

¹¹ <https://www.gfoa.org/materials/core-elements-of-a-funding-policy>

¹² See Numbered Letter 2018-3 for additional detail on Annual Required Contributions (ARC) and Actuarially Determined Contributions (ADC)

valuations are to be performed at least every two years, with more frequent valuations encouraged. Local governments may utilize roll-forward procedures in non-valuation years utilizing any updates to the uniform assumptions to calculate the data. The Act requires local governments to annually report their Form 5572 no later than six months after the end of the local government's fiscal year.

Local governments who utilize the alternative measurement method allowed by the GASB may continue to do so; however, these local governments must adjust the calculation of their retirement assets, liabilities, funded ratio, and ADC using Treasury's uniform assumptions as necessary.