DATE: October 22, 2020

TO: State of Michigan Local Governments

FROM: Rachael Eubanks, State Treasurer *Rachael Eubanks*

SUBJECT: Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2021

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. These uniform assumptions will allow the citizens of Michigan to compare local retirement systems on a standard basis.

Uniform Assumptions: Year Two Implementation

The second publication of the uniform assumptions was released in October of 2019, along with guidance surrounding the utilization and implementation of these assumptions. That guidance clarified the following: 1) when uniform assumptions are required to be reported; and 2) how the reported numbers were intended to be utilized.

1) Beginning with the Retirement System Annual Report (Form 5572) for fiscal year 2019, most local governments were required to report data utilizing the uniform assumptions. Local governments with an audited financial statement based on a valuation issued prior to December 31, 2018, were exempted from this filing requirement in fiscal year 2019 reporting but are required to begin no later than fiscal year 2020. The Form 5572 is modified to accommodate the reporting of assets, liabilities, funded ratios, and actuarially determined contributions (ADC) when using the uniform assumptions.

2) Consistent with the Act, these uniform assumptions are only required to be used for reporting purposes and may differ from the assumptions reflected within local audited financial statements. The Act requires underfunded status to be determined according to the local government's most recent audited financial statement (*MCL 38.2805*). Unless the uniform assumptions are also utilized for funding and financial reporting purposes, local governments will be reporting two different sets of funded ratios and contributions within their annual Form 5572. Pursuant to the Act, the determination of underfunded status will continue to be based on the funded ratio and ADC reported within the audited financial statements. Reporting for uniform assumptions will utilize information from a regularly scheduled actuarial valuation or alternative measurement method as appropriate.

Fiscal Year 2019 Data: Uniform Assumptions Compared to Funding Assumptions

For most local governments, fiscal year 2019 reporting included assets, liabilities, and ADC using the uniform actuarial assumptions released in fall of 2018. An analysis of key data points used to determine underfunded status[1] compares assumptions utilized by local governments for funding purposes with the data calculated and reported using the uniform actuarial assumptions.

FY 2019 Pension Reporting		
	Funded Ratio	**ADC/Governmental Revenues**
FY 2019 Audited Financial Statement Data [2]	73.5%	5.9%
FY 2019 Uniform Assumption Data [3]	71.2%	8.8%

FY 2019 Retiree Health Care (OPEB) Reporting		
	Funded Ratio	**ADC/Governmental Revenues**
FY 2019 Audited Financial Statement Data	50.9%	5.4%
FY 2019 Uniform Assumption Data	45.7%	5.9%

As demonstrated in the tables above, uniform assumption calculations, on average, have had an impact on local government retirement reporting. In aggregate, funded ratios for pension systems decreased by 2.3% when using uniform assumptions while ADC as a percentage of governmental revenues increased by 2.9%. Similarly, funded ratios for OPEB systems decreased by 5.2% when using uniform assumptions while ADC as a percentage of governmental revenues increased by 0.5%.

The following variables have likely affected the outcome of this analysis: 1) the data reported using uniform assumptions are not audited by Treasury; and 2) not all local governments were required to report uniform assumptions in fiscal year 2019.

Overall Impact of Actuarial 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 2021, along with a comparison to last year's fiscal year 2020 assumptions.

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[1] MCL 38.2805
[2] Fiscal Year 2019 Local Retirement System Status Report
[3] Fiscal Year 2019 System Supplemental Reporting and Uniform Assumptions

Fiscal Year 2021 Assumptions

Assumption	Uniform Assumption	Change from Fiscal Year 2020
Investment Rate of Return	Maximum of 7.00%	None
Discount Rate	Blended discount rate calculated using GASB Statements No. 68 and 75 methodology For periods in which projected plan assets are Sufficient to make Projected Benefit Payments: <u>Maximum of 7.00%</u> For periods in which projected plan assets are Not Sufficient to make Projected Benefit Payments: <u>2.2%</u>	Decreased the blended rate from 3.50% to 2.2% for periods in which plan assets are <u>not</u> sufficient to make projected benefit payments
Salary Increase	A minimum of 3.00% or based on an actuarial experience study conducted within the last five years	Decreased the minimum rate from 3.50% to 3.00%
Mortality Table	A version of the Pub-2010 mortality tables with future mortality improvement projected generationally using Scale MP-2019 or based on an actuarial experience study conducted within the last five years	Generational mortality improvement updated to **Scale MP-2019 from Scale MP-2018**
Health care Inflation (for Medical and Drug) [4]	**Non-Medicare:** Initial rate of 7.50% decreasing .25% per year to a 4.50% long-term rate **Medicare:** Initial rate of 5.75% decreasing .25% per year to a 4.50% long-term rate	**Non-Medicare:** Initial rate reduced from 8.25% to 7.50% **Medicare:** Initial rate reduced from 6.50% to 5.75%
Amortization of the Unfunded Actuarial Accrued lability	Local governments must amortize the unfunded actuarial accrued liability (UAAL) over a maximum closed period of: • Pension Systems: 18 Years • Retiree Health Care Systems: 28 Years Closed plans must use a level-dollar amortization method Open plans may use a level-dollar or percent of pay amortization method	**Pension:** Closed period reduced from 19 years to 18 years **Health Care:** Closed period reduced from 29 years to 28 years

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[4] Separate trend scales used to value other ancillary benefits can continue to be used as is.

Fiscal Year 2021 Implementation

The Form 5572 for fiscal year 2021 will again collect pension and retiree health care system assets, liabilities, funded ratio, and ADC (ADC/ARC[5]) 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 2021 uniform assumptions outlined in this memo within the 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 2022 uniform assumptions will be utilized within the fiscal year 2022 Form 5572). Local governments should consult with their actuarial professional to obtain the required reporting data utilizing fiscal year 2021 uniform assumptions. Consistent with Governmental Accounting Standards Board (GASB) statements No. 68 and 75, actuarial 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.

Rationale for the Established Assumptions

The following sections within this memo outline the uniform assumptions and the rationale for their selection. We hired an independent actuary firm to assist us in the updating of the uniform assumptions. In addition, we solicited feedback 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. Consistent with fiscal year 2020, the fiscal year 2021 uniform assumption for the investment rate of return is a maximum of 7.00%. The use of 7.00% once again reflects the 50th percentile of expected investment returns using the average asset allocation amongst most major pension systems[6], as well as current capital market assumptions[7].

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

[6] Based on the Public Plans Database of approximately 204 public pension plans with target asset allocation information disclosed as of July 12, 2020 http://publicplansdata.org/public-plans-database/

[7] Horizon's 2019 Survey of Capital Market Assumptions: https://www.horizonactuarial.com/uploads/3/0/4/9/30499196/horizon_cma_survey_2019_v0819.pdf

> ➢ The average target asset allocation as of 2019 is 45.9% public equity, 24.3% fixed income, 8.9% private equity, 7.8% real estate, 6.5% hedge funds, 3.6% commodities, 2.1% alternatives, and 0.9% cash.

For retirement systems that utilize an investment rate of return that is less than 7.00% for funding purposes, the local government should use the lower investment rate of return for the uniform assumption as well.

The continued period of low interest rates since 2009 has influenced an unprecedented reduction in public pension plan investment return assumptions. In its most recent annual public pension plan investment return assumption study, the National Association of State Retirement Administrators (NASRA) found that among the 130 plans measured, more than 70% have reduced their assumed rate of return since fiscal year 2017, and more than 95% have done so since fiscal year 2010. As a result, the average return assumption has declined from 7.52% in fiscal year 2017 to 7.20%[8] in fiscal year 2020. If actual returns continue to decline, investment return assumptions are likely to continue their downward trend.

We also again reviewed the State of Michigan's retirement systems 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 2018 and 2019 valuations:

	2018 Valuation	2019 Valuation
Michigan Public School Employees' Retirement System (Legacy)	6.80%	6.80%
Michigan Public School Employees' Retirement System (Pension Plus)	6.80%	6.80%
Michigan Public School Employees' Retirement System (Pension Plus II)	6.00%	6.00%
Michigan State Employees' Retirement System	6.70%	6.70%
Michigan State Police Retirement System (Legacy)	6.80%	6.80%
Michigan State Police Retirement System (Pension Plus)	6.85%	6.85%
Michigan Judges Retirement System	6.25%	6.25%

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 continue the assumed rate of investment return at 7.00% was based on two factors: 1) the expected return on a typical asset allocation; and 2) the trend for setting this assumption. Based on these two factors, a maximum rate of 7.00% will be used again for fiscal year 2021. This important assumption will be reviewed annually. In the future it is more likely to decrease than increase, depending on actual and expected market returns.

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[8] https://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf

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 7.00%; and 2) to the extent the plan's fiduciary net position is not sufficient to make projected benefit payments, a discount rate of 2.2% shall be used.

> ➢ Additionally, in order to apply the maximum discount rate of 7.00%, 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 2.2% 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 25, 2020.

Historically, Michigan law requires local governments to prefund their pension system, so we do not anticipate 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 3.00%. 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 3.00% minimum requirement.

The 3.00% salary increase assumption is based on a 1.75% inflation assumption plus a 1.25% real wage increase above inflation. The Consensus Revenue Agreement Executive Summary dated August 24, 2020[9] indicates that Detroit's actual CPI increased 1.3% in calendar year 2019 and is forecasted to increase 1.1% in calendar year 2021. The national CPI is slightly higher with an actual increase of 1.8% in calendar year 2019 and a forecasted increase of 1.6% in calendar year 2021. Based on historical CPI and indicators of future expectations,[10] 1.75% is a reasonable long-term inflation assumption. Furthermore, the 2020 Old-Age Survivors and Disability Insurance Program (Social Security) Trustees' Report for intermediate cost assumptions for real wage increases is 1.1% per year. The Consensus Revenue Agreement Executive Summary includes a slightly higher increase in Michigan wages and salaries with an actual increase of 2.7% in calendar year 2019.

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[9] https://www.house.mi.gov/hfa/PDF/RevenueForecast/CREC_Memo_Final_Summary_August2020.pdf

[10] Horizon's 2019 Survey of Capital Market Assumptions, 2020 OASDI Trustees Report's Intermediate Cost Assumptions, Philadelphia Federal Reserve Survey of Professional Forecasters, and the spread between yields on 30-year US Treasury bonds with and without inflation indexing.

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 2019 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 began utilizing 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.

Primarily, the decision to reduce the minimum salary increase rate was based on two factors: 1.) the continued trend of low inflation rates; and 2) the experience of Michigan's other major systems in reducing their salary increase assumptions (MPSERS, SERS, and MERS).

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 2021 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 two variations of the Pub-2010 tables pertaining to local government job classifications: 1) PubS-2010 for public safety personnel; and 2) PubG-2010 for general employees.

> **Generational Mortality Improvement**
> The SOA has released updated mortality improvement scales each October since 2014 with the most recent improvement scale, MP-2019, released in October 2019. In addition to a version of the Pub-2010 mortality tables, the fiscal year 2021 uniform assumption requires the use of future mortality improvement projected generationally using the Scale MP-2019.

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-2019.

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.

Medicare/Non-Medicare	Initial Trend Rate	Annual Decrease to Long-Term Trend	Long-Term Trend
Non-Medicare – Medical and Drug	7.50 %	.25% annually	4.50%
Medicare – Medical and Drug	5.75%	.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 8.30% 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 7.53%, which we rounded to 7.50%.

The survey's average Medicare supplement trend over the last three years is 3.53%. We used a three-year average, due to the significant variation in Medicare prescription drug trend over 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 5.64% which we rounded to 5.75%.

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% is in the "center" of the projection. Long-term projections are usually at least 10 years for the trend to reach the long-term rate, so we set the annual decrease as .25% annually. At .25%, it would take 12 years to get from an initial trend of 7.50% to a long-term trend of 4.50% and 5 years to get from an initial trend of 5.75% to a long-term trend of 4.50%.

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[11] Health care trend survey published by Segal Consulting in Fall 2019

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 utilizes a 7.00% initial trend rate; .233 annual decrease; to a 3.00% long-term rate.[12] Michigan SERS utilizes a 7.50% initial rate; .267 annual decrease; to a 3.00% long term rate.[13]

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 2021 is to calculate the ADC as normal cost plus a portion of the UAAL calculated on a closed amortization schedule not to exceed 18 years for pension and not to exceed 28 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 year range.[14] The decision to extend health care to 28 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. 18 to 17 for pension and 28 to 27 for retiree health care).

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[12] https://www.michigan.gov/documents/orsschools/MPSERS_Summary_Annual_Report_2019_698397_7.pdf
[13] https://www.michigan.gov/documents/orsschools/MPSERS_Summary_Annual_Report_2019_698397_7.pdf
[14] http://www.gfoa.org/core-elements-funding-policy