STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

GRETCHEN WHITMER
GOVERNOR

RACHAEL EUBANKS
STATE TREASURER

DATE: October 21, 2019

TO: State of Michigan Local Governments

FROM: Rachael Eubanks, State Treasurer

SUBJECT: Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2020

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 One Review and Implementation

The initial publication of the uniform assumptions was released in September of 2018, 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, local governments are required to report data utilizing the uniform assumptions if the local audited financial statement is based on a valuation issued after December 31, 2018. The Form 5572 for fiscal year 2019 was modified to accommodate the reporting of assets, liabilities, funded ratios, and actuarially determined contributions (ADC) when using the uniform assumptions. All local governments are required to report data utilizing the uniform assumptions no later than fiscal year 2020.

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.

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 2020, along with a comparison to last year's fiscal year 2019 assumptions.

Fiscal Year 2020 Assumptions

Assumption	Uniform Assumption	Change from Fiscal Year 2019
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>3.50%</u>	Increased the blended rate from 3% to 3.50% for periods in which plan assets are <u>not</u> sufficient to make projected benefit payments
Salary Increase	A minimum of 3.50% or based on an actuarial experience study conducted within the last five years	None
Mortality Table	A version of the Pub-2010 mortality tables with future mortality improvement projected generationally using Scale MP-2018 or based on an actuarial experience study conducted within the last five years	Changed from RP-2014 to **Pub-2010** tables; Generational mortality improvement using **Scale MP-2018**
Health care Inflation (for Medical and Drug) [1]	**Non-Medicare:** Initial rate of 8.25% decreasing .25% per year to a 4.50% long-term rate **Medicare:** Initial rate of 6.50% decreasing .25% per year to a 4.50% long-term rate	**Non-Medicare:** Initial rate reduced from 8.50% to 8.25% **Medicare:** Initial rate reduced from 7.00% to 6.50%
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: 19 Years • Retiree Health Care Systems: 29 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 20 years to 19 years **Health Care:** Closed period reduced from 30 years to 29 years

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

Fiscal Year 2020 Implementation

The Form 5572 for fiscal year 2020 will again collect pension and retiree health care system assets, liabilities, funded ratio, and ADC (ADC/ARC[2]) 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.

Beginning with fiscal year 2020 reporting, all local governments must utilize the fiscal year 2020 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 2021 uniform assumptions will be utilized within the fiscal year 2021 Form 5572). Local governments should consult with their actuarial professional to obtain the required reporting data utilizing fiscal year 2020 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 reviewed comments 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 2019, the fiscal year 2020 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[3], as well as current capital market assumptions[4]. For retirement systems that

---

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

[3] Based on the Public Plans Database of approximately 170 public pension plans, of which 123 plans disclosed target asset allocation information as of 2018 http://publicplansdata.org/public-plans-database/

[4] Horizon's 2018 Survey of Capital Market Assumptions: http://www.horizonactuarial.com/uploads/3/0/4/9/30499196/horizon_cma_survey_2018_v0824.pdf

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 129 plans measured, more than 30% have reduced their assumed rate of return since February 2018, and more than 90% have done so since fiscal year 2010. As a result, the average return assumption has declined from 7.91% to 7.27%[5] over this time period. If actual returns continue to decline, investment return assumptions are likely to also continue their downward trend.

We also again reviewed the State of Michigan's retirement systems to set this uniform assumption. The trend to reduce the assumed rate of investment return continues to remain true for the state's retirement systems as well. As positive investment performance is realized by the state's plans, Michigan has been reducing the assumed rate of investment return through its dedicated gains policy. These changes will protect the long-term security of both the pension and health care trusts. The table below outlines the state's most recent decrease in this assumption:

	2017 Valuation	2018 Valuation
Michigan Public School Employees' Retirement System (Legacy)	7.05%	6.80%
Michigan Public School Employees' Retirement System (Pension Plus)	7.00%	6.80%
Michigan Public School Employees' Retirement System (Pension Plus II)	N/A	6.00%
Michigan State Employees' Retirement System	7.00%	6.70 %
Michigan State Police Retirement System (Legacy)	7.05%	6.80 %
Michigan State Police Retirement System (Pension Plus)	7.00%	6.85%
Michigan Judges Retirement System	6.75%	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. Furthermore, MERS will reduce their assumption to 7.35% within the system's 2020 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 2020. 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.

---

[5] 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 3.50% 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 3.50% 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, 2019.

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 again set at a minimum of 3.50%. 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 3.50% minimum requirement.

The 3.50% salary increase assumption is based on a 2.25% inflation assumption plus 1.25% real wage increase above inflation. The Consensus Revenue Agreement Executive Summary dated May 17, 2019[6] indicates that Detroit's CPI is expected to increase similarly to the national CPI. Based on historical CPI and indicators of future expectations,[7] 2.50% is a reasonable long-term inflation assumption. Furthermore, both the 2018 Old-Age Survivors and Disability Insurance Program (Social Security) Trustees' Report for intermediate cost assumptions and the Consensus Revenue Agreement Executive Summary include real wage increases of about 1.25% per year.

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 2018 valuation data, assumptions for MPSERS and SERS have been updated since the previous year, while MERS

---

[6]https://www.house.mi.gov/hfa/PDF/Revenue_Forecast/Consensus_Revenue_Agreement_Exec_Summary_May19.pdf
[7] Horizon's 2018 Survey of Capital Market Assumptions, 2018 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.

has remained consistent from the previous year. MPSERS and SERS are both utilizing a 2.75% salary increase assumption. MERS is utilizing a 3.75% salary increase assumption, however, based on their most recent experience study, MERS will be reducing this assumption from 3.75% to 3.00% beginning with the system's 2020 valuation.

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 2020 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-2018, released in October 2018. In addition to a version of the Pub-2010 mortality tables, the fiscal year 2020 uniform assumption requires the use of future mortality improvement projected generationally using the Scale MP-2018.

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-2018.

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	8.25%	.25% annually	4.50%
Medicare – Medical and Drug	6.50%	.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.[8]

Initial Trend Rate:

The health care trend survey showed a 7.47% trend for an active or non-Medicare retiree PPO plans. For active and non-Medicare prescription drugs, the survey shows a 9.80% 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 8.17%, which we rounded to 8.25%.

The survey's average Medicare supplement trend over the last three years is 3.70%. 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 6.56% which we rounded to 6.50%.

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 15 years to get from an initial trend of 8.25% to a long-term trend of 4.50% and 8 years to get from an initial trend of 6.50% to a long-term 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.

---

[8] Health care trend survey published by Segal Consulting in Fall 2018

We also reviewed the most recent health care inflation assumptions for the Michigan State Police Retirement System and SERS. Both systems utilize the same assumption: 8.25% initial trend rate; .475% annual decrease; to a 3.50% long-term rate[9][10].

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).

The uniform assumption is to calculate the ADC as normal cost plus a portion of the UAAL calculated on a closed amortization schedule not to exceed 19 years for pension and not to exceed 29 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[11]. The decision to extend health care to 29 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. 19 to 18 for pension and 29 to 28 for retiree health care).

[9] https://www.michigan.gov/documents/orsmsp/SPRS_CAFR_2018_648535_7.pdf
[10] https://www.michigan.gov/documents/orsstatedb/SERS_CAFR_2018_648348_7.pdf
[11] http://www.gfoa.org/core-elements-funding-policy