STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

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DATE: September 25, 2018

TO: Local Units of Government

FROM: Nick Khouri, State Treasurer

SUBJECT: Public Act 202: Selection of the Uniform Assumptions

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

Determination of Underfunded Status

Consistent with the Act, these uniform assumptions are only required to be used for reporting under the Act and may differ from the assumptions used by local governments in their 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 local units are using the uniform assumptions for financial reporting purposes, they will be reporting two sets of funded ratios and contributions within their annual *Form 5572 (Retirement System Annual Report)*. Pursuant to the Act, the determination of underfunded status will continue to use the funded ratios and actuarially determined contribution (ADC) reported in the audited financial statements. Reporting for uniform assumptions will utilize information from a regularly scheduled actuarial valuation or alternative measurement method as appropriate. While uniform assumptions are not required to be used for funding retirement systems, my hope over time is that local governments will use assumptions for funding that also align with the uniform assumptions, resulting in the same set of financial information for both funding and reporting.

Overall Impact of Actuarial Assumptions

The uniform actuarial assumptions listed below can have a large impact on the total pension and retiree healthcare 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.

Fiscal Year 2019 Assumptions

Assumption	Uniform Assumption
Investment Rate of Return	Maximum of 7.00%
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: Maximum of 7.00% For periods in which projected plan assets are Not Sufficient to make Projected Benefit Payments: 3.00%
Salary Increase	A minimum of 3.50% or based on an actuarial experience study conducted within the last five years.
Mortality Table	A version of the RP-2014 Mortality Table or based on an actuarial experience study conducted within the last five years.
Healthcare Inflation (for Medical and Drug) [1]	Non-Medicare: Initial rate of 8.50% decreasing .25% per year to a 4.50% long-term rate Medicare: Initial rate of 7.00% decreasing .25% per year to a 4.50% long-term rate
Amortization of the Unfunded Actuarial Accrued lability	Local units must amortize the unfunded actuarial accrued liability (UAAL) over a maximum closed period of: • Pension Systems: 20 Years • Retiree Healthcare Systems: 30 Years Closed plans must use a level dollar amortization method. Open plans may use a level dollar or percent of pay amortization method.

Implementation

The Department will adjust the *Form 5572 (Retirement System Annual Report)* to receive pension and retiree healthcare system assets, liabilities, funded ratio, and ARC (ADC/ARC[2]) when using the uniform assumptions. Again, this reporting will be in addition to the assets, liabilities, funded ratio, and ADC contained in financial statements that are used in the determination of underfunded status.

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

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

To allow time for implementation, local units will need to report using the uniform assumptions after their next regularly scheduled actuarial valuation. As general guidance, actuarial valuations issued after December 31, 2018 should include the figures required for uniform assumption reporting. Beginning with Form 5572 submissions for fiscal year 2019, local units are required to report uniform assumptions if the local audited financial statement is based on a valuation issued after December 31, 2018. If the fiscal year 2019 audited financial statement is based on a valuation issued prior to December 31, 2018, local units are required to report uniform assumptions no later than fiscal year 2020. 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 units may utilize roll-forward procedures in non-valuation years to calculate the uniform assumptions. The Act requires local units to annually report their Form 5572 no later than six months after the end of the local unit's fiscal year.

Local units who utilize the alternative measurement method allowed by the GASB may continue to do so; however, these local units must adjust the calculation of their retirement assets, liabilities, funded ratio, and ARC using Treasury's uniform assumptions if 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 selection of the uniform assumptions. In addition, we met with multiple stakeholders representing 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. The fiscal year 2019 uniform assumption for the investment rate of return is a maximum of 7.00%. The use of 7.00% 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 utilize an investment rate of return that is less than 7.00% for funding purposes, the local unit should use the lower investment rate of return for the uniform assumption as well.

The sustained period of low interest rates since 2009 has caused many public pension plans to re-evaluate their long-term expected investment returns, leading to an unprecedented reduction in plan investment return assumptions. In its annual public pension plan investment return assumption study, the National Association of State Retirement Administrators (NASRA) found that among the 129 plans measured, nearly three-fourths have reduced their investment return assumption since 2010[5], with the median assumed rate of investment return at 7.50% in 2018.

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[3] Based on the Public Plans Database of approximately 170 public pension plans http://publicplansdata.org/public-plans-database/

[4] Horizon's 2017 Survey of Capital Market Assumptions:
http://www.horizonactuarial.com/uploads/3/0/4/9/30499196/horizon_cma_survey_2017_v0822.pdf

[5] https://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf
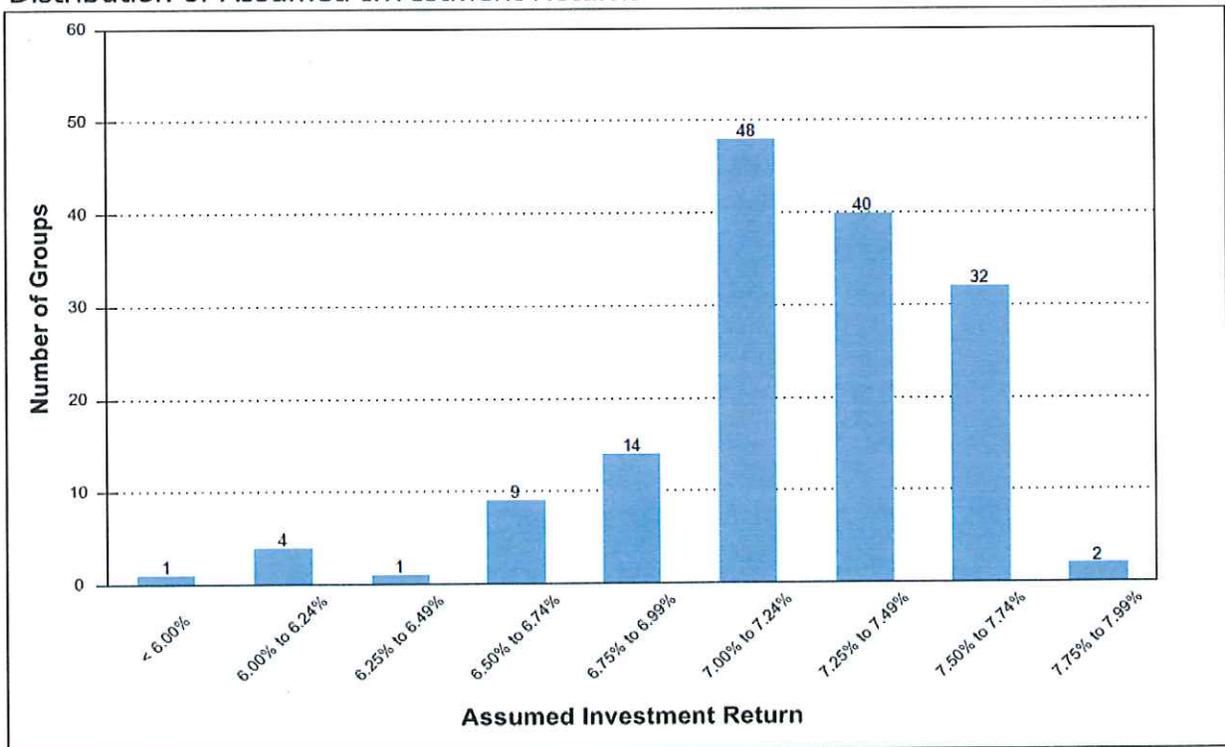
The trend to reduce the assumed rate of investment return is also true for the State of Michigan's retirement systems. As positive investment performance is realized by the state's plans, it has been reducing the assumed rate of investment return through its dedicated gains policy. The table below shows the state's recent decrease in this assumption:

	2015 Valuation	2017 Valuation
Michigan Public Schools Employees Retirement System (Legacy)	8.00 %	7.05 %
Michigan Public Schools Employees Retirement System (Pension Plus)	7.00%	7.00%
Michigan Public Schools Employees Retirement System (Pension Plus II)	N/A	6.00%
Michigan State Employees Retirement System	8.00 %	7.00 %
Michigan State Police Retirement System	8.00 %	7.05 %
Michigan Judges Employee Retirement System	8.00 %	6.75 %

The Municipal Employees Retirement System, which administers most local government pension plans in Michigan, has reduced its investment rate of return from 8.00% in 2014 to 7.75% in the system's 2015 valuation.

Lastly, a partnering actuary firm provided data on contribution rate groups within plans to help us assess what non-MERS plans were utilizing at the local level. The average of these groups was 7.10%. Again, this helped us validate the trend that assumed rate of investment returns are heading towards 7.00%.

Distribution of Assumed Investment Returns

Ultimately, the decision to set the assumed rate of investment return to 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 for fiscal year 2019. 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.

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: insofar as the portion of 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%. To the extent the plan's fiduciary net position is not sufficient to make projected benefit payments, a discount rate of 3.00% shall be used.

The 3.00% 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 July 30, 2018.

Historically, Michigan law requires local units to prefund their pension system, so we do not anticipate the blended discount rate will be necessary for many pension systems. However, many retiree healthcare plans are significantly underfunded, 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 3.50%. However, if the local unit 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 16, 2018[6] indicates that Detroit's CPI is expected to increase at 2.3% (which we rounded to 2.25%). Furthermore, both the 2017 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 the Municipal Employees' Retirement System (MERS). MERS, which represents about 85% of the local pension plans within the state, is currently utilizing a 3.75% salary increase assumption. MPSERS and SERS are utilizing a 3.5% salary increase assumption.

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[6] http://www.senate.michigan.gov/sfa/Publications/BudUpdates/ConsensusRevExecSumMay18.pdf

Mortality Table

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 uniform assumption for mortality is a version of the RP-2014 mortality table. However, if the local unit has conducted an actuarial experience study within the last five years, and the experience study recommended a different mortality table be used, the local government may utilize this table in lieu of a version of the RP-2014 mortality table.

The RP-2014 mortality tables are the most recently issued tables by the Society of Actuaries. This uniform assumption will be reviewed annually and set to the most recent mortality table issued by the Society of Actuaries moving forward.

Healthcare Inflation

The healthcare inflation assumption is used to project expected growth rates in medical premiums and expenditures. The uniform assumption for healthcare 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	8.50%	.25% annually	4.50%
Medicare – Medical and Drug	7.00%	.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.[7]

Initial Trend Rate:

The healthcare trend survey showed a 7.70% trend for an active or non-Medicare retiree PPO plans. For active and non-Medicare prescription drugs, the survey shows a 10.30% 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 8.48%, which we rounded to 8.50%.

The survey's average Medicare supplement trend over the last two years is 4.00%. We used a two-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 7.05% which we rounded to 7.00%.

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[7] Healthcare trend survey published by Segal Consulting in Fall 2017

<u>Annual Decrease and the Long-Term Trend Rate:</u>

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 percent of the Gross Domestic Product (GDP). As such, indicators for healthcare include a slow reduction in the annual healthcare inflation rate to a point in which the rise in healthcare 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 run 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 10 years to get from an initial trend of 7.00% to a long-term trend of 4.50%.

<u>Other Considerations</u>

Setting the uniform assumption for healthcare 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 considered setting a range for this uniform assumption. For example, the initial trend rate could be set at 10.50% - 6.50%; the annual decrease as .10% - .75% annually; to the long-term trend rate of 3.50% - 5.50%. This would provide flexibility for matching the assumptions with each local unit's benefit program circumstances. However, results would no longer be on a uniform basis making comparisons more difficult. Furthermore, local units may select the lower end of the ranges to lower retiree healthcare liabilities inappropriately.

We also considered the impact of other supplemental benefits such as vision and dental coverage. After discussion with various actuaries, we felt including an inflation component for vision and dental plans would not have a material impact in the calculation of funded ratios. Therefore, to keep this uniform assumption as simple as possible, we did not set a uniform assumption for dental and vision coverages.

We also reviewed the Michigan State Police Retirement System and the Michigan State Employees Retirement System healthcare inflation assumption. Both systems utilize the same assumption: 9.50% initial trend rate; .75 annual decrease; to a 3.50% long term rate.

Amortization of the Unfunded Actuarial Accrued Liability

The calculation of the ARC 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 units when setting the amortization schedule in calculating the ARC. The amortization schedule determines how much of the UAAL the actuary will recommend be paid in the upcoming year.

The uniform assumption is to calculate the ARC as normal cost plus a portion of the UAAL calculated on a closed amortization schedule not to exceed 20 years for pension and not to exceed 30 years for retiree healthcare. 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.[8] The decision to extend healthcare to 30 years is based on recent data showing many local governments got a late start on prefunding retirement healthcare. 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 healthcare).

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[8] http://www.gfoa.org/core-elements-funding-policy