February 27, 2024

Ms. Bethany Rhodes
Executive Director
Ohio Retirement Study Council

Subject: Review of Ohio Police and Fire Funding Period and Actuarial Status as of January 2023

Dear Bethany:

As required by Section 742.311 of the Ohio Revised Code (ORC), we have reviewed the adequacy of the current statutory contribution rates relative to the benefits provided under the Ohio Police and Fire Pension Fund (OP&F).

Section 742.311 of the ORC requires an annual review of the adequacy of the contribution rates provided under sections 742.31, 742.33, and 742.34 and the contribution rates recommended in a report by the actuary of OP&F for the forthcoming year relative to the benefits provided. Section 742.31 governs the contributions made by the employees, 742.33 governs the contributions made by police officers' employers and 742.34 governs the contributions made by the firefighter employers.

Cavanaugh MacDonald Consulting, LLC (CMC), actuary for OP&F, made a calculation that the unfunded liability for the statutory pension benefits would be fully amortized over a period of 26.71 years, based on the current level of contributions. The UAAL as of January 1, of $7.6 billion 2023 would decline to zero by December 31, 2049. We were able to replicate the CMC calculations of the projection of the unfunded actuarial accrued liability funding period based on their actuarial methods, assumptions and level of contributions.

Although we replicate the CMC calculation that the funding period is 26.71 years, we have two significant concerns with this figure.

First is that the assumed level of future OP&F administrative expenses assumed by CMC is not realistic and not an appropriate consideration for this determination of funding period. A more realistic assumption would result in a funding period of approximately 29 years. This is still within the 30-year period requirement, but somewhat higher than that calculated by CMC.

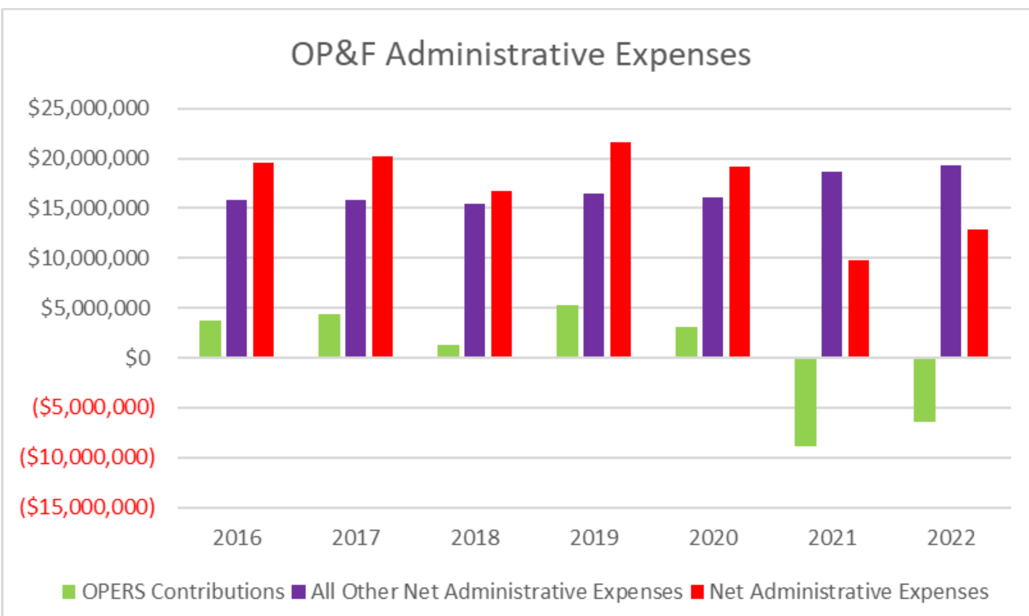
Our second concern is that two years from now, as more of the poor investment performance from 2022 is considered, the funding period is likely to exceed 30 years. This is even more likely if the actuary reduces the assumed rate of return from an outlier of 7.50% to a rate of return more consistent with that used by public plans throughout the country and Ohio.

As mentioned above, we do not believe that the 26.71-year funding period is calculated using <u>realistic assumptions of future OP&F administrative expenses</u>. Specifically, the CMC methodology assumes that a one-time $6.5 million credit from OPERS to OP&F recognizing the cost of OPERS benefits for OP&F staff would recur year-after-year for 27 years. This will not occur. This is the same dubious approach which CMC incorporated in the prior year's determination. Although there was an OPERS credit again this year, it is not possible that this credit can be used to fund benefits and it is not possible that this credit will recur for 27 years.

With the assistance of ORSC Staff, we developed the following from the OP&F Annual Comprehensive Financial Reports:

	Net Administrative Expenses	OPERS Contributions	All Other Net Administrative Expenses
2016	$19,517,891	$3,672,521	$14,845,370
2017	20,218,704	4,426,337	15,792,367
2018	16,780,220	1,340,383	15,439,837
2019	21,612,071	5,207,356	16,404,715
2020	19,218,035	3,123,667	16,094,368
2021	9,780,703	(8,921,262)	18,701,965
2022	12,810,009	(6,492,288)	19,302,297

This illustrates that other than the OPERS Contributions for retiree healthcare benefits for the OP&F staff, administrative expenses – as shown in the right column – have been relatively stable and slightly increasing. OPERS contributions have been very volatile and even resulted in a nearly $9 million negative and $6.5 million negative accounting expense in 2021 and 2022, respectively. This is also illustrated in the following graph:



We noted in our 2022 OP&F adequacy report that the methodology assumed by the actuary essentially is predicated on a $9 million expense reduction continuing every year for the next 29 years, somehow freeing up cash that can be used to pay down the OP&F unfunded liability. The same method is used for 2023, with $6.5 million expense reduction continuing every year for the next 27 years. We find this impossible to believe. Furthermore, the accounting credit is only a financial statement entry, is not deposited into the trust fund and cannot be used to fund pension benefits.

If we were to recalculate the funding projection on the basis that the $6.5 million OPERS adjustment is not recurring, we find that the funding period as of January 1, 2023 is not 27 years, but 29 years. Other reasonable methods could be used to estimate future administrative expenses, And we encourage CMC to use such a method. The assumption that $9 million credit in the 2022 projections and $6.5 million credit in the 2023 projections will recur and can somehow be used to fund pension benefits for OP&F members is <u>not a reasonable assumption</u> and not an appropriate measure of the fund's financial future.

Section 742.14 of the ORC, as amended by Senate Bill No. 340, sets forth that the 30-year funding analysis be performed every three years. The most recent triennial analysis was based on the January 1, 2022 actuarial valuation, and showed the funding period was 28.07 years, so no 30-year funding plan was required. The next analysis will be performed based on the January 1, 2025 actuarial valuation.

Based on 2023 expected return of 7.95% and based on the unrealistic CMC assumed ongoing $6.5 million OPERS credit, and further recognizing deferred losses from asset smoothing, we calculated that the thirty-year maximum period <u>would not be met as of January 1, 2025, increasing to 31 years</u>. This is consistent with CMC's November 1, 2023 presentation to the OP&F Board of Trustees that the funding period is projected to increase to 31.44 years as of January 1, 2025 and further projected the funding period to increase to over 35 years for 2026 through 2028.

Conclusion

The conclusion of our annual review of the adequacy of the contribution rates provided under sections 742.31, 742.33, and 742.34 and the contribution rates recommended in a report by the actuary of OP&F for 2023 and beyond is that the calculation of a 26.71-year OP&F funding period is not reasonable. However, a calculation of a funding period of approximately 29 years could be reasonable. In accordance with the review required under R.C. 742.311 for the valuation dated January 1, 2023, the current contribution rates meet the 30-year amortization requirements of R.C. 742.16. We note that the funding period is expected to increase as investment losses are fully incorporated into the actuarial valuation, and these contribution rates may not be adequate relative to benefits either for next year's valuation or for the next 30-year amortization analysis to be performed on the January 1, 2025 actuarial valuation.

We are happy to discuss this further with ORSC staff, the Council, and OP&F.

Sincerely,

WB Fornia Linda Bournival

William B. Fornia, FSA Linda L. Bournival, FSA

Cc: Tom Vicente, Bolton Partners

This report demonstrates the findings discussed in our summary and other issues related to the Ohio Police & Fire Pension Fund's (OP&F) progress in meeting the funding objectives.

Topics to be addressed in this report include:

- Adequacy of current statutory contributions rates to fund current statutory benefits
- Requirements of ORC
- Projection methodology
- Impact of Medicare Part B benefits
- Potential future changes to actuarial assumptions
- Likelihood of necessity for future changes in benefits or contributions
- Health care benefits
- Potential ORSC recommendations

BACKGROUND

Cavanaugh MacDonald Consulting, LLC (CMC), actuary for OP&F, issued the report on Actuarial Valuation of Pension Benefits as of January 1, 2023 in November 2023. The actuarial report is an essential measure of the funded position of OP&F. While the Actuarial Valuation focuses on pension benefits only, the report also includes the valuation of Medicare Part B premium reimbursements as requested by the Ohio Retirement Study Council (ORSC) so that further analysis of the impact of Part B reimbursements can be conducted.

An actuarial valuation is built upon five pillars:

- All individual demographic data of OP&F members (active, terminated, and retired)
- OP&F benefit provisions
- Actuarial assumptions as to future contingent events
- Pension fund asset information
- Funding policy and actuarial funding methods

The actuary uses these parameters to determine various actuarial measures, including:

- Actuarial Accrued Liabilities (AAL) for benefits as of the valuation date (January 1, 2023)
- Unfunded Actuarial Accrued Liabilities (UAAL)
- Normal Cost Rate: The contribution requirement to systematically fund the future service liabilities
- Funding Period necessary to completely amortize the UAAL

ADEQUACY

Cavanaugh MacDonald Consulting, LLC (CMC), actuary for OP&F, made a calculation that the unfunded liability for the statutory pension benefits would be fully amortized over a period of 26.71 years, based on the current level of contributions. The UAAL of $7.605 billion as of January 1, 2023 would decline to zero by December 31, 2049, one year earlier than projected in the January 1, 2022 valuation. We were able to replicate the CMC calculations of the projection of the UAAL funding period based on their actuarial methods, assumptions and level of contributions. Although we did replicate the calculations, as discussed above they are based on an assumption that a $6.5 million OPERS credit would continue for the next 27 years and be available to fund pension benefits for OP&F members. This will not occur. Consequently, we do not find that the 26.71 year calculation is valid.

These calculations were based on a smoothed Actuarial Value of Assets (AVA) of $17.759 billion. The true Market Value of Assets (MVA) is $16.108 billion. It is a common actuarial technique to use a smoothed Actuarial Value of Assets. This is done to prevent overcompensating for heavy swings in asset values. This smoothing technique is a major reason that the funding period did not increase as a result of poor 2022 investment returns. We calculate that if the calculation had been based on the MVA, the funding period would have been 41 years. Recall that this calculation as of the beginning of 2022 produced a funding period of 19 years. This demonstrates the higher volatility of this measure.

The UAAL is $9.256 billion, based on the unsmoothed MVA. The AVA is $1.651 billion more than the current (unsmoothed) MVA. Because the smoothing impact of this $1.651 billion will be completely recognized within five years – long before the thirty-year funding period, an argument could be made that the funding period calculation should be based on the MVA instead of the AVA. This means that if experience after January 1, 2023 is exactly as expected, the unfunded liability will be completely amortized in 2063, a period of 41 years.

When including the liabilities for statutory Medicare Part B reimbursement, the AAL grows by $242 million. The CMC methodology assumes that $242 million of the $790 million in assets in the separate Health Care Stabilization Fund (HCSF) are considered to be allocated toward this Medicare Part B AAL. Consequently, there is no impact on Unfunded AAL by including Medicare Part B. We find that this approach is reasonable, although the solvency of the HCSF is weakened. This allocation of $242 million of the $790 million total represents 31% of the HCSF.

When this approach was utilized as of January 1, 2015, 48% of the HCSF was needed to be allocated to the Medicare Part B liability. This grew to 61% as of January 1, 2017. This was because the Medicare Part B AAL was increasing while the total HCSF was decreasing. But the actuarial liability for Medicare Part B benefits decreased from $551 million as of January 1, 2017 to $242 million as of January 1, 2023. This decrease was substantial and primarily due to an OP&F Board Policy to not increase the Medicare Part B reimbursement rate (from $107 per month) for the next three years. In addition, the actuarial assumption is now that there will be no further increase in this reimbursement rate. This improves funding available for pensions significantly, but, of course, is a consequence of the reduced Medicare Part B reimbursement. Furthermore, OP&F moved to an exchange-based retiree health program, which reduces the outflows from the HCSF.

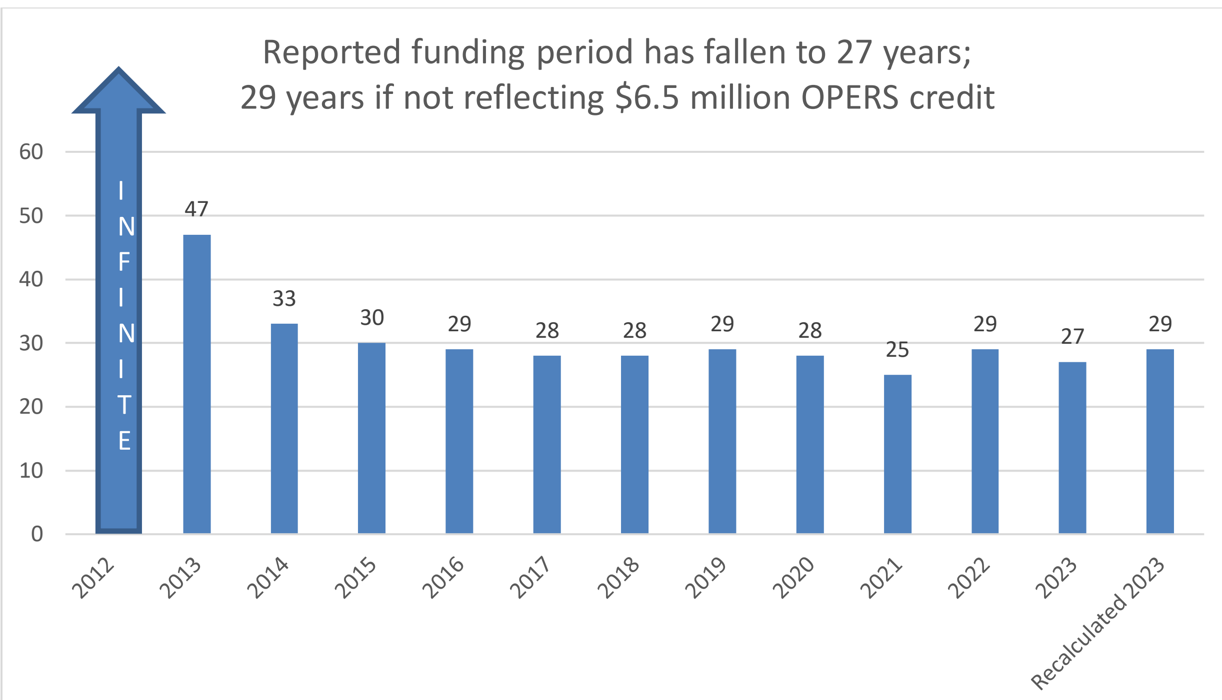
Our calculations are summarized in the table below and Appendix I. All dollar figures are in $billions as of January 1, 2023.

Funding Period on Various Bases (values in $billions)

Statutory Benefits Considered	Asset Basis	Actuarial Liability	Assets	UAAL	Funding Period
Pension Only	AVA	$25.363	$17.759	$7.605	27 years
Pension Only	MVA	25.363	16.108	9.256	41 years
Pension and Medicare B Reimbursement	AVA	25.605	17.759	7.846*	28 years
Pension and Medicare B Reimbursement	MVA	25.605	16.108	9.498*	41 years

* Unfunded Liability for scenarios with Medicare B reimbursement assumes that the reimbursement will be paid from the Health Care Stabilization Fund.

Note that the amortization period has fallen since it was 47 years in 2013. It would be 27 years for 2023 if the $6.5 million OPERS credit were to continue, and 29 years if not. Prior to 2013 and Senate Bill 340, the OP&F amortization period was infinite, meaning that the contributions were projected to never pay off the unfunded liability. This shows strong improvement since 2012-2013, but some deterioration since 2014, since the funding period is expected to reduce by one each year as the date of anticipated full funding approaches. These are illustrated in the following graph.



REQUIREMENTS OF ORC 742.311

The Ohio Revised Code 742.311, for which this report is written, requires that the ORSC shall annually review the *adequacy* of the OP&F contribution rates. An additional requirement is that the calculations be based on the "entry age normal actuarial cost method" (EAN). We confirm that CMC is using EAN as the basis for its calculations.

ORC 742.311 also states that the ORSC "shall make recommendations to the general assembly that it finds necessary for the proper financing of the benefits of [OP&F]."

CMC reports that:

Section 742.16 of the ORC, as adopted by Senate Bill No. 82, sets forth an objective that the funding period is no more than 30 years. If the funding period exceeds 30 years, a plan shall be developed and presented by the Board of Trustees to the ORSC to reduce the funding period to not more than 30 years. Section 742.14 of the ORC, as amended by Senate Bill No. 340, sets forth that the 30-year funding analysis be performed every three years and the 30-year funding plan, if necessary, be developed and presented not later than 90 days after the Board of Trustees' receipt of the actuarial valuation and 30-year funding analysis. The most recent triennial analysis was based on the January 1, 2022 actuarial valuation, and showed the funding period was 28.07 years, so no 30-year funding plan is required. The next analysis will be performed based on the January 1, 2025 actuarial valuation.

The funding period reported by CMC is now 26.71 years. We do not agree that this is a realistic figure. The funding period is expected to increase as poor investment returns for 2022 become more fully incorporated into the actuarial value of assets but will also decrease due to modest investment returns for 2023.

PROJECTION METHODOLOGY

While CMC is using the EAN method, they are reflecting certain future anticipated changes in its projections which determine the funding period. We believe that this approach is reasonable, although the methods do not follow the specific traditional use of the EAN method and its corresponding amortization period. Because the nature of the traditional EAN method does not incorporate important characteristics of the OP&F (and other Ohio plans) funding structure, CMC has modified this method in a manner which we find is reasonable and appropriate.

CMC calculates an employer amortization contribution rate toward the unfunded liability of 17.10% in its Table 1 Summary of Actuarial Valuation Results. CMC then goes on to demonstrate that the 17.10% amortization rate with anticipated future adjustments is sufficient to amortize the unfunded liability over 27 years. This is demonstrated in CMC's Table 7 and verified by PTA/KMS in Appendix 1 of this report. Note that the 17.10% rate is projected to decrease to 16.74% by 2049. This decrease is expected to occur because the normal cost rate for future members is projected to increase primarily due to the impact of generational mortality improvement which OP&F implemented in 2012. This cost increase is 0.36% of pay.

Note that traditional actuarial methods and their amortization calculations would not reflect this future expectation. Under the traditional calculation method, an actuarial contribution requirement is determined based only on the current normal cost rate plus an amortization of unfunded liability over a fixed period based on AVA. We believe that it is reasonable and appropriate to include this anticipation of the changes to the normal cost of future members in the funding period calculation as does CMC.

In our table on page 5, we calculated the funding period using both AVA and MVA. At this point in the investment cycle, the AVA exceeds the MVA. This is because the 2022 significant investment loss, offset by the smaller 2020 and 2021 investment gains, have not been fully recognized in AVA. CMC's projection calculations used the (higher) AVA. In general, we believe it also important to consider the true MVA. This would determine the funding period for statutory benefits as 41 years. The use of the lower MVA lengthens the period by 14 years. While 2021 investment returns were strong (almost 19%), returns during 2022 were poor. This points to the importance of using a smoothed AVA method.

In a potential future year when hard decisions may be likely necessary in order to stay within the 30-year period, there could be a larger disparity between MVA and AVA. The purpose of AVA is to smooth out investment return fluctuations and not make panic decisions based on short term results. But 742.14 only requires a triennial report for a funding plan. This also has an effect of smoothing out fluctuations. We recommend that all decisions pertaining to plan changes be based on considering both MVA and AVA. ORSC requires reporting on an AVA basis only.

MEDICARE PART B IMPACT

As stated previously, the CMC 30-year funding period calculation did not explicitly reflect the non-pension statutory benefit of the reimbursement of Medicare Part B premiums. The inclusion of this benefit increases both the liabilities and assets and has no impact on the UAAL and therefore no impact on the funding period at this time.

There may be some ambiguity in this requirement, because 742.16 of the ORC, which discusses the thirty-year funding plan specifies “unfunded actuarial accrued pension liabilities.” While CMC’s funding period calculation did not explicitly address the Medicare Part B issue, because there are sufficient assets in the Health Care Stabilization Fund ($790 million) to cover these liabilities ($242 million) at this time, the issue is moot. If experience deteriorates, there might not be sufficient assets in the future and the distinction might be relevant.

The $242 million is not explicitly segregated for Medicare Part B payments and would decline in the future years if other health benefits (beyond Medicare Part B payments) are provided. In particular, 0.50% of pay is allocated to the HCSF, but 0.07% has been calculated as the normal cost for the Medicare Part B benefits. This means that 0.43% can be explicitly attributed to health care benefits other than Medicare Part B. This substantial increase from 2017 is due to the reduction in anticipated future Medicare Part B premium reimbursement. The 0.07% contribution and the $242 million AAL attributed to Medicare Part B reimbursements are not dedicated or segregated, but comingled with other HCSF assets and liabilities.

During 2022 and 2021, the HCSF had the following cash flow, as shown in Table 4 of the CMC Health Care Actuarial Reports (all values in thousands):

Summary of HCSF Market Value of Plan Assets (values in $thousands)

Item	2022	2021
Market Value of HCSF as of January 1	$966,702	$881,584
Contributions		
Employer	13,381	12,758
Member Premiums	0	0
Total	13,381	12,758
Benefits and Administrative Expenses	88,799	87,193
Investment Income	-101,830	159,291
Other Income	186	262
Market Value of HCSF as of December 31	789,641	966,702

In very approximate terms, CMC is projecting that the HCSF is decreasing each year by $89 million due to benefits and increasing by $14 million due to contributions plus other income. If investment return on the $790 million fund is 7.5% as assumed, that would generate roughly $59 million. So the HCSF was expected to drop by about $16 million per year. In particular, CMC projects insolvency in 2039 if returns are 7.5% and in 2036 if returns are 5.5%.

OP&F moved to an Exchange solution effective January 1, 2019, which provides eligible retirees and survivors with a fixed monthly stipend earmarked to pay for health care, and OP&F's reimbursement of Medicare Part B premiums. This has reduced net outflows substantially, as they dropped from $219 million in 2018 to $77 million in 2019, $85 million in 2020, $87 million in 2021 and $89 million in 2022.

Prior to the 2018 investment losses and the move to an Exchange solution, the HCSF was projected to be depleted by 2034. This is now 2039. Note that this is ten years prior to the full funding of pension benefits. This means that even if all actuarial assumptions are met, the HCSF would be depleted prior to the payoff of the unfunded pension liability.

ALLOCATION BETWEEN POLICE AND FIRE

Contributions to OP&F come from three sources:

- 12.25% Employee Contributions
- 19.50% Police Employer Contributions
- 24.00% Firefighter Employer Contributions

Because of the disparity between Police and Fire employer contributions, it could be argued that Fire employers are paying a larger share of the unfunded liability than are Police employers. While this is accurate, the Police and Fire components of OP&F are completely merged, and the assets are not explicitly separated between Police and Fire. CMC does do an allocation of assets between Police and Fire based on the AAL for purposes of its Table 1 and Table 1A. But during the year, contributions are pooled and not separated into different Police and Fire asset accounts. Consequently, each year the assets would be allocated between the Police and Fire in accordance with AAL and the two components would be amortized in the same year.

If, however, the plans were separated and contributions allocated based on employer, the results would be quite different. We estimate that rather than both being fully funded in 27 years (based on AVA), Fire would be fully funded in 20 years while Police would be fully funded only after 42 years. This also assumes that Fire UAAL amortization contributions (currently 19.35% of pay) would not be required after 20 years, but would either cease, or be directed toward retiree healthcare benefits. Under the current CMC projection approach, both Police and Fire employer contributions would continue toward the UAAL until OP&F is fully funded.

CHANGES TO ACTUARIAL ASSUMPTIONS

The OP&F Board voted to reduce their assumed rate of return from 8.00% to 7.50% in February, 2022. This analysis reflects the reduction and we have reviewed certain calculations from the actuary and find them consistent with our calculations. Although the assumed rate of investment return was reduced to 7.50%, when assumptions are next reviewed, there will likely be another consideration in a reduction in the 7.50% assumed rate of investment return. This is for two related reasons.

First is that the low interest rate environment which began with the 2008 financial crisis shows little sign of abating, even as post-pandemic inflation increases. Long term treasury rates are still near historic lows and long-term inflation expectations remain at low rates. For example, CMC's 7.50% rate was built upon a pillar of 2.75% inflation. Long-term inflation predictions tend to call for an inflation rate somewhat less than this, notwithstanding the higher inflation following the pandemic.

Second is that public plans around the country, based on their actuaries' advice, are reducing their assumed rates of investment return. According to data in November 2023 from NASRA (National Association of State Retirement Administrators), only one plan of 130 surveyed, has an investment return as high as 7.5%. According to NASRA's March, 2023 Issue Brief, the average plan is using 6.93% for their nominal investment return assumption and 2.52% for their inflation assumption.

LIKELIHOOD OF NECESSITY FOR FUTURE CHANGES

Based on the actuarial valuation as of January 1, 2023, CMC has projected that a statutorily required 30-year maximum funding period for statutory benefits will continue to be met. We do not believe that this calculation was made using reasonable assumptions (specifically, the continuing $6.5 million OPERS credit).

We expect that if the inappropriate $6.5 million OPERS credit assumption were corrected and modest 2023 returns are considered, the funding period will possibly exceed 30 years in 2024.

We expanded our estimate to recognize investment return in 2023 and the asset smoothing method, but our estimates do not reflect any unanticipated experience during 2024 or further changes in actuarial assumptions. It is not unusual for these other changes to impact the funding period by several years.

We had been informed that OP&F investment return through November of 2023 was 7.30%. We estimated that if investment returns for the remainder of 2023 were at the assumed rate of 7.50% per year (about 0.6% per month), the full return for 2023 would be about 7.95%. This means that OP&F will have slightly exceeded the 7.5% target by about 0.5%. OP&F missed the 7.5% target by 18.5% in 2022, but beat the 8% target by 11% in 2021 and by 1% in 2020. The asset smoothing method has not yet completely reflected these two good years and partially reflected the bad 2022 year. Based on 2023 expected return of 7.95% and based on the unrealistic CMC assumed ongoing $6.5 million OPERS credit, we calculated that the thirty-year maximum period would continue to be met as of January 1, 2024, increasing to 29 years.

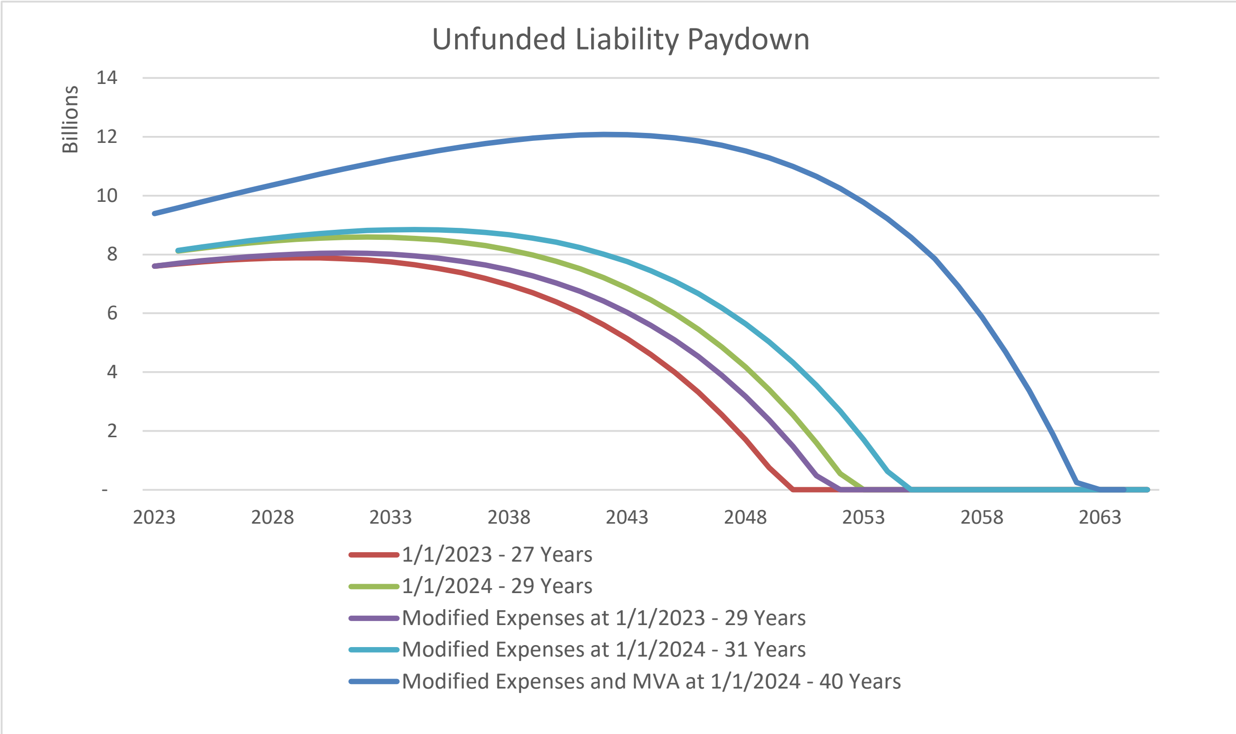
As of January 1, 2024, we estimate that the asset smoothing method will result in approximately $1.269 million of investment return losses which are not reflected in the actuarial value of assets. But by the end of this year (based on a 7.95% investment return), this will revert to approximately $18 million of investment return be recognized in future actuarial asset values.

The following table summarizes our estimates (based on faulty CMC assumption of $6.5 million credit):

Actuarial Valuation Date as of January 1	Expected Return on Plan Assets	Estimated Investment Return in 2023	Assets Recognized	Unfunded Liability	Funding Period
2023	7.5%		AVA	$7.6 billion	27 years
2023	7.5%		MVA	$9.3 billion	41 years
2024	7.5%	7.95%	AVA	$8.1 billion	29 years
2024	7.5%	7.95%	MVA	$9.5 billion	39 years

The graph below shows that the funding period is 27 years as of 1/1/2023 based on a 7.5% return, $6.5 million ongoing OPERS credit, and the actuarial value of assets (AVA) and is estimated to grow to 29 years as of 1/1/2024, based on AVA, once another year of strong returns for 2023 is included in the smoothed assets, even with the inclusion of poor 2022 returns.

We have also illustrated the funding periods which would occur if the administrative expense assumption had not included the $6.5 million OPERS credit. This results in funding periods of 29 years and 31 years as of 1/1/2023 and 1/1/2024, respectively. However, using Market Value of Assets (MVA) as of 1/1/24 would result in a funding period of 40 years. As discussed above, we believe that these are the more appropriate measures of the funding period.



As mentioned above, the January 1, 2024, actuarial valuation will lead to results which will be more or less favorable than our estimates above. But all things being equal, after correcting for the faulty assumption of ongoing $6.5 million OPERS credit, we believe that it is likely that the funding period as of January 1, 2024, could be more than 30 years, and likely that the funding period in future years will be longer than 30 years. Note that in these lines, the unfunded liability increases for a few years before eventually decreasing to zero. This is what is known as "negative amortization" where the contributions are not enough to cover the ongoing costs plus interest on the unfunded liability. Although permitted by Ohio Statute, this is a practice that is to be noted in future financial statements.

HEALTH CARE BENEFITS

The actuarial analysis discussed above and presented in the CMC report are based on statutory pension benefits, the statutory Medicare Part B reimbursement benefit, and a contribution to retiree health care benefits of only 0.50%.

This level of 0.50% is not sufficient to provide meaningful retiree health benefits. CMC has not conducted a complete Actuarial Valuation of Retiree Health Care Benefits as of January 1, 2023, but has only prepared an Actuarial Solvency Projection of the HCSF. However, Buck reported key facts in its October, 2016 Actuarial Valuation of Retiree Health Care Benefits as of January 1, 2016. These include:

- The Normal Cost rate for the current level of benefits was 9.66% of pay
- The annual rate for amortizing the unfunded liability was 7.53% of pay
- The employer contribution toward the health care stabilization fund is 0.50% of pay
- The funded ratio (Assets divided by AAL) was 18%

From the 1/1/2023 Pension Actuarial Valuation, CMC reports that the normal cost for the Medicare Part B Premium Reimbursement benefit decreased from 0.09% to 0.07%.

From the 1/1/2023 Solvency Projection, as shown in our table on page 8, CMC reports that:

- Employer contributions plus member contributions to HCSF were $13 million during 2022
- HCSF benefits and administrative expenses were $89 million during 2022

This all means that the current contribution rate is nowhere near adequate to fund the current level of healthcare benefits in the long term. The move to a stipend-based approach effective 2019 has helped extend the solvency somewhat.

POTENTIAL ORSC RECOMMENDATIONS

OP&F does report that the funding period is 27 years. This is heavily dependent on assumed future expenses which we believe are not likely to be attained. In particular, an ongoing $6.5 million credit from OPERS is reflected in the long-term expense projections. We would encourage ORSC to explore this issue further with OP&F.

RECAP OF FINDINGS

- The reported funding period of 27 years is based on an invalid assumption that $6.5 million in non-cash accounting credit from OPERS will continue for 27 years and be available to fund pension benefits.
- We have replicated the calculations in OP&F's funding period determination.
- These calculations are highly dependent on historically low administrative expenses continuing for the next thirty years. This cannot actually occur. Correcting for this would extend the funding period to 29 years.
- Although this is a substantial improvement over the 2012 and 2013 situation, it is no improvement since 2015, when the plan was projected to be fully funded by 2044.
- Because investment returns were strong for the years 2019 through 2021 but weak for 2022 and these have not yet been fully phased-in to the AVA, the thirty-year period may not be met as of January 1, 2024, even though returns for 2023 were slightly higher than the assumed rate.
- We expect that further modifications would be necessary to maintain 30-year funding.
- The current level of contributions is insufficient to cover interest on the unfunded liability in the short term.

Actuarial calculations were performed under the direction of William Fornia, FSA and Linda Bournival, FSA. We are Members of the American Academy of Actuaries and qualified to render this actuarial opinion. We are available to discuss these findings and recommendations in more detail.

APPENDIX I – Funding Period Calculations

Replication of CMC Calculation – Based on January 1, 2023 Valuation

Year	Plan Year	Outstanding Balance at Beginning of Year (UAAL)	Assumed Amortization Contribution Rate	Assumed Payroll @ 3.25% Growth Rate	Mid-Year Amortization Contribution Amount	Outstanding Balance at End of Year (UAAL)
1	2023	$ 7,604,656,394	17.10%	$ 2,782,772,719	$ 475,883,187	$7,681,599,433
2	2024	7,681,599,433	17.09%	2,873,212,832	491,114,890	7,748,520,635
3	2025	7,748,520,635	17.10%	2,966,592,249	507,226,382	7,803,756,177
4	2026	7,803,756,177	17.09%	3,063,006,498	523,393,318	7,846,372,148
5	2027	7,846,372,148	17.07%	3,162,554,209	539,970,627	7,874,996,597
6	2028	7,874,996,597	17.07%	3,265,337,220	557,411,879	7,887,684,405
7	2029	7,887,684,405	17.06%	3,371,460,680	575,039,356	7,883,047,241
8	2030	7,883,047,241	17.04%	3,481,033,152	593,313,718	7,859,115,029
9	2031	7,859,115,029	17.03%	3,594,166,730	612,199,652	7,813,806,547
10	2032	7,813,806,547	17.02%	3,710,977,148	631,711,614	7,744,869,497
11	2033	7,744,869,497	17.00%	3,831,583,906	651,510,833	7,650,233,901
12	2034	7,650,233,901	16.99%	3,956,110,383	672,168,240	7,527,082,579
13	2035	7,527,082,579	16.96%	4,084,683,970	692,717,508	7,373,388,974
14	2036	7,373,388,974	16.94%	4,217,436,199	714,507,668	7,185,575,829
15	2037	7,185,575,829	16.93%	4,354,502,876	737,133,502	6,960,217,734
16	2038	6,960,217,734	16.91%	4,496,024,219	760,426,931	6,693,806,642
17	2039	6,693,806,642	16.90%	4,642,145,006	784,333,546	6,382,627,812
18	2040	6,382,627,812	16.88%	4,793,014,719	809,115,950	6,022,415,626
19	2041	6,022,415,626	16.87%	4,948,787,697	834,755,166	5,608,604,220
20	2042	5,608,604,220	16.85%	5,109,623,297	861,186,540	5,136,352,327
21	2043	5,136,352,327	16.84%	5,275,686,055	888,677,509	4,600,178,299
22	2044	4,600,178,299	16.83%	5,447,145,851	916,683,384	3,994,754,110
23	2045	3,994,754,110	16.82%	5,624,178,092	945,997,792	3,313,529,281
24	2046	3,313,529,281	16.81%	5,806,963,879	976,002,584	2,550,102,960
25	2047	2,550,102,960	16.79%	5,995,690,206	1,006,706,826	1,697,584,829
26	2048	1,697,584,829	16.77%	6,190,550,137	1,038,126,280	748,551,455
27	2049	748,551,455	16.74%	6,391,743,017	1,070,175,674	-
28	2050	-	16.71%	6,599,474,665	1,102,772,216	-
29	2051	-	16.68%	6,813,957,591	1,136,568,126	-
30	2052	-	16.64%	7,035,411,213	1,170,692,426	-

Resulting Funding Period = 26.71 Years

APPENDIX I – Funding Period Calculations (continued)

Alternate Calculation – Based on Adjusted Administrative Expense Assumption of 1.03%

Year	Plan Year	Outstanding Balance at Beginning of Year (UAAL)	Assumed Amortization Contribution Rate	Assumed Payroll @ 3.25% Growth Rate	Mid-Year Amortization Contribution Amount	Outstanding Balance at End of Year (UAAL)
1	2023	$ 7,604,656,394	16.54%	$ 2,782,772,719	$ 460,270,608	$7,697,786,900
2	2024	7,697,786,900	16.53%	2,873,212,832	474,942,081	7,782,690,487
3	2025	7,782,690,487	16.54%	2,966,592,249	490,674,358	7,857,650,271
4	2026	7,857,650,271	16.53%	3,063,006,498	506,314,974	7,922,015,503
5	2027	7,922,015,503	16.51%	3,162,554,209	522,137,700	7,974,802,776
6	2028	7,974,802,776	16.51%	3,265,337,220	539,107,175	8,013,954,768
7	2029	8,013,954,768	16.50%	3,371,460,680	556,291,012	8,038,226,578
8	2030	8,038,226,578	16.48%	3,481,033,152	573,674,263	8,046,295,436
9	2031	8,046,295,436	16.47%	3,594,166,730	591,959,260	8,036,011,169
10	2032	8,036,011,169	16.46%	3,710,977,148	610,826,839	8,005,393,261
11	2033	8,005,393,261	16.44%	3,831,583,906	629,912,394	7,952,690,685
12	2034	7,952,690,685	16.43%	3,956,110,383	649,988,936	7,875,219,614
13	2035	7,875,219,614	16.40%	4,084,683,970	669,888,171	7,771,306,246
14	2036	7,771,306,246	16.38%	4,217,436,199	690,816,049	7,637,900,890
15	2037	7,637,900,890	16.37%	4,354,502,876	712,832,121	7,471,663,383
16	2038	7,471,663,383	16.35%	4,496,024,219	735,099,960	7,269,870,276
17	2039	7,269,870,276	16.34%	4,642,145,006	758,526,494	7,028,653,539
18	2040	7,028,653,539	16.32%	4,793,014,719	782,220,002	6,744,779,595
19	2041	6,744,779,595	16.31%	4,948,787,697	807,147,273	6,413,769,959
20	2042	6,413,769,959	16.29%	5,109,623,297	832,357,635	6,031,795,942
21	2043	6,031,795,942	16.28%	5,275,686,055	858,881,690	5,593,673,148
22	2044	5,593,673,148	16.27%	5,447,145,851	886,250,630	5,094,314,424
23	2045	5,094,314,424	16.26%	5,624,178,092	914,491,358	4,528,223,185
24	2046	4,528,223,185	16.25%	5,806,963,879	943,631,630	3,889,461,826
25	2047	3,889,461,826	16.23%	5,995,690,206	973,100,520	3,172,239,369
26	2048	3,172,239,369	16.21%	6,190,550,137	1,003,488,177	2,369,718,635
27	2049	2,369,718,635	16.18%	6,391,743,017	1,034,184,020	1,475,182,719
28	2050	1,475,182,719	16.15%	6,599,474,665	1,065,815,158	480,760,747
29	2051	480,760,747	16.12%	6,813,957,591	1,098,409,964	-
30	2052	-	16.08%	7,035,411,213	1,131,294,123	-

Resulting Funding Period = 29 Years