

Charter Township of Ypsilanti
General Employees
Other Postemployment Benefits Plan
Actuarial Valuation Report
December 31, 2021



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July 8, 2022

Ms. Karen Wallin
Human Resources Department
Charter Township of Ypsilanti
7200 South Huron River Drive
Ypsilanti, Michigan 48197

Dear Ms. Wallin:

Submitted in this report are the results of an Actuarial Valuation of the assets and liabilities associated with the Charter Township of Ypsilanti General Employees Other Postemployment Benefits (OPEB) Plan. The date of the valuation was December 31, 2021.

This report was prepared at the request of the Township and is intended for use by the Township and those designated or approved by the Township. This report may be provided to parties other than the Township only in its entirety and only with the permission of the Township. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are to measure the Plan's funding progress and to determine the Actuarially Determined Contribution for the fiscal years ending December 31, 2023 and December 31, 2024. This report should not be relied on for any purpose other than the purposes described herein. Determinations of liability associated with the benefits described in this report for purposes other than those identified above may be significantly different. This report does not satisfy Governmental Accounting Standards Board (GASB) Statements No. 74 or No.75.

The findings in this report are based on data and other information through December 31, 2021. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

The valuation was based upon information furnished by the Township concerning retiree health benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the Township.

Ms. Karen Wallin
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All actuarial assumptions used in this report are reasonable for the purposes of this valuation. All actuarial assumptions and methods used in the valuation follow the guidance in the applicable Actuarial Standards of Practice. Additional information about the actuarial assumptions is included in the section of this report entitled Actuarial Cost Method and Actuarial Assumptions.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation, and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

This report has been prepared by actuaries who have substantial experience valuing public employee retiree health plans. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Charter Township of Ypsilanti Other Postemployment Benefits (OPEB) Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

To the best of our knowledge, this report is complete and accurate and was made in accordance with generally recognized actuarial methods.

Abra D. Hill and Derek Henning are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

Respectfully submitted,
Gabriel, Roeder, Smith & Company


Abra D. Hill ASA, FCA, MAAA


Derek Henning, ASA, EA, MAAA

ADH/DH:dj

C201913



EXECUTIVE SUMMARY

Executive Summary

Actuarially Determined Contribution

Please note that beginning with the fiscal year ending December 31, 2017, GASB Statement No. 43 was replaced by GASB Statement No. 74. Also, beginning with the fiscal year ending December 31, 2018, GASB Statement No. 45 was replaced by GASB Statement No. 75. Information related to GASB Statements No. 74 and No. 75 reporting will be provided in separate reports.

We have calculated the Actuarially Determined Contribution for the fiscal years ending December 31, 2023 and December 31, 2024, under two interest rate assumptions – 7.00% and 6.50%. Below is a summary of the results. The Actuarially Determined Contributions and estimated retiree claims and premiums shown below include an adjustment for any implicit rate subsidy present in your pre-65 rates.

Fiscal Year Ending	Actuarially Determined Contribution		Estimated Benefits Paid for Retirees
	Current Assumed Investment Return 7.00%	Alternate Assumed Investment Return 6.50%	
December 31, 2023	\$ 109,224	\$ 171,558	\$ 639,804
December 31, 2024	101,400	162,754	688,618

Estimated benefits are net of retiree and spouse contributions and reflect the anticipated trend, demographic changes, and implicit subsidy.

For additional details please see Section A of the report.

Per capita costs and illustrative rates were developed from the premiums, claims, and enrollment data provided to us. The process used to determine these per capita costs and the results of these calculations are provided in Section B.

Liabilities and Assets – as of December 31, 2021

Assumed Investment Return	7.00%	6.50%
1. Present Value of Future Benefit Payments	\$ 11,219,515	\$ 11,879,424
2. Actuarial Accrued Liability	10,711,851	11,290,141
3. Plan Assets	10,033,296	10,033,296
4. Unfunded Actuarial Accrued Liability (2) – (3)	678,555	1,256,845
5. Funded Ratio (3)/(2)	93.7%	88.9%

The Present Value of Future Benefit Payments (PVFB) is the present value of all benefits projected to be paid from the plan for past and future service to current members. The Actuarial Accrued Liability is the portion of the PVFB allocated to past service by the Plan’s funding method (see the Section titled “Actuarial Cost Method and Actuarial Assumptions”).



SECTION A

VALUATION RESULTS

Charter Township of Ypsilanti OPEB Plan – Results as of December 31, 2021

Current Investment Return Assumption – 7.00%

	General Township / Board	Court 14-B	General Township	General Township	General Township	General Township	General Township	General Township
	101-102	101-136	226	230	249	266	584	TOTAL
A. Present Value of Future Benefits								
i) Retirees and Beneficiaries	\$ 4,922,406	\$ 1,068,454	\$ 1,068	\$ 368,501	\$ 206,810	\$ 397,433	\$ -	\$ 6,964,672
ii). Retired Members in Deferral Period	-	-	-	-	-	-	-	-
iii) Active Members	2,316,881	898,664	260,026	559	589,976	1,824	186,913	4,254,843
Total Present Value of Future Benefits	\$ 7,239,287	\$ 1,967,118	\$ 261,094	\$ 369,060	\$ 796,786	\$ 399,257	\$ 186,913	\$ 11,219,515
B. Present Value of Future Employer Normal Costs	\$ 224,677	\$ 157,044	\$ 36,799	\$ -	\$ 68,890	\$ -	\$ 20,254	\$ 507,664
C. Actuarial Accrued Liability (A.-B.)	\$ 7,014,610	\$ 1,810,074	\$ 224,295	\$ 369,060	\$ 727,896	\$ 399,257	\$ 166,659	\$ 10,711,851
D. Market Value of Assets	\$ 6,570,260	\$ 1,695,413	\$ 210,087	\$ 345,681	\$ 681,787	\$ 373,966	\$ 156,102	\$ 10,033,296
E. Unfunded Actuarial Accrued Liability (C.-D.)	\$ 444,350	\$ 114,661	\$ 14,208	\$ 23,379	\$ 46,109	\$ 25,291	\$ 10,557	\$ 678,555
F. Funded Ratio (E./D.)	93.7%	93.7%	93.7%	93.7%	93.7%	93.7%	93.7%	93.7%
G. Unfunded Actuarial Accrued Liability (UAAL) Projected to December 31, 2022								
G1. Employer Normal Cost for FY 2022	\$ 43,574	\$ 25,903	\$ 4,758	\$ -	\$ 11,664	\$ -	\$ 5,756	\$ 91,655
G2. Employer Contribution for FY 2022	309,381	83,211	18,358	14,443	31,149	25,640	14,137	496,319
G3. Interest Adjustment	21,906	6,043	524	1,137	2,553	883	449	33,495
Projected UAAL (E. + G1. - G2. + G3.)	\$ 200,449	\$ 63,396	\$ 1,132	\$ 10,073	\$ 29,177	\$ 534	\$ 2,625	\$ 307,386
H. Fiscal Year Ending December 31, 2023								
i) Employer Normal Cost	\$ 37,987	\$ 24,231	\$ 4,754	\$ -	\$ 10,695	\$ -	\$ 4,696	\$ 82,363
ii) Amortization of UAAL	17,516	5,540	99	880	2,550	47	229	26,861
Actuarially Determined Contribution	\$ 55,503	\$ 29,771	\$ 4,853	\$ 880	\$ 13,245	\$ 47	\$ 4,925	\$ 109,224
I. Fiscal Year Ending December 31, 2024								
i) Employer Normal Cost	\$ 33,488	\$ 22,839	\$ 4,753	\$ -	\$ 9,730	\$ -	\$ 3,730	\$ 74,540
ii) Amortization of UAAL	17,516	5,540	99	880	2,550	47	229	26,861
Actuarially Determined Contribution	\$ 51,004	\$ 28,379	\$ 4,852	\$ 880	\$ 12,280	\$ 47	\$ 3,959	\$ 101,401

The unfunded actuarial accrued liabilities were amortized as level dollar payments over a closed period of 22 years.



Charter Township of Ypsilanti OPEB Plan – Results as of December 31, 2021

Alternate Investment Return Assumption – 6.50%

	General Township / Board	Court 14-B	General Township	General Township	General Township	General Township	General Township	General Township
	101-102	101-136	226	230	249	266	584	TOTAL
A. Present Value of Future Benefits								
i) Retirees and Beneficiaries	\$ 5,133,352	\$ 1,121,540	\$ 1,170	\$ 385,175	\$ 214,150	\$ 414,068	\$ -	\$ 7,269,455
ii) Retired Members in Deferral Period	-	-	-	-	-	-	-	-
iii) Active Members	2,501,962	978,082	289,157	664	640,489	2,096	197,519	4,609,969
Total Present Value of Future Benefits	\$ 7,635,314	\$ 2,099,622	\$ 290,327	\$ 385,839	\$ 854,639	\$ 416,164	\$ 197,519	\$ 11,879,424
B. Present Value of Future Employer Normal Costs	\$ 261,867	\$ 179,756	\$ 44,090	\$ -	\$ 80,838	\$ -	\$ 22,732	\$ 589,283
C. Actuarial Accrued Liability (A.-B.)	\$ 7,373,447	\$ 1,919,866	\$ 246,237	\$ 385,839	\$ 773,801	\$ 416,164	\$ 174,787	\$ 11,290,141
D. Market Value of Assets	\$ 6,552,618	\$ 1,706,142	\$ 218,825	\$ 342,886	\$ 687,660	\$ 369,836	\$ 155,329	\$ 10,033,296
E. Unfunded Actuarial Accrued Liability (C.-D.)	\$ 820,829	\$ 213,724	\$ 27,412	\$ 42,953	\$ 86,141	\$ 46,328	\$ 19,458	\$ 1,256,845
F. Funded Ratio (E./D.)	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%
G. Unfunded Actuarial Accrued Liability (UAAL) Projected to December 31, 2022								
G1. Employer Normal Cost for FY 2022	\$ 49,501	\$ 28,906	\$ 5,536	\$ -	\$ 13,313	\$ -	\$ 6,372	\$ 103,628
G2. Employer Contribution for FY 2022	309,381	83,211	18,358	14,443	31,149	25,640	14,137	496,319
G3. Interest Adjustment	44,996	12,146	1,369	2,327	5,026	2,187	1,015	69,066
Projected UAAL (E. + G1. - G2. + G3.)	\$ 605,945	\$ 171,565	\$ 15,959	\$ 30,837	\$ 73,331	\$ 22,875	\$ 12,708	\$ 933,220
H. Fiscal Year Ending December 31, 2023								
i) Employer Normal Cost	\$ 43,189	\$ 27,054	\$ 5,532	\$ -	\$ 12,205	\$ -	\$ 5,198	\$ 93,178
ii) Amortization of UAAL	50,893	14,410	1,340	2,590	6,159	1,921	1,067	78,380
Actuarially Determined Contribution	\$ 94,082	\$ 41,464	\$ 6,872	\$ 2,590	\$ 18,364	\$ 1,921	\$ 6,265	\$ 171,558
I. Fiscal Year Ending December 31, 2024								
i) Employer Normal Cost	\$ 38,105	\$ 25,515	\$ 5,531	\$ -	\$ 11,093	\$ -	\$ 4,130	\$ 84,374
ii) Amortization of UAAL	50,893	14,410	1,340	2,590	6,159	1,921	1,067	78,380
Actuarially Determined Contribution	\$ 88,998	\$ 39,925	\$ 6,871	\$ 2,590	\$ 17,252	\$ 1,921	\$ 5,197	\$ 162,754

The unfunded actuarial accrued liabilities were amortized as level dollar payments over a closed period of 22 years.



Comments

Comment A: Overall plan experience was more favorable than expected. Factors contributing to the favorable experience include, but are not limited to:

- More favorable premium rate experience than projected; and
- Investment returns exceeding the assumed rate of return.

Assumption changes were also reflected in this valuation and include:

- Updating the mortality tables and other demographic assumptions to be consistent with the MERS pension assumptions;
- Reducing the initial pre-65 health care cost trend assumption to 7.50%; and
- Reducing the initial post-65 health care cost trend assumption to 6.25%.

The combined impact of the assumption changes noted above increased the liability by \$132 thousand.

Comment B: One of the key assumptions used in any valuation of the cost of postemployment benefits is the rate of return on the assets that will be used to pay Plan benefits. Higher assumed investment returns will result in a lower Actuarially Determined Contribution (ADC). Lower returns will tend to increase the Actuarially Determined Contribution. Consistent with the prior valuation, we have calculated the liability and the resulting Actuarially Determined Contribution using an assumed rate of investment return of 7.00%. It is our understanding that the General Township assets are invested in the MERS Total Market Fund and that the Plan is fully funding the Actuarially Determined Contribution. Based on our analysis, 7.00% is a reasonable investment return assumption.

However, forward-looking asset return expectations have declined significantly in the past few years and the probability of exceeding a 7.00% rate of return over the next 10-year period is declining. Therefore, we recommend lowering the assumed rate of return to 6.50%. This report shows valuation results and Actuarially Determined Contributions at both 7.00% (the *current* assumption) and 6.50% (the *alternate* assumption).

Lowering the assumed investment return to 6.50% would increase the liability by \$578 thousand.

Comment C: The ADCs for the fiscal years 2023-2024 are much lower than the ADC for fiscal year 2022 (\$496,319 – from the prior valuation). As noted above, this is in part due to higher investment returns than expected for 2020 and 2021. Since the valuation date, asset values and capital market expectations have declined. If market losses persist, computed contribution amounts would swing upwards in the next valuation. To mitigate the impact potential market losses (investment risk), the Board may wish to contribute a higher dollar amounts than computed using the full market value of assets as of the valuation date. Below we show the Actuarially Determined Contribution under the following scenarios:

1. Current – Market Value of Assets as of valuation date
2. Alternate Scenario – 80% of Market Value of Assets as of valuation date

Actuarially Determined Contribution under Current and Alternate Asset Scenario

Investment Return Assumption Asset Scenario	7.00%		6.50%	
	Current	Alt. Scenario	Current	Alt. Scenario
Fiscal Year 2023	\$ 109,224	\$ 296,843	\$ 171,558	\$ 351,054
Fiscal Year 2024	101,401	289,020	162,754	342,250



Comments (Concluded)

Comment D: The plan sponsor is required by GASB to perform actuarial valuations at least biennially or more frequently if significant changes in the OPEB are made in the interim.

Comment E: The market value of assets tends to be very volatile over time. The Township may wish to adopt an asset smoothing method for valuation purposes in order to reduce volatility in the funded status and ADC. In addition, contributions for small groups may fluctuate significantly due to demographic changes. Annual valuations could reduce the likelihood of large changes in contributions over time.

Comment F: The Michigan State Treasurer has established uniform actuarial assumptions as required by Public Act 202 (PA 202) of 2017 for use with the annual Form 5572 (Retirement System Annual Report). The use of the uniform assumptions for reporting purposes is required for the fiscal year ending December 31, 2021. The necessary PA 202 uniform assumption information is included in Section G of this report.

Comment G: At the request of the plan sponsor, valuation results have been split by Township Fund. For purposes of correlating Township Fund divisions to OPEB groups for substantive plan provisions, we used the following information:

<u>Fund</u>	<u>OPEB Group</u>
101	General Township/Board
101-136	Court
226	General Township
249	General Township
230	General Township
266	General Township
584	General Township

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Contributions and Funded Status

Given the Plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the Retiree Health Care funds for the General Township earning 7.00% (current investment return assumptions) or 6.50% (alternate investment return assumption) on the Market Value of Assets, it is expected that:

1. The employer normal cost is sufficient to cover the cost of benefits accruing each year;
2. The Unfunded Actuarial Accrued Liabilities (UAAL) will continue to be fully amortized; and
3. The funded status of the Retirement System will continue to increase gradually towards a 100% funded ratio.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the Actuarial Accrued Liability (AAL) and the Market Value of Assets (MVA). Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1. The measurement is inappropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Retirement and Benefit System's benefit obligations, for example: transferring the liability to an unrelated third party in a market value type transaction.
2. The measurement is dependent upon the Actuarial Cost Method which, in combination with the Plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. Even though the funded status is over 100%, the Plan would still require future normal cost contributions (i.e., contributions to cover the cost of active membership accruing an additional year of service credit).

Limitations of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entities to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

Risks to Future Employer Contribution Requirements

There are ongoing risks to future employer contribution requirements to which the Plan is exposed, such as:

- Actual and Assumed Investment Rate of Return
- Actual and Assumed Mortality Rates
- Amortization Policy



Risk Commentary

The determination of the accrued liability and the actuarially determined contribution (i.e., total employer contribution rate) requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements. Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch Risk** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. **Health Care Trend Risk** – actual costs of health care (reflected in per capita costs and premium rates) may differ from expected, resulting in actual future accrued liability, contributions and contribution rates differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution rates shown on pages A-1 through A-3 may be considered as a minimum contribution amount for the Plan. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.



Risk Commentary (Concluded)

Plan Maturity Measures

Risks facing a health care plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures are described below:

Ratio of Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time. The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

Duration of Actuarial Accrued Liability

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

SECTION B

RETIREE PREMIUM RATE DEVELOPMENT

Retiree Premium Rate Development

Rate Development

Initial premium rates were developed separately for each class of retirees (pre-65 and post-65). The fully-insured rates provided by Ypsilanti Township were utilized to determine the appropriate premium rates. The pre-65 fully-insured premiums are blended rates based on the combined experience of active and pre-65 retired members; therefore, there is an implicit employer subsidy for the non-Medicare eligible retirees since the average costs of providing health care benefits to retirees under age 65 is higher than the average cost of providing health care benefits to active employees. The true per capita cost for the pre-65 retirees is developed by adjusting the demographic differences between the active employees and retirees to reflect this implicit rate subsidy for the retirees. For the post-65 retirees, the fully-insured premium rate is used as the basis of the initial per capita cost without adjustments since the rate reflects the actual claims experience of the post-65 retiree group.

The only pre-65 plan available to current and future retirees is BCBS Flex Blue PPO. The only post-65 plan available to current and future retirees is Medicare PLUS Blue Group PPO.

Age graded and sex distinct premiums are utilized by this valuation. The premiums developed by the preceding process are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process “distributes” the average premium over all age/sex combinations and assigns a unique premium for each combination. The age/sex specific premiums more accurately reflect the health care utilization and cost at that age.

The combined monthly one-person medical, dental, vision and drug premiums at select ages are shown below:

Current and Future Retirees

Not Eligible for Medicare		
Age	Male	Female
45	\$ 507.32	\$ 700.17
50	660.59	813.78
55	869.26	949.11
60	1,122.70	1,105.48

Eligible for Medicare		
Age	Male	Female
65	\$ 354.43	\$ 334.30
70	386.10	373.61
75	414.68	404.64

The dental and vision premium rates were not “age graded” for this valuation since these claims do not vary significantly by age. The dental rates used for this valuation were \$29.79 for the first person and \$29.66 for the second person at all ages. The vision rates used for this valuation were \$7.92 for the first person and \$6.66 for the second person for pre-65 retirees. There is no vision coverage for post-65 retirees.



Retiree Premium Rate Development

Health Care Trend Assumption

The health care cost trend rate is the rate of change in per capita health care claims over time as a result of factors such as medical inflation, utilization of health care services, plan design, and technological improvements. It is a crucial economic assumption that is required for measuring retiree health care benefit obligations.

Retiree health care valuations use a health care cost trend assumption (trend vector) that changes over the years. The trend vector used in this valuation begins with a near-term trend assumption and declines over time to an ultimate trend rate. The near-term rates reflect the increases in the current cost of health care goods and services. The process of trending down to a lower ultimate trend relies on the theory that premium levels will moderate over the long term; otherwise, the health care sector would eventually consume the entire GDP. It is on this basis that projected premium rate increases continue to exceed wage inflation for the next ten years, but by less each year until leveling off at an ultimate rate, assumed to be 3.50% in this valuation.

While experience is often the best starting point for future costs, GRS does not rely on a group's experience in setting the near-term trend assumptions, since trends vary significantly from year to year and are not credible for most groups. Therefore, professional judgment, trends from GRS' book of business and industry benchmarks (e.g., trend reports from various Pharmacy Benefit Management (PBM) organizations and national health care benefit consulting firms) are used in conjunction with a group's historical experience to establish the trend assumptions.

Health care trend rates used in the valuation are shown below:

Year	Health Care Trend Rates		
	Medical/Drug Pre-65	Medical/Drug Post-65	Dental/Vision
2022	7.50%	6.25%	3.50%
2023	7.25%	6.00%	3.50%
2024	6.75%	5.75%	3.50%
2025	6.50%	5.50%	3.50%
2026	6.00%	5.25%	3.50%
2027	5.75%	5.00%	3.50%
2028	5.25%	4.75%	3.50%
2029	5.00%	4.50%	3.50%
2030	4.50%	4.25%	3.50%
2031	4.25%	4.00%	3.50%
2032	3.75%	3.75%	3.50%
2033 & Later	3.50%	3.50%	3.50%

Dental and vision trend rates were assumed to be 3.50% for all years.

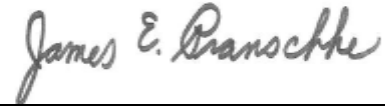


Actuarial Disclosures

The premium rates used in this valuation were developed using the proprietary Excel models which, in James E. Pranschke's professional judgment, provide the initial projected costs which are consistent with the purposes of the valuation. We perform tests to ensure that the models, in their entirety, reasonably represent that which is intended to be modeled.

Aging factors used in the premium development models were developed based on the information and data from a 2013 study commissioned by the Society of Actuaries entitled "Health Care Costs – From Birth to Death."

James E. Pranschke is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to certify the per capita retiree health care rates shown on page B-1 and the health care trend rates shown on page B-2.



James E. Pranschke, FSA, FCA, MAAA

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

Management/Non-Union/Union/14B District Court Employees Summary of Benefits as of December 31, 2021 for Employees with Retirements Before September 1, 2009

Age Retirement

The Township provides full retiree health care coverage upon retirement at age 60 with 10 or more years of service. Family coverage is included. Employees who retire from the Township at age 55 with 15 years of service may continue their health care coverage by reimbursing the cost to the Township until age 60 at which time the Township provides full coverage.

Duty and Non-Duty Disability Retirement

The Township provides full health care coverage to disability retirees at age 60 with 10 or more years of service. Family coverage is included. Prior to age 60, disability retirees may continue their health care coverage by reimbursing the cost to the Township until age 60 at which time the Township provides full coverage.

Duty and Non-Duty Death-in-Service

Surviving spouse of a death-in-service employee may elect health care coverage through COBRA.

Medicare Eligibility

Coverage supplements Medicare once retiree is eligible for Medicare. Retiree is required to enroll in Medicare Part A and Part B, when eligible. Retiree is required to pay Medicare B premiums.

Spouse and Dependent Coverage

Spouse and eligible dependents are eligible to receive 100% Township paid retiree health care coverage for the life of the retiree. Surviving spouse and eligible dependents of deceased retired members may continue their health care coverage by reimbursing the cost to the Township.

Employee/Retiree Contributions

Active employees and retired employees do not contribute toward the cost of retiree health care core benefits.



Management/Non-Union/Union/14B District Court Employees Summary of Benefits as of December 31, 2021 for Employees with Retirements Before September 1, 2009

Medical Coverage

The Township offers the following health care coverage plans:

- Blue Cross Blue Shield Flex Blue PPO
- Medicare PLUS Blue Group PPO

The Township offers a Health Reimbursement Account for each retiree with funds available to cover In-Network Deductibles, Rx co-pays and other related health care expenses. For pre-65 retirees covered under the Blue Cross Blue Shield Flex Blue PPO plan, funding for the HRA is \$3,250 with a Rx copay post deductible amount of \$1,000 for One-Person coverage and \$6,450 with a Rx copay post deductible amount of \$2,000 for Two-Person & Family coverage. Post-65 retirees covered under the Medicare PLUS Blue are funded at \$2,000 for One-Person coverage and \$4,000 for Two-Person & Family coverage.

Dental Coverage

Members and spouses retiring with retiree health care benefits are eligible for Township paid dental benefits.

Vision Coverage

Members and spouses retiring with retiree health care benefits are eligible for Township paid vision benefits.

Life Insurance

The Township shall provide life insurance in the amount of \$5,000.00 without accidental death and dismemberment for the life of the retiree.



Teamster and Non-Union Management Summary of Benefits as of December 31, 2021 DIVISION: TMNU-1

Age Retirement

- 1) Employees who retire between January 1, 2010 and December 31, 2012 became immediately eligible for retiree health care provided they are 55 years or older and they have at least fifteen years of service and are eligible for regular pension with MERS.
- 2) Employees hired prior to January 1, 2010, will receive retiree health care at age sixty (60) with ten years of service. At age sixty (60) the Township will pay 100% of the cost for the base plan that was in effect at the time of retirement for the employees hired prior to January 1, 2007 with eligible dependents. When an employee is eligible for Medicare, the Township shall provide the BC/BS Medicare tie-in until employee's death.
- 3) Employees hired after January 1, 2010 and retired at age sixty-two (62) with fifteen (15) years of service the Township will pay 100% of the cost for the base plan that was in effect for the employee only. The cost for coverage for any dependents will be the responsibility of the retiree.
- 4) Coverage for employees who retire after December 31, 2011, will change in the future to match any changes negotiated by the union or changed by Township policy.
- 5) Employees hired after January 1, 2010 shall have coverage provided for the employee only at 100% and coverage for dependents will be the responsibility of the retiree.
- 6) Employees hired after December 31, 2013 will not be eligible for retiree health care.

Duty and Non-Duty Disability Retirement

The Township provides full health care coverage to disability retirees based on age at disability, years of service and date of hire. Family coverage may be included depending on date of hire. Prior to age 60, disability retirees may continue their health care coverage by reimbursing the cost to the Township until which time they become eligible for Township provided coverage.

Duty and Non-Duty Death-in-Service

Surviving spouse of a death-in-service employee may elect health care coverage through COBRA.

Medicare Eligibility

Coverage supplements Medicare once retiree is eligible for Medicare. Retiree is required to enroll in Medicare Part A and Part B, when eligible. Retiree is required to pay Medicare B premiums.



Teamster & Non-Union Management

Summary of Benefits as of December 31, 2021

DIVISION: TMNU-1

Spouse and Dependent Coverage

Spouse and eligible dependents may be eligible to receive Township retiree health care coverage according to language under Section "AGE RETIREMENT." Surviving spouse and eligible dependents of deceased retired members may continue their health care coverage by reimbursing the cost to the Township.

Employee/Retiree Contributions

Active employees receiving active health care insurance contribute \$150.00 per month (\$1,800/year) for family; \$100.00/per month (\$1,200/year) for two-person; and \$50.00/per month (\$600/year) for one-person. Health Insurance for employees that retire after December 31, 2011 will change to match that of the active employees.

Employees who retire after December 31, 2011 will contribute toward retiree health care at the rates of the active employees stated above on a monthly basis.

Medical Coverage

The Township offers the following health care coverage plans:

- Blue Cross Blue Shield Flex Blue PPO
- Medicare PLUS Blue Group PPO

The Township offers a Health Reimbursement Account for each retiree with funds available to cover In-Network Deductibles, Rx co-pays and other related health care expenses. For pre-65 retirees covered under the Blue Cross Blue Shield Flex Blue PPO plan, funding for the HRA is \$3,250 with a Rx copay post deductible amount of \$1,000 for One-Person coverage and \$6,450 with a Rx copay post deductible amount of \$2,000 for Two-Person & Family coverage. Post-65 retirees covered under the Medicare PLUS Blue are funded at \$2,000 for One-Person coverage and \$4,000 for Two-Person & Family coverage.

Dental Coverage

Members retiring with retiree health care benefits are eligible for Township paid dental benefits.

Vision Coverage

Members and spouses retiring with retiree health care benefits are eligible for Township paid vision benefits.

Life Insurance

The Township shall provide life insurance in the amount of \$5,000.00 without accidental death and dismemberment for the life of the retiree.

Employees retired after October 1, 2018 shall be provided life insurance in the amount of \$15,000 without accidental death and dismemberment for the life of the retiree.



AFSCME Township Union Employees Summary of Benefits as of December 31, 2021 DIVISION: AFSCME-2

Age Retirement

- 1) Employees who retire between August 1, 2009 and December 31, 2011 shall be immediately eligible for retiree health care provided they retire within six (6) months of their eligibility date and they are 55 years or older and they have at least fifteen years of service and are eligible for regular pension with MERS.
- 2) Employees who will retire after December 31, 2011, but were hired prior to September 1, 2009, will receive retiree health care at age sixty (60) with twelve years of service until such time the employee is Medicare eligible.
- 3) Employees hired after September 1, 2009 shall be eligible for retiree health care at age 62 following 15 years of service until such time the employee is Medicare eligible.
- 4) Coverage for employees who retire after December 31, 2011, will change in the future to match any changes negotiated by the Union.
- 5) Employees who retire prior to their eligible age (60 or 62) may continue their health care coverage by reimbursing the cost to the Township until they reach their eligible age at which time the Township provides full coverage.
- 6) Employees hired after December 31, 2013 will not be eligible for retiree health care.

Duty and Non-Duty Disability Retirement

The Township provides full health care coverage to disability retirees based on age at disability, years of service and date of hire. Family coverage may be included depending on date of hire. Prior to age 60, disability retirees may continue their health care coverage by reimbursing the cost to the Township until which time they become eligible for Township provided coverage.

Duty and Non-Duty Death-in-Service

Surviving spouse of a death-in-service employee may elect health care coverage through COBRA.

Medicare Eligibility

Coverage supplements Medicare once retiree is eligible for Medicare. Retiree is required to enroll in Medicare Part A and Part B, when eligible. Retiree is required to pay Medicare B premiums.



AFSCME Township Union Employees

Summary of Benefits as of December 31, 2021

DIVISION: AFSCME-2

Spouse and Dependent Coverage

Spouse and dependents may be eligible to receive Township retiree health care coverage according to language under Section "AGE RETIREMENT." Surviving spouse and eligible dependents of deceased retired members may continue their health care coverage by reimbursing the cost to the Township.

Employee/Retiree Contributions

Active employees receiving active health care insurance contribute \$150.00 per month (\$1,800/year) for family; \$100.00/per month (\$1,200/year) for two-person; and \$50.00/per month (\$600/year) for one-person. Health Insurance for employees that retire after December 31, 2011 will change to match that of the active employees.

Employees who retire after December 31, 2011 will contribute toward retiree health care at the rates of the active employees stated above on a monthly basis.

Medical Coverage

The Township offers the following health care coverage plans:

- Blue Cross Blue Shield Flex Blue PPO
- Medicare PLUS Blue Group PPO

The Township offers a Health Reimbursement Account for each retiree with funds available to cover In-Network Deductibles, Rx co-pays and other related health care expenses. For pre-65 retirees covered under the Blue Cross Blue Shield Flex Blue PPO plan, funding for the HRA is \$3,250 with a Rx copay post deductible amount of \$1,000 for One-Person coverage and \$6,450 with a Rx co-pay post deductible amount of \$2,000 for Two-Person & Family coverage. Post-65 retirees covered under the Medicare PLUS Blue are funded at \$2,000 for One-Person coverage and \$4,000 for Two-Person & Family coverage.

Dental Coverage

Members retiring with retiree health care benefits are eligible for Township paid dental benefits.

Vision Coverage

Members and spouses retiring with retiree health care benefits are eligible for Township paid vision benefits.

Life Insurance

The Township shall provide life insurance in the amount of \$5,000.00 without accidental death and dismemberment for the life of the retiree.

Employees retired after October 1, 2018 shall be provided life insurance in the amount of \$15,000 without accidental death and dismemberment for the life of the retiree.



14B District Court Union Employees Summary of Benefits as of December 31, 2021 DIVISION: COURT-3

Age Retirement

- 1) Employees who retire between August 1, 2009 and December 31, 2011 shall be immediately eligible for retiree health care provided they retire within six (6) months of their eligibility date and they are 55 years or older and they have at least fifteen years of service and are eligible for regular pension with MERS.
- 2) Employees who will retire after December 31, 2011, but were hired prior to September 1, 2009, will receive retiree health care at age sixty (60) with twelve years of service until such time the employee is Medicare eligible.
- 3) Employees hired after September 1, 2009 shall be eligible for retiree health care at age 62 following 15 years of service until such time the employee is Medicare eligible.
- 4) Coverage for employees who retire after December 31, 2011, will change in the future to match any changes negotiated by the Union.
- 5) Employees who retire prior to their eligible age (60 or 62) may continue their health care coverage by reimbursing the cost to the Township until they reach their eligible age at which time the Township provides full coverage.
- 6) Employees hired after December 31, 2013 will not be eligible for retiree health care.

Duty and Non-Duty Disability Retirement

The Township provides full health care coverage to disability retirees at age 60 with 10 or more years of service. Family coverage is included. Prior to age 60, disability retirees may continue their health care coverage by reimbursing the cost to the Township until age 60 at which time the Township provides full coverage.

Duty and Non-Duty Death-in-Service

Surviving spouse of a death-in-service employee may elect health care coverage through COBRA.

Medicare Eligibility

Coverage supplements Medicare once retiree is eligible for Medicare. Retiree is required to enroll in Medicare Part A and Part B, when eligible. Retiree is required to pay Medicare B premiums.



14B District Court Union Employees

Summary of Benefits as of December 31, 2021

DIVISION: COURT-3

Spouse and Dependent Coverage

Spouse and dependents may be eligible to receive Township retiree health care coverage according to language under Section "AGE RETIREMENT." Surviving spouse and eligible dependents of deceased retired members may continue their health care coverage by reimbursing the cost to the Township.

Employee/Retiree Contributions

Active employees receiving active health care insurance contribute \$150.00 per month (\$1,800/year) for family; \$100.00/per month (\$1,200/year) for two-person; and \$50.00/per month (\$600/year) for one-person. Health Insurance for employees that retire after December 31, 2011 will change to match that of the active employees.

Employees who retire after December 31, 2011 will contribute toward retiree healthcare at the rates of the active employees stated above on a monthly basis.

Medical Coverage

The Township offers the following health care coverage plans:

- Blue Cross Blue Shield Flex Blue PPO
- Medicare PLUS Blue Group PPO

The Township offers a Health Reimbursement Account for each retiree with funds available to cover In-Network Deductibles, Rx co-pays and other related health care expenses. For pre-65 retirees covered under the Blue Cross Blue Shield Flex Blue PPO plan, funding for the HRA is \$3,250 with a Rx copay post deductible amount of \$1,000 for One-Person coverage and \$6,450 with a Rx copay post deductible amount of \$2,000 for Two-Person & Family coverage. Post-65 retirees covered under the Medicare PLUS Blue are funded at \$2,000 for One-Person coverage and \$4,000 for Two-Person & Family coverage.

Dental Coverage

Members retiring with retiree health care benefits are eligible for Township paid dental benefits.

Vision Coverage

Members and spouses retiring with retiree health care benefits are eligible for Township paid vision benefits.

Life Insurance

The Township shall provide life insurance in the amount of \$5,000.00 without accidental death and dismemberment for the life of the retiree.

Employees retired after October 1, 2018 shall be provided life insurance in the amount of \$15,000 without accidental death and dismemberment for the life of the retiree.



Township Board Employees and Certain Elected Officials Summary of Benefits as of December 31, 2021

Age Retirement

The Township provides full retiree health care coverage to elected Township Board officials and trustees upon attainment of age 55 with 12 or more years of service in the capacity of an elected official and/or trustee provided they are not covered by other health insurance. Per Resolution 2008-04, Board officials hired after February 19, 2008 are not eligible for retiree health care.

Duty and Non-Duty Disability Retirement

Township Board Members are not eligible for disability retiree health care benefits.

Duty and Non-Duty Death-in-Service

Township Board Members are not eligible for death-in-service retiree health care benefits.

Medicare Eligibility

Coverage supplements Medicare once retiree is eligible for Medicare. Retiree is required to enroll in Medicare Part A and Part B, when eligible. Retiree is required to pay Medicare B premiums.

Spouse and Dependent Coverage

Township Board members are not eligible for spouse and dependent retiree health care benefits.

Employee/Retiree Contributions

Active employees receiving active health care insurance contribute \$150.00 per month (\$1,800/year) for family; \$100.00/per month (\$1,200/year) for two-person; and \$50.00/per month (\$600/year) for one-person. Health Insurance for employees that retire after December 31, 2011 will change to match that of the active employees.

Employees who retire after December 31, 2011 will contribute toward retiree healthcare at the rates of the active employees stated above on a monthly basis.



Township Board Employees and Certain Elected Officials

Summary of Benefits as of December 31, 2021

Medical Coverage

The Township offers the following health care coverage plans:

- Blue Cross Blue Shield Flex Blue PPO
- Medicare PLUS Blue Group PPO

The Township offers a Health Reimbursement Account for each retiree with funds available to cover In-Network Deductibles, Rx co-pays and other related health care expenses. For pre-65 retirees covered under the Blue Cross Blue Shield Flex Blue PPO plan, funding for the HRA is \$3,250 with a Rx copay post deductible amount of \$1,000 for One-Person coverage and \$6,450 with a Rx copay post deductible amount of \$2,000 for Two-Person & Family coverage. Post-65 retirees covered under the Medicare PLUS Blue are funded at \$2,000 for One-Person coverage and \$4,000 for Two-Person & Family coverage.

Dental Coverage

Members retiring with retiree health care benefits are eligible for Township paid dental benefits.

Vision Coverage

Members retiring with retiree health care benefits are eligible for Township paid vision benefits.

Life Insurance

Full-time Board members who meet the retirement guidelines shall receive Life Insurance in the amount of \$5,000 without accidental death and dismemberment, as all other full-time employees.

Employees retired after October 1, 2018 shall be provided life insurance in the amount of \$15,000 without accidental death and dismemberment for the life of the retiree.

This is a brief summary of the Charter Township of Ypsilanti General Employees Other Postemployment Benefits Plan provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.



Statement of Market Value of Assets As of December 31, 2021

	<u>2020</u>	<u>2021</u>
Additions		
Contributions		
Employer	\$ 644,897	\$ 515,006
Additional Employer Contributions	0	4,950
Total Contributions	<u>\$ 644,897</u>	<u>\$ 519,956</u>
Investment Income		
Net Appreciation in Fair Value of Investments	\$ 0	\$ 0
Interest and Dividends	1,080,979	1,278,318
Less Investment Expense	0	0
Net Investment Income	<u>\$ 1,080,979</u>	<u>\$ 1,278,318</u>
Other	<u>\$ 0</u>	<u>\$ 0</u>
Total Additions	<u>\$ 1,725,876</u>	<u>\$ 1,798,274</u>
Deductions		
Benefit Payments	\$ 482,687	\$ 556,171
OPEB Plan Administrative Expense	14,317	17,789
Total Deductions	<u>\$ 497,004</u>	<u>\$ 573,960</u>
Net Increase in Net Position	\$ 1,228,872	\$ 1,224,314
Net Position Restricted for OPEB		
Beginning of Year	<u>\$ 7,580,110</u>	<u>\$ 8,808,982</u>
End of Year	<u>\$ 8,808,982</u>	<u>\$ 10,033,296</u>

Charter Township of Ypsilanti – Total Active Members as of December 31, 2021 by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34		2						2	\$ 92,454
40-44					2			2	120,047
45-49		1	1	1	2	1		6	413,228
50-54		1	2		3	1		7	420,359
50-55		1			1	3	1	6	395,755
60-64			1	2			2	5	402,855
65 & Over		1						1	46,467
Totals		6	4	3	8	5	3	29	\$ 1,891,165

Age: 51.5 years

Service: 39.0 years

Annual Pay: \$65,213

In addition, there were 72 members eligible for life insurance benefits.

Active Members as of December 31, 2021 by Fund Group

OPEB Group Fund	General Township / Board 101-102	Court 14-B 101-136	General Township 226	General Township 230	General Township 249	General Township 266	General Township 584	General Township TOTAL
Number	15	7	2		4		1	29
Valuation Payroll	1,016,106	396,195	151,987		240,537		86,340	\$ 1,891,165



Retired Members as of December 31, 2021 by Attained Age

Retirees Receiving Health Care Coverage*

Attained Age	Number of Retirees		
	Male	Female	Total
Under 60	0	0	0
60-64	2	4	6
65 & Over	16	21	37
Totals	18	25	43

** Includes 1 member receiving vision and dental coverage only.*

Retirees Receiving Payment-In-Lieu

Attained Age	Number of Retirees		
	Male	Female	Total
Under 60	0	0	0
60-64	1	2	3
65 & Over	1	2	3
Totals	2	4	6

Deferred Members as of December 31, 2021 by Attained Age

Attained Age	Number of Deferreds		
	Male	Female	Total
Under 55	0	0	0
55-59	1	4	5
Over 60	1	1	2
Totals	2	5	7

Retired & Deferred Members as of December 31, 2021 by Rate Group and Coverage Type

	General Township / Board 101-102	Court 14-B 101-136	General Township 226	General Township 230	General Township 249	General Township 266	General Township 584	General Township TOTAL
Pre-65								
1-Person	3							3
2-Person				1				1
Family	1					1		2
Post-65*								
1-Person	12	2			1			15
2-Person	17			1	1			19
Family	2	1						3
Deferred								
Total	4	3						7
Payment-in-Lieu								
Total	2		1			3		6
Grand Total	41	6	1	2	2	4	0	56

* Includes 1 member receiving vision and dental coverage only.

SECTION D

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Valuation Methods

Actuarial Cost Method. Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- (ii) Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

Actuarial gains (losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Asset Valuation Method. Reported Market Value of Assets are used without smoothing. Assets for the Township divisions are allocated in proportion to actuarial accrued liability on the valuation date.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded Actuarial Accrued Liabilities (UAAL) were amortized by a level (principal and interest combined) dollar contribution. The UAAL were determined using the market value of assets and actuarial accrued liability calculated as of the valuation date. The UAAL amortization payment is the level dollar amount required to fully amortize the UAAL over a closed 22-year period beginning with the Fiscal Year Ending December 31, 2023. This UAAL payment reflects payments expected to be made between the valuation date and the fiscal year for which the contributions in this report have been calculated.

Amortization Factors. The following amortization factors were used in developing the Actuarially Determined Contribution for the fiscal years shown:

Current Investment Return Assumption – 7.00%

	Fiscal Year Ending December 31,	
	2023	2024
Amortization Period (Years)	22	21
Level Dollar	11.4440	11.2105

Alternate Investment Return Assumption – 6.50%

	Fiscal Year Ending December 31,	
	2023	2024
Amortization Period (Years)	22	21
Level Dollar	11.9062	11.6479

Actuarial Assumptions for the Charter Township of Ypsilanti General Employees OPEB Plan as of December 31, 2021

All assumptions are expectations of future experience, not market measures. The rationale for the rates of merit and longevity salary increase, base wage inflation, rates of mortality, normal retirement rates, rates of separation from active membership, disability rates, and marriage assumption used in this valuation is included in the MERS five-year experience study for the period January 1, 2014 to December 31, 2018, issued February 14, 2020. These assumptions were first used in the June 30, 2021 Funding Valuation. Certain OPEB-specific assumptions are reviewed and adjusted as needed based on plan experience with each valuation.

The rate of investment return was 7.00% a year (6.50% a year for the alternate investment return assumption), compounded annually net after investment expenses.

Rates of price inflation are not specifically used for this valuation. However, a rate of price inflation of 2.50% would be consistent with other assumptions in this report.

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which future contributions will be based.

Percentage Increase in Salary at Sample Years of Service							
Sample Years of Service	Base (Wage Inflation)	Merit and Longevity	Total Percentage Increase in Pay	Sample Years of Service	Base (Wage Inflation)	Merit and Longevity	Total Percentage Increase in Pay
0	3.00 %	6.70 %	9.70 %	21	3.00 %	0.60 %	3.60 %
1	3.00	4.60	7.60	22	3.00	0.50	3.50
2	3.00	3.20	6.20	23	3.00	0.40	3.40
3	3.00	2.70	5.70	24	3.00	0.40	3.40
4	3.00	2.30	5.30	25	3.00	0.40	3.40
5	3.00	1.90	4.90	26	3.00	0.30	3.30
6	3.00	1.70	4.70	27	3.00	0.30	3.30
7	3.00	1.30	4.30	28	3.00	0.30	3.30
8	3.00	1.20	4.20	29	3.00	0.30	3.30
9	3.00	1.20	4.20	30	3.00	0.20	3.20
10	3.00	1.10	4.10	31	3.00	0.20	3.20
11	3.00	1.10	4.10	32	3.00	0.20	3.20
12	3.00	0.90	3.90	33	3.00	0.20	3.20
13	3.00	0.90	3.90	34	3.00	0.20	3.20
14	3.00	0.80	3.80	35	3.00	0.10	3.10
15	3.00	0.70	3.70	36	3.00	0.10	3.10
16	3.00	0.70	3.70	37	3.00	0.10	3.10
17	3.00	0.60	3.60	38	3.00	0.10	3.10
18	3.00	0.60	3.60	39	3.00	0.10	3.10
19	3.00	0.60	3.60	40 and Over	3.00	0.00	3.00
20	3.00	0.60	3.60				



Actuarial Assumptions for the Charter Township of Ypsilanti General Employees OPEB Plan as of December 31, 2021

The rates of mortality used for individual members are based upon the sex-distinct Pub-2010 tables, as published by the Society of Actuaries, and include a margin for future mortality improvements projected using a fully generational improvement scale. The tables used were as follows:

- **Healthy Pre-Retirement Mortality:** Sex-distinct Pub-2010 General Employees table without adjustment. The base year is 2010 and future mortality improvements are assumed each year using scale MP-2019, as published by the Society of Actuaries. Ninety percent (90%) of active member deaths are assumed to be non-duty deaths and 10% of the deaths are assumed to be duty related.
- **Healthy Post-Retirement Mortality:** Sex-distinct Pub-2010 General Healthy Retiree tables scaled by a factor of 106%. The base year is 2010 and future mortality improvements are assumed each year using scale MP-2019, as published by the Society of Actuaries.
- **Disability Retirement Mortality:** Sex-distinct PubNS-2010 Disabled tables without adjustment. The base year is 2010 and future mortality improvements are assumed each year using scale MP-2019, as published by the Society of Actuaries.

Note that the Pub-2010 tables do not include rates at all ages. For purposes of selecting mortality rates that are not otherwise published, we use the corresponding Employee or Healthy Retiree rates as applicable.

The life expectancies and mortality rates projected for employees are shown below for select ages, based on retirements in 2021. Retirements in future years will reflect improvements in life expectancy:

Age	Expected Years of Life Remaining		Mortality Rates	
	Male	Female	Male	Female
20	70.09	72.81	0.04%	0.01%
25	64.80	67.48	0.03	0.01
30	59.52	62.16	0.05	0.02
35	54.29	56.86	0.07	0.03
40	49.10	51.60	0.08	0.04
45	43.94	46.36	0.10	0.06
50	38.80	41.14	0.14	0.08
55	33.73	35.97	0.21	0.13
60	28.76	30.88	0.33	0.20
65	23.94	25.88	0.47	0.29
70	19.21	20.97	0.66	0.44
75	14.58	16.17	0.99	0.73
80	10.05	11.52	1.58	1.24
85	6.93	8.07	7.96	5.91
90	4.83	5.60	13.77	10.98

Actuarial Assumptions for the Charter Township of Ypsilanti General Employees OPEB Plan as of December 31, 2021

The life expectancies and mortality rates projected for non-disabled retirees are shown below for select ages, based on retirements in 2021. Retirements in future years will reflect improvements in life expectancy:

Age	Expected Years of Life Remaining		Mortality Rates	
	Male	Female	Male	Female
20	66.84	70.15	0.04%	0.02%
25	61.47	64.75	0.04	0.01
30	56.11	59.35	0.05	0.02
35	50.79	53.99	0.07	0.03
40	45.52	48.65	0.09	0.04
45	40.27	43.33	0.11	0.06
50	35.06	38.04	0.30	0.23
55	30.18	33.07	0.44	0.32
60	25.49	28.22	0.68	0.43
65	21.02	23.51	0.98	0.63
70	16.79	18.98	1.51	1.01
75	12.88	14.74	2.56	1.81
80	9.44	10.95	4.62	3.33
85	6.64	7.77	8.44	6.27
90	4.60	5.35	14.59	11.64

The life expectancies and mortality rates projected for disabled retirees are shown below for select ages, based on retirements in 2021. Retirements in future years will reflect improvements in life expectancy.

Age	Expected Years of Life Remaining		Mortality Rates	
	Male	Female	Male	Female
20	52.38	56.13	0.44%	0.26%
25	47.56	50.95	0.34	0.20
30	42.71	45.82	0.50	0.35
35	38.21	41.08	0.67	0.55
40	33.97	36.70	0.82	0.74
45	29.91	32.59	1.04	0.98
50	26.07	28.76	1.50	1.42
55	22.62	25.33	2.06	1.82
60	19.53	22.16	2.60	2.08
65	16.66	18.96	3.07	2.18
70	13.86	15.62	3.64	2.58
75	11.10	12.34	4.70	3.63
80	8.54	9.42	6.70	5.62
85	6.35	7.06	10.03	8.89
90	4.60	5.29	15.25	13.06

Actuarial Assumptions for the Charter Township of Ypsilanti General Employees OPEB Plan as of December 31, 2021

Retirement Rates

A schedule of retirement rates is used to measure the probability of eligible members retiring during the next year. Certain retirement service amounts (normal retirement) or age (early reduced pension retirement) may not apply, depending on the benefit age of first eligibility.

Normal Retirement – Unreduced Pension Benefit Service Based Retirement Rates

Sample Years of Service	Percent of Eligible Active Members Retiring within Next Year	Sample Years of Service	Percent of Eligible Active Members Retiring within Next Year
Under 5	15.00 %	23	26.00 %
5	15.00	24	30.00
6	15.00	25	34.00
7	15.00	26	25.00
8	15.00	27	25.00
9	15.00	28	25.00
10	20.00	29	25.00
11	20.00	30	25.00
12	20.00	31	28.00
13	20.00	32	28.00
14	20.00	33	28.00
15	20.00	34	28.00
16	20.00	35	25.00
17	20.00	36	25.00
18	20.00	37	25.00
19	20.00	38	25.00
20	20.00	39	25.00
21	22.00	40 and Over	25.00
22	24.00		

Rates of retirement are set to 100% beginning at age 85.

100% of Township Board members were assumed to retire upon attaining age 55 with 12 or more years of service.



Actuarial Assumptions for the Charter Township of Ypsilanti General Employees OPEB Plan as of December 31, 2021

Rates of separation from active membership are used to estimate the number of employees at each age that are expected to terminate employment before qualifying for retirement benefits. The rates of separation from active membership do not apply to members eligible to retire, and do not include separation on account of death or disability. The assumed rates of separation applied in the current valuation are based on years of service and different rates apply to public safety and all other groups. Sample rates of separation from active employment are shown below:

Sample Years of Service	Percent of Active Members within the Next Year
0	23.40 %
1	19.50
2	15.80
3	12.50
4	10.30
5	8.30
6	7.20
7	6.60
8	6.00
9	5.70
10	5.40
11	5.20
12	4.70
13	4.50
14	4.20
15	4.00
16	3.90
17	3.70
18	3.40
19	3.20
20	3.10
21	3.00
22	2.80
23	2.80
24	2.70
25 and Over	2.60

Actuarial Assumptions for the Charter Township of Ypsilanti General Employees OPEB Plan as of December 31, 2021

Disability Rates

Disability rates are used in the valuation to estimate the incidence of member disability in future years. The assumed rates of disablement at various ages are shown below:

Sample Ages	Percent Becoming Disabled within the Next Year
20	0.02 %
25	0.02
30	0.02
35	0.05
40	0.08
45	0.20
50	0.29
55	0.38
60	0.39
65	0.39

80% of the disabilities are assumed to be non-duty and 20% of the disabilities are assumed to be duty-related. For those plans which have adopted disability provision D-2, for pension benefit purposes, 40% of the disabilities are assumed to be non-duty and 60% are assumed to be duty-related.

Miscellaneous and Technical Assumptions

Administrative Expenses:	No explicit assumption has been made for administrative expenses.
Decrement Operation:	Disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and actual service on the date the decrement is assumed to occur.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed contribution shown in this report.
Marriage Assumption:	80% of males and 80% of females are assumed to be married at time of decrement. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Medicare Coverage:	Assumed to be available for all covered employees on attainment of age 65.
Election Percentage:	It was assumed that 100% of General or Court and 75% of Township Board retirees would choose to receive retiree health care benefits through the Township. Of those assumed to elect coverage, 70% of General or Court retirees and 0% of Township Board retirees are assumed to elect two-person coverage, if eligible. For those that elect two-person coverage, it was assumed that coverage would continue to the spouse upon death of the retiree 50% of the time.
Opt-Out:	General and Court retirees who retire at age 55 with 15 years of service are assumed to opt-out of coverage until age 60 for members hired before January 1, 2010 and until age 62 for members hired on or after January 1, 2010.
Liability Adjustments:	None.
Active Member Data:	Active member service used in the valuation was calculated based on date of hire. Purchased service was reflected where reported. Any active member contributions towards retiree health care are assumed to be non-refundable.

Miscellaneous and Technical Assumptions

- Retirees:** Retirees currently waiving coverage for payments-in-lieu are assumed to continue receiving the same level of payment-in-lieu benefits indefinitely.
- Retirees eligible to receive coverage but not receiving are assumed to begin receiving retiree health care benefits through the Township in five years.
- Health Reimbursement Accounts:** Payments to retiree Health Reimbursement Accounts are reflected in the valuation. For future HRA payments, a flat-dollar \$97.60 per month per life was assumed for General retirees. The amount paid to the HRA for the calendar year 2021 was \$81,509 (including Administrative Fees) for General retirees.
- Health Care Savings Programs:** Contributions toward individual accounts in any Health Care Savings Programs are not reflected in the valuation.
- Access Only:** For certain individuals hired after September 1, 2009, eligible to retire from pension at age 60 with 10 years of service but for retiree health at age 60 with 12 years of service, we assumed they would retire at age 60 and 10 under the valuation. No adjustment was made for access only or delaying retirement due to recent changes.

SECTION E

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions as of December 31, 2021

The Protecting Local Government Retirement and Benefits Act, Public Act 202 of 2017 (PA 202), was put into law effective December 20, 2017. One outcome of the law is the requirement for the local unit of government to provide select reporting disclosures to the State. Section 5(1) of the Act provides the State treasurer with the authority to annually establish uniform actuarial assumptions for purposes of developing the requisite disclosures. Below you will find information which may be used to assist the local unit of government with required reporting.

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions are denoted below. Additional discussion of the PA 202 and uniform assumptions may be found on the State website in the *Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2021 memo dated October 22, 2020*.

Uniform Assumption	PA 202	Valuation Assumption Used	Uniform Assumption Used
Investment Rate of Return Discount Rate	Maximum of 7.00% ⁽¹⁾	7.00%	7.00%
Salary Increase	Minimum of 3.00% or based on experience study within last 5 years	3.00% + Merit and longevity (based on pension experience study issued February 14, 2020)	3.00% + Merit and longevity (based on pension experience study issued February 14, 2020)
Mortality	Version of the Pub-2010 with future mortality improvement projected generationally using Scale MP-2019 or based on experience study within last 5 years	A version of Pub-2010 with Generational mortality improvement using scale MP-2019 (based on pension experience study issued February 14, 2020)	A version of Pub-2010 with Generational mortality improvement using scale MP-2019 (based on pension experience study issued February 14, 2020)
Healthcare Inflation (for Medical and Drug)	Non-Medicare: Initial rate of 7.50% decreasing 0.25% per year to a 4.50% long-term rate Medicare: Initial rate of 5.75% decreasing 0.25% per year to a 4.50% long-term rate	Non-Medicare: Initial rate of 7.50% decreasing to a 3.50% long-term rate Medicare: Initial rate of 6.25% decreasing to a 3.50% long-term rate	Non-Medicare: Initial rate of 7.50% decreasing 0.25% per year to a 4.50% long-term rate Medicare: Initial rate of 5.75% decreasing 0.25% per year to a 4.50% long-term rate
Healthcare Inflation (for Dental & Vision)		3.50% all years	4.50% all years
Amortization of the Unfunded Accrued Actuarial Liability: Period	Maximum Period of 28 Years	22 years for all groups	22 years for all groups
Method	Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar	Level Dollar	Level Dollar
Type	Closed	Closed	Closed

⁽¹⁾ A blended rate calculated using GASB Statement Nos. 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 – 2.20%.

State Reporting as of December 31, 2021

The following information has been prepared to provide some of the information necessary to complete the OPEB reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
19	Actuarial Assumptions¹	
20	Assumed Rate of Investment Return	7.00%
21	Enter discount rate	7.00%
22	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Level Dollar
23	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any ⁴	22
24	Is each division within the system closed to new employees?	Yes
25	Health care inflation assumption for the next year	7.50%/6.25%
26	Health care inflation assumption - Long-Term Trend Rate	3.50%
27	Uniform Assumptions²	
28	Enter retirement pension system's actuarial value of assets using uniform assumptions	\$10,033,296
29	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$10,994,501
30	Funded ratio using uniform assumptions	Auto ³
31	Actuarially Determined Contribution (ADC) using uniform assumptions ⁴	\$ 159,127
32	All systems combined ADC/Governmental fund revenues	Auto ³

¹ Information on lines 20-26 can be found in the Annual Actuarial valuation report for the System as of the most recent valuation date, December 31, 2021.

² Information on lines 28-32 is based on assumptions listed on the prior page as of the most recent valuation date, December 31, 2021, after reflecting uniform assumptions.

³ Automatically calculated by State of Michigan Form 5572.

⁴ For the fiscal year ending December 31, 2023.

APPENDIX

GLOSSARY

Glossary

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuarially Determined Contribution (ADC). The ADC is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The ADC is an amount that is actuarially determined in accordance with the requirements so that, if paid on an ongoing basis, it would be expected to provide sufficient resources to fund both the normal cost for each year and the amortized unfunded liability.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Governmental Accounting Standards Board (GASB). GASB is the private, nonpartisan, nonprofit organization that works to create and improve the rules U.S. state and local governments follow when accounting for their finances and reporting them to the public.

Medical Trend Rate (Health Care Inflation). The increase in the cost of providing health care benefits over time. Trend includes such elements as pure price inflation, changes in utilization, advances in medical technology, and cost shifting.



Glossary (Concluded)

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Net OPEB Obligation (NOO). The NOO is the cumulative difference between the ADC and actual employer contributions with adjustments.

Other Postemployment Employee Benefits (OPEB). OPEB are postemployment benefits other than pensions. OPEB generally takes the form of health insurance and dental, vision, prescription drugs or other health care benefits.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes.

