ISHPEMING CITY COUNCIL SPECIAL MEETING
Wednesday, April 14, 2021

PFM FINANCIAL ADVISORS – DISCUSSION/STUDY SESSION PERTAINING TO 2021 PENSION OBLIGATION BONDS

Kari Blanchet, Managing Director-PFM Financial Advisors and Shawn Wahl, PFM, provide some background on the MERS pension plan and the unfunded liability of approximately $10.5 million. She further reviewed the City's existing outstanding debt which was approximately $12,732,000, and the City's credit rating. State law limits the amount of unfunded pension liability that may be bond funded to the amount sufficient to achieve a 95% funding level based on the latest actuarial valuation. She reviewed changes on pension rate of return assumptions, the impact of estimated annual required contributions and balances at various rates of returns. She summarized the risk of pension bonds and reason municipalities bond for pension liability.

Tom Colis, Miller Canfield Paddock, and Stone P.L.C., reviewed the list of requirements that the City must meet and the process to be followed in order to pursue pension bonds. Bonds would allow for a level payment for the life of the bond.

A motion was made by Councilmember Scanlon, supported by Mayor Bean, and carried unanimously to authorize staff to move forward with the process for pension obligation bonds.

I, Cathy Smith, the duly appointed City Clerk of the City of Ishpeming hereby certify that the foregoing motion was adopted by the City Council of said City at the special meeting held on April 14, 2021, at which meeting a quorum was present.

Cathy Smith

Cathy Smith, City Clerk

pfm

City of Ishpeming

Pension Obligation Bond Analysis and Considerations

April 14, 2021

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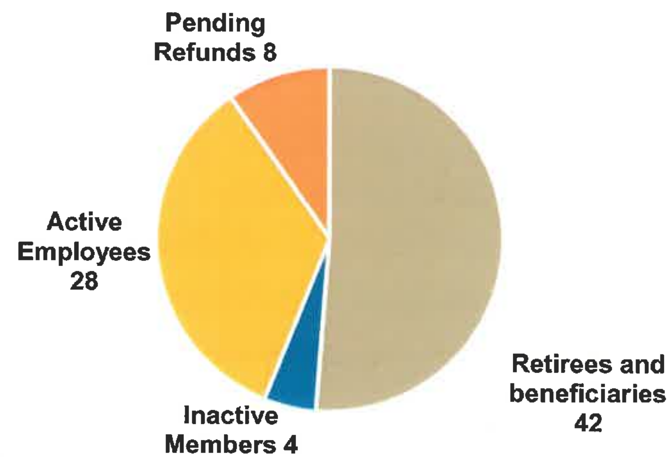
Background Information & Act 34 Requirements

Retirement System Information and Assumptions

- As of the most recent actuarial report dated December 31, 2019, the membership for the defined benefit plan consisted of a total of **82 persons** including:
  - 42 retirees and beneficiaries currently receiving benefits
  - 4 inactive vested members
  - 8 pending refunds; and
  - 28 active employees

City of Ishpeming - Defined Benefit Plan Membership



- The main actuarial assumptions used in determining the actuarial valuation of the City's defined benefit plan as of December 31, 2019 included:
  - Assume rate of **wage inflation** of **3.00%** (reduced from 3.75% previously)
  - **Investment rate of return** of **7.35%** (reduced from 7.75% previously)
  - **5-year smoothing** period of investment gains and losses

  In February 2020 MERS adopted updated demographic assumptions which will be effective with the December 31, 2020 actuarial valuation which will impact the liability and resulting contributions.

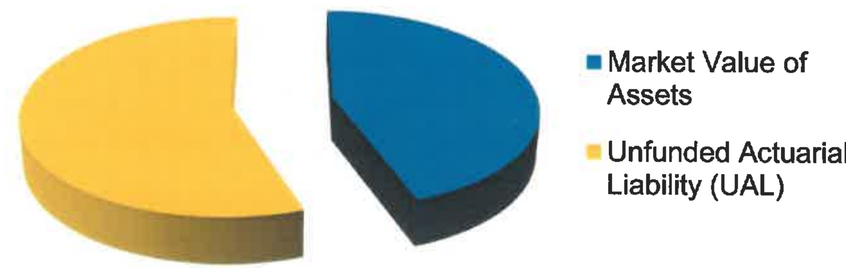
- Future actuarial measurements may differ significantly from the current measurements due to factors such as plan experience differing from that anticipated by the demographic assumptions, changes in economic or demographic assumptions, changes in rate of return assumptions, changes in plan provisions or applicable law.

Retirement System Funding As of 12/31/2019

AAL Breakdown Based on Actuarial Value

Actuarial Value of Assets[1]	
Actuarial Accrued Liability (AAL)	$19,040,138
Actuarial Value of Assets	$8,577,906
Unfunded Actuarial Liability (UAL)	$10,462,232
Funded Ratio	45.05%

AAL Breakdown Based on Market Value



Market Value of Assets[1]	
Actuarial Accrued Liability (AAL)	$19,040,138
Market Value of Assets	$8,466,328
Unfunded Actuarial Liability (UAL)	$10,573,810
Funded Ratio	44.47%

Source: MERS Annual Actuarial Valuation Report, December 31, 2019

[1] Includes the impact of the 2020 Adopted Demographic Assumptions and 7.35% Rate of Return. The market value of assets reflect the market value of assets as of December 31, 2019 (the date of the most recent actuarial report).

Public Act 34 Compliance

The following is a list of the requirements the City of Ishpeming must meet in order to issue Pension Bonds:

Section 518 of Public Act 34 of 2001 Requirements	City of Ishpeming
Confirm closure of the City's defined benefit pension plan	✓
Provide evidence that it has the legal debt capacity to issue the proposed Bonds	✓
Confimation of internal/external review to confirm participant eligibility	N/A
Projected savings to result in net present value savings is at least 15% of the par amount of the Bonds	
City Council approves Comprehensive Financial Plan; publicly posted	
Publish Notice of Intent to issue the Bonds	
City Council approves Bond Authorizing Resolution	
Obtain credit of "A" category or better	
Historical pension funding certifcation; Public Act 202, of 2017 compliance certification	
Apply for and obtain approval from the Michigan Department of Treasury to issue the Bonds	

The City's existing outstanding debt

- As of March 29, 2021 the City has $12,732,000 of debt outstanding, including $8,536,000 of revenue bonds which are exempt from legal debt limitations.
- A list of the City's outstanding bonded debt is provided below as of March 29, 2021

Dated Date	Type / Purpose	Final Maturity	Principal Outstanding
08/02/00	Bldg. Auth.,Series 2000 - Building LTGO	07/01/30	$467,000
09/17/02	Bldg. Auth.,Series 2002 - Building LTGO	09/01/32	51,000
05/25/11	General Capital Improvement LTGO	03/01/30	1,540,000
10/15/15	Bldg. Auth., Series 2015A - LTGO	08/01/45	1,255,000
01/14/16	Bldg. Auth., Series 2016 - LTGO	08/01/45	223,000
07/20/17	Revenue Bonds, Water, Series 2017	06/01/57	8,536,000
10/26/17	2017 General Obligation Unlimited Tax	05/01/29	660,000
TOTAL DIRECT DEBT			$12,732,000

Source: Municipal Advisory Council of Michigan

Impact on the City's Legal Debt Margin

- As of April 14, 2021 the City has $13,939,028 million of capacity to issue additional debt
  - The issuance of pension bonds would use a large portion of the remaining legal debt capacity
  - The issuance of pension bonds would leave a remaining legal debt capacity of approximately $4,059,028
- As the City's valuation increases, and debt is repaid, the legal debt capacity will increase.

LEGAL DEBT MARGIN - As of April 12, 2021	
2020 State Equalized Value (SEV)	$141,419,895
Plus: Equivalent SEV of State Revenue Sharing*	39,930,390
Total Equivalent Valuation	$181,350,285
Legal Debt Limit - 10% of SEV	**$18,135,028**
Total Bonded Debt Outstanding	$12,732,000
Less: Revenue Bonds	(8,536,000)
Net Amount Subject to Legal Debt Limit	**$4,196,000**
LEGAL DEBT MARGIN AVAILABLE	**$13,939,028**
Proposed Amount of Pension Bonds	$9,880,000
Share of Legal Debt Margin Available After Pension Bonds	29.12%
Est. Legal Debt Margin Available After Pension Bonds	$4,059,028

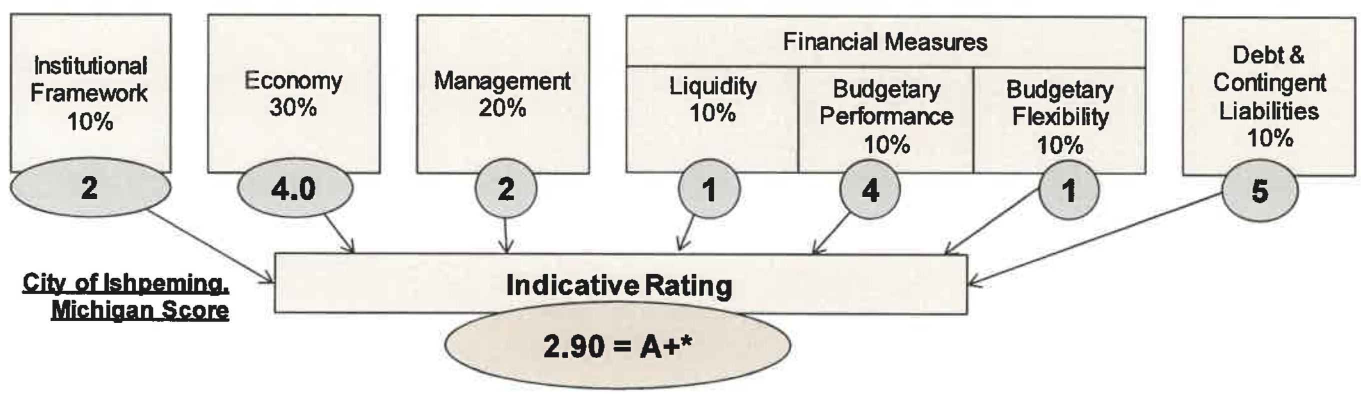
Source: Marquette County Equalization Department & City of Ishpeming; Municipal Advisory Council of Michigan

**As authorized in section 117.49 of the Home Rule City (act 279 of 1909). Represents state shared revenue of $835,779 divided by the total City millage rate of 20.9309 x $1,000*

Credit Rating Scorecard Outcomes

- **S&P currently rates the City's limited tax general obligation bonds as A.** S&P's last rating review of the City was issued in February 2014.
- This initial analysis does not indicate a movement in the quantitative portion of the City's rating by the issuance of the bonds to fund the pension.
- Even when adding the full amount of the debt to the rating agencies debt ratios, PFM's estimation of the quantitative scoring prior to notching or qualitative considerations still comes out a notch higher than the City's existing rating.

S&P's Local Government Rating Calculator



Score Table	Indicative Score	Adjustment	Adjusted Score	Weight
Institutional Framework Score:	2		2	10%
Economic Score:	4.0		4.0	30%
Management Score:	3	-1	2	20%
Budgetary Flexibility Score:	1		1	10%
Budgetary Performance Score	4		4	10%
Liquidity Score:	1		1	10%
Debt and Contingent Liability:	5		5	10%
Weighted Average Score:			2.90	
Rating Cap:				
Indicative Rating:			A+	

* The quantitative score and resulting indicative rating may vary from the actual rating assigned by the rating agency.

Amortization of City's Existing Debt Payments

- The City's existing debt which is subject to the legal debt limitation has relatively short amortization remaining.
- The table shows the principal payments due on the outstanding debt over the remaining life of the respective bonds.
- 33% of the non-exempt bonds will be repaid within 5 years, and 75% within 10 years.
  - $1,386,000 repaid by the end of 2025
  - $3,152,000 repaid by the end of 2030.

Year	Capital Improvement Bonds (LT)	Building Authority Bonds	General Obligation Bonds (UT)	Revenue Bonds	TOTAL
2021	$0	$78,000	$65,000	$154,000	$297,000
2022	145,000	81,000	70,000	157,000	453,000
2023	150,000	85,000	70,000	161,000	466,000
2024	155,000	89,000	70,000	164,000	478,000
2025	160,000	93,000	75,000	168,000	496,000
2026	170,000	96,000	75,000	171,000	512,000
2027	180,000	100,000	75,000	175,000	530,000
2028	190,000	105,000	80,000	179,000	554,000
2029	195,000	110,000	80,000	182,000	567,000
2030	195,000	115,000	0	186,000	496,000
2031	0	58,000	0	190,000	248,000
2032	0	60,000	0	194,000	254,000
2033	0	58,000	0	198,000	256,000
2034	0	60,000	0	203,000	263,000
2035	0	61,000	0	207,000	268,000
2036	0	64,000	0	211,000	275,000
2037	0	66,000	0	216,000	282,000
2038	0	68,000	0	220,000	288,000
2039	0	71,000	0	225,000	296,000
2040	0	74,000	0	230,000	304,000
2041	0	76,000	0	235,000	311,000
2042	0	79,000	0	240,000	319,000
2043	0	82,000	0	245,000	327,000
2044	0	84,000	0	250,000	334,000
2045	0	83,000	0	255,000	338,000
2046	0	0	0	261,000	261,000
2047	0	0	0	266,000	266,000
2048	0	0	0	272,000	272,000
2049	0	0	0	278,000	278,000
2050	0	0	0	284,000	284,000
2051	0	0	0	290,000	290,000
2052	0	0	0	296,000	296,000
2053	0	0	0	302,000	302,000
2054	0	0	0	309,000	309,000
2055	0	0	0	315,000	315,000
2056	0	0	0	322,000	322,000
2057	0	0	0	325,000	325,000
	$1,540,000	$1,996,000	$660,000	$8,536,000	$12,732,000

City of Ishpeming Pension Funding Analysis

UAL Comparison Overview - As of 12/31/2019

- As noted earlier, the computation of the Unfunded Accrued Liability (UAL), using the actuarial value of assets and market value of assets is shown below.

- The unfunded liability using the market value of assets results in a $111,578 higher unfunded value to be financed. That amount will fluctuate as the market value of assets change.

Actuarial Value of Assets[1]	
Actuarial Accrued Liability (AAL)	$19,040,138
Actuarial Value of Assets	$8,577,906
Unfunded Actuarial Liability (UAL)	$10,462,232
Funded Ratio	45.05%

Market Value of Assets[1]	
Actuarial Accrued Liability (AAL)	$19,040,138
Market Value of Assets	$8,466,328
Unfunded Actuarial Liability (UAL)	$10,573,810
Funded Ratio	44.47%

Source: MERS Annual Actuarial Valuation Report, December 31, 2019

[1] 2020 Adopted Demographic Assumptions, 7.35% Rate of Return

Funding Pension at 95% of Actuarial or Market Value – 12/31/2019

- State law limits the amount of unfunded pension liability which may be bond funded to the amount sufficient to achieve a **95% funding level** based on the latest available actuarial valuation.

- Using the actuarial value of assets as of 12/31/2019, the Pension Plan will show a 95% funded status and a 94.41% status using the market value.

- Treasury rules allow the City to use an unfunded liability based on market valuation of assets in determining the bond amount if using the market value of assets within 180 days of closing.
  - If funding the UAL based on the market value of assets, an update on the market value of assets will be required.

	Asset Value	Deposit to Trust from Bond Proceeds	Total Funding After Bonding	Accrued Actuarial Liability	Funding Level
Market Value	$8,466,328	$9,510,225	$17,976,553	$19,040,138	94.41%
Actuarial Value	$8,577,906	$9,510,225	$18,088,131	$19,040,138	95.00%

Source: MERS Annual Actuarial Valuation Report, December 31, 2019

Determination of Bond Amount to Fund Pension

- The maximum bond amount allowed is based on the total of the unfunded actuarial liability and the cost of issuing the bonds.
- The financial analysis included herein include a bond amount based on the Unfunded Actuarial Liability ("UAL") using the market value of assets as highlighted below.

Estimated Bond Amount - 95% Funding			
		Based on UAL Using 12/31/19 Actuarial Value of Assets	Based on UAL Using 12/31/19 Market Value of Assets
(a)	Actuarial Accrued Liability (AAL)	$19,040,138	$19,040,138
(b)	Maximum % Funding Level for Bonding	95.00%	95.00%
(c)	Maximum Funding Level for Bonding in Dollars (a x b)	18,088,131	18,088,131
(d)	Less: Value of Assets*	8,577,906	8,466,328
(e)	Unfunded Liability to be Bonded (c - d)	$9,510,225	$9,621,803
(f)	Plus: Estimated Issuance Cost[1]	254,775	258,000
(g)	Estimated Bond Amount (e + f)	$9,765,000	$9,880,000
(h)	Funding Level After Bonding (d + e / a)	95.00%	95.00%
(i)	Funding Level Before Bonding (d / a)	45.05%	44.47%

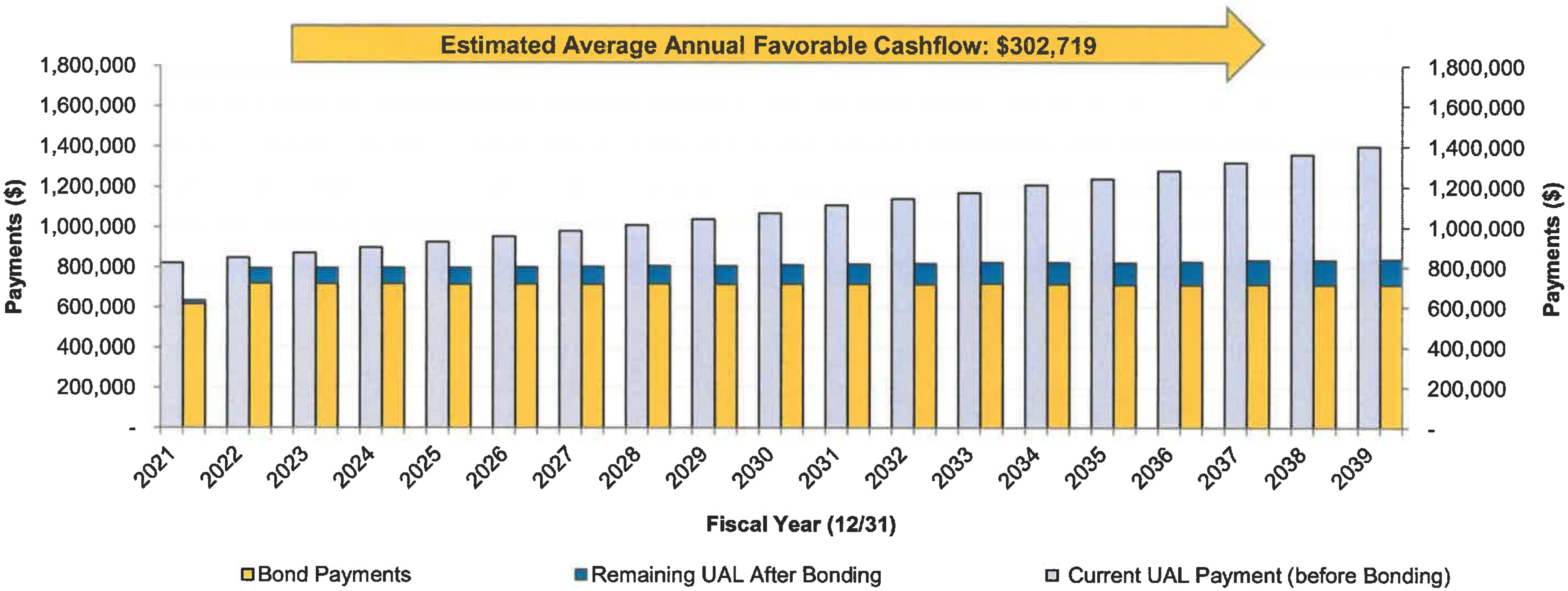
Source*: December 31, 2019 MERS Annual Actuarial Valuation

[1] Includes estimated underwriter's discount; allotment for bond insurance and contingency

Comparison of Pension UAL and Bond Payments – 7.35% Market Returns

- The chart below compares the estimated annual required UAL contributions with and without bond funding to a 95% funding level based on the December 31, 2019 actuarial liability based on a 7.35% rate of return.
- The figures below **DO NOT** include annual normal cost which would not change with or without bond funding a portion of the pension liability.
- Remaining UAL is projected to be $952,007 after bonding assuming a 7.35% rate of return and 12/31/2019 market value of assets

Comparison of Projected UAL Payments to Estimated Bond Debt Service
7.35% Assumed Return



*Assumes that 9/12ths of the City's scheduled 12/31/2021 UAL amortization payment is already paid at the time of bond issuance
*Based on GRS Letter dated March 2, 2021; assumes 2020 adopted demographic assumptions; assumes market value of assets
**Estimate only based on a bond amount of $9,880,000 estimated taxable interest rates as of March 22, 2021; All-in TIC of 3.345%, which includes a .50% interest rate buffer

Comparison of Pension UAL and Bond Payments – 7.35% Market Returns

- The table shows the comparison of the estimated annual payments with and without bonding for the maximum allowable amount, as well as the projected savings based on a 7.35% annual rate of return.
- As the actual rate of returns vary from the 7.35% rate of return, the savings would vary.
- The figures shown do not include annual normal cost payments.

UAL Funded with Bond Proceeds:	$9,621,803
Estimated Bond Amount:	$9,880,000
All-In TIC:	3.345%
NPV Savings as % of Principal:	**37.67%**

Savings Analysis - 7.35% Future Returns							
Year Ending 12/31	WITHOUT BONDING UAL Payment (a)	Estimated Bond Payments (b)	UAL Payments Already Made (c)	Payments Related to $952,007 UAL Remaining After Bonding (d)	Estimated Bond Payments and UAL Payment	Difference	Present Value @ 3.11% (e)
2021	$822,000	$0	$616,500	$18,502	$635,002	$186,998	$185,112
2022	847,000	720,020	--	76,259	796,280	50,720	48,692
2023	872,000	718,092	--	78,510	796,602	75,398	70,197
2024	898,000	717,289	--	80,851	798,140	99,860	90,163
2025	925,000	715,076	--	83,282	798,357	126,643	110,892
2026	953,000	716,117	--	85,803	801,920	151,080	128,295
2027	982,000	715,463	--	88,414	803,876	178,124	146,691
2028	1,010,000	718,245	--	90,935	809,180	200,820	160,387
2029	1,040,000	714,704	--	93,636	808,339	231,661	179,430
2030	1,070,000	715,953	--	96,337	812,290	257,710	193,578
2031	1,110,000	716,270	--	99,938	816,208	293,792	214,015
2032	1,140,000	715,625	--	102,639	818,264	321,736	227,292
2033	1,170,000	718,913	--	105,340	824,254	345,746	236,877
2034	1,210,000	716,102	--	108,942	825,044	384,956	255,775
2035	1,240,000	712,234	--	111,643	823,877	416,123	268,132
2036	1,280,000	712,197	--	115,244	827,441	452,559	282,802
2037	1,320,000	715,269	--	118,845	834,114	485,886	294,458
2038	1,360,000	711,728	--	122,447	834,174	525,826	309,037
2039	1,400,000	712,390	--	126,048	838,438	561,562	320,072
2040	--	--	--	--	--	--	--
	$20,649,000	**$12,881,686**	**$616,500**	**$1,803,615**	**$15,301,801**	**$5,347,199**	**$3,721,896**

Assumptions:

(a) Based on GRS supplemental package dated March 2, 2021, which assume 2020 adopted demographic assumptions
(b) Estimates based on interest rates as of March 22, 2021 plus 0.50% and purchase of municipal bond insurance.
(c) 9 months of UAL payments will be made prior to the bonds being issued.
(d) $9,621,803 payment toward UAL, leaving 9% of UAL payments remaining unfunded.
(e) Represents Arbitrage Yield (including bond insurance cost)

FIGURES DO NOT INCLUDE NORMAL COST WHICH WOULD NOT DIFER WITH OR WITHOUT BONDING.

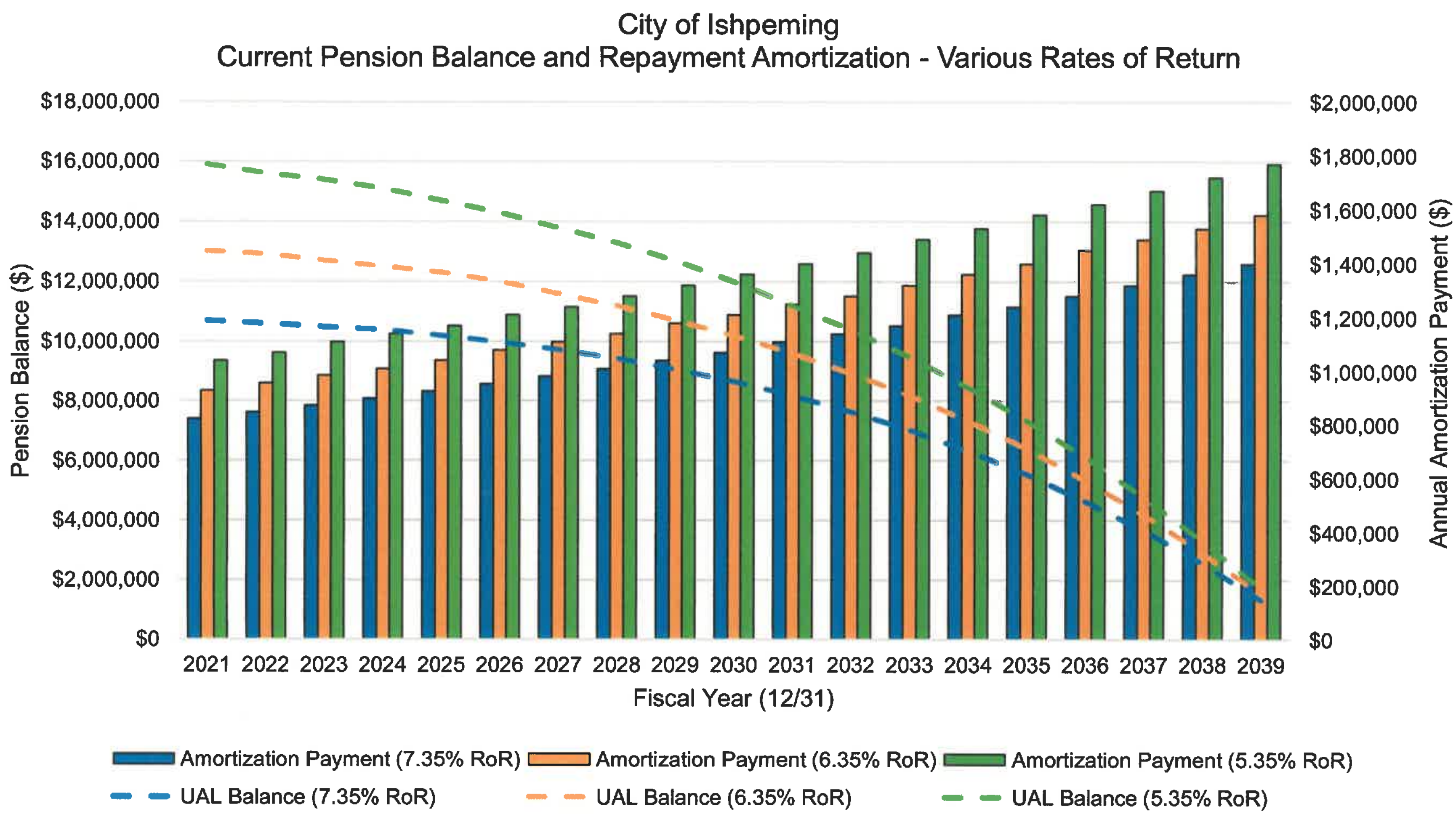
Changes on Pension Rate of Return Assumptions

- The calculation determining the UAL (based on market value) is based upon, among other assumptions, a 7.35% future annual investment rate of return on the market value of assets. If actual investment returns achieved are lower than 7.35% annually, the result would be a higher liability.
- The table below summarizes the City's UAL under different rate of return assumptions as of December 31, 2019.

Assumed Future Annual Smoothed Rate of Investment Return			
12/31/2019 Valuation Results	**7.35%**	**6.35%**	**5.35%**
Accrued Liability	$19,040,138	$ 21,477,906	$23,336,294
Valuation Assets[1]	8,466,328	8,466,328	8,466,328
Unfunded Accrued Liability	**$10,573,810**	**$13,011,578**	**$14,869,966**
Funded Ratio Without Bonding	44%	39%	36%
Adjusted Unfunded Accrued Liability Net of Estimated Bond Proceeds[2]	952,007	3,389,775	5,248,163
Adjusted Funded Ratio Net of Estimated Bond Proceeds[2]	**95%**	**84%**	**78%**

[1]Assumes Market Value of Assets as of 12/31/2019
[2]Assumes application of $9,621,803 of bond proceeds
Source: GRS Letter dated March 2, 2021; assumes 2020 adopted demographic assumptions; assumes market value of assets

Impact of Estimated Annual Required Contributions and Balances at Various Rates of Returns



*Based on GRS Letter dated March 2, 2021; assumes 2020 adopted demographic assumptions; assumes market value of assets

Future Payments for Pension Obligations

- As rate of returns vary from the projected rate of return, the funding level will change, and additional UAL payments may be required.
- The table shows how the estimated annual required contributions would increase if the rate of return assumptions were decreased.

PROJECTED SAVINGS COMPARISONS			
	Rate of Return Assumptions		
	7.35%	6.35%	5.35%
Avg. Savings/Yr:	$302,719	$216,984	$200,452
Est. Savings	$5,347,199	$3,832,783	$3,540,770
NPV Savings	$3,721,896	$2,611,220	$2,397,228
NPV Savings %	**37.67%**	**26.43%**	**24.26%**

		7.35% Future Returns		6.35% Future Returns		5.35% Future Returns	
		$952,007 UAL Not Covered by Bonding		$3,389,775 UAL Not Covered by Bonding		$5,248,163 UAL Not Covered by Bonding	
Year Ending 12/31	Bond Payments to Cover 95% Current UAL[1]	Estimated Additional Required Contribution[2]	Total Payment	Estimated Additional Required Contribution[2]	Total Payment	Estimated Additional Required Contribution[2]	Total Payment
2021	–	$635,002	**$635,002**	$756,441	**$756,441**	$871,764	**$871,764**
2022	$720,020	76,259	**796,280**	249,057	**969,077**	377,643	**1,097,663**
2023	718,092	78,510	**796,602**	256,612	**974,704**	391,760	**1,109,852**
2024	717,289	80,851	**798,140**	263,125	**980,414**	402,348	**1,119,637**
2025	715,076	83,282	**798,357**	270,941	**986,016**	412,936	**1,128,012**
2026	716,117	85,803	**801,920**	281,361	**997,478**	427,054	**1,143,171**
2027	715,463	88,414	**803,876**	289,177	**1,004,640**	437,642	**1,153,105**
2028	718,245	90,935	**809,180**	296,993	**1,015,238**	451,760	**1,170,005**
2029	714,704	93,636	**808,339**	307,413	**1,022,117**	465,877	**1,180,581**
2030	715,953	96,337	**812,290**	315,229	**1,031,182**	479,994	**1,195,947**
2031	716,270	99,938	**816,208**	325,650	**1,041,920**	494,112	**1,210,382**
2032	715,625	102,639	**818,264**	333,465	**1,049,090**	508,229	**1,223,854**
2033	718,913	105,340	**824,254**	343,886	**1,062,800**	525,876	**1,244,790**
2034	716,102	108,942	**825,044**	354,307	**1,070,409**	539,994	**1,256,096**
2035	712,234	111,643	**823,877**	364,728	**1,076,962**	557,641	**1,269,875**
2036	712,197	115,244	**827,441**	377,754	**1,089,951**	571,758	**1,283,955**
2037	715,269	118,845	**834,114**	388,175	**1,103,443**	589,405	**1,304,673**
2038	711,728	122,447	**834,174**	398,595	**1,110,323**	607,052	**1,318,779**
2039	712,390	126,048	**838,438**	411,621	**1,124,011**	624,699	**1,337,089**
	$12,881,686	**$2,420,115**	**$15,301,801**	**$6,584,531**	**$19,466,217**	**$9,737,544**	**$22,619,230**

[1]Assumes Actuarial Liability of $19,040,138 and 12/31/2019 market value of assets
[2]Assumes that 9/12ths of the City's scheduled 12/31/2021 UAL amortization payment is already paid at the time of bond issuance
*6.35% Future Returns assume an estimated 12/31/2019 UAL of $21,447,906
*Total Payments include projected bond payments and payments related to remaining UAL after bonding
*Based on GRS Letter dated March 2, 2021; assumes 2020 adopted demographic assumptions; assumes market value of assets
**Estimate only based on estimated taxable interest rates as of March 22, 2021. Includes a 0.50% interest rate buffer

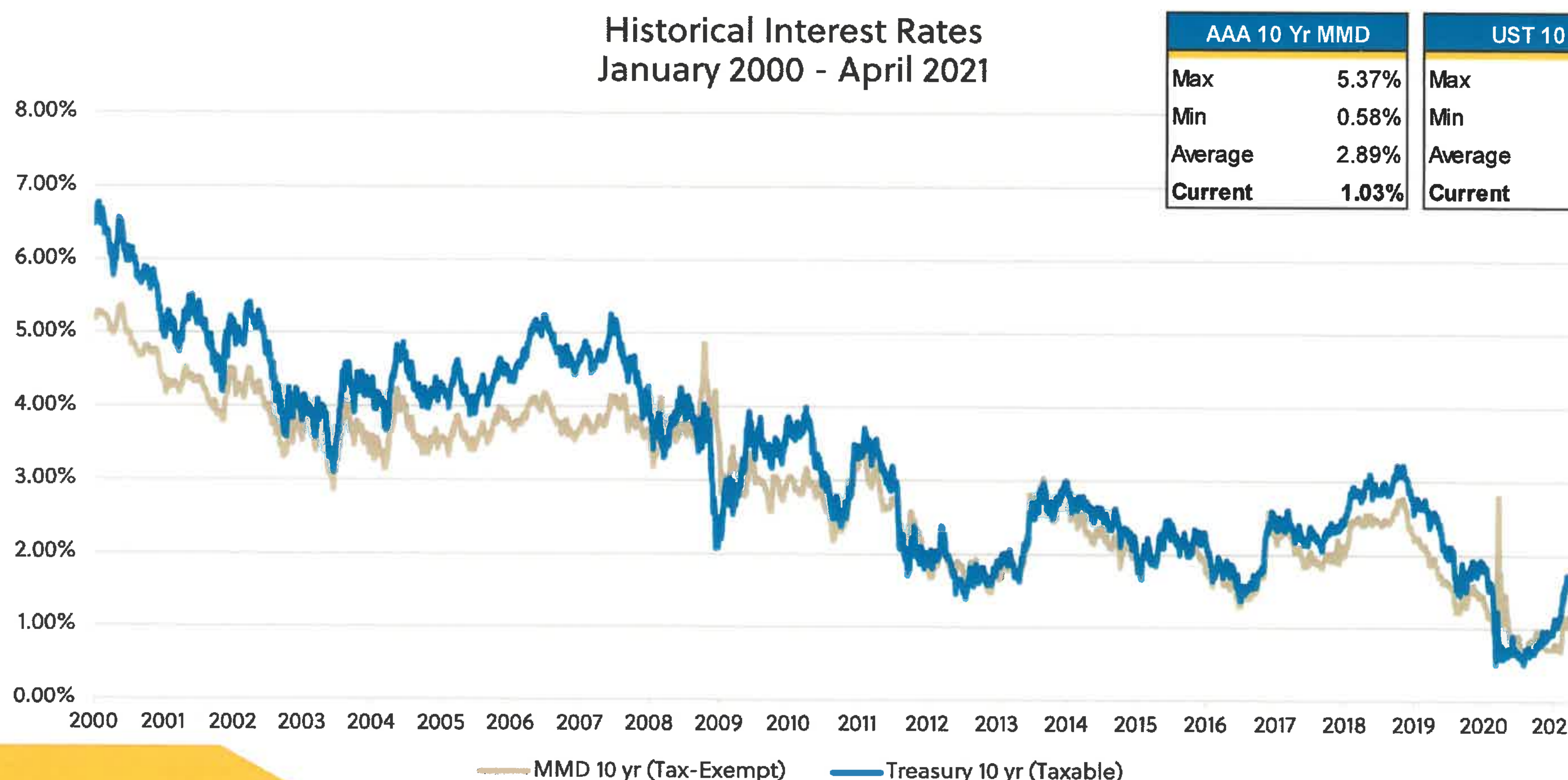
Pension Bond Considerations & Bond Issuance Process

Historic Taxable and Tax-exempt Interest Rates

- Interest rates have remained low by historical standards
- While most municipal bonds are issued as tax-exempt debt; bonds to fund pension obligations are required to be issued issued as federally taxable obligations, which interest rates are set at a spread over the US Government Securities.
- The chart below shows a 20-year history of tax-exempt and taxable interest rate indices.

AAA 10 Yr MMD	
Max	5.37%
Min	0.58%
Average	2.89%
Current	**1.03%**

UST 10 Yr.	
Max	6.78%
Min	0.51%
Average	3.28%
Current	**1.68%**



Source: Refinitiv TM3 as of April 13, 2021

Risks of Pension Bonds

- **Bonds are a Hard Cost**
  - Issuing Pension Obligation Bonds creates a mandatory payment schedule for the City to repay the bonds. This eliminates flexibility for the City to temporarily delay contributions, if necessary
- **Uses Debt Capacity which could be applied to other projects**
  - Issuing bonds to fund pension liabilities will materially impact the City's ability to finance other capital projects in the near future
- **Does not eliminate the possibility of a UAL payment in the future if investment earnings do not meet projections assumed in the actuarial report and/or other assumptions are changed in the future**
  - This would be the case regardless of whether the City issues bonds to fund pension liabilities
- **Actual returns may fail to exceed the cost of the debt service**
  - The size of the bonds should reflect a manageable debt service in case that investment returns do not achieve projections

Reasons Municipalities Bond/Pension for Pension Liability

- Interest cost savings – taking advantage of relatively low fixed interest rate on bonds.
  - Produce positive “arbitrage” – earning more on bond proceeds than paying on the bonds.
- Leverage to assist in negotiations with labor agreements
- Create budget relief
  - Structure payments to fit the unit’s budget requirements
  - Wrap payments around existing debt obligations
- **Every community should carefully consider the benefits and risks associated with issuing pension bonds.**

General Pension Financing Steps

1. City to analyze the benefits of issuing pension bonds
2. Prepare Comprehensive Financial Plan
3. City Council reviews and approves Comprehensive Financial Plan; posts on website
4. City adopts notice of intent resolution and publishes notice of intent in local paper
5. 45 day right of referendum period expires
6. City approves bond authorizing resolution
7. File application and Comprehensive Financial Plan with the State Department of Treasury
8. Prepare Preliminary Official Statement
9. Obtain credit rating (must be in the A category)
10. Meet with Michigan Department of Treasury
11. Department of Treasury approves issuing bonds
12. Preliminary Official Statement Published
13. Bonds are sold / awarded
14. Numbers and documents are finalized
15. Bonds closed – funds are received – proceeds invested

If you have any questions or need additional information,
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Disclaimer

- The success of Pension bonds depends upon future market returns. PFM cannot predict nor guarantee future returns. In addition, PFM cannot ensure that future liabilities will not occur.

- The actuarial calculations upon which this analysis are based are estimates derived from available data and assumptions about the future and can be affected by: changes in economic or demographic assumptions, future lower than anticipated market returns, and changes in plan provisions or applicable law.

Definitions

- **Present Value of Future Benefits**
  - The Total value of accrued liabilities and the value of future benefit accruals
- **Accrued Actuarial Liability (AAL)**
  - The total pension liability accrued to date
- **Unfunded Accrued Liability (UAL)**
  - The portion of the pension liability that is not funded
- **Normal Cost**
  - The cost of future benefits earned by employees in the current year
- **Annual Required Contribution (ARC)**
  - Amortized UAL plus the normal cost
- **Asset Smoothing**
  - This spreads out each year's investment gains or losses over the prior year and the following four years

Michigan Pension / OPEB Bond Issuances as of March 2021

Date Sold	Issuer / Issue	Ratings S&P/Moody's	Sale Type	Amount	Average Life	Final Maturity
09/13/2013	Oakland Co. OPEB - Ser A	AAA/Aaa	Placement	$316,000,000	7.44 yrs	2026
09/13/2013	Oakland Co. OPEB - Ser B	AAA/Aaa	Placement	34,000,000	13.51 yrs	2027
10/29/2013	Bloomfield Twp POB	AAA/Aaa	Public	80,780,000	10.35 yrs	2032
11/19/2013	Farmington City OPEB	AA	Public	7,910,000	14.25 yrs	2033
12/16/2013	West Bloomfield Twp POB	AA+	Public	9,235,000	11.17 yrs	2033
12/16/2013	West Bloomfield Twp OPEB	AA+	Public	22,005,000	11.17 yrs	2033
01/30/2014	Saginaw County POB	Aa3	Public	52,005,000	7.91 yrs	2028
12/01/2014	Charter Township of Shelby POB	AA+	Public	9,300,000	7.21 yrs	2027
12/16/2014	County of Allegan POB	AA	Public	15,060,000	10.98 yrs	2032
12/18/2014	County of Ottawa POB	Aaa	Public	29,285,000	8.29 yrs	2028
12/19/2014	City of Bloomfield Hills POB	AAA	Public	15,860,000	11.99 yrs	2033
01/22/2015	City of Kalamazoo OPEB	AA-	Public	90,955,000	20.48 yrs	2044
03/31/2015	County of Macomb OPEB	AA+/Aa1	Public	263,555,000	11.69 yrs	2035
12/08/2015	City of Holland POB	AA	Public	25,000,000	5.68 yrs	2025
06/14/2016	City of Monroe OPEB	AA-	Public	35,505,000	12.44 yrs	2038
09/22/2016	City of Grand Blanc POB	AA	Public	5,760,000	11.09 yrs	2035
02/01/2017	City of Royal Oak OPEB	AA+	Public	106,040,000	12.59 yrs	2037
02/01/2017	City of Royal Oak POB	AA+	Public	20,570,000	12.59 yrs	2037
02/22/2017	County of Gratiot POB	AA	Public	6,730,000	5.62 yrs	2026
03/16/2017	County of Tuscola POB	AA-	Public	2,475,000	10.23 yrs	2034
11/30/2017	County of Jackson POB	Aa2	Public	67,445,000	14.78 yrs	2042
01/18/2018	City of Holland POB	AA	Public	19,890,000	12.71 yrs	2039
05/31/2018	City of Clawson POB	AA-	Public	14,340,000	8.91 yrs	2032
07/19/2018	Wixom City POB	AA	Public	15,430,000	11.59 yrs	2037
07/19/2018	Wixom City OPEB	AA	Public	6,445,000	10.27 yrs	2036
09/15/2018	Dearborn City - POB	Aa3	Public	20,000,000	9.61 yrs	2035
11/01/2018	Calhoun County POB	AA	Public	8,180,000	12.38 yrs	2039
12/05/2018	Iron County POB	AA-	Public	6,000,000	12.94 yrs	2040
12/10/2018	Muskegon County POB	AA	Public	43,150,000	12.36 yrs	2038
12/11/2018	Dearborn City - OPEB	Aa3	Public	35,000,000	10.77 yrs	2037
12/12/2018	Calhoun County POB	AA	Public	8,400,000	12.27 yrs	2039
12/12/2018	County of Sanilac POB	AA-	Public	10,790,000	8.9 yrs	2033
08/29/2019	Rogers City POB	AA-	Public	5,845,000	12.86 yrs	2040
02/16/2021	City of Vassar POB	A	Public	3,290,000	4.83 yrs	2029
12/09/2020	City of Rochester POB	AAA	Public	8,050,000	7.44 yrs	2034
02/03/2021	City of Westland POB	AA/A+	Public	82,470,000	14.32 yrs	2046
02/09/2021	Muskegon Township POB	AA/A+	Public	8,895,000	11.82 yrs	2042

Source: State of Michigan Department of Treasury, internal records, Municipal Advisory Council