Maryland Transit Administration Pension Plan

Actuarial Valuation as of July 1, 2022

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October 7, 2022

Maryland Transit Administration Pension Plan
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The results of the July 1, 2022 annual actuarial valuation of the Maryland Transit Administration Pension Plan ("MTA") are presented in this report. This report was prepared at the request of the Board and is intended for use by the Plan and those designated or approved by the Board. This report may be provided to parties other than the Plan only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

This report assumes a 3.00% COLA payable on August 1st of 2022, 2023, 2024 and 2025. We understand that these are subject to bargaining and inflation. This report also assumes an investment return rate of 6.80% (down from 7.40%) and a wage inflation rate of 2.75% (down from 3.10%). Reflecting these changes increased the Actuarial Accrued Liability (AAL) and Actuarially Determined Employer Contribution (ADEC).

The purposes of the valuation are to measure the Plan's funding progress and to determine the ADEC for this fiscal year. The results of the valuation may not be applicable for other purposes. Information required by the Governmental Accounting Standard Board (GASB) Statement Nos. 67 and No. 68 will be provided in a separate report.

The valuation was based upon information, furnished by the MTA staff, concerning Pension Plan benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for internal and year-to-year consistency, but was not audited. We are not responsible for the accuracy or completeness of the data provided.

Actuarial valuations are based upon assumptions regarding future activity in specific risk areas including the rates of investment return and payroll growth, eligibility for the various classes of benefits, and longevity among retired lives. The Board adopts these assumptions after considering the advice of the actuary and other professionals.

This valuation assumes the continuing ability of the employer to make the contributions necessary to fund this system. A determination regarding whether or not the employer is actually able to do so is outside our scope of expertise. Consequently, we did not perform such an analysis.

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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.

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. We did not perform an analysis of the potential range of such future measurements in this actuarial valuation report.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. We certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice as promulgated by the Actuarial Standards Board.

This report should not be relied on for any purpose other than the purposes previously described. Determinations of the financial values associated with benefits described in this report for a purpose other than the intended purpose may produce results that differ significantly from those presented in this report.

The signing actuaries are independent of the plan sponsor.

Brad Lee Armstrong and Jamal Adora 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.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

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SECTION A

EXECUTIVE SUMMARY

Executive Summary

Valuation Date:	July 1, 2022	July 1, 2021
Fiscal Year Ending:	June 30, 2023	June 30, 2022
Actuarially Determined Employer Contributions:		
Annual Amount	$ 55,926,030	$ 53,638,723
Percentage of Covered Employee Payroll	34.29 %	32.60 %
Membership		
Number of:		
Active Members	2,496	2,532
Service Retirees, Beneficiaries and QDRO's	1,633	1,600
Disability Retirees	446	433
Inactive, Nonretired Members	559	525
Total	5,134	5,090
Covered Employee Payroll	$ 163,102,050	$ 164,552,701
Assets		
Market Value	$ 460,242,161	$ 447,377,971
Actuarial Value	$ 476,185,833	$ 418,741,764
Return on Market Value	(3.28)%	25.84 %
Return on Actuarial Value	6.81 %	9.27 %
Ratio – Actuarial Value to Market Value	103.46 %	93.60 %
Actuarial Information		
Employer Normal Cost $	$ 7,047,512	$ 6,265,323
Actuarial Accrued Liability (AAL)	$ 926,166,788	$ 844,099,366
Unfunded Actuarial Accrued Liability (UAAL)	$ 449,980,955	$ 425,357,602
Funded Ratio	51.41 %	49.61 %
UAAL as % of Covered Employee Payroll	275.89 %	258.49 %
Equivalent Single Amortization Period	14 years	14 years

This report also uses an investment return rate of 6.80% (down from 7.40%).

SECTION B

VALUATION RESULTS

Principal Valuation Results
as of July 1

Valuation Date:		July 1, 2022		July 1, 2021
A. Number of Participants				
Active Members		2,496		2,532
Participants Receiving a Benefit		2,079		2,033
Terminated Vested Participants		559		525
Total		5,134		5,090
Covered Employee Payroll	$	163,102,050	$	164,552,701

Development of the Contribution for Fiscal Year Ending:		June 30, 2023		June 30, 2022
Assumed Payment Date:		September 1, 2022		September 1, 2021
B. Normal Cost				
Total	$	13,593,566	$	12,882,674
Member		6,622,905		6,691,456
Employer	$	6,970,661	$	6,191,218
Interest to Assumed Payment Date		76,851		74,105
Employer Total	$	7,047,512	$	6,265,323
C. Unfunded Actuarial Accrued Liabilities (UAAL)				
Actuarial Accrued Liability	$	926,166,788	$	844,099,366
Actuarial Value of Assets		476,185,833		418,741,764
UAAL	$	449,980,955	$	425,357,602
Payment Required to Amortize the UAAL	$	48,878,518	$	47,373,400
D. Actuarially Determined Employer Contribution	$	55,926,030	$	53,638,723

Actuarial Liabilities
as of July 1, 2022

Actuarial Present Value of	Total Present Value	Portion Covered by Future Normal Cost Contributions	Actuarial Accrued Liabilities (1) – (2)
Age and service allowances based on total service likely to be rendered by present active members	$ 443,770,057	$ 71,375,394	$ 372,394,663
Disability benefits likely to be paid to present active members	71,021,895	19,329,886	51,692,009
Death-in-service benefits likely to be paid on behalf of present active members	11,761,416	1,847,361	9,914,055
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active members	12,662,872	9,437,644	3,225,228
Benefits likely to be paid to vested inactive members	30,376,154	0	30,376,154
Benefits to be paid to current retirees, beneficiaries, and future beneficiaries of current retirees	458,564,679	0	458,564,679
Total	$ 1,028,157,073	$ 101,990,285	$ 926,166,788
Actuarial Value of Assets	$ 476,185,833	$ 0	$ 476,185,833
Unfunded Liabilities (to be covered by future contributions)	$ 551,971,240	$ 101,990,285	$ 449,980,955

Unfunded Actuarial Accrued Liability
Amortization Bases

		Amortization Period		Unfunded Actuarial Accrued Liability (UAAL)		September 1, 2022 Amortization
Date	Source	Initial	Remaining	Initial Amount	Current Amount	Payment
7/1/2019	Initial	25	22	$ 391,292,358	$ 372,484,309	$ 31,351,487
7/1/2019	Plan Amendment (COLA Award)	3	0	29,831,247	0	0
7/1/2019	Assumption Change	20	17	208,201	192,536	18,411
7/1/2019	Plan Amendment	12	9	261,181	215,193	31,002
7/1/2019	Experience Loss	20	17	28,448,294	26,308,068	2,515,635
7/1/2020	Assumption Change (lowering DR to 7.40%)	20	18	4,675,175	4,448,792	412,649
7/1/2020	Plan Amendment (COLA Award)	3	1	1,059,019	378,485	382,658
7/1/2020	Plan Amendment (EE Cont Inc)	12	10	49,174	43,606	5,823
7/1/2020	Experience Loss	20	18	34,212,140	32,555,501	3,019,692
7/1/2021	Experience Gain	20	19	(30,788,502)	(30,069,670)	(2,712,957)
7/1/2022	Assumption Change (lowering DR to 6.80%)	20	20	35,683,650	35,683,650	3,139,200
7/1/2022	Plan Amendment (COLA Award)	4	4	52,742,435	52,742,435	14,673,877
7/1/2022	Experience Gain	20	20	(45,001,950)	(45,001,950)	(3,958,959)
					$ 449,980,955	$ 48,878,518

Unfunded Actuarial Accrued Liability
Amortization Schedule

Year		Expected UAAL
2022	$	449,980,955
2023		428,946,667
2024		406,886,256
2025		383,325,738
2026		358,163,105
2031		293,021,100
2036		202,721,571
2041		86,420,530
2043		31,009,607
2044		0

The Expected Unfunded Actuarial Accrued Liability (UAAL) on this page assumes that future experience will match assumed experience. It does not consider any experience gains/losses, benefit changes, or assumption/method changes.

Actuarial Balance Sheet
as of July 1

Assets and Present Value of Expected Future Contributons				
Valuation Date:		**2022**		**2021**
A. Present Actuarial Value of Assets				
1. Net Assets from System Financial Statements	$	460,242,161	$	447,377,971
2. Adjustment for Valuation Assets		15,943,672		(28,636,207)
3. Actuarial Value of Assets		476,185,833		418,741,764
B. Actuarial Present Value of Expected Future Employer Contributions				
1. For Normal Costs		40,299,339		32,040,258
2. For Unfunded Actuarial Accrued Liability		449,980,955		425,357,602
3. Total		490,280,294		457,397,860
C. Actuarial Present Value of Expected Future Member Contributions		61,690,946		61,340,817
D. Total Present and Expected Future Resources	$	1,028,157,073	$	937,480,441

Present Value of Expected Future Benefit Payments				
A. To Retirees and Beneficiaries	$	458,564,679	$	388,456,763
B. To Vested Terminated Members		30,376,154		22,699,842
C. To Present Active Members				
1. Allocated to Service Rendered Prior to Valuation Date – Actuarial Accrued Liability		437,225,955		432,942,761
2. Allocated to Service Likely to be Rendered After Valuation Date		101,990,285		93,381,075
3. Total		539,216,240		526,323,836
D. Total Actuarial Present Value of Expected Future Benefit Payments	$	1,028,157,073	$	937,480,441

Experience Gain/(Loss)
as of July 1

Plan Year Ending	2022
A. Derivation of Experience Gain/(Loss)	
1. Unfunded Actuarial Accrued Liability (UAAL)	
Previous Valuation	$425,357,602
2. Normal Cost (NC) at July 1	12,882,674
3. Expected Contributions	(60,410,272)
4. Interest Accrual	28,726,817
5. Expected UAAL before Changes: 1. + 2. + 3. + 4.	406,556,821
6. Change in Benefit Provisions	52,742,435
7. Change in Methods and Assumptions	35,683,650
8. Expected UAAL After Changes: 5. + 6. + 7.	494,982,906
9. Actual UAAL Current Year	449,980,955
10. Experience Gain/(Loss): (8) – (9)	45,001,951
B. Gain/(Loss) by Source	
1. Gain/(Loss) due to Actual vs. Expected Contribution	15,778,915
2. Gain/(Loss) due to Actual vs. Expected Rate of Return on Assets	(4,257,130)
3. Gain/(Loss) due to Demographic Experience	33,480,166
	45,001,951
C. Gain/(Loss) as a % of Beginning of Year Actuarial Liability	3.46%

Gain\(Loss) History

Plan Year Ending July 1	Experience Gain\(Loss) as % of Beginning Accrued Liability
2020	(4.34)%
2021	3.09%
2022	3.46%

Comments, Recommendations and Conclusion

Experience

Overall there was an actuarial gain of $45.0 million during the year ended June 30, 2022 (see page 7). On a market value basis, investments returned less than the beginning of year assumption of 7.40% (see page 16); the result of this and the phase-ins of prior investment gains and losses yielded an asset loss on a funding value basis of $4.3 million.

Liability gains due to demographic experience totaled $33.5 million. This is primarily a result of lower than assumed salary increases as well as lower than expected liabilities for new retirees.

There was also a $15.8 million employer/employee contribution gain.

Funded Status

The funded status for the Plan as a whole is 51.4%, based on the Actuarial Value of Assets. On the basis of the Market Value of Assets, the funded status is 49.7%. This indicates that deferred asset losses will slow down the funded status progress toward 100% as they become recognized (absent future gains) in 3 of the next 4 years, 2023, 2024, and 2026.

Amortization Schedule

Effective July 1, 2019, all existing amortization bases were consolidated to be paid over 25 years. Gains and losses due to experience and assumption changes will be amortized over 20 years. The remaining amortization periods are shown on page 4. As amortization schedules wind down in the future (around 5 to 10 years), the computed contributions may become more volatile. In an effort to mitigate the potential adverse effects of this scenario, we suggest maintaining the current "layered" amortization schedule, but consider actively managing them by combining gains and losses when appropriate to avoid unnecessary contribution volatility.

Valuation Assumptions

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). Actuarial assumptions were last reviewed in connection with a study conducted by the prior actuary of 2014-2018 experience in the Experience Study report dated August 16, 2019, which includes the rationale for the assumptions. The assumptions were adopted by the Board on August 20, 2019.

For this valuation, the investment return rate was lowered from 7.40% to 6.80% and the wage inflation rate was lowered from 3.10% to 2.75%. The lower assumptions reflect recent economic outlooks and are consistent with the assumptions used for the Maryland State Retirement & Pension System. The combined impact of these changes is a 2.06 percentage point decrease in the funded ratio. There were no other changes in actuarial assumptions or methods for this valuation. The next Experience Study will be started after the June 30, 2022 valuation to first impact the June 30, 2023 valuation.

Comments, Recommendations and Conclusion

Benefit Changes

This valuation values a 3.0% COLA payable on August 1 of 2022, 2023, 2024 and 2025. We understand that these are subject to bargaining and inflation. The impact of this change is a 3.20 percentage point decrease in the funded ratio. There were no other benefit changes during the year.

GASB Reporting Standards

The GASB Statement Nos. 67 and 68 reporting disclosures required for the plan this year will be issued in a separate report.

Conclusion

The Pension Plan's financial objective is to meet long-term benefit obligations through contributions that remain approximately level as a percent of covered employee payroll. Continued receipt of these contributions is the best guarantee that the Plan will be able to pay all promised benefits when due.

The Plan's funded ratio relies, in part, on timely receipt of employer contributions. This valuation assumes that the plan sponsor will be able to make future contributions on a timely basis. Failure to receive employer contributions on a timely basis could jeopardize the sustainability of the fund. We did not perform an analysis of the ability of the plan sponsor to make future contributions.

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 Retirement System earning 6.80% 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 be fully amortized after the respective amortization periods end; and
3. The funded status of the Pension Plan 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 Actuarial Value of Assets (AVA). Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1. The measurement is inappropriate for assessing the sufficiency of Retirement System assets to cover the estimated cost of settling the Retirement 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 Retirement System'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 if the funded status were over 100%, the Retirement System would still require future normal cost contributions (i.e., contributions to cover the cost of active membership accruing an additional year of service credit).
3. The measurement would produce a different result if the Market Value of Assets (MVA) were used instead of the AVA, unless the MVA is used in the measurement.

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 Associated with Measuring the Accrued Liability and Actuarially Determined Employer Contribution

The determination of the accrued liability and the actuarially determined employer contribution 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 employee payroll, or other relevant contribution base;
4. **Salary and Payroll Risk** – actual salaries and covered employee payroll may differ from expected, resulting in actual future accrued liability and contributions 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.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Employer Contribution

Plan Maturity Measures

Risks facing a pension 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 include the following:

	2022	2021
Ratio of the Market Value of Assets to Covered Payroll	2.82	2.72
Ratio of Actuarial Accrued Liability to Covered Payroll	5.68	5.13
Ratio of Actives to Retirees and Beneficiaries	1.20	1.25
Ratio of Net Cash Flow to Market Value of Assets	5.18%	4.08%

Ratio of Market Value of Assets to Covered Employee 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 covered employee 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 covered employee payroll.

Ratio of Actuarial Accrued Liability to Covered Employee Payroll

The relationship between actuarial accrued liability and covered employee 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 covered employee payroll.

Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Employer Contribution

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.

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 C

Assets

Statement of Plan Assets

(Assets at Market or Fair Value)

	July 1,	
	2022	2021
Assets		
Cash and Cash Equivalents, Receivables and Payables	$ 10,867,013	$ 12,991,422
Investments		
U.S. Government Obligations	$ 48,313,157	$ 47,557,179
Domestic Corporate Obligations	27,855,202	29,963,899
International Obligations	10,470,051	17,140,513
Domestic Stocks	57,666,242	70,948,627
International Stocks	73,126,434	89,586,592
Mortgage and Mortgage Related Securities	10,893,763	8,216,959
Alternative Investments	218,471,738	174,579,763
Total Investments	$ 446,796,587	$ 437,993,532
Receivables:		
Accrued Investment Income	1,501,544	2,994,596
Investment Sales Proceeds	5,316,175	2,052,295
Total Receivables	$ 6,817,719	$ 5,046,891
Total Assets	464,481,319	456,031,845
Liabilities		
Investment Purchases Payable	$ 4,239,158	$ 8,653,874
Total Liabilities	$ 4,239,158	$ 8,653,874
Net Position Held in Trust for Pension Benefits	**$ 460,242,161**	**$ 447,377,971**
Allocation of Assets		
U.S. Government Obligations	10.50 %	10.63 %
Domestic Corporate Obligations	6.05 %	6.70 %
International Obligations	2.27 %	3.83 %
Domestic Stocks	12.53 %	15.86 %
International Stocks	15.89 %	20.02 %
Mortgage and Mortgage Related Securities	2.37 %	1.84 %
Alternative Investments	47.47 %	39.02 %
Cash and Cash Equivalents, Receivables and Payables	2.92 %	2.10 %
Net Position Held in Trust for Pension Benefits	100.00 %	100.00 %

Reconciliation of Plan Assets

	July 1,			
	2022		2021	
Additions				
Contributions				
Employer	$	68,605,836	$	59,279,675
Employee		6,832,690		7,311,254
Total Contributions	$	75,438,526	$	66,590,929
Investment Income				
Net Appreciation (Depreciation) in Fair Value of Investments	$	(38,679,252)	$	48,772,832
Interest Income		27,693,430		44,439,892
Total Investment Income	$	(10,985,822)	$	93,212,724
Total Additions	$	64,452,704	$	159,803,653
Deductions				
Benefit Payments	$	47,453,399	$	44,735,513
Administrative Expense		4,135,115		3,602,429
Total Deductions	$	51,588,514	$	48,337,942
Net Increase in Net Position	$	12,864,190	$	111,465,711
Net Position Held in Trust for Pension Benefits				
Beginning of Year	$	447,377,971	$	335,912,260
End of Year	**$**	**460,242,161**	**$**	**447,377,971**

Development of the Actuarial Value of Assets

Valuation Date – July 1	2021	2022	2023	2024	2025	2026
A. Actuarial Value of Assets Beginning of Year	$ 362,292,739	$ 418,741,764				
B. Market Value End of Year	447,377,971	460,242,161				
C. Market Value Beginning of Year	335,912,260	447,377,971				
D. Non-Investment Net Cash Flow						
D1. Employer Contributions	59,279,675	68,605,836				
D2. Member Contributions	7,311,254	6,832,690				
D3. Retirement Benefits including Refunds	(44,735,513)	(47,453,399)				
D4. Administrative Expenses	0	0				
D5. Total Net Cash Flow: D1+D2+D3+D4	21,855,416	27,985,127				
E. Investment Income						
E1. Actual Market Total: B-C-D5	89,610,295	(15,120,937)				
E2. Assumed Rate of Return	7.40 %	7.40 %				
E3. Assumed Amount of Return	29,083,337	33,716,072				
E4. Amount Subject to Phase-In: E1–E3	60,526,958	(48,837,009)				
F. Phase-In Recognition of Investment Income						
F1. Current Year: 20% x E4	12,105,392	(9,767,402)				
F2. First Prior Year	(6,595,120)	12,105,392	$ (9,767,402)			
F3. Second Prior Year	0	(6,595,120)	12,105,392	$ (9,767,402)		
F4. Third Prior Year	0	0	(6,595,120)	12,105,392	$ (9,767,402)	
F4. Third Prior Year	0	0	0	(6,595,119)	12,105,390	$ (9,767,401)
F5. Total Phase-Ins	$ 5,510,272	$ (4,257,130)	$ (4,257,130)	$ (4,257,129)	$ 2,337,988	$ (9,767,401)
G. Actuarial Value of Assets End of Year						
G1. Preliminary Actuarial Value of Assets End of Year: A+D5+E3+F5	$ 418,741,764	$ 476,185,833				
G2. Actuarial Value of Assets End of Year	418,741,764	476,185,833				
H. Difference between Market & Actuarial Value of Assets	$ 28,636,207	$ (15,943,672)				
I. Actuarial Rate of Return	**9.27 %**	**6.81 %**				
J. Market Rate of Return	**25.84 %**	**(3.28)%**				
K. Ratio of Actuarial Value of Assets to Market Value	**93.60 %**	**103.46 %**				

SECTION D

MEMBERSHIP INFORMATION

Retirees and Beneficiaries by Type of Benefit Being Paid

Type of Benefit Being Paid	No.	Annual Benefits	Average Benefits
Age and Service Benefits			
Straight Life -- Terminating at Death of Retiree	808	$ 20,324,162	$ 25,154
Certain and Life	24	491,959	20,498
Joint and Survivor Benefit	544	15,101,732	27,761
Survivor Beneficiary of Deceased Retiree	263	3,901,356	14,834
Total Age and Service Benefits	1,639	$ 39,819,209	$ 24,295
Casualty Benefits			
Duty Disability	440	6,325,128	14,375
Total Casualty Benefits	440	$ 6,325,128	$ 14,375
Total Benefits Being Paid	**2,079**	**$ 46,144,337**	**$ 22,195**

Inactive Member Age Distribution

Age Last Birthday	Age and Service No.	Age and Service Annual Benefits	Casualty No.	Casualty Annual Benefits	Vested Terminated No.	Vested Terminated Annual Benefits	Total No.	Total Annual Benefits
Under 45	8	$ 80,531	12	$ 98,601	101	$ 872,472	121	$ 1,051,604
45-49	7	111,408	21	170,358	43	442,121	71	723,887
50-54	13	149,329	31	422,298	87	905,751	131	1,477,378
55-59	47	1,427,191	59	783,217	111	1,110,832	217	3,321,240
60-64	138	4,076,174	88	1,319,680	125	1,154,332	351	6,550,186
65-69	359	9,139,258	76	1,137,216	60	400,186	495	10,676,660
70-74	421	10,497,366	79	1,417,717	19	124,221	519	12,039,304
75-79	298	7,058,673	47	699,180	7	48,577	352	7,806,430
80-84	214	4,612,649	24	265,220	5	78,487	243	4,956,356
85-89	83	1,768,706	7	94,790	1	7,276	91	1,870,772
90 & Over	45	798,800	2	15,976	0	0	47	814,776
Totals	**1,633**	**$ 39,720,085**	**446**	**$ 6,424,253**	**559**	**$ 5,144,255**	**2,638**	**$ 51,288,593**

Active Member Age and Service Distribution

Nearest Whole Age	Nearest Whole Years of Service on the Valuation Date							Total Number	Covered Employee Payroll
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 or more		
Under 20	-	-	-	-	-	-	-	-	$ -
20 - 24	18	-	-	-	-	-	-	18	954,741
25 - 29	43	12	-	-	-	-	-	55	2,971,176
30 - 24	101	63	24	-	-	-	-	188	10,687,666
35 - 29	93	81	114	19	-	-	-	307	19,173,886
40 - 24	62	60	83	76	31	-	-	312	19,951,465
45 - 29	53	60	76	42	61	17	-	309	20,161,853
50 - 24	48	54	77	58	74	44	6	361	24,138,402
55 - 29	30	34	70	62	87	67	58	408	27,957,449
60	1	5	19	11	18	10	16	80	5,582,351
61	4	5	12	8	23	9	19	80	5,379,268
62	4	6	11	13	12	10	19	75	5,129,077
63	2	4	9	12	13	4	16	60	4,108,030
64	5	5	7	12	10	5	14	58	3,953,864
65	2	3	9	2	8	6	11	41	2,874,964
66	-	1	6	4	6	4	13	34	2,398,540
67	-	2	3	5	3	7	8	28	2,008,768
68	-	1	6	3	4	4	8	26	1,755,148
69	-	-	5	3	3	-	4	15	1,079,839
70	-	-	1	1	1	-	2	5	327,005
Over 70	-	1	3	6	5	4	17	36	2,508,560
Total	**466**	**397**	**535**	**337**	**359**	**191**	**211**	**2,496**	**$163,102,052**

SECTION E

ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions and Methods

Actuarial Cost Method – Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using a **Level Dollar 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 level dollar.

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

Unfunded Actuarial Accrued Liabilities were amortized by level dollar payments over:

- Effective July 1, 2019, all existing amortization bases were consolidated to be paid over 25 years.
- 20 years for experience gains and losses after 2002.
- 20 years for assumption and method changes.
- COLA awards are amortized over the life of the contract in which they are negotiated.
- Benefit awards and plan changes are amortized over the expected future working lifetime of the entire active population.

The ***Asset Valuation Method –*** Last year's valuation assets are increased by contributions and reduced by refunds, benefit payments and expenses. An amount equal to the assumed investment return for the year is then added. Differences between actual return on a market value basis and an assumed return are phased-in over a five-year period.

Actuarial Assumptions and Methods

Demographic assumptions were developed in connection with a study conducted by the prior actuary of 2014-2018 experience in the Experience Study report dated August 16, 2019, which includes the rationale for the assumptions. The assumptions were adopted by the Board on August 20, 2019. Economic assumptions were 1st used in the July 1, 2022 actuarial valuation based on MSRPS economic assumptions which include how the Pension Plan's assets are expected to perform. Actuarial assumptions are based on a combination of future expectations and historical data. Specific assumptions are shown below.

The ***investment return rate*** assumed in the valuation is 6.80% per year, compounded annually (net of investment expenses).

Although not explicitly used in the valuation, the economic assumptions are consistent with a ***price inflation rate*** assumption of 2.40% per year.

The ***wage inflation rate*** assumed in this valuation was 2.75% per year. The wage inflation rate is defined to be the portion of total pay increases for an individual that are due to macro-economic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes related to individual merit and seniority effects.

The assumed ***real rate of return*** over wage inflation is defined to be the portion of total investment return that is more than the assumed wage inflation rate. Considering other economic assumptions, the 6.80% investment return rate translates to an assumed real rate of return over wage inflation of 4.05%.

The ***rates of merit and seniority 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 benefit amounts will be based.

	Merit & Seniority Salary Increases		
Year of Service	Management	Maintenance/ Operators	All Others
0	0.50 %	6.00 %	4.00 %
5	0.50 %	6.00 %	4.00 %
10	0.50 %	0.25 %	3.00 %
15	0.50 %	0.25 %	3.00 %
20	0.50 %	0.25 %	3.00 %
25	0.50 %	0.25 %	1.00 %
30	0.50 %	0.00 %	0.50 %

If the number of active members remains constant, then the covered employee payroll will increase 2.75% annually, the base portion of the individual salary increase assumptions.

Actuarial Assumptions and Methods

The mortality tables used to measure post-retirement mortality are as follows:

Pre-retirement	RP-2014 Blue Collar Employee mortality table, sex distinct, with generational mortality improvements from 2006 using scale MP-2018.
Post-retirement Healthy lives	RP-2014 Blue Collar Healthy Retiree mortality table, sex distinct, with generational mortality improvements from 2006 using scale MP-2018.
Post-retirement Disabled lives	RP-2014 Disabled Retiree mortality table, sex distinct, with generational mortality improvements from 2006 using scale MP-2018.

Sample values for healthy retirees follow:

Sample Ages in 2022	Single Life Retirement Value					
	Actuarial Present Value of $1 Monthly for Life		Percent Dying Next Year		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
50	$150.76	$156.63	0.5630%	0.4036%	32.56	35.87
55	142.73	149.64	0.7320%	0.5220%	28.00	31.14
60	132.71	140.88	1.0354%	0.7259%	23.61	26.55
65	120.93	130.09	1.5093%	0.9879%	19.49	22.15
70	107.34	116.77	2.1798%	1.4577%	15.67	17.94
75	91.81	101.05	3.3319%	2.3701%	12.17	14.03
80	75.01	83.66	5.4203%	3.9891%	9.07	10.53

Actuarial Assumptions and Methods

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

	Annual Rates of Retirement		
Ages	Management	Maintenance	All Others
52	15 %	5 %	8 %
53	15 %	5 %	8 %
54	15 %	5 %	8 %
55	15 %	5 %	8 %
56	15 %	5 %	8 %
57	20 %	5 %	8 %
58	20 %	5 %	8 %
59	20 %	5 %	8 %
60	20 %	10 %	10 %
61	20 %	10 %	20 %
62	25 %	15 %	20 %
63	25 %	15 %	20 %
64	25 %	20 %	20 %
65	25 %	25 %	20 %
66	25 %	25 %	25 %
67	25 %	25 %	25 %
68	25 %	25 %	25 %
69	25 %	25 %	25 %
70	100 %	25 %	25 %
71	100 %	25 %	15 %
72	100 %	20 %	15 %
73	100 %	20 %	15 %
74	100 %	20 %	15 %
75	100 %	100 %	100 %

Actuarial Assumptions and Methods

Rates of separation from active membership are represented by the following table (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Years of	Annual Rates of Withdrawal from Active Service			
Service	Management	Maintenance	Operators	All Others
0	33.00 %	15.00 %	17.00 %	20.00 %
1	25.00 %	7.00 %	12.00 %	20.00 %
2	18.00 %	5.00 %	5.50 %	15.00 %
3	15.00 %	5.00 %	5.50 %	10.00 %
4	12.50 %	5.00 %	5.00 %	6.00 %
5	10.00 %	4.00 %	3.50 %	6.00 %
6	5.50 %	3.00 %	2.50 %	6.00 %
7	5.50 %	0.50 %	2.50 %	6.00 %
8	5.50 %	0.50 %	2.50 %	4.00 %
9	5.50 %	0.50 %	2.50 %	4.00 %
10	5.50 %	0.50 %	1.50 %	4.00 %
11	5.50 %	- %	1.50 %	4.00 %
12	5.50 %	- %	1.50 %	4.00 %
13	5.50 %	- %	1.50 %	2.00 %
14	5.50 %	- %	1.50 %	2.00 %
15	3.50 %	- %	1.50 %	2.00 %
16	3.50 %	- %	1.50 %	2.00 %
17	3.50 %	- %	1.50 %	2.00 %
18	3.50 %	- %	1.50 %	2.00 %
19	3.50 %	- %	1.50 %	2.00 %
20	1.50 %	- %	1.00 %	- %
21	1.50 %	- %	1.00 %	- %
22	1.50 %	- %	1.00 %	- %
23	1.50 %	- %	1.00 %	- %
24	1.50 %	- %	1.00 %	- %
25	- %	- %	- %	- %

Actuarial Assumptions and Methods

Rates of disability were as follows:

Sample Ages	Annual Rates of Disability
20	0.1900 %
25	0.1900 %
30	0.2700 %
35	0.3650 %
40	0.4600 %
45	0.5550 %
50	0.6500 %
55	0.9350 %
60	1.9800 %
65	1.9800 %

Miscellaneous and Technical Assumptions
July 1, 2022

Marriage Assumption:	85% of males and 85% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Middle of (Fiscal) year.
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 service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and turnover do not operate during retirement eligibility.
Liability Adjustments:	An additional 0.4 years of service is assumed for all members to account for sick leave conversion and prior military time. An additional pay load is assumed to account for expected overtime. For Local 1300 members (as well as management personnel who bargain with the Local 1300 Union), the amount is assumed to be 15% of their salary, and for all others, the load is assumed to be 10% of salary. No overtime pay load is assumed for management members who are not in the Local 1300 Union. A 1% load is applied for retirees who have elected a joint and survivor option that includes a pop-up provision. A 0.20% load was added to the Normal Cost to reflect Military Service Purchases for all active members.
Part-time Members:	Part-time members are assumed to accrue one-half year of service credit each year.
Cost-of-Living Adjustments:	A 3.0% Cost-of-Living adjustment was assumed to be payable on August 1st of 2022, 2023, 2024 and 2025. There are no other Cost-of-Living adjustments assumed for purposes of this valuation.

Miscellaneous and Technical Assumptions (Concluded)
July 1, 2022

Data Assumptions: For the purposes of this valuation, retirement benefits were estimated for any members who terminated after attaining 100% vesting, whose retirement benefit was not provided.

Form of Payment: All participants are assumed to elect payment in the form of a single life annuity.

Incidence of Contributions: Contributions are assumed to be received September 1st based on the computed dollar amount shown in this report.

Benefit Service: Benefit service was calculated using the Pension Eligibility date provided in the data.

Deferred Retirement: Terminated members with a vested benefit are assumed to retire at first eligibility for voluntary retirement.

Management Personnel: The management personnel who bargain under the Local 1300 Union and are subject to the same plan provisions and benefits were identified for purposes of this valuation through a list provided by the MTA.

Maintenance Employees: The job code field provided on the data was used to determine employees in the maintenance group classification as follows:

Job Code - Maintenance Employees		
Repairman - Catenary	Repairman-Plumber	Janitor Rail
Repairman - Elect/Mech	Repairman-Welder	Leadman - Repairman A
Repairman - Facilities	Rep-Electrician-Skld	Leadman - Technician
Repairman - Locksmith	Rep-Hvac-Skld	Repairman - Bus
Repairman - Machinist	Rep-Locksmith-Skld	Repairman - Rail
Repairman - Syst Maint	Rep-Mason/Carp-Skld	Repairman B - Bus
Repairman - Track/Way	Rep-Plumber-Skld	Repairman B - Rail
Repairman Heavy Equip	Rep-Welder-Skld	Repairman C - Bus
Repairman Mason Carpen	Cleaner – Rail	Repairman C - Rail
Repairman Mechanic	Cleaner – Bus	Shipping Clerk
Repairman Rail Car Mnt	Cleaner B – Bus	Storeroom Attendant
Repairman-Electrician	Janitor – Bus	Technician - Bus
Repairman-Hvac	Janitor Bus	Technician - Rail

SECTION F

SUMMARY OF BENEFIT PROVISIONS

Summary of Benefit Provisions Evaluated
July 1, 2022

Plan Year:

July 1 – June 30

Effective Date of Plan:

January 8, 1950

Plan Participants:

Any employee who is a member of The Amalgamated Transit Union, Local 1300, or the Office & Professional Employees International Union, Local No. 2, who is not included in the Maryland State Retirement and Pension System.

Any employee who is a member of the Police Local Union No. 1859, who is not included in the Law Enforcement Officers' Pension System (LEOPS) offered by the Maryland State Retirement and Pension System.

Any management employee who transferred from any of the bargaining units above. For purposes of this Plan, management employees are classified as Local 1300 employees

Eligible employees become participants immediately upon employment.

Normal Form of Benefit:

Straight Life annuity

Optional Forms of Benefit:

- 50%, 75%, or 100% joint and survivor;
- 50%, 75%, or 100% joint and survivor <u>with</u> pop-up option; and
- Partial lump sum of 5%, 10%, or 15% of accrued benefit <u>plus</u> a 50%, 75%, or 100% joint and survivor annuity.

Summary of Benefit Provisions Evaluated
July 1, 2022

Normal Retirement:

Eligibility - First of the month coincident with or immediately following the earlier of:

a. Attainment of age 65 and fully vested (as described under deferred retirement) or
b. Attainment of age 52 with 30 years of service.

Benefit Amount - A monthly income payable for life that is equal to 1.70% of Average Compensation times years of service.

The above described benefit cannot be less than $625 per month at age 65 with 25 years of service for Management, Local 2, and Local 1300 and $450 per month for Local 1859. The benefit is offset by a fixed amount for a group of former Allamerica Financial Program members. Management members are also entitled to Minimum Alternate Benefits, if they are greater than the Plan benefit.

Creditable Service - Credited Service includes service with MTA, plus one month of service for every 20 days of unused sick leave. Part-time employees are credited service at the rate of one month for each 173 hours of work.

Compensation - Remuneration received as an MTA employee including overtime if eligible. Effective July 1, 2016 for Local 2 and Local 1300 and October 27, 2017 for Local 1859, participants' credited earnings shall not exceed the first 2,392 pay hours in any calendar year.

Average Annual Compensation - Average annual compensation is the average of the member's pensionable earnings for the three years over the last ten years of credited service that produces the highest average. Effective July 1, 2016 for Local 2 and Local 1300 and October 27, 2017 for Local 1859, credited earnings shall not exceed 2,392 pay hours in any calendar year.

Early Retirement:

Eligibility - Attainment of age 55 with age plus years of service equal to at least 85.

Benefit Amount - Computed as normal retirement benefit, but reduced to take into account earlier commencement of retirement income payments, as follows:

Age 60 or greater on early retirement date: 4/12% per month reduction for all months prior to age 65.

Less than age 60 on early retirement date: 5/12% per month reduction for all months prior to age 65.

Summary of Benefit Provisions Evaluated
July 1, 2022

Deferred Retirement (Vested Benefit):

Eligibility - The following table summarizes the vesting requirements for each bargaining unit:

Years of Service	Local 1300 & Management	Local 2	Police Local 1859
5	Hired before 5/18/2013	Hired before 7/1/2012	Hired before 1/1/2012
7	Hired on or after 5/18/2013 and before 7/1/2016	Hired on or after 7/1/2012 and before 7/1/2016	Hired on or after 1/1/2012 and before 10/27/2017
10	Hired on or after 7/1/2016	Hired on or after 7/1/2016	Hired on or after 10/27/2017

The benefit is paid monthly beginning at age 65 for the life of the member.

Benefit Amount - Computed as normal retirement but based upon service and average annual compensation and benefit formula at time of termination.

Disability Retirement:

Eligibility - Vested, and certification by the State Medical Director.

Benefit Amount - Computed as normal retirement but based upon service and average annual compensation at time of termination, but not less than the amounts below:

Years of Service	Minimum Monthly Benefit
100% Vesting	$200
10	$360
20	$720

Death Before Retirement:

Eligibility - Death of participant before commencement of benefits and after eligibility for normal or early retirement.

Eligibility - The spouse will receive an allowance of 75% (50% for Police Local Union No. 1859) of the normal or early retirement benefit the member would have received if they had retired on the day before death and elected a 75% (50% for Police Local Union No. 1859) joint and survivor benefit.

Summary of Benefit Provisions Evaluated
July 1, 2022

Cost of Living Adjustment (COLA) Increases:

Pensions of retirees and beneficiaries, excluding members who retire from deferred vested status, who have been receiving payments for at least 13 months shall be granted a COLA on each of the following dates. Local 1300 union and Local 2 union received COLAs on 8/1/2019, 8/1/2020, and 8/1/2021. The Local 1859 union also received COLAs on 8/1/2019. The percentage increase is equal to the increase in the Consumer Price Index (CPI-U, U.S. City Average, 1967=100) for the preceding fiscal year (July 1 to June 30), subject to a maximum increase of 3% annually.

Employee Contributions:

Effective July 1, 2016 for Local 2 and Local 1300 and effective October 27, 2017 for Local 1859, employees shall contribute 2% of pensionable earnings to the MTA Pension Plan. Local 1300 participants contribution increased to 3% effective July 1, 2019 and 4% effective July 1, 2020. Local 2 participants contribution will increased 3% effective July 1, 2020 and 4% effective July 1, 2021. Contributions shall continue until such time as the plan actuary certifies that the market value funded ratio equals or exceeds 100%. Once the 100% funded ratio is reached, employee contributions shall cease. If the funded ratio falls below 95%, employee contributions shall resume until the funded ratio returns to 100%. Employees who separate before becoming eligible for a Normal, Early, Disability, or Deferred Vested pension benefit shall be entitled to a return of their contributions plus interest computed at 5.0% compounded annually.

This is a brief summary of the MTA Pension Plan provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate contract or governing document will prevail.

SECTION G

GLOSSARY

Glossary

Actuarial Accrued Liability (AAL) — The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.

Actuarial Assumptions — Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.

Actuarial Cost Method — A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability.

Actuarially Determined Employer Contribution (ADEC) — The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADEC consists of the Employer Normal Cost and Amortization Payment.

Actuarial Equivalent — Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV) — The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.

Actuarial Present Value of Future Benefits (APVFB) — The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation — The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 25, such as the Funded Ratio and the Annual Required Contribution (ARC).

Actuarial Value of Assets — The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution (ARC).

Glossary

Amortization Method	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of covered employee payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which covered employee payroll of all active members is assumed to increase.
Amortization Payment	That portion of the plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Amortization Period	The period used in calculating the Amortization Payment.
Closed Amortization Period	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Equivalent Single Amortization Period	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
Experience Gain/Loss	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

Glossary

Funded Ratio	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
GASB	Governmental Accounting Standards Board.
Normal Cost	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
Open Amortization Period	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered employee payroll.
Unfunded Actuarial Accrued Liability	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.