Retirement Plan for Employees of Job Service North Dakota

Actuarial Valuation as of July 1, 2022

Table of Contents

P: 312.456.9800 | www.grsconsulting.com

October 19, 2022

Board Members
Retirement Plan for Employees of Job Service North Dakota
Bismarck, North Dakota

Members of the Board:

We are pleased to provide our formal annual Actuarial Valuation Report as of July 1, 2022, for the Retirement Plan for Employees of Job Service North Dakota. The actuarial valuation was performed at the request of the Board and is intended for use by the Board and the Retirement Plan for Employees of Job Service North Dakota and those designated by the Board and the Retirement Plan for Employees of Job Service North Dakota. This report may be provided to parties other than the Board and the Retirement Plan for Employees of Job Service North Dakota only in its entirety and only with the permission of the Board and the Retirement Plan for Employees of Job Service North Dakota. GRS is not responsible for unauthorized use of this report.

The purposes of the actuarial valuation are to measure the funding progress of the Retirement Plan for Employees of Job Service North Dakota and to determine the actuarial employer contribution rate to the Plan for the Plan Year commencing July 1, 2022, and ending on June 30, 2023. This actuarial valuation also provides information required by GASB Statement Nos. 67 and 68. This report should not be relied on for any purpose other than the purpose described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The actuarial employer contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section E of this report. This report includes common risk metrics on page A-5 but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

This actuarial valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The actuarial valuation was based upon information furnished by the North Dakota Public Employees' Retirement System ("NDPERS") Staff, concerning benefits provided by the Retirement Plan for Employees of Job Service North Dakota, financial transactions, plan provisions and census data for active members, terminated members, retirees and beneficiaries as of July 1, 2022. We checked for internal 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 NDPERS Staff.

This report was prepared using actuarial assumptions adopted by the Board as authorized under North Dakota Administrative Code Section 71-02. The investment return assumption was decreased from 3.75 percent to 3.00 percent beginning with the July 1, 2022 actuarial valuation. All other assumptions are unchanged since the last valuation and were based on an experience review for the period from July 1, 2014 to July 1, 2019. The assumptions were adopted for first use commencing with the actuarial valuation as of July 1, 2020. All actuarial assumptions used in this report are reasonable for the purposes of this actuarial valuation. Additional information about the actuarial assumptions is included in Section E of this report.

The plan provisions are unchanged since the last actuarial valuation, performed as of July 1, 2021.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Retirement Plan for Employees of Job Service North Dakota as of the actuarial 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.

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 reflects the impact of COVID-19 through June 30, 2022. However, this report does not reflect the longer-term and still developing future impact of COVID-19, which is likely to further influence demographic experience and economic expectations. We will continue to monitor these developments and their impact.

Bonita J. Wurst and Abra Hill are Members of the American Academy of Actuaries 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.

Gabriel, Roeder, Smith & Company will be pleased to review this actuarial valuation and report with the Board of Trustees and to answer any questions pertaining to the actuarial valuation.

Respectfully submitted,

Gabriel, Roeder, Smith & Company

Bonita J. Wurst

Bonita J. Wurst, ASA, EA, MAAA, FCA
Senior Consultant

Abra D. Hill

Abra Hill, ASA, MAAA, FCA
Consultant

cc: Scott Miller, NDPERS
Derrick Hohbein, NDPERS

SECTION A

ACTUARIAL VALUATION RESULTS

Comments on the Actuarial Valuation

Purpose

At your request, we have performed an actuarial valuation of the Retirement Plan for Employees of Job Service North Dakota as of July 1, 2022.

The purposes of this actuarial valuation are as follows:

- To determine the funding status of the System as of the actuarial valuation date;
- To determine the actuarial employer contribution rate for the fiscal year beginning July 1, 2022; and
- To provide other data required by NDPERS.

Pension plan financial reporting under GASB Statement Nos. 67 and 68 is provided in Section D of this report.

Membership Data

We received the data from the NDPERS Staff. We performed certain checks for reasonableness and found the data to be complete and reliable for actuarial valuation purposes. However, we did not audit the data.

One active member was included in the actuarial valuation as of July 1, 2022. Between the 2021 and 2022 actuarial valuations, the number of active employees decreased from 3 to 1. The average annual valuation pay increased, from $58,392 to $61,332 between the 2021 and 2022 actuarial valuation. The active member was eligible for normal retirement as of July 1, 2022.

The number of benefit recipients decreased from 177 to 175, since the last actuarial valuation. The average monthly benefit paid by Job Service and excluding benefit amounts paid by the insurer increased by 7.9 percent, from $2,193 to $2,366. During the year ending June 30, 2022, there were 2 members awarded a benefit. A 5.9 percent cost of living adjustment was granted in December 2021.

There was 1 inactive member as of July 1, 2022.

Section C summarizes the membership data.

Plan Provisions

Section F outlines the principal benefit provisions of the System. There were no plan changes since the previous actuarial valuation.

Comments on the Actuarial Valuation (Continued)

Actuarial Assumptions and Methods

This report was prepared using actuarial assumptions adopted by the Board as authorized under North Dakota Administrative Code Section 71-02. All actuarial assumptions used in this report are reasonable for the purposes of this actuarial valuation.

Most of the actuarial assumptions used in the actuarial valuation as of July 1, 2021 were based on an experience review for the five-year period ending July 1, 2019. The actuarial assumptions were first adopted for use commencing with the actuarial valuation as of July 1, 2020.

Section E outlines the actuarial assumptions and methods used in the actuarial valuation. There was a decrease in the investment return assumption, from 3.75% to 3.00%, since the previous actuarial valuation.

In a letter dated July 1, 2022, GRS determined that an investment return assumption of 3.00% can be deemed reasonable for this valuation. However, we caution that 3.00% is really an upper bound. If capital market assumptions remain at the present levels, the 3.00% return assumption might not comply with actuarial standards for the July 1, 2022 valuation.

The actuarial cost method is unchanged from the last actuarial valuation as of July 1, 2021. The actuarial assumption for administrative expenses is equal to the prior years' administrative expenses, adjusted for inflation. In total, this amount has increased from $17,762 to $18,770.

Plan Asset Return

On a market value basis, the Retirement Plan for Employees of Job Service North Dakota assets had an investment return of approximately -5.9 percent (net of investment expenses). On an actuarial value of assets basis, the Retirement Plan for Employees of Job Service North Dakota had an estimated net asset rate of return of 1.73 percent, which compares to the prior year assumed rate of return of 3.75 percent.

The actuarial value of assets is currently 107 percent of the market value of assets. There are $6,417,615 in net asset losses currently being deferred that will be phased into the actuarial value of assets over the next four years.

Gain/Loss Analysis

During the plan year ending July 1, 2022, the surplus (the actuarial value of assets minus the present value of future benefits) decreased from $30,942,632 as of July 1, 2021, to $22,087,227 as of July 1, 2022, which is a decrease of $8,855,405. The decrease was primarily due to the assumption change which forecasts lower future investment returns and the 5.9 percent COLA granted in December 2021 compared to the 2.25 percent assumption. In addition, the surplus decreased by $1,891,152 due to recognition of asset losses in the actuarial value of assets compared to the actuarial assumption of 3.75 percent for fiscal year 2022. These decreases were partially offset by interest on the surplus assets. The surplus based on the market value of assets is $15,669,612.

Funded Ratio

The funded ratio measures the portion of the present value of future benefits (calculated based on the actuarial assumptions disclosed in this report) that is currently funded. The funded ratio is 131.3 percent on an actuarial value of assets basis and 122.2 percent on a market value of assets basis.

The funded ratio and unfunded actuarial accrued liability are appropriate for assessing the need for and the amount of future unfunded liability contributions (excludes normal cost contributions). They are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the System's benefit obligations.

Employer Contributions

The "actuarial contribution" under the Frozen Initial Liability Actuarial Cost Method is the normal cost plus the payment required to amortize the unfunded initial actuarial accrued liability over a selected period of years. The normal cost is determined by calculating the total present value of all future benefits, subtracting the outstanding balance (if any) of the unfunded initial actuarial accrued liability, subtracting the actuarial value of assets and determining payments (not less than zero) that are a level percent of pay over the future working lifetime of all participants. In the absence of an unfunded initial actuarial accrued liability, the Frozen Initial Liability Actuarial Cost Method is the same as the Aggregate Cost Method.

An "actuarial contribution" will be determined when the plan is not in surplus and will be based on a funding policy adopted by the Employer.

Historical Trends

The funded ratio has increased during the past 10 years from 115.6 percent in 2013 to the current funded ratio of 131.3 percent. There continues to be no actuarial contribution required from the employers.

Risks Associated with Measuring the Accrued Liability and Contributions

The determination of the accrued liability and the statutory and actuarially determined contribution requires the use of actuarial 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 actuarial 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 statutory and 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 actuarial assumptions; changes in economic or demographic actuarial 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** – 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. **Salary and Payroll risk** – actual salaries and total 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.

Risk Measures (Continued)

The statutory contribution may be considered as a minimum contribution that complies with State statute. The timely receipt of contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made in accordance with the funding policy do not necessarily guarantee benefit security.

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:

	2021	2022
Ratio of the Market Value of Assets to Payroll	551.47	1405.10
Ratio of Present Value of Future Benefits to Payroll	370.57	1149.61
Ratio of Actives to Retirees and Beneficiaries	0.02	0.01
Ratio of Non-Investment Cash Flow to Market Value of Assets	-4.84%	-5.66%

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 Present Value of Future Benefits to Payroll

The relationship between present value of future benefits 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 present value of future benefits 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 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.

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 benefits and expenses exceed contributions, and existing funds may be used to make benefit 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.

Summary of Actuarial Valuation Results

	Valuation as of July 1, 2021		Valuation as of July 1, 2022	
	Total	% of Payroll**	Total	% of Payroll**
Active Members				
Number	3		1	
Average Age	65.9		66.7	
Average Years of Benefit Service	44.5		47.3	
Average Years of Vesting Service	44.5		47.3	
Total Payroll	$ 175,176		$ 61,332	
Projected Annual Compensation	110,199		31,975	
Present Value of Future Salaries	184,462		31,506	
Terminated Vested Members				
Number	-		1	
Retired Members and Beneficiaries				
Number	177		175	
Total Annualized Benefits*	$ 4,657,369		$ 4,969,094	
Total Membership	180		177	
Present Value of Future Benefits				
Active Members	$ 2,789,043		$ 1,178,736	
Terminated Vested Members	-		752,284	
Retired Members and Beneficiaries	62,125,228		68,576,838	
Total	64,914,271		70,507,858	
Actuarial Value of Assets	$ 95,856,903		$ 92,595,085	
Outstanding Frozen Initial Liability	$ -		$ -	
Unfunded Present Value of Future Benefits	$ (30,942,632)		$ (22,087,227)	
Funded Ratio (Actuarial Value of Assets)	147.7%		131.3%	
Annual Gross Normal Cost				
Benefits	$ -		$ -	
Expenses of Administration	17,762		18,770	
Total	17,762		18,770	
Actuarial Contribution Requirement				
Employer Portion	$ -	0.00 %	$ -	0.00 %
Employee Portion	7,714	7.00 %	2,238	7.00 %
Total	7,714	7.00 %	2,238	7.00 %
Results Based on Market Value of Assets				
Market Value of Assets	$ 96,603,697		$ 86,177,470	
Unfunded Present Value of Future Benefits	$ (31,689,426)		$ (15,669,612)	
Funded Ratio (Market Value of Assets)	148.8%		122.2%	

* *Excludes portion of total benefit paid by the insurer.*

** *Rates are calculated as a percentage of projected annual compensation.*

Actuarial Valuation Results – Gain/Loss Analysis

Unfunded present value of future benefits at previous valuation	$	(30,942,632)
Expected unfunded present value of future benefits at current valuation		
Normal cost for plan year		-
Interest on unfunded present value of future benefits and normal cost		(1,160,349)
Contributions using actuarial rate with interest to current valuation date		(7,857)
Total expected change in unfunded present value of future benefits at current valuation		(1,168,206)
Total expected unfunded present value of future benefits at current valuation		(32,110,838)
Change due to:		
Amount of contributions		(1,615)
Amount of administrative expenses		606
Recognition of asset (gains)/losses		1,891,152
Salary experience		(69,565)
Retirement experience		101,423
Withdrawal experience		(74,063)
Disability experience		219
Death in Service experience		804
Death After Retirement experience		908,811
New entrants		-
COLA experience, data changes and other experience [1]		2,545,142
Change in actuarial assumptions		4,720,697
Changes in plan provisions		-
Total change		10,023,611
Unfunded present value of future benefits at current valuation	$	(22,087,227)

[1] *Actual COLA granted of 5.9% compared with expected COLA of 2.25% resulted in a loss and a decrease in the unfunded liability.*

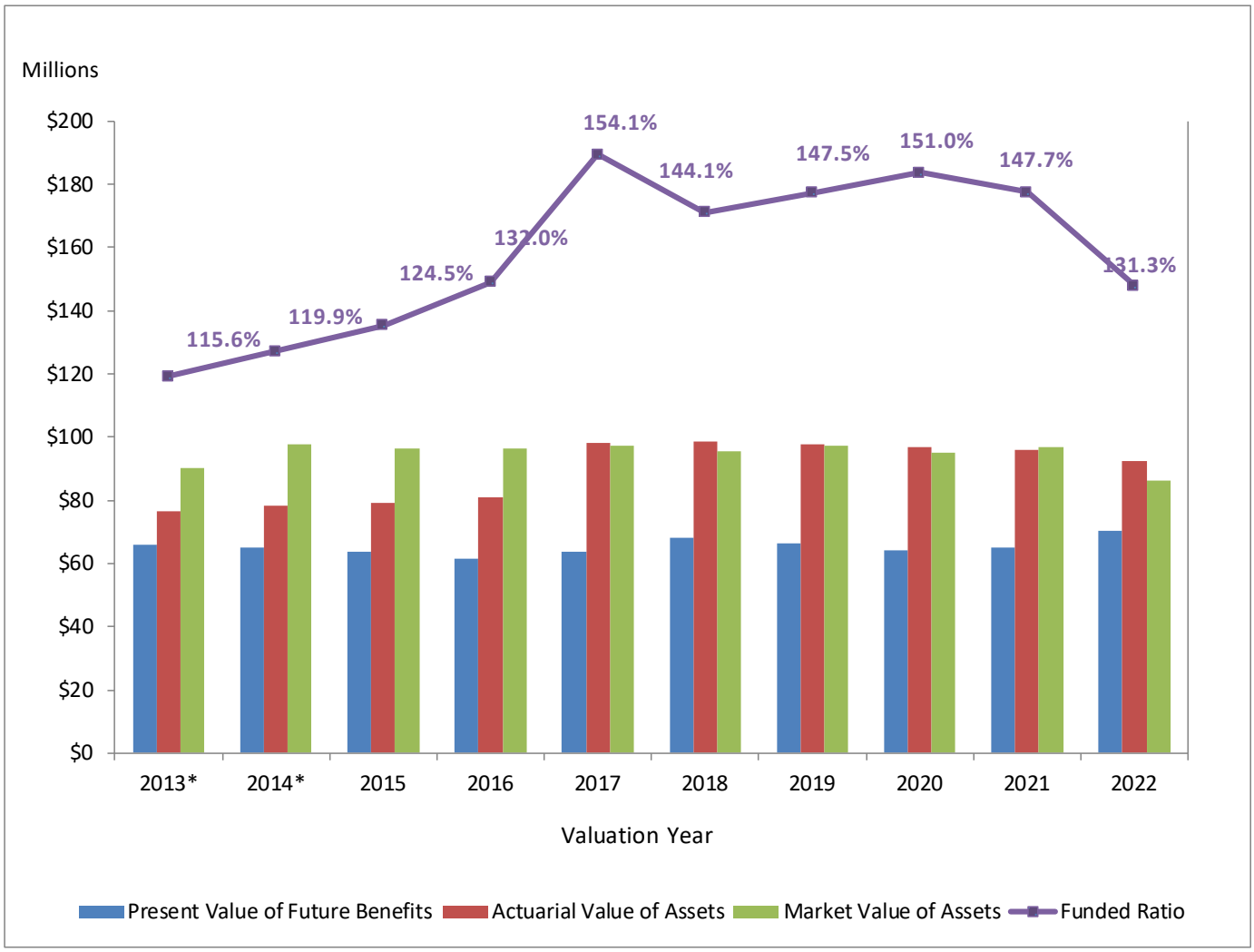
Historical Trends of Funded Ratio

Actuarial Valuation Date	Actuarial Value of Assets (a)	Present Value of Future Benefits* (b)	Unfunded PVFB (UPVFB) (b – a)	Funded Ratio (a / b)
7/1/2013*	$ 76,325,451	$ 66,049,664	$ (10,275,787)	115.6
7/1/2014*	78,157,302	65,190,192	(12,967,110)	119.9
7/1/2015	79,196,686	63,623,299	(15,573,387)	124.5
7/1/2016	80,980,498	61,371,296	(19,609,202)	132.0
7/1/2017	98,356,137	63,822,722	(34,533,415)	154.1
7/1/2018	98,403,256	68,283,460	(30,119,796)	144.1
7/1/2019	97,808,420	66,299,644	(31,508,776)	147.5
7/1/2020	96,954,336	64,214,395	(32,739,941)	151.0
7/1/2021	95,856,903	64,914,271	(30,942,632)	147.7
7/1/2022	92,595,085	70,507,858	(22,087,227)	131.3

** Prior to 2015, the actuarial accrued liability based on the Entry Age Normal cost method is shown.*

As of July 1, 2017, the asset smoothing method was revised and net deferred asset gains attributable to fiscal years 2016 and prior were fully recognized.

Funded Ratio History



** Prior to 2015, the actuarial accrued liability based on the Entry Age Normal cost method is shown.*

As of July 1, 2017, the asset smoothing method was revised and net deferred asset gains attributable to fiscal years 2016 and prior were fully recognized.

Actuarial Valuation Results
Solvency Test ($ in Millions)

Valuation Date 7/1	Present Value of Future Benefits	(1) Retirees, Term Vested and Beneficiaries	(2) Inactive Vested Employee (Not in Pay Status)	(3) Active Members	Actuarial Value of Assets	Portion (%) of Present Value Covered by Assets (1)	(2)	(3)
2013	$66.4	$56.7	$1.9	$7.8	$76.3	100%	100%	100%
2014	65.5	57.9	0.0	7.6	78.2	100%	100%	100%
2015	63.6	56.2	0.0	7.4	79.2	100%	100%	100%
2016	61.4	55.0	0.0	6.4	81.0	100%	100%	100%
2017	63.8	57.4	0.0	6.4	98.4	100%	100%	100%
2018	68.3	62.1	0.0	6.1	98.4	100%	100%	100%
2019	66.3	60.1	0.0	6.2	97.8	100%	100%	100%
2020	64.2	59.4	0.0	4.8	97.0	100%	100%	100%
2021	64.9	62.1	0.0	2.8	95.9	100%	100%	100%
2022	70.5	68.6	0.7	1.2	92.6	100%	100%	100%

As of July 1, 2017, the asset smoothing method was revised and net deferred asset gains attributable to fiscal years 2016 and prior were fully recognized.

Funding Progress Schedule

Valuation Year	Present Value of Future Benefits	Valuation Assets (AVA)	Unfunded Present Value of Future Benefits	Ratio of Assets to PVFB	Active Member Payroll	UPVFB as Percent of Active Member Payroll
2013[1]	$ 66,049,664	$ 76,325,451	$ (10,275,787)	115.6%	$ 1,011,000	-1016.4%
2014	65,190,192	78,157,302	(12,967,110)	119.9%	842,601	-1538.9%
2015	63,623,299	79,196,686	(15,573,387)	124.5%	790,649	-1969.7%
2016	61,371,296	80,980,498	(19,609,202)	132.0%	564,684	-3472.6%
2017	63,822,722	98,356,137	(34,533,415)	154.1%	498,564	-6926.6%
2018	68,283,460	98,403,256	(30,119,796)	144.1%	416,652	-7229.0%
2019	66,299,644	97,808,420	(31,508,776)	147.5%	416,552	-7564.2%
2020	64,214,395	96,954,336	(32,739,941)	151.0%	314,607	-10406.6%
2021	64,914,271	95,856,903	(30,942,632)	147.7%	175,176	-17663.7%
2022	70,507,858	92,595,085	(22,087,227)	131.3%	61,332	-36012.6%

[1] *The active member payroll is approximated based on figures from the NDPERS Comprehensive Annual Financial Report.*

SECTION B

ASSET EXHIBITS

Statement of Fiduciary Net Position

	Fiscal Year Ending	
	June 30, 2021	June 30, 2022
Assets		
Cash	$ 11,723	$ 1,340
Receivables		
Contribution receivable	1,022	593
Interest receivable	6	199
Due from other fiduciary funds	0	0
Total receivables	1,028	792
Investments		
Equities	19,108,158	17,152,361
Fixed income	77,129,210	68,585,665
Invested cash	435,556	518,444
Total Investments	96,672,924	86,256,470
Capital assets (net of depreciation/amortization)	462	623
Total assets	96,686,137	86,259,225
Liabilities		
Accounts payable	82,440	81,755
Due to other fiduciary funds	-	-
Total liabilities	82,440	81,755
Net position restricted for pensions	$ 96,603,697	$ 86,177,470

Statement of Changes in Fiduciary Net Position

	Fiscal Year Ending	
	June 30, 2021	**June 30, 2022**
Additions		
Contributions		
From employer	$ -	$ -
From employee	13,979	9,299
Total contributions	13,979	9,299
Investment income		
Net change in fair value of investments	4,513,662	(7,105,726)
Interest and dividends	1,833,777	1,862,254
Less investment expense	(322,167)	(308,015)
Net investment income	6,025,272	(5,551,487)
Total additions	6,039,251	(5,542,188)
Deductions		
Benefits paid to participants	4,668,820	4,865,682
Refunds	-	-
Transfers to other plans	-	-
	4,668,820	4,865,682
Administrative expenses	17,371	18,357
Total deductions	4,686,191	4,884,039
Change in net position	1,353,060	(10,426,227)
Net position restricted for pensions		
Beginning of year	95,250,637	96,603,697
End of year	$ 96,603,697	$ 86,177,470

Development of Actuarial Value of Assets

Fiscal Year Ending	2021	2022	2023	2024	2025	2026
Beginning of Year:						
(1) Market Value of Assets	$ 95,250,637	$ 96,603,697				
(2) Actuarial Value of Assets[1]	96,954,336	95,856,903				
End of Year:						
(3) Market Value of Assets	96,603,697	86,177,470				
(4a) Contributions (Incl. repurchase svc credit)	13,979	9,299				
(4b) Net Disbursements	4,686,191	4,884,039				
(5) Total Investment Income	6,025,272	(5,551,487)				
=(3)-(1)-(4a)+(4b)						
(6) Projected Rate of Return	4.25%	3.75%				
(7) Projected Investment Income						
=(1)x(6)+([1+(6)]^.5-1)x(4a-4b)	3,949,901	3,532,078				
(8) Asset Adjustment	-	-				
(9) Investment Income in						
Excess of Projected Income	2,075,371	(9,083,565)				
(10) Excess Investment Income Recognized						
This Year (5-year recognition)						
(10a) From This Year	$ 415,074	$ (1,816,713)				
(10b) From One Year Ago	(377,745)	415,074	$ (1,816,713)			
(10c) From Two Years Ago	359,504	(377,745)	415,074	$ (1,816,713)		
(10d) From Three Years Ago	(499,275)	359,504	(377,745)	415,074	$ (1,816,713)	
(10e) From Four Years Ago	(272,680)	(499,276)	359,502	(377,743)	415,075	$ (1,816,713)
(10f) Total Recognized Investment Gain/(Loss)	(375,122)	(1,919,156)	(1,419,882)	(1,779,382)	(1,401,638)	(1,816,713)
(11) Change in Actuarial Value of Assets						
=(4a)-(4b)+(7)+(8)+(10f)	(1,097,433)	(3,261,818)				
End of Year:						
(3) Market Value of Assets	**$ 96,603,697**	**$ 86,177,470**				
(12) Final Actuarial Value of Assets as of 6/30 = (2)+(11)	**$ 95,856,903**	**$ 92,595,085**				
(13) Difference Between Market & Actuarial Values	746,794	(6,417,615)				
(14) Estimated Market Value Rate of Return on Total Plan Assets	6.48%	(5.90)%				
(15) Actuarial Value Rate of Return	3.78%	1.73%				
(16) Ratio of Actuarial Value to Market Value	99.2%	107.4%				

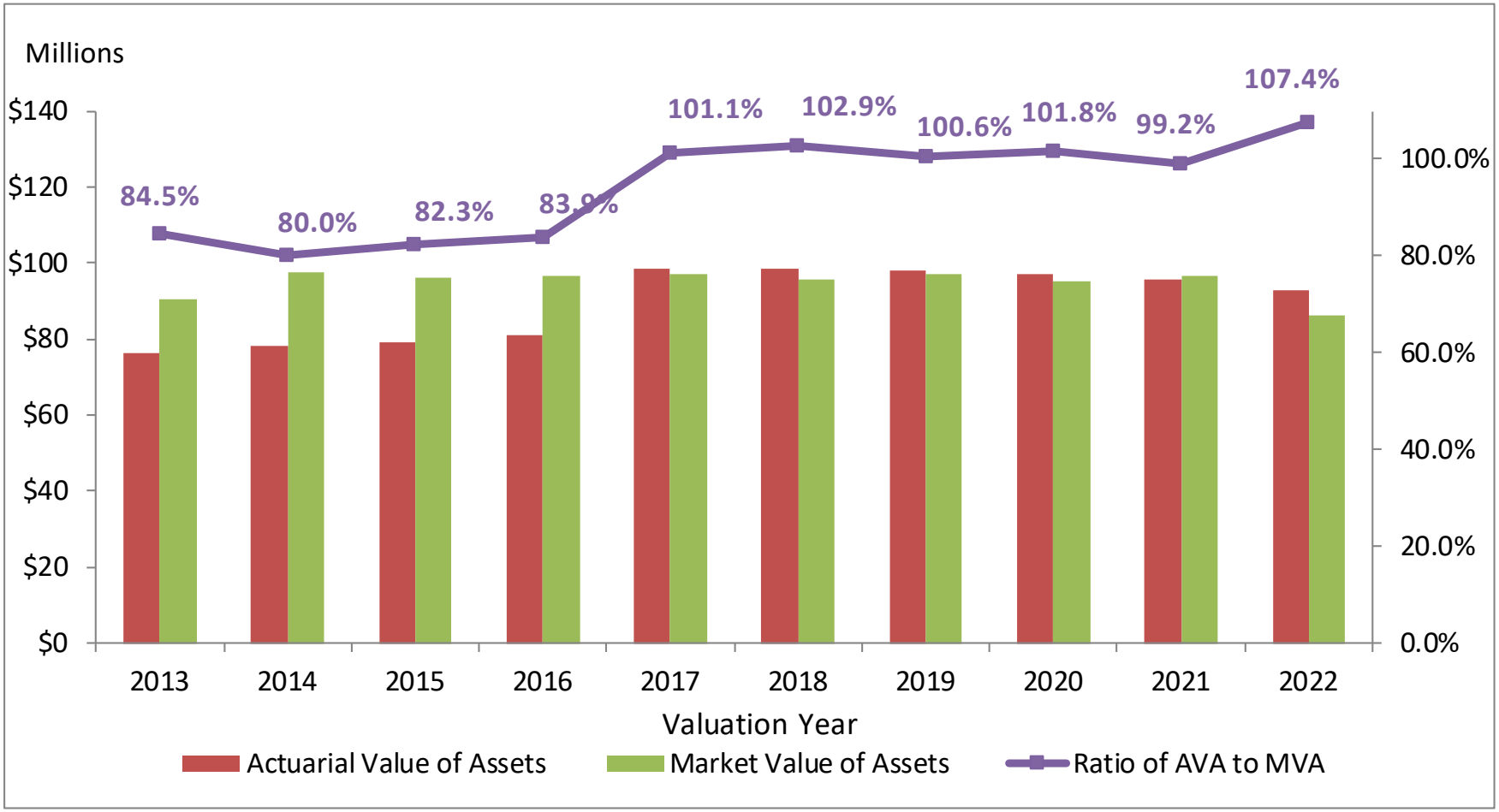
[1] *Asset gains and losses in FY 2016 and prior were fully recognized as of July 1, 2017, and subsequent asset gains/losses will be smoothed in over a five-year period.*

Changes in Actuarial Value of Assets

Date	Employer Contributions	Member Contributions	Purchase Service Credit	Administrative Expenses	Benefit Payments and Refunds	Investment Income (AVA)	Actuarial Value of Assets at End of Year	Market Value of Assets at End of Year
7/1/2013	$ -	$ 72,174	$ -	$ (30,014)	$ (4,353,984)	$ 5,519,302	$ 76,325,451	$ 90,378,957
7/1/2014	-	55,748	-	(31,455)	(4,594,462)	6,402,020	78,157,302	97,696,628
7/1/2015	-	50,142	-	(30,214)	(4,694,171)	5,713,627	79,196,686	96,282,892
7/1/2016	-	44,178	-	(32,253)	(4,601,196)	6,373,083	80,980,498	96,533,954
7/1/2017*	-	39,417	-	(12,684)	(4,534,153)	6,329,603	98,356,137	97,265,411
7/1/2018	-	32,987	-	(46,295)	(4,582,577)	4,643,004	98,403,256	95,588,111
7/1/2019	-	29,159	-	(16,808)	(4,626,846)	4,019,659	97,808,420	97,203,246
7/1/2020	-	27,047	-	(19,148)	(4,581,575)	3,719,592	96,954,336	95,250,637
7/1/2021	-	13,979	-	(17,371)	(4,668,820)	3,574,779	95,856,903	96,603,697
7/1/2022	-	9,299	-	(18,357)	(4,865,682)	1,612,922	92,595,085	86,177,470
10-Year Total	-	374,130	-	(254,599)	(46,103,466)	47,907,591		

* *Asset gains and losses in FY 2016 and prior were fully recognized as of July 1, 2017, and subsequent asset gains/losses will be smoothed in over a five-year period. The recognition of prior year net deferred asset gains as of July 1, 2017, is not included as investment income.*

Historical Comparison of Actuarial Value of Assets to Market Value of Assets



SECTION C

MEMBERSHIP DATA

Summary of Participant Data
(July 1, 2021 and July 1, 2022)

			Pay Status Participants Paid from Plan Assets				Pay Status Participants Paid from the Insurer		
	Actives	Inactive Vested	Retirees	Alternate Payees	Disabled	Beneficiaries	Retirees	Beneficiaries	Total
Participants at 07/01/2021	**3**	**-**	**118**	**2**	**1**	**12**	**24**	**20**	**180**
Vested Termination	(1)	1							0
Retirements	(1)		2		(1)				0
New Beneficiaries						2			2
Certain period expired									0
New former spouse									0
Died with beneficiary			(2)						(2)
Died without beneficiary						(1)		(2)	(3)
Lump sum payouts									0
Data Adjustments									0
Participants at 07/01/2022	**1**	**1**	**118**	**2**	**-**	**13**	**24**	**18**	**177**

Summary of Participant Data
(July 1, 2021 and July 1, 2022)
(Concluded)

	Valuation as of July 1, 2021	Valuation as of July 1, 2022
Active Members		
Number	3	1
Average Age	65.9	66.7
Average Service	44.5	47.3
Total Payroll	$ 175,176	$ 61,332
Inactive Members		
Number	-	1
Disabled Members		
Number	1	-
Total Monthly Benefits*	$ 1,387	$ -
Retired Members		
Number	142	142
Total Monthly Benefits*	$ 347,010	$ 371,295
Beneficiaries		
Number	32	31
Total Monthly Benefits*	$ 37,428	$ 40,373
QDROs (Alternate Payees)		
Number	2	2
Total Monthly Benefits*	$ 2,289	$ 2,423
Total Membership	180	177
Total Monthly Benefits*	$ 388,114	$ 414,091

* *Excludes benefits paid by the insurer.*

Age/Service/Salary as of July 1, 2022

	Vesting Service as of Valuation Date										
Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 and Over	Totals	Valuation Payroll	Contribution Account Balance
Under 20	-	-	-	-	-	-	-	-	0	$ -	$ -
20-24	-	-	-	-	-	-	-	-	0	-	-
25-29	-	-	-	-	-	-	-	-	0	-	-
30-34	-	-	-	-	-	-	-	-	0	-	-
35-39	-	-	-	-	-	-	-	-	0	-	-
40-44	-	-	-	-	-	-	-	-	0	-	-
45-49	-	-	-	-	-	-	-	-	0	-	-
50-54	-	-	-	-	-	-	-	-	0	-	-
55-59	-	-	-	-	-	-	-	-	0	-	-
60-64	-	-	-	-	-	-	-	-	0	-	-
65-69	-	-	-	-	-	-	-	1	1	61,332	216,898
70-74	-	-	-	-	-	-	-	-	0	-	-
75 and Over	-	-	-	-	-	-	-	-	0	-	-
Total	0	0	0	0	0	0	0	1	1	$ 61,332	$ 216,898

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

	Previous Valuation		Current Valuation		Change
Average Age:		65.9	Average Age:	66.7	0.8
Average Vesting Service:		44.5	Average Vesting Service:	47.3	2.8
Average Annual Pay:		$58,392	Average Annual Pay:	$61,332	$2,940
Average Account Balance:		$198,515	Average Account Balance:	$216,898	$18,383
Vested Participants		3	Vested Participants	1	(2)
Nonvested Participants		-	Nonvested Participants	-	0

	Annualized Salary as of Valuation Date										
Current Age	Less Than $20,000	$20,000-$29,999	$30,000-$39,999	$40,000-$49,999	$50,000-$59,999	$60,000-$69,999	$70,000-$79,999	$80,000-$89,999	$90,000-$99,999	$100,000 & Over	Totals
Under 20	-	-	-	-	-	-	-	-	-	-	0
20-24	-	-	-	-	-	-	-	-	-	-	0
25-29	-	-	-	-	-	-	-	-	-	-	0
30-34	-	-	-	-	-	-	-	-	-	-	0
35-39	-	-	-	-	-	-	-	-	-	-	0
40-44	-	-	-	-	-	-	-	-	-	-	0
45-49	-	-	-	-	-	-	-	-	-	-	0
50-54	-	-	-	-	-	-	-	-	-	-	0
55-59	-	-	-	-	-	-	-	-	-	-	0
60-64	-	-	-	-	-	-	-	-	-	-	0
65-69	-	-	-	-	-	1	-	-	-	-	1
70-74	-	-	-	-	-	-	-	-	-	-	0
75 and Over	-	-	-	-	-	-	-	-	-	-	0
Total	0	0	0	0	0	1	0	0	0	0	1

Historical Schedule of Active Member Data
Through July 1, 2022

Valuation Date 7/1	Number	Annual Payroll ($ in Millions)	Average Annual Pay [1]	% Increase in Avg Pay
2013	15	$ 0.8	$ 56,173	2.3%
2014	13	0.8	60,819	8.3%
2015	11	0.7	63,402	4.2%
2016	9	0.6	62,743	(1.0)%
2017	8	0.5	62,321	(0.7)%
2018	7	0.4	59,522	(4.5)%
2019	7	0.4	59,507	(0.0)%
2020	5	0.3	62,921	5.7%
2021	3	0.2	58,392	(7.2)%
2022	1	0.1	61,332	5.0%

[1]Prior to the actuarial valuation as of July 1, 2017, annual payroll and average annual pay are based on projected annual compensation for the upcoming year. Beginning with the actuarial valuation as of July 1, 2016, annual payroll and average annual pay are based on annualized payroll as of the actuarial valuation date.

Results prior to 2016 provided by NDPERS prior actuary.

Summary of Active Member Data as of July 1, 2022

Active Members Eligible For:	Total
Retirement	
Normal	1
Optional	0
Early Retirement	0
Total Retirement	1
Deferred Retirement	0
Total Vested	1
Non-Vested	0
Grand Total	**1**

Schedule of Members in Pay Status as of July 1, 2022

Monthly Amount	Normal	Early	Disability	Beneficiary*	Total
Under $200	3	0	0	1	4
$200 - $400	4	0	0	3	7
$400 - $600	6	0	0	0	6
$600 - $800	3	0	0	6	9
$800 - $1,000	3	0	0	5	8
$1,000 - $1,200	2	0	0	1	3
$1,200 - $1,400	4	0	0	4	8
$1,400 - $1,600	8	0	0	2	10
$1,600 - $1,800	8	0	0	1	9
$1,800 - $2,000	4	0	0	6	10
$2,000 - $2,200	12	0	0	1	13
$2,200 - $2,400	8	0	0	0	8
$2,400 - $2,600	10	0	0	1	11
$2,600 - $2,800	7	0	0	1	8
$2,800 - $3,000	9	0	0	0	9
$3,000 - $3,200	6	0	0	0	6
$3,200 - $3,400	7	0	0	1	8
$3,400 - $3,600	10	0	0	0	10
$3,600 - $3,800	3	0	0	0	3
$3,800 - $4,000	4	0	0	0	4
$4,000 - $4,200	5	0	0	0	5
$4,200 - $4,400	3	0	0	0	3
$4,400 - $4,600	0	0	0	0	0
$4,600 - $4,800	4	0	0	0	4
$4,800 - $5,000	0	0	0	0	0
$5,000 and Over	9	0	0	0	9
Total	**142**	**0**	**0**	**33**	**175**

Payment Option	Normal	Early	Disability	Beneficiary*	Total
Life	41	0	0	8	49
Joint & 55% Survivor	27	0	0	15	42
Joint & 75% Survivor	16	0	0	7	23
Joint & 100% Survivor	16	0	0	2	18
10 Year C & L	19	0	0	1	20
15 Year C & L	3	0	0	0	3
20 Year C & L	20	0	0	0	20
Total	**142**	**0**	**0**	**33**	**175**

Age	Normal	Early	Disability	Beneficiary*	Total
Under 50	0	0	0	0	0
50 - 54	0	0	0	0	0
55 - 59	0	0	0	0	0
60 - 64	0	0	0	0	0
65 - 69	20	0	0	1	21
70 - 74	34	0	0	8	42
75 - 79	39	0	0	3	42
80 - 84	23	0	0	5	28
85 - 89	12	0	0	8	20
90 and Over	14	0	0	8	22
Total	**142**	**0**	**0**	**33**	**175**

	Previous Valuation	Current Valuation	Change
Average Age	78.6	79.3	0.7
Average Monthly Benefit	$2,193	$2,366	$173
Total Members in Pay Status	177	175	(2)

** Includes 2 alternate payees.*
Benefit amounts exclude benefits paid by the insurer.

Schedule of Average Benefit Payments

		Retirement Plan	Insured Annuitants	Total
2018	Number of Retirees	140	56	196
	Average Monthly Benefit	$2,420	$791	$1,955
2019	Number of Retirees	135	50	185
	Average Monthly Benefit	$2,510	$853	$2,062
2020	Number of Retirees	133	48	181
	Average Monthly Benefit	$2,515	$880	$2,081
2021	Number of Retirees	133	44	177
	Average Monthly Benefit	$2,608	$938	$2,193
2022	Number of Retirees	133	42	175
	Average Monthly Benefit	$2,783	$1,047	$2,366

Benefit amounts exclude benefits paid by the insurer.

Schedule of Retirees and Beneficiaries Added to and Removed from the Rolls

Plan Year	Beg of Year No.	Beg of Year Ann. Benefits*	Added to Rolls No.	Added to Rolls Ann. Benefits*	Removed from Rolls No.	Removed from Rolls Ann. Benefits*	End of Year Balance No.**	End of Year Balance Ann. Benefits*	Average Annual Benefit	% Increase in Total Ann. Benefits
					Retirement					
2013	212	$ 4,389,159	8	$ 273,087	(7)	($250,470)	213	$ 4,411,776	$ 20,713	0.5%
2014	213	4,411,776	6	300,806	(6)	(86,706)	213	4,625,876	21,718	4.9%
2015	213	4,625,876	2	106,825	(9)	(119,238)	206	4,613,463	22,395	-0.3%
2016	206	4,613,463	7	119,994	(7)	(126,408)	206	4,607,049	22,364	-0.1%
2017	206	4,607,049	2	110,266	(9)	(189,860)	199	4,527,455	22,751	-1.7%
2018	199	4,527,455	7	239,216	(10)	(169,016)	196	4,597,655	23,457	1.6%
2019	196	4,597,655	0	142,105	(11)	(161,369)	185	4,578,391	24,748	-0.4%
2020	185	4,578,391	7	210,459	(11)	(267,983)	181	4,520,867	24,977	-1.3%
2021	181	4,520,867	5	289,805	(9)	(153,303)	177	4,657,369	26,313	3.0%
2022	177	4,657,369	3	424,014	(5)	(112,290)	175	4,969,094	28,395	6.7%

* *Includes cost of living adjustment of 3.6% for retirement benefits in pay status as of July 1, 2012, 1.7% as of July 1, 2013, 1.5% as of July 1, 2014, 1.7% as of July 1, 2015, 0.3% as of July 1, 2017, 2.0% as of July 1, 2018, 2.8% as of July 1, 2019, 1.6% as of July 1, 2020, 1.3% as of July 1, 2021, and 5.9% as of July 1, 2022. Excludes benefits paid by the insurer.*

** *Includes 2 alternate payees.*

Results prior to 2016 provided by NDPERS prior actuary.

Numbers may not add due to rounding.

SECTION D

GASB STATEMENT NOS. 67 AND 68 SCHEDULES

GASB Statement Nos. 67 and 68

Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain non-actuarial information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the Retirement Plan for Employees of Job Service North Dakota subsequent to the measurement date of July 1, 2022.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- The pension plan's fiduciary net position, net pension liability and the pension plan's fiduciary net position as a percentage of the total pension liability;
- The net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- Significant actuarial assumptions and methods used to calculate the total pension liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- The composition of the pension plan's Board and the authority under which benefit terms may be amended;
- A description of how fair value is determined;
- Information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- Annual money-weighted rate of return.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- Sources of changes in the net pension liability;
- Information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

Timing of the Actuarial Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of July 1, 2022, and a measurement date of July 1, 2022.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) a tax-exempt municipal bond rate based on an index of 20-year mixed maturity general obligation bonds with an average Standard & Poor's Corp.'s AA credit rating (which is published by Fidelity) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this actuarial valuation, the expected rate of return on pension plan investments is 3.00%; the municipal bond rate is 3.69% (based on the most recent date available on or before the measurement date of the "20-year Municipal GO Index" from Fidelity); and the resulting Single Discount Rate is 3.00%.

Effective Date and Transition

GASB Statement Nos. 67 and 68 are effective for fiscal years beginning after June 15, 2013, and June 15, 2014, respectively.

Executive Summary
As of June 30, 2022

Actuarial Valuation Date	7/1/2022
Measurement Date of the Net Pension Liability	7/1/2022
Plan's Fiscal Year Ending Date (Reporting Date) for GASB 67	6/30/2022
Employer's Fiscal Year Ending Date (Reporting Date) for GASB 68	6/30/2023

Membership

Number of	
- Retirees and Beneficiaries	175
- Inactive, Nonretired Members	1
- Active Members	1
- Total	177
Covered Payroll	$ 61,332

Net Pension Liability

Total Pension Liability	$ 70,492,767
Plan Fiduciary Net Position	86,177,470
Net Pension Liability	$ (15,684,703)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	122.25 %
Net Pension Liability as a Percentage of Covered Payroll	(25,573.44)%

Development of the Single Discount Rate

Single Discount Rate	3.00 %
Long-Term Expected Rate of Investment Return	3.00 %
Long-Term Municipal Bond Rate*	3.69 %
Last year ending June 30 in the 2022 to 2122 projection period for which projected benefit payments are fully funded	2122

Total Pension Expense $ 8,910,614

Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$ -	$ -
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	6,417,615	-
Total	$ 6,417,615	$ -

**Source:*

Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2022. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.

Pension Expense under GASB Statement No. 68
Total for All Employers
Fiscal Year Ended June 30, 2022*

A. Calculation of Total Pension Expense

1. Service Cost	$	41,998
2. Interest on the Total Pension Liability		2,342,037
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		(9,299)
5. Projected Earnings on Plan Investments (made negative for addition here)		(3,532,078)
6. Pension Plan Administrative Expense		18,357
7. Other Changes in Plan Fiduciary Net Position		-
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		8,130,443
9. Recognition of Outflow (Inflow) of Resources due to Assets		1,919,156
Total Pension Expense	**$**	**8,910,614**

Differences between expected and actual experience and changes in assumptions are recognized in pension expense using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees who are provided with pensions through the pension plan (active employees and inactive employees) determined as of the beginning of the measurement period.

At the beginning of the current measurement period, the average expected remaining service life of the 1 active employee in the plan was approximately 0.5 years. Additionally, the total plan membership (active employee and inactive employees) was 177. As a result, the average of the expected remaining service life for purposes of recognizing the applicable deferred outflows and inflows of resources established in the current measurement period is 1.0000 year.

Additionally, differences between projected and actual earnings on pension plan investments should be recognized in pension expense using a systematic and rational method over a closed 5-year period. For this purpose, the deferred outflows and inflows of resources are recognized in the pension expense as a level dollar amount over the closed period identified above.

**Based on a measurement date of July 1, 2022. Will be used for fiscal year ending June 30, 2023.*

Statement of Outflows and Inflows
Arising from Current and Prior Reporting Periods
GASB Statement No. 68 – Total for All Employers
Fiscal Year Ended June 30, 2022*

A. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	6,417,615	-	6,417,615
4. Total	$ 6,417,615	$ -	$ 6,417,615

B. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows (Inflows) of Resources
2023	$ 1,419,882
2024	1,779,382
2025	1,401,638
2026	1,816,713
2027	-
Thereafter	-
Total	$ 6,417,615

**Based on a measurement date of July 1, 2022. Will be used for fiscal year ending June 30, 2023.*

Schedule of Recognition of Changes in Total Net Pension Liability/(Asset) from Current and Prior Reporting Periods

Increase (Decrease) in Pension Expense Arising from difference between expected and actual experience

Year Ending June 30	Difference between expected and actual experience	Recognition Period (Years)	Total Deferred (2023-2028)	Recognized in Year Ending June 30								
				2020 & Prior	2021	2022	2023	2024	2025	2026	2027	2028
2015	(1,806,271)	1.0000	-	(1,806,271)	-	-	-	-	-	-	-	-
2016	(2,006,791)	1.0000	-	(2,006,791)	-	-	-	-	-	-	-	-
2017	(1,648,283)	1.0000	-	(1,648,283)	-	-	-	-	-	-	-	-
2018	(310,124)	1.0000	-	(310,124)	-	-	-	-	-	-	-	-
2019	(504,895)	1.0000	-	(504,895)	-	-	-	-	-	-	-	-
2020	(1,122,296)	1.0000	-	(1,122,296)	-	-	-	-	-	-	-	-
2021	(201,346)	1.0000	-	-	(201,346)	-	-	-	-	-	-	-
2022	3,413,145	1.0000	-	-	-	3,413,145	-	-	-	-	-	-
Total			-	(7,398,660)	(201,346)	3,413,145	-	-	-	-	-	-

Increase (Decrease) in Pension Expense Arising from changes in assumptions

Year Ending June 30	Changes in assumptions [1]	Recognition Period (Years)	Total Deferred (2023-2028)	Recognized in Year Ending June 30								
				2020 & Prior	2021	2022	2023	2024	2025	2026	2027	2028
2015	(309,878)	1.0000	-	(309,878)	-	-	-	-	-	-	-	-
2016	69,885	1.0000	-	69,885	-	-	-	-	-	-	-	-
2017	4,421,401	1.0000	-	4,421,401	-	-	-	-	-	-	-	-
2018	5,811,755	1.0000	-	5,811,755	-	-	-	-	-	-	-	-
2019	-	1.0000	-	-	-	-	-	-	-	-	-	-
2020	539,852	1.0000	-	539,852	-	-	-	-	-	-	-	-
2021	2,898,630	1.0000	-	-	2,898,630	-	-	-	-	-	-	-
2022	4,717,298	1.0000	-	-	-	4,717,298	-	-	-	-	-	-
Total			-	10,533,015	2,898,630	4,717,298	-	-	-	-	-	-

Increase (Decrease) in Pension Expense Arising from net difference between projected and actual earnings on pension plan investments

Year Ending June 30	Difference between projected and actual earnings on pension plan investments	Recognition Period (Years)	Total Deferred (2023-2028)	Recognized in Year Ending June 30								
				2020 & Prior	2021	2022	2023	2024	2025	2026	2027	2028
2015	4,368,254	5.0000	-	4,368,254	-	-	-	-	-	-	-	-
2016	1,741,562	5.0000	-	1,741,562	-	-	-	-	-	-	-	-
2017	1,363,408	5.0000	-	1,090,728	272,682	-	-	-	-	-	-	-
2018	2,496,376	5.0000	-	1,497,825	499,275	499,276	-	-	-	-	-	-
2019	(1,797,518)	5.0000	(359,502)	(719,008)	(359,504)	(359,504)	(359,502)	-	-	-	-	-
2020	1,888,723	5.0000	755,488	377,745	377,745	377,745	377,745	377,743	-	-	-	-
2021	(2,075,371)	5.0000	(1,245,223)	-	(415,074)	(415,074)	(415,074)	(415,074)	(415,075)	-	-	-
2022	9,083,565	5.0000	7,266,852	-	-	1,816,713	1,816,713	1,816,713	1,816,713	1,816,713	-	-
Total			6,417,615	8,357,106	375,124	1,919,156	1,419,882	1,779,382	1,401,638	1,816,713	-	-

Increase (Decrease) in Pension Expense Arising from All Sources

Year Ending June 30	Total Difference	Recognition Period (Years)	Total Deferred (2023-2028)	Recognized in Year Ending June 30								
				2020 & Prior	2021	2022	2023	2024	2025	2026	2027	2028
2015	2,252,105	Varies by Type	-	2,252,105	-	-	-	-	-	-	-	-
2016	(195,344)	Varies by Type	-	(195,344)	-	-	-	-	-	-	-	-
2017	4,136,526	Varies by Type	-	3,863,846	272,682	-	-	-	-	-	-	-
2018	7,998,007	Varies by Type	-	6,999,456	499,275	499,276	-	-	-	-	-	-
2019	(2,302,413)	Varies by Type	(359,502)	(1,223,903)	(359,504)	(359,504)	(359,502)	-	-	-	-	-
2020	1,306,279	Varies by Type	755,488	(204,699)	377,745	377,745	377,745	377,743	-	-	-	-
2021	621,913	Varies by Type	(1,245,223)	-	2,282,210	(415,074)	(415,074)	(415,074)	(415,075)	-	-	-
2022	17,214,008	Varies by Type	7,266,852	-	-	9,947,156	1,816,713	1,816,713	1,816,713	1,816,713	-	-
Total			6,417,615	11,491,461	3,072,408	10,049,599	1,419,882	1,779,382	1,401,638	1,816,713	-	-

[1] *For fiscal year ending June 30, 2016, includes difference in liability due to change in actuary.*
For fiscal year ending June 30, 2017, includes difference in liability due to a change in the investment return assumption from 7.00 percent to 5.70 percent, a change in the inflation assumption, and a change in the COLA assumption.
For fiscal year ending June 30, 2018, includes difference in liability due to a change in the investment return assumption from 5.70 percent to 4.75 percent.
For fiscal year ending June 30, 2020, includes difference in liability due to changes as a result of the experience study.
For fiscal year ending June 30, 2021, includes difference in liability due to a change in the investment return assumption from 4.25 percent to 3.75 percent.
For fiscal year ending June 30, 2022, includes difference in liability due to a change in the investment return assumption from 3.75 percent to 3.00 percent.

Statement of Details of Outflows and Inflows from Current and Prior Reporting Periods

	Total Deferred (2023-2028)	Outflow of Resources Recognized in Year Ending June 30								
		2020 & Prior	2021	2022	2023	2024	2025	2026	2027	2028
Difference between expected and actual experience	$ -	$ -	$ -	$ 3,413,145	$ -	$ -	$ -	$ -	$ -	$ -
Changes in assumptions	-	10,842,893	2,898,630	4,717,298	-	-	-	-	-	-
Difference between projected and actual earnings on investments	6,417,615	8,357,106	375,124	1,919,156	1,419,882	1,779,382	1,401,638	1,816,713	-	-
Total	6,417,615	19,199,999	3,273,754	10,049,599	1,419,882	1,779,382	1,401,638	1,816,713	-	-

	Total Deferred (2023-2028)	(Inflows) of Resources Recognized in Year Ending June 30								
		2020 & Prior	2021	2022	2023	2024	2025	2026	2027	2028
Difference between expected and actual experience	$ -	$ (7,398,660)	$ (201,346)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Changes in assumptions	-	(309,878)	-	-	-	-	-	-	-	-
Difference between projected and actual earnings on investments	-	-	-	-	-	-	-	-	-	-
Total	-	(7,708,538)	(201,346)	-	-	-	-	-	-	-

	Total Deferred (2023-2028)	Increase (Decrease) in Pension Expense Arising from Assets and Liabilities Recognized in Year Ending June 30								
		2020 & Prior	2021	2022	2023	2024	2025	2026	2027	2028
Total Liabilities	$ -	$ 3,134,355	$ 2,697,284	$ 8,130,443	$ -	$ -	$ -	$ -	$ -	$ -
Total Assets	6,417,615	8,357,106	375,124	1,919,156	1,419,882	1,779,382	1,401,638	1,816,713	-	-
Total	6,417,615	11,491,461	3,072,408	10,049,599	1,419,882	1,779,382	1,401,638	1,816,713	-	-

Schedules of Required Supplementary Information
Schedule of Net Pension Liability and Related Ratios Multiyear

Last 10 Fiscal Years (which may be built prospectively)

FY Ending 30-Jun	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll [1]	Net Pension Liability as a % of Covered Payroll
2014	$65,046,433	$97,696,628	$(32,650,195)	150.20%	$842,601	(3,874.93)%
2015	63,390,014	96,282,892	(32,892,878)	151.89%	790,649	(4,160.24)%
2016	61,204,772	96,533,954	(35,329,182)	157.72%	564,684	(6,256.45)%
2017	63,629,469	97,265,411	(33,635,942)	152.86%	498,564	(6,746.56)%
2018	68,129,211	95,588,111	(27,458,900)	140.30%	416,652	(6,590.37)%
2019	66,196,940	97,203,246	(31,006,306)	146.84%	416,552	(7,443.56)%
2020	64,128,637	95,250,637	(31,122,000)	148.53%	314,607	(9,892.34)%
2021	64,843,971	96,603,697	(31,759,726)	148.98%	175,176	(18,130.18)%
2022	70,492,767	86,177,470	(15,684,703)	122.25%	61,332	(25,573.44)%

[1] *Prior to the actuarial valuation as of July 1, 2016, covered payroll is based on projected annual compensation. Beginning with the actuarial valuation as of July 1, 2016, covered payroll is based on annualized payroll as of the actuarial valuation date.*

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

The following presents the net pension liability/(asset) of the Retirement Plan for Employees of Job Service North Dakota, calculated using the current discount rate of 3.00%, as well as what the Retirement Plan for Employees of Job Service North Dakota's net pension liability/(asset) would be if it were calculated using a discount rate that is 1-percentage point lower (2.00%) or is 1-percentage point higher (4.00%) than the current rate.

	Current Single Discount	
1% Decrease	Rate Assumption	1% Increase
2.00%	3.00%	4.00%
$ (8,404,268)	$ (15,684,703)	$ (21,896,493)

Schedule of Changes in Net Pension Liability and Related Ratios
Current Report Period
Fiscal Year Ended June 30, 2022

Fiscal Year Ending June 30,	2022
Total pension liability	
Service cost	$ 41,998
Interest on the total pension liability	2,342,037
Changes of benefit terms	-
Difference between expected and actual experience	3,413,145
Changes of assumptions	4,717,298
Benefit payments and refunds	(4,865,682)
Net change in total pension liability	5,648,796
Total pension liability - beginning	64,843,971
Total pension liability - ending (a)	$ 70,492,767
Plan fiduciary net position	
Contributions - Employer	$ -
Contributions - Employee	9,299
Contributions - Service credit repurchases	-
Pension plan net investment income	(5,551,487)
Benefit payments and refunds	(4,865,682)
Pension plan administrative expense	(18,357)
Transfers and Other Income	-
Net change in plan fiduciary net position	(10,426,227)
Plan fiduciary net position - beginning	96,603,697
Plan fiduciary net position - ending (b)	$ 86,177,470
Net pension liability - ending (a) - (b)	$ (15,684,703)
Plan fiduciary net position as a percentage of total pension liability	122.25 %
Covered-employee payroll	$ 61,332
Net pension liability as a percentage of covered-employee payroll	(25,573.44)%

GASB Statement Nos. 67 and 68 (Continued)

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Fiscal year ending June 30,	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability									
Service Cost	$ 41,998	$ 58,356	$ 57,560	$ 70,295	$ 80,344	$ 55,500	$ 71,420	$ 127,734	$ 87,668
Interest on the Total Pension Liability	2,342,037	2,628,514	3,038,156	3,129,175	3,500,344	4,130,232	4,281,440	5,026,167	5,107,459
Benefit Changes	-	-	-	-	-	-	-	-	-
Difference between Expected and Actual Experience	3,413,145	(201,346)	(1,122,296)	(504,895)	(310,124)	(1,648,283)	(2,006,791)	(1,806,271)	(1,607,033)
Assumption Changes[1]	4,717,298	2,898,630	539,852	-	5,811,755	4,421,401	69,885	(309,878)	-
Benefit payments and refunds	(4,865,682)	(4,668,820)	(4,581,575)	(4,626,846)	(4,582,577)	(4,534,153)	(4,601,196)	(4,694,171)	(4,594,462)
Net Change in Total Pension Liability	5,648,796	715,334	(2,068,303)	(1,932,271)	4,499,742	2,424,697	(2,185,242)	(1,656,419)	(1,006,368)
Total Pension Liability - Beginning	64,843,971	64,128,637	66,196,940	68,129,211	63,629,469	61,204,772	63,390,014	65,046,433	66,052,801
Total Pension Liability - Ending (a)	$ 70,492,767	$ 64,843,971	$ 64,128,637	$ 66,196,940	$ 68,129,211	$ 63,629,469	$ 61,204,772	$ 63,390,014	$ 65,046,433
Plan Fiduciary Net Position									
Employer Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Employee Contributions	9,299	13,979	27,047	29,159	32,987	39,417	44,178	50,142	55,748
Contribution - Service Credit Repurchase	-	-	-	-	-	-	-	-	-
Pension Plan Net Investment Income	(5,551,487)	6,025,272	2,621,067	6,229,630	2,918,585	5,238,877	4,840,333	3,260,507	11,887,840
Benefit payments and refunds	(4,865,682)	(4,668,820)	(4,581,575)	(4,626,846)	(4,582,577)	(4,534,153)	(4,601,196)	(4,694,171)	(4,594,462)
Pension Plan Administrative Expense	(18,357)	(17,371)	(19,148)	(16,808)	(46,295)	(12,684)	(32,253)	(30,214)	(31,455)
Transfers and Other Income	-	-	-	-	-	-	-	-	-
Net Change in Plan Fiduciary Net Position	(10,426,227)	1,353,060	(1,952,609)	1,615,135	(1,677,300)	731,457	251,062	(1,413,736)	7,317,671
Plan Fiduciary Net Position - Beginning	96,603,697	95,250,637	97,203,246	95,588,111	97,265,411	96,533,954	96,282,892	97,696,628	90,378,957
Plan Fiduciary Net Position - Ending (b)	$ 86,177,470	$ 96,603,697	$ 95,250,637	$ 97,203,246	$ 95,588,111	$ 97,265,411	$ 96,533,954	$ 96,282,892	$ 97,696,628
Net Pension Liability - Ending (a) - (b)	$ (15,684,703)	$ (31,759,726)	$ (31,122,000)	$ (31,006,306)	$ (27,458,900)	$ (33,635,942)	$ (35,329,182)	$ (32,892,878)	$ (32,650,195)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	122.25 %	148.98 %	148.53 %	146.84 %	140.30 %	152.86 %	157.72 %	151.89 %	150.20 %
Covered Employee Payroll[2]	$ 61,332	$ 175,176	$ 314,607	$ 416,552	$ 416,652	$ 498,564	$ 564,684	$ 790,649	$ 842,601
Net Pension Liability as a Percentage of Covered Employee Payroll	(25,573.44)%	(18,130.18)%	(9,892.34)%	(7,443.56)%	(6,590.37)%	(6,746.56)%	(6,256.45)%	(4,160.24)%	(3,874.93)%

[1] *For fiscal year ending June 30, 2016, includes difference in liability due to change in actuary.*
For fiscal year ending June 30, 2017, includes difference in liability due to a change in the investment return assumption from 7.00 percent to 5.70 percent, a change in the inflation assumption, and a change in the COLA assumption.
For fiscal year ending June 30, 2018, includes difference in liability due to a change in the investment return assumption from 5.70 percent to 4.75 percent.
For fiscal year ending June 30, 2020, includes difference due to assumption changes from the experience study.
For fiscal year ending June 30, 2021, includes difference in liability due to a change in the investment return assumption from 4.25 percent to 3.75 percent.
For fiscal year ending June 30, 2022, includes difference in liability due to a change in the investment return assumption from 3.75 percent to 3.00 percent.

[2] *Prior to the valuation as of July 1, 2016, covered payroll is based on projected annual compensation. Beginning with the valuation as of July 1, 2016, covered payroll is based on annualized payroll as of the valuation date.*

Ten fiscal years will be built prospectively.

Values prior to fiscal year ending June 30, 2016, were calculated by the prior actuary.

System Asset Allocation

Asset Class	Target Allocation	Short-Term Expected Real Rate of Return	Allocation-Weighted Short-Term Expected Real Rate of Return
Domestic Equity	2.00 %	5.37 %	0.11 %
Global Equity	18.00 %	5.74 %	1.03 %
US High Yield	3.00 %	4.22 %	0.13 %
Emerging Market Debt	3.00 %	4.96 %	0.15 %
Core Fixed Income	34.00 %	1.31 %	0.45 %
Limited Duration Fixed Income	10.00 %	0.59 %	0.06 %
Diversified ST Fixed Income	5.00 %	1.86 %	0.09 %
Short Term Corporate Fixed Income	25.00 %	0.53 %	0.13 %
Total	100.00 %		2.15 %

Asset allocation and short-term expected arithmetic returns were provided by RIO and are net of inflation of 3.00%.

The discount rate used to measure the total pension liability was 3.00%. The projection of cash flows used to determine the discount rate assumed current plan member contributions will be made and no future employer contributions will be made. Based on those assumptions, the pension plan's fiduciary net position was projected to be sufficient to make all projected future benefit payments of current plan members. Therefore, the short-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Since the plan is closed with only one active member remaining, the plan is managed on a short-term basis and the expected returns displayed on this page are short-term.

Schedule of Contributions Multiyear
Last 10 Fiscal Years

FY Ending 30-Jun	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll [1]	Actual Contribution as a % of Covered Payroll
2014	$ -	$ -	$ -	$ 842,601	0.00 %
2015	-	-	-	790,649	0.00 %
2016	-	-	-	564,684	0.00 %
2017	-	-	-	498,564	0.00 %
2018	-	-	-	416,652	0.00 %
2019	-	-	-	416,552	0.00 %
2020	-	-	-	314,607	0.00 %
2021	-	-	-	175,176	0.00 %
2022	-	-	-	61,332	0.00 %

[1] *Prior to the actuarial valuation as of July 1, 2016, covered employee payroll is based on projected annual compensation. From the actuarial valuation as of July 1, 2016, covered employee payroll is based on pensionable payroll for membership data used in the actuarial valuation.*

Ten fiscal years will be built prospectively.

GASB Statement Nos. 67 and 68 (Continued)

Valuation Date:	July 1, 2022
Notes	The actuarially determined contribution amount is calculated as of June 30, 12 months prior to the end of the fiscal year in which the contributions are reported.

Methods and Assumptions Used to Determine Actuarially Determined Contribution Rates:

Actuarial Cost Method	Frozen Initial Liability (Aggregate since no Initial Liability remaining)
Amortization Method	NA
Asset Valuation Method	5-Year smoothed market
Inflation	2.25 percent
COLA	2.25 percent
Salary Increases	3.50 percent
Investment Rate of Return	3.75 percent
Retirement Age	Age-based table of rates that are specific to the type of eligibility condition.
Mortality	Pub-2010 Healthy Retiree Mortality table (for General Employees), sex-distinct, with rates multiplied by 103% for males and 101% for females. Pub-2010 Disabled Retiree Mortality table (for General Employees), sex-distinct, with rates multiplied by 117% for males and 112% for females. Pub-2010 Employee Mortality table (for General Employees), sex-distinct, with rates multiplied by 92% for both males and females. Mortality rates are projected from 2010 using the MP-2019 scale.

Other Information:

Notes	There were no benefit changes during the year. The assumptions were updated beginning with the actuarial valuation as of July 1, 2020 based on an experience study covering the period July 1, 2014 through July 1, 2019. The Board approved lowering the investment return assumption from 4.25 percent to 3.75 percent, first effective July 1, 2021. The System has assets in excess of the present value of future benefits. Therefore, no employer contributions are being made.

Methods and Assumptions Used to Determine GASB 67/68 Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	Plan Fiduciary Net Position (Market value of assets, no asset smoothing)
Inflation	2.25 percent
COLA	2.25 percent
Salary Increases	3.50 percent
Investment Rate of Return	3.00 percent
Retirement Age	Age-based table of rates that are specific to the type of eligibility condition.
Mortality	Pub-2010 Healthy Retiree Mortality table (for General Employees), sex-distinct, with rates multiplied by 103% for males and 101% for females. Pub-2010 Disabled Retiree Mortality table (for General Employees), sex-distinct, with rates multiplied by 117% for males and 112% for females. Pub-2010 Employee Mortality table (for General Employees), sex-distinct, with rates multiplied by 92% for both males and females. Mortality rates are projected from 2010 using the MP-2019 scale.

Other Information:

Notes	There were no benefit changes during the year. The assumptions were updated beginning with the actuarial valuation as of July 1, 2020 based on an experience study covering the period July 1, 2014 through July 1, 2019. The Board approved lowering the investment return assumption from 3.75 percent to 3.00 percent, first effective July 1, 2022. The System has assets in excess of the present value of future benefits. Therefore, no employer contributions are being made.

GASB Statement Nos. 67 and 68 (Concluded)

Schedule of Reconciliation of Net Pension Liability

FY Ending June 30,	Beginning Net Pension Liability (1)	Pension Expense (2)	Employer Contributions (3)	New Net Deferred (Inflows)/Outflows (4)	Recognition of Prior Net Deferred (Inflows)/Outflows (5)	Ending Net Pension Liability =(1)+(2)-(3)+(4)-(5)
2014	$ (24,326,156)	$ (4,451,775)	$ -	$ (3,872,264)	$ -	$ (32,650,195)
2015	(32,650,195)	(4,705,352)	-	3,494,603	(968,066)	(32,892,878)
2016	(32,892,878)	(3,923,969)	-	1,393,250	(94,415)	(35,329,182)
2017	(35,329,182)	856,411	-	1,090,726	253,897	(33,635,942)
2018	(33,635,942)	4,706,520	-	1,997,101	526,579	(27,458,900)
2019	(27,458,900)	(115,473)	-	(1,438,014)	1,993,919	(31,006,306)
2020	(31,006,306)	(865,905)	-	1,510,978	760,767	(31,122,000)
2021	(31,122,000)	1,812,767	-	(1,660,297)	790,196	(31,759,726)
2022	(31,759,726)	8,910,614	-	7,266,852	102,443	(15,684,703)

Ten fiscal years will be built prospectively.
Values prior to fiscal year ending June 30, 2016, were calculated by the prior actuary.

SECTION E

ACTUARIAL VALUATION PROCEDURES

Actuarial Assumptions in the Valuation Process

Normal cost and the allocation of benefit values between service rendered before and after the actuarial valuation date were determined using the ***Frozen Initial Liability*** *actuarial cost method having the following characteristics:*

- Future normal costs are defined to be the group present value of future benefits, at the actuarial valuation date, less the total assets on hand. Future normal costs are then amortized over the group average working lifetime. Because the accrued liability is equal to the assets, all gains and losses are spread into the future normal cost; and
- The normal cost tends to be high at plan inception and gradually decreases as a percentage of payroll as the original plan participants with prior service at inception leave active service.

Actuarial Value of Pension Plan Assets. The calculated value is determined by adjusting the market value of assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last five years at the rate of 20 percent per year. This asset smoothing method was adopted by the Board for use beginning with the July, 1 2017 actuarial valuation. Net deferred asset gains attributable to fiscal years 2016 and prior were fully recognized as of July 1, 2017.

Actuarial Valuation Assumptions. The contribution and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost method described above.

The principal areas of financial risk which require assumptions about future experiences are:

- Long-term rates of investment return to be generated by the assets of the Plan;
- Patterns of pay increases to members;
- Rates of mortality among members, retirees and beneficiaries;
- Rates of withdrawal of active members;
- Rates of disability among members; and
- The age patterns of actual retirement.

In an actuarial valuation, the monetary effect of each assumption is calculated for as long as a present covered person survives; a period of time which can be as long as a century.

Actual experience of the Plan will not coincide exactly with assumed experience. Each actuarial valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

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). Thus, an experience review of the North Dakota Public Employees' Retirement System for the period July 1, 2014 to July 1, 2019, was performed to compare the demographic and economic experience against the actuarial assumptions used in the actuarial valuations. Most of the actuarial assumptions described in this section were adopted by the Board for use beginning with the July 1, 2020 actuarial valuation.

Actuarial Assumptions in the Valuation Process (Concluded)

All actuarial assumptions are expectations of future experience, not current market measures.

The actuarial assumptions were provided by, and are the responsibility of, the NDPERS Board.

Actuarial Valuation Assumptions

Current Actuarial Valuation Assumptions and Methods

The assumed rate of investment return used is 3.00 percent, net of investment expenses, annually. This assumption was first adopted by the Board for use beginning with the July 1, 2022 actuarial valuation.

The assumed rate of price inflation is 2.25 percent. This assumption was first adopted by the Board to use beginning with the July 1, 2020 actuarial valuation.

Cost of Living Adjustments (COLA) of 2.25 percent per year are assumed to be provided to benefit recipients. This assumption was first adopted by the Board to use beginning with the July 1, 2020 actuarial valuation.

The rate of annual salary increase used for individual members of 3.50 percent per year is assumed. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

No rates of separation from active membership are assumed (separate rates apply to members for separation on account of death or disability).

Rates of disability:

Before age 65: Males: 15.00% of OASDI disability incidence rates.
Females: 8.50% of OASDI disability incidence rates.
Age 65 and later: 0.15% per year.

Rates of disability were as follows:

Age	Male	Female
20	0.0090%	0.0051%
25	0.0128%	0.0073%
30	0.0165%	0.0094%
35	0.0221%	0.0125%
40	0.0330%	0.0187%
45	0.0539%	0.0306%
50	0.0909%	0.0515%
55	0.1513%	0.0858%
60	0.2440%	0.1383%
65	0.1500%	0.1500%

Actuarial Valuation Assumptions (Continued)

Rates of retirement for members eligible to retire during the next year were as follows:

Age	Male & Female
50-64	15.00%
65+	100.00%

The mortality assumptions are as follows:

Type	Assumption	Male Scaling Factor	Female Scaling Factor
Post-Retirement Non-Disabled	Pub-2010 Healthy Retiree Mortality Table (for General Employees), sex distinct	103%	101%
Post-Retirement Disabled	Pub-2010 Disabled Retiree Mortality Table (for General Employees), sex distinct	117%	112%
Pre-Retirement	Pub-2010 Employee Mortality Table (for General Employees), sex distinct	92%	92%

Mortality is projected from 2010 with generational mortality improvement using the MP-2019 two-dimensional mortality improvement scales.

Following is a table with the life expectancies by age as of the valuation date.

	Healthy Mortality Post-Retirement Future Life Expectancy (Years) in 2022		Disabled Mortality Future Life Expectancy (Years) in 2022	
Age	Men	Women	Men	Women
20	67.20	70.66	49.76	54.36
25	61.82	65.26	45.04	49.22
30	56.45	59.86	40.27	44.13
35	51.13	54.49	35.87	39.44
40	45.85	49.15	31.77	35.14
45	40.59	43.82	27.84	31.12
50	35.47	38.62	24.18	27.42
55	30.58	33.64	20.91	24.12
60	25.87	28.76	18.01	21.08
65	21.37	24.01	15.32	18.01
70	17.11	19.46	12.71	14.79
75	13.17	15.18	10.13	11.63
80	9.70	11.34	7.73	8.82
85	6.86	8.10	5.69	6.55
90	4.78	5.62	4.07	4.88
95	3.36	3.92	2.93	3.54
100	2.40	2.75	2.10	2.48
105	1.81	2.01	1.56	1.79

Actuarial Valuation Assumptions (Continued)

Assumed Service Credit: All active members (full time and part time) are assumed to earn one full year of service for each assumed future year of service.

Marital Status: It is assumed that 85 percent of participants have an eligible spouse at the time of retirement or pre-retirement death. The male spouse is assumed to be four years older than the female spouse.

Spouses are assumed to be the opposite sex of the employees and retirees. The relatively low rate of same-sex spouses does not have a material actuarial impact on the actuarial valuation results.

Form of Payment Election Assumption:

Single Life Annuity with 10 Year Certain	55% Contingent Annuitant
55%	45%

Benefit Service: Exact fractional years of service are used to determine the amount of benefit payable.

Decrement Timing: All decrements are assumed to occur at the middle of the year.

Eligibility Testing: Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.

Pay Increase Timing: Beginning of (fiscal) year.

Expenses: Assumed administrative expenses were added to the Normal Cost and are based on the prior year's expenses, adjusted for inflation. The assumed amount added to the Normal Cost is:

Expenses		
Assumed FY 2022	$	17,762
Actual FY 2022		18,357
Assumed FY 2023		18,770

Changes in Actuarial Valuation Assumptions and Methods since the Previous Actuarial Valuation

The investment return assumption was decreased from 3.75 percent to 3.00 percent beginning with the actuarial valuation as of July 1, 2022.

SECTION F

BENEFIT PROVISIONS

Brief Summary of Plan Provisions as of July 1, 2022

Current Actuarial Valuation Plan Provisions

This section summarizes the major provisions of the plan as included in the actuarial valuation. It is not intended to be, nor should it be, interpreted as a complete description of all plan provisions.

Plan status: Frozen to new entrants as of October 1, 1980.

1. Normal Retirement:

Age requirement: 65.
Service requirement: None.
Benefit:

Average monthly earnings multiplied by the sum of:

a. 1.50% times credited service up to 5 years, plus
b. 1.75% times credited service between 6 and 10 years, plus
c. 2.00% times credited service in excess of 10 years.

Average monthly earnings – monthly average earnings during the highest three consecutive years of employment.

2. Optional Retirement:

Age and service requirements:

Age 62 with 5 years of credited service, or
Age 60 with 20 years of credited service, or
Age 55 with 30 years of credited service.

Benefit:

Accrued normal retirement benefit.

3. Early Retirement:

Age requirement:

Ten years before normal or optional retirement age.

Service requirement:

Same as optional retirement.

Benefit:

Accrued normal retirement benefit, reduced if payments begin before normal or optional retirement.

4. Disability Benefit:

Age requirement: None.

Service requirement:

Five years of credited service.

Benefit**:**

Greater of accrued normal retirement benefit or 40% of average monthly earnings.

5. Deferred Vested Retirement:

Age requirement: None.

Service requirement:

Five years of credited service.

Benefit:

Accrued normal retirement benefit payable at normal or optional retirement. After attainment of early retirement age, reduced benefits may be paid.

Employees who meet the requirements for a vested benefit may elect to receive a return of their accumulated employee contributions (including interest at 4% per year) in lieu of all other benefits under the plan.

6. Pre-retirement Death Benefits:

I. Married participants or single participants with eligible children

Surviving spouse's benefit:

Age requirement: None.

Service requirement:

None.

Benefit:

55% of the greater of (a) or (b).

(a) Accrued normal retirement benefit.

(b) The lesser of (1) or (2).

(1) 40% of average monthly earnings.

(2) Normal retirement benefit based on credited service to age 60.

Children's benefit:

Provided for children under age 18 (age 22 if a full-time student) – note: the actuarial valuation does not consider benefits for expected surviving children.

II. Single participants with no eligible children

120 payment guarantee:

Age requirement: None.

Service requirement:

Five years of credited service.

Benefit:

Accrued normal retirement benefit payable for 120 months. Not payable if surviving spouse or children's benefit is payable.

III. Lump sum benefit

Age requirement:

None.

Service requirement:

None.

Benefit:

Accumulated employee contributions (including interest at 4% per year). Not payable if the surviving spouse, children's benefit or 120 payment guarantee is in effect.

7. Refund of Member Contributions:

Employees who do not meet the requirements for a vested benefit will receive a return of their accumulated employee contributions (including interest at 4% per year).

8. Post-retirement Death Benefits:

Based on form of payment elected by the pensioner.

9. Post-retirement Cost-of-Living Adjustment:

Based on the Consumer Price Index as approved by the Board.
Following is a history of the increases granted:

Effective Date	Increase
12/2011	3.6%
12/2012	1.7%
12/2013	1.5%
12/2014	1.7%
12/2015	0.0%
12/2016	0.3%
12/2017	2.0%
12/2018	2.8%
12/2019	1.6%
12/2020	1.3%
12/2021	5.9%

10. Participation:

Plan participant before October 1, 1980.

11. Credited Service:

Monthly salaried employment in a probationary or permanent status including only: service for which contributions were made (including purchased service), eligible military service and unused sick leave.

12. Contribution Rate:

Employee:

7% of average monthly earnings (4% picked up by employer).

Employer:

Remaining scheduled contribution, if any.

13. Normal and Optional Forms of Payment:

- Single Life Annuity with 120-month guarantee (Normal);
- Single Life Annuity with 180-month guarantee;
- Single Life Annuity with 240-month guarantee;
- 55% Contingent Annuitant Option;
- 75% Contingent Annuitant Option;
- 100% Contingent Annuitant Option; and
- Uniform Income Option.

Changes in Plan Provisions Since the Previous Actuarial Valuation

There have been no changes in plan provisions since the previous actuarial valuation as of July 1, 2021.

SECTION G

GLOSSARY OF TERMS

Glossary of Terms

Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Accrued Liability (AAL)	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding, which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
Actuarial Assumptions	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption 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 the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the “actuarial funding method.”
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
Actuarial Gain (Loss)	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
Actuarial Present Value (APV)	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
Actuarial Present Value of Future Plan Benefits	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.
Actuarial Valuation	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.

Glossary of Terms

Actuarial Value of Assets (AVA)	Smoothed value of assets that recognizes the difference between the expected investment return using the actuarial valuation assumption of 7.50 percent and the actual investment return over a five-year period. Dampens volatility of asset value over time.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.
Amortization Method	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year).
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.
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Asset Return	The net investment return for the asset divided by the mean asset value. Example: if $1.00 is invested and yields $1.08 after a year, the asset return is 8.00 percent.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered-Employee Payroll	The payroll of employees that are provided with pensions through the pension plan.
Deferred Inflows and Outflows	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.

Glossary of Terms

Deferred Retirement Option Program (DROP)	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: 1. The benefit payments to be made while the pension plan's fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.
Entry Age Actuarial Cost Method (EAN)	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
Fiduciary Net Position	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
Funded Ratio	The actuarial value of assets divided by the actuarial accrued liability. Measures the portion of the actuarial accrued liability that is currently funded.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.

Glossary of Terms

Market Value of Assets (MVA)	The value of assets currently held in the trust available to pay for benefits of the Pension Plan. Each of the investments in the trust is valued at market price, which is the price at which buyers and sellers trade similar items in the open market.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contributing Entities	Non-employer contributing entities are entities that make contributions to a pension plan that is use to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.
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.
Other Postemployment Benefits (OPEB)	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

Glossary of Terms

Total Pension Expense

The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost
2. Interest on the Total Pension Liability
3. Current-Period Benefit Changes
4. Employee Contributions (made negative for addition here)
5. Projected Earnings on Plan Investments (made negative for addition here)
6. Pension Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to Liabilities
9. Recognition of Outflow (Inflow) of Resources due to Assets

Total Pension Liability (TPL)

The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

Unfunded Actuarial Accrued Liability (UAAL)

The UAAL is the difference between actuarial accrued liability and valuation assets.

Valuation Assets

The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.