

Teacher Retirement System of Texas

GASB Statement No. 67, Reporting and Disclosure Information
for the year ending August 31, 2024





October 29, 2024

Board of Trustees
Teacher Retirement System of Texas
1000 Red River Street
Austin, TX 78701

Subject: GASB 67 Reporting and Disclosure Information for the year ending August 31, 2024

Dear Board of Trustees,

This report provides information required by the Teacher Retirement System of Texas (TRS) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans." The information provided herein was prepared for the purpose of assisting TRS to comply with the financial reporting and disclosure requirements of GASB No. 67.

The calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB No. 67 and is not applicable for purposes of funding the plan. A calculation of the plan's liability for other purposes may produce significantly different results. This report may be provided to parties other than TRS only in its entirety and only with the permission of TRS.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of August 31, 2023. The total pension liability was rolled forward from the valuation date to the measurement date of August 31, 2024 using generally accepted actuarial principles. The liabilities reflect the actuarial assumptions adopted by the Board in July of 2022. It is our opinion that the assumptions are internally consistent, reasonable, and comply with the requirements under GASB No. 67. The 2023 Texas Legislature passed SB10 which provided a stipend payment to certain retirees and a variable ad hoc cost-of-living-adjustment (COLA) to certain retirees in early FY 2024. Due to this timing, this legislation was not reflected in either the 2023 GASB 67/68 disclosure information nor in the August 31, 2023 actuarial valuation. Both reports include the legislation and payments in their FY 2024 versions. Since we use a roll forward approach on these liabilities, an adjustment was made to reflect the legislation in the rolled forward liabilities.

This report is based upon information, furnished to us by TRS, which include benefit provisions, membership information, and financial data. We did not audit this data and information, but we did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided to us by TRS.

The final section of the report titled "Calculation of the Single Discount Rate" is not a required disclosure item for your financial statements. However, it is possible that your auditors will request this information which is why it is included in the report.

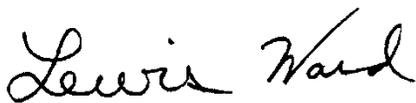
This report compliments the August 31, 2023 actuarial valuation report dated November 21, 2023 that was provided to TRS and should be considered together as a complete report for the plan year ending August 31, 2024. Please see the actuarial valuation report as of August 31, 2023 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. Also, please see the experience study report dated July 15, 2022 which details the actuarial assumptions used in the determination of the net pension liability. The actuarial cost method used to determine the GASB No. 67 net pension liability is the Individual Entry Age Normal method as prescribed in GASB No. 67.

The projected cash flows from the employer are based on contributions for the most recent five- year period, modified on consideration of subsequent events. Changes in statute in the 2013 legislative session and the subsequent follow through are indicators that the legislature is committed to an increase in funding levels for the pension funds. Additional changes to the contribution levels were adopted in the 2019 legislative session. Based on these events, projected employer contributions are based on the contribution rates adopted by the 2019 legislature.

The actuarial methods and assumptions have been selected by the Board of Trustees of the Teacher Retirement System of Texas based upon GRS analysis and recommendations. The Board of Trustees has sole authority to determine the actuarial assumptions used for the plan. The actuarial methods and assumptions are primarily based on a study of actual experience for the four-year period ending August 31, 2021 and were adopted in July 2022. New assumptions were adopted based on this study and were reflected beginning with the Net Pension Liability as of August 31, 2022.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Teacher Retirement System of Texas. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Mr. Newton is a member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Lewis Ward
Consultant



Joe Newton, FSA, EA, MAAA
Pension Market Leader and Actuary

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	489,921
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	558,758
Active Plan Members	<u>953,295</u>
Total Plan Members	2,001,974

All counts are as of the valuation date August 31, 2023

The Average Expected Remaining Service Life (AERSL) of 5.6451 is based on the membership information as of the beginning of the fiscal year. The AERSL of the active employees was 11.8550 years. This calculates to a total remaining service years of $11.8550 \times 953,295 = 11,301,312.23$ years. Divided by the total membership of 2,001,974 as of August 31, 2023 yields an AERSL of 5.6451 years.



Measurement of the Net Pension Liability

The net pension liability is measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the fair 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).

A single discount rate of 7.00% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.00%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions, the employer contributions, and the state contributions will be made at the rates set by the legislature during the 2019 legislative session (please see the actuarial valuation report for a description of these rates). It is assumed that future non-member contributions will be 9.54% of payroll in fiscal year 2025 and thereafter. (these contributions include contributions by the State and the employers for active employees and rehired retirees).

Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

A brief summary of the primary assumptions used in the determination of the net pension liability is shown in the table on the following page.

Changes in Assumptions Since Prior Valuation

The actuarial assumptions and methods are the same as used in the determination of the prior year's Net Pension Liability.

Changes in Benefit Provisions Since Prior Valuation

The Texas 2023 Legislature passed legislation that funded a one-time stipend to certain retired teachers. The stipend was paid to retirees in September of 2023. Since the Legislature appropriated funds to pay for this stipend, there was no impact on the Net Pension Liability of TRS. Since both the benefit payment and the appropriation occurred after the end of FY 2023, it was not reflected until the 2024 GASB 67/68 disclosure information.

The Legislature also provided for a COLA to certain retired teachers. This adjustment was dependent upon Texas voters approving a constitutional amendment in November 2023, which is FY 2024. Again, this contingent liability was not reflected in the FY 2023 information.

The voters did approve the constitutional amendment and hence we have reflected the COLA in the August 31, 2024 GASB 67/68 disclosure information. The legislation also appropriated \$5.0 billion to pay for the benefit enhancements (both the COLA and the stipend). This appropriation is being treated as a supplemental contribution and is included in the other additions of the Pension Expense.



Actuarial Assumptions - The total pension liability is determined by an actuarial valuation. The actuarial assumptions used to determine the total pension liability were based on the results of an experience study for the four-year period ending August 31, 2021. The post-retirement mortality rates for healthy lives were based on the 2021 TRS of Texas Healthy Pensioner Mortality Tables, with full generational projection using the ultimate improvement rates from the most recently published projection scale ("U-MP"). The active mortality rates were based on the published PUB(2010) Mortality Tables for Teachers, below median, also with full generational mortality.

The following methods and assumptions were applied to this measurement period:

Valuation Date	August 31, 2023 (total pension liability rolled forward from valuation date to measurement date of August 31, 2024)
Actuarial Cost Method	Individual Entry Age Normal actuarial cost method
Asset Valuation Method	Fair Value
Actuarial Assumptions:	
Single Discount Rate	7.00%
Long-term Expected Return	7.00%
Municipal Bond Rate*	3.87%
Last year ending August 31 in projection period (100 years)	2123
Inflation	2.30%
Salary Increases	2.95% to 8.95% including inflation
Ad hoc post-employment benefit changes	None

* The municipal bond rate used is 3.87% as of August 30, 2024 (i.e., the rate closest to but not later than the Measurement Date). The source for the rate is the Bond Buyers 20 Index which represents the estimated yield of a portfolio of 20 general obligation bonds maturing in 20 years based on a survey of municipal bond traders.



Below is a table providing the sensitivity of the net pension liability to changes in the discount rate. In particular, the table presents the plan’s net pension liability, if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher than the single discount rate:

Sensitivity of the Net Pension Liability to the Single Discount Rate Assumption

1% Decrease 6.000%	Current Single Discount Rate Assumption 7.000%	1% Increase 8.000%
\$97,566,906,778	\$61,084,175,799	\$30,855,639,673

Reconciliation of Fiduciary Net Position

for Year Ended August 31, 2024

	<u>Year Ending August 31, 2024</u>
Additions	
Contributions	
Non-Employer Contributing Entity	\$ 2,483,580,868
Employer	3,151,326,299
Employee	4,921,798,309
Other	85,679,948
Total Contributions	<u>\$ 10,642,385,424</u>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 25,359,138,739
Interest and Dividends	-
Less Investment Expense	(1,569,696,290)
Net Investment Income	<u>\$ 23,789,442,449</u>
Other	<u>\$ 5,028,315,090</u>
Total Additions	<u>\$ 39,460,142,963</u>
Deductions	
Benefit payments, including refunds of employee contributions	\$ 15,859,068,318
Pension Plan Administrative Expense	84,717,041
Other	143,634,667
Total Deductions	<u>\$ 16,087,420,026</u>
Net Increase (Decrease) in Net Position	<u>\$ 23,372,722,937</u>
Net Position Restricted for Pensions	
Beginning of Year	<u>\$ 187,170,535,558</u>
End of Year	<u>\$ 210,543,258,495</u>



Schedules of Required Supplementary Information

Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

Fiscal year ending August 31,	2024	2023	2022	2021	2020
Total Pension Liability					
Service Cost	\$ 7,218,630,342	\$ 6,791,855,509	\$ 6,093,118,860	\$ 5,793,397,669	\$ 5,651,646,985
Interest on the Total Pension Liability	17,607,846,726	16,815,740,078	16,201,212,879	15,645,734,217	15,014,048,172
Benefit Changes	4,999,000,000	-	-	-	-
Difference between Expected and Actual Experience	1,800,139,044	2,148,475,358	1,043,774,303	(1,004,526,652)	(259,157,014)
Assumption Changes	-	-	6,651,511,444	-	-
Benefit Payments	(15,114,584,479)	(12,740,413,069)	(13,130,573,776)	(11,686,211,054)	(10,972,292,168)
Refunds	(744,483,839)	(707,816,831)	(579,461,885)	(449,135,634)	(421,366,179)
Net Change in Total Pension Liability	15,766,547,794	\$ 12,307,841,045	\$ 16,279,581,825	8,299,258,546	9,012,879,796
Total Pension Liability - Beginning	255,860,886,500	\$ 243,553,045,455	\$ 227,273,463,630	218,974,205,084	209,961,325,288
Total Pension Liability - Ending (a)	\$ 271,627,434,294	\$ 255,860,886,500	\$ 243,553,045,455	\$ 227,273,463,630	\$ 218,974,205,084
Plan Fiduciary Net Position					
Non-Employer Contributing Entity	\$ 2,483,580,868	2,279,408,927	2,153,483,006	\$ 2,140,553,293	\$ 2,107,999,393
Employer Contributions	3,151,326,299	2,859,869,972	2,504,170,115	2,124,027,701	2,016,481,636
Employee Contributions	4,921,798,309	4,492,518,277	4,213,621,873	3,839,243,646	3,736,877,464
Pension Plan Net Investment Income	23,789,442,449	6,885,962,989	(13,383,750,566)	40,512,139,247	11,068,916,613
Benefit Payments	(15,114,584,479)	(12,740,413,069)	(13,130,573,776)	(11,686,211,054)	(10,972,292,168)
Refunds	(744,483,839)	(707,816,831)	(579,461,885)	(449,135,634)	(421,366,179)
Pension Plan Administrative Expense	(84,717,041)	(85,187,739)	(62,052,780)	(71,359,850)	(67,135,880)
Other	4,970,360,371	575,836	663,178,713	(18,500,096)	(31,434,711)
Net Change in Plan Fiduciary Net Position	23,372,722,937	\$ 2,984,918,362	\$ (17,621,385,300)	36,390,757,253	7,438,046,168
Plan Fiduciary Net Position - Beginning	187,170,535,558	\$ 184,185,617,196	\$ 201,807,002,496	165,416,245,243	157,978,199,075
Plan Fiduciary Net Position - Ending (b)	\$ 210,543,258,495	\$ 187,170,535,558	\$ 184,185,617,196	\$ 201,807,002,496	\$ 165,416,245,243
Net Pension Liability - Ending (a) - (b)	\$ 61,084,175,799	\$ 68,690,350,942	\$ 59,367,428,259	\$ 25,466,461,134	\$ 53,557,959,841
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	77.51 %	73.15 %	75.62 %	88.79 %	75.54 %
Covered Employee Payroll	\$ 59,658,161,321	\$ 56,156,478,463	\$ 52,670,273,413	\$ 49,860,307,091	\$ 48,530,876,156
Net Pension Liability as a Percentage of Covered Employee Payroll	102.39 %	122.32 %	112.72 %	51.08 %	110.36 %

Notes to Schedule:

2018 - Changes of assumptions: The discount rate changed from 8.0% as of August 31, 2017 to a blended rate of 6.907% as of August 31, 2018. The long-term assumed rate of return changed from 8.0% as of August 31, 2017 to 7.25% as of August 31, 2018. Demographic and economic assumptions were updated based on the experience study performed for TRS for the period ending August 31, 2017. The total pension liability as of August 31, 2018 was developed using a roll-forward method from the August 31, 2017 valuation.

2020 - Change of assumptions: The state and employer contribution rate changed from 6.8% to 7.5%. The 1.5% public education employer contribution applied to just employers whose employees were not covered by OASDI in 2019 and it changed in 2020 to apply to all public schools, charter schools and regional education centers irrespective of participation in OASDI.

2021 - Changes of assumptions: The public education employer contribution rate changed from 1.5% in 2020 to 1.6% in 2021.

2022 - Changes of assumptions: Demographic and economic assumptions were updated based on experience study performed for TRS for the period ending August 31, 2021. The primary change was the lowering of the discount rate from 7.25% to 7.00%.



Schedules of Required Supplementary Information

Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

Fiscal year ending August 31,	2019	2018	2017	2016	2015
Total Pension Liability					
Service Cost	\$ 5,642,074,695	\$ 4,654,171,138	\$ 4,489,045,421	\$ 4,392,076,679	\$ 4,225,448,833
Interest on the Total Pension Liability	14,267,256,072	14,109,276,321	13,515,485,995	12,896,571,424	12,555,645,919
Benefit Changes	588,827,787	-	-	-	-
Difference between Expected and Actual Experience	(982,693,577)	-	(969,830,844)	373,668,629	(1,588,618,832)
Assumption Changes	(7,425,278,607)	22,106,679,263	700,880,288	-	(1,474,723,994)
Benefit Payments	(11,253,728,973)	(10,172,997,008)	(9,775,775,472)	(9,379,122,730)	(8,935,111,459)
Refunds	(486,460,902)	(422,335,740)	(420,421,056)	(373,418,687)	(391,341,181)
Net Change in Total Pension Liability	349,996,495	30,274,793,974	7,539,384,332	7,909,775,315	4,391,299,286
Total Pension Liability - Beginning	209,611,328,793	179,336,534,819	171,797,150,487	163,887,375,172	159,496,075,886
Total Pension Liability - Ending (a)	\$ 209,961,325,288	\$ 209,611,328,793	\$ 179,336,534,819	\$ 171,797,150,487	\$ 163,887,375,172
Plan Fiduciary Net Position					
Non-Employer Contributing Entity	\$ 1,737,852,502	\$ 1,715,784,550	\$ 1,697,962,608	\$ 1,675,631,248	\$ 1,591,482,988
Employer Contributions	1,761,821,902	1,671,257,303	1,588,309,345	1,483,389,348	1,377,972,653
Employee Contributions	3,482,869,726	3,360,773,197	3,242,556,261	2,943,669,320	2,576,024,311
Pension Plan Net Investment Income	7,669,028,874	11,242,813,657	17,079,807,347	9,193,280,560	(412,759,100)
Benefit Payments	(11,253,728,973)	(10,172,997,008)	(9,775,775,472)	(9,379,122,730)	(8,935,111,459)
Refunds	(486,460,902)	(422,335,740)	(420,421,056)	(373,418,687)	(391,341,181)
Pension Plan Administrative Expense	(60,485,645)	(64,926,169)	(44,189,998)	(44,402,710)	(35,556,979)
Other	558,399,758	(123,390,077)	(14,964,388)	(29,095,088)	(11,248,106)
Net Change in Plan Fiduciary Net Position	3,409,297,242	7,206,979,713	13,353,284,647	5,469,931,261	(4,240,536,873)
Plan Fiduciary Net Position - Beginning	154,568,901,833	147,361,922,120	134,008,637,473	128,538,706,212	132,779,243,085
Plan Fiduciary Net Position - Ending (b)	\$ 157,978,199,075	\$ 154,568,901,833	\$ 147,361,922,120	\$ 134,008,637,473	\$ 128,538,706,212
Net Pension Liability - Ending (a) - (b)	\$ 51,983,126,213	\$ 55,042,426,960	\$ 31,974,612,699	\$ 37,788,513,014	\$ 35,348,668,960
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	75.24 %	73.74 %	82.17 %	78.00 %	78.43 %
Covered Employee Payroll	\$ 45,232,074,364	\$ 43,646,405,156	\$ 42,111,120,273	\$ 40,742,826,333	\$ 38,448,124,045
Net Pension Liability as a Percentage of Covered Employee Payroll	114.93 %	126.11 %	75.93 %	92.75 %	91.94 %

Notes to Schedule:

See prior page.



Schedules of Required Supplementary Information

Schedule of the Net Pension Liability (Historical)

Last 10 Fiscal Years

<u>FY Ending August 31,</u>	<u>Total Pension Liability</u>	<u>Plan Net Position</u>	<u>Net Pension Liability</u>	<u>Plan Net Position as a % of Total Pension Liability</u>	<u>Covered Payroll</u>	<u>Net Pension Liability as a % of Covered Payroll</u>
2015	\$ 163,887,375,172	\$ 128,538,706,212	\$ 35,348,668,960	78.43%	\$ 38,448,124,045	91.94%
2016	171,797,150,487	134,008,637,473	37,788,513,014	78.00%	40,742,826,333	92.75%
2017	179,336,534,819	147,361,922,120	31,974,612,699	82.17%	42,111,120,273	75.93%
2018	209,611,328,793	154,568,901,833	55,042,426,960	73.74%	43,646,405,156	126.11%
2019	209,961,325,288	157,978,199,075	51,983,126,213	75.24%	45,232,074,364	114.93%
2020	218,974,205,084	165,416,245,243	53,557,959,841	75.54%	48,530,876,156	110.36%
2021	227,273,463,630	201,807,002,496	25,466,461,134	88.79%	49,860,307,091	51.08%
2022	243,553,045,455	184,185,617,196	59,367,428,259	75.62%	52,670,273,413	112.72%
2023	255,860,886,500	187,170,535,558	68,690,350,942	73.15%	56,156,478,463	122.32%
2024	271,627,434,294	210,543,258,495	61,084,175,799	77.51%	59,658,161,321	102.39%



SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Contributions

FY Ending August 31,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2015	\$3,171,970,234	\$2,969,455,641	\$202,514,593	\$38,448,124,045	7.72%
2016	3,226,831,846	3,159,020,596	67,811,250	40,742,826,333	7.75%
2017	3,343,622,950	3,286,271,953	57,350,997	42,111,120,273	7.80%
2018	3,426,242,805	3,387,041,853	39,200,952	43,646,405,156	7.76%
2019	4,288,000,650	3,499,674,404	788,326,246	45,232,074,364	7.74%
2020	4,527,930,745	4,124,481,029	403,449,716	48,530,876,156	8.50%
2021	4,522,329,853	4,264,580,994	257,748,859	49,860,307,091	8.55%
2022	4,671,853,252	4,657,653,121	14,200,131	52,670,273,413	8.84%
2023	5,318,018,510	5,139,278,899	178,739,611	56,156,478,463	9.15%
2024	5,607,867,164	5,634,907,167	(27,040,003)	59,658,161,321	9.45%

Notes to Schedule of Contributions

Valuation Date: August 31, 2023 (to determine contribution rate for fiscal year ending August 31, 2024).

Notes: Actuarially determined contribution rates are calculated as of August 31 of the preceding fiscal year. Members and employers contribute based on statutorily fixed rates.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Individual Entry Age Normal actuarial cost method
Amortization Method	Level Percentage of Payroll, Floating
Remaining Amortization Period	29 years based on increased employer and member rates enacted during 2019 legislative session.
Asset Valuation Method	5 Year smoothed market
Inflation	2.30%
Salary Increases	2.95% to 8.95% including inflation
Investment Rate of Return	7.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2022 valuation pursuant to an experience study conducted for the period ending on August 31, 2021.
Mortality	The post-retirement mortality rates for healthy lives were based on the 2021 TRS of Texas Healthy Pensioner Mortality Tables, with full generational projection using Scale UMP 2021 (the ultimate rates of MP-2021) but with immediate convergence. The active mortality rates were based on PUB(2010), Amount-Weighted, Below-Median Income, Teacher male and female tables (with a two-year set forward for males), also with full generational mortality using Scale UMP 2021.

Other Information:

Notes The assumptions described above are based on the August 31, 2023 actuarial valuation on which the ADEC is based.



Calculation of the Single Discount Rate

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The *single discount rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating 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 valuation, the expected rate of return on pension plan investments is 7.00%; the municipal bond rate is 3.870% (based on the daily rate closest to but not later than the measurement date of the “Bond Buyers 20 Index”); and the resulting single discount rate is 7.00%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.



Single Discount Rate Development

Projection of Contributions Beginning September 1, 2024

Year	Payroll for Current Employees	Payroll for Future Employees	Total Employee Payroll	Contributions from		Employer Normal Cost Contributions Related to Payroll of Future Employees	Total Contributions
				Current Employees	Employer Contributions for All Employees		
1	\$ 51,370,885,898	\$ 10,017,362,101	\$ 61,388,248,000	\$ 4,238,098,087	\$ 5,856,438,859	\$ (403,397,133)	\$ 9,691,139,813
2	49,449,243,502	13,719,263,689	63,168,507,192	4,079,562,589	6,026,275,586	(546,906,803)	9,558,931,372
3	47,673,514,308	17,326,879,592	65,000,393,900	3,933,064,930	6,201,037,578	(684,032,550)	9,450,069,958
4	45,956,836,736	20,928,568,587	66,885,405,323	3,791,439,031	6,380,867,668	(818,352,512)	9,353,954,187
5	44,316,210,124	24,508,871,954	68,825,082,078	3,656,087,335	6,565,912,830	(949,683,235)	9,272,316,930
6	42,733,486,651	28,087,522,807	70,821,009,458	3,525,512,649	6,756,324,302	(1,076,170,682)	9,205,666,269
7	41,197,642,845	31,677,175,887	72,874,818,732	3,398,805,535	6,952,257,707	(1,203,779,108)	9,147,284,134
8	39,684,630,377	35,303,558,098	74,988,188,475	3,273,982,006	7,153,873,181	(1,330,973,019)	9,096,882,168
9	38,194,882,142	38,967,963,799	77,162,845,941	3,151,077,777	7,361,335,503	(1,457,940,679)	9,054,472,601
10	36,721,196,663	42,679,371,810	79,400,568,473	3,029,498,725	7,574,814,232	(1,585,022,948)	9,019,290,009
11	35,227,013,968	46,476,170,991	81,703,184,959	2,906,228,652	7,794,483,845	(1,713,639,284)	8,987,073,213
12	33,717,878,030	50,354,699,293	84,072,577,323	2,781,724,937	8,020,523,877	(1,843,719,037)	8,958,529,777
13	32,219,669,460	54,291,012,605	86,510,682,065	2,658,122,730	8,253,119,069	(1,974,517,249)	8,936,724,550
14	30,758,513,342	58,260,978,503	89,019,491,845	2,537,577,351	8,492,459,522	(2,105,338,337)	8,924,698,536
15	29,325,756,584	62,275,300,524	91,601,057,109	2,419,374,918	8,738,740,848	(2,236,677,334)	8,921,438,432
16	27,921,449,473	66,336,038,292	94,257,487,765	2,303,519,582	8,992,164,333	(2,368,772,257)	8,926,911,658
17	26,541,367,934	70,449,586,976	96,990,954,910	2,189,662,855	9,252,937,098	(2,501,872,221)	8,940,727,732
18	25,189,574,280	74,614,118,322	99,803,692,602	2,078,139,878	9,521,272,274	(2,636,154,225)	8,963,257,927
19	23,853,244,336	78,844,755,352	102,697,999,688	1,967,892,658	9,797,389,170	(2,772,433,781)	8,992,848,047
20	22,516,139,356	83,160,102,323	105,676,241,679	1,857,581,497	10,081,513,456	(2,911,647,502)	9,027,447,451
21	21,160,109,041	87,580,743,646	108,740,852,688	1,745,708,996	10,373,877,346	(3,055,016,232)	9,064,570,110
22	19,801,289,609	92,093,047,807	111,894,337,415	1,633,606,393	10,674,719,789	(3,202,225,439)	9,106,100,743
23	18,444,923,755	96,694,349,445	115,139,273,200	1,521,706,210	10,984,286,663	(3,353,203,525)	9,152,789,348
24	17,106,649,692	101,371,662,432	118,478,312,123	1,411,298,600	11,302,830,977	(3,507,356,706)	9,206,772,871
25	15,783,670,259	106,130,512,916	121,914,183,175	1,302,152,796	11,630,613,075	(3,665,203,553)	9,267,562,318
26	14,458,042,499	110,991,651,988	125,449,694,487	1,192,788,506	11,967,900,854	(3,828,128,271)	9,332,561,089
27	13,143,001,026	115,944,734,601	129,087,735,627	1,084,297,585	12,314,969,979	(3,995,666,915)	9,403,600,649
28	11,853,079,142	120,978,200,818	132,831,279,960	977,879,029	12,672,104,108	(4,167,282,952)	9,482,700,185
29	10,597,514,905	126,085,872,174	136,683,387,079	874,294,980	13,039,595,127	(4,342,723,869)	9,571,166,238
30	9,389,105,932	131,258,099,372	140,647,205,304	774,601,239	13,417,743,386	(4,521,306,328)	9,671,038,297
31	8,239,676,078	136,486,298,180	144,725,974,258	679,773,276	13,806,857,944	(4,702,405,772)	9,784,225,448
32	7,147,598,416	141,775,429,096	148,923,027,512	589,676,869	14,207,256,825	(4,886,352,127)	9,910,581,567
33	6,123,751,236	147,118,044,073	153,241,795,310	505,209,477	14,619,267,273	(5,072,630,533)	10,051,846,217
34	5,168,181,029	152,517,626,344	157,685,807,374	426,374,935	15,043,226,023	(5,261,450,123)	10,208,150,835
35	4,275,633,053	157,983,062,734	162,258,695,787	352,739,727	15,479,479,578	(5,453,319,687)	10,378,899,618
36	3,467,947,946	163,496,250,020	166,964,197,965	286,105,706	15,928,384,486	(5,647,285,426)	10,567,204,766
37	2,747,414,551	169,058,745,155	171,806,159,706	226,661,700	16,390,307,636	(5,843,555,852)	10,773,413,484
38	2,129,053,099	174,659,485,239	176,788,538,338	175,646,881	16,865,626,557	(6,041,701,347)	10,999,572,091
39	1,629,070,756	180,286,335,194	181,915,405,949	134,398,337	17,354,729,728	(6,241,058,787)	11,248,069,278
40	1,236,267,171	185,954,685,551	187,190,952,722	101,992,042	17,858,016,890	(6,441,877,225)	11,518,131,707
41	923,847,883	191,695,642,468	192,619,490,351	76,217,450	18,375,899,379	(6,645,065,364)	11,807,051,465
42	679,993,201	197,525,462,370	198,205,455,571	56,099,439	18,908,800,461	(6,851,014,809)	12,113,885,091
43	493,748,980	203,459,664,803	203,953,413,783	40,734,291	19,457,155,675	(7,060,131,316)	12,437,758,650
44	351,981,192	209,516,081,591	209,868,062,782	29,038,448	20,021,413,189	(7,273,007,461)	12,777,444,176
45	245,145,067	215,709,091,536	215,954,236,603	20,224,468	20,602,034,172	(7,490,133,572)	13,132,125,068
46	164,645,356	222,052,264,108	222,216,909,465	13,583,242	21,199,493,163	(7,712,000,125)	13,501,076,280
47	104,672,070	228,556,527,769	228,661,199,839	8,635,446	21,814,278,465	(7,938,997,414)	13,883,916,497
48	62,117,901	235,230,256,734	235,292,374,634	5,124,727	22,446,892,540	(8,171,387,448)	14,280,629,819
49	32,844,282	242,083,009,217	242,115,853,499	2,709,653	23,097,852,424	(8,409,541,171)	14,691,020,906



Single Discount Rate Development

Projection of Contributions Beginning September 1, 2024 (continued)

Year	Payroll for Current Employees	Payroll for Future Employees	Total Employee Payroll	Contributions from		Employer Normal Cost Contributions Related to Payroll of Future Employees	Total Contributions
				Current Employees	Employer Contributions for All Employees		
50	\$ 14,825,639	\$ 249,122,387,612	\$ 249,137,213,250	\$ 1,223,115	\$ 23,767,690,144	\$ (8,653,723,388)	\$ 15,115,189,871
51	6,160,317	256,356,032,118	256,362,192,434	508,226	24,456,953,158	(8,904,203,506)	15,553,257,878
52	2,729,571	263,793,966,444	263,796,696,015	225,190	25,166,204,800	(9,161,337,363)	16,005,092,627
53	1,045,318	271,445,754,881	271,446,800,200	86,239	25,896,024,739	(9,425,499,995)	16,470,610,983
54	254,649	279,318,502,756	279,318,757,405	21,009	26,647,009,456	(9,696,992,525)	16,950,037,940
55	21,074	287,418,980,296	287,419,001,370	1,739	27,419,772,731	(9,976,108,541)	17,443,665,929
56	2,987	295,754,149,423	295,754,152,410	246	28,214,946,140	(10,263,158,515)	17,951,787,871
57	-	304,331,022,830	304,331,022,830	-	29,033,179,578	(10,558,458,781)	18,474,720,797
58	-	313,156,622,492	313,156,622,492	-	29,875,141,786	(10,862,320,019)	19,012,821,767
59	-	322,238,164,544	322,238,164,544	-	30,741,520,897	(11,175,055,509)	19,566,465,388
60	-	331,583,071,316	331,583,071,316	-	31,633,025,004	(11,496,977,725)	20,136,047,279
61	-	341,198,980,384	341,198,980,384	-	32,550,382,729	(11,828,398,854)	20,721,983,875
62	-	351,093,750,815	351,093,750,815	-	33,494,343,828	(12,169,634,116)	21,324,709,712
63	-	361,275,469,589	361,275,469,589	-	34,465,679,799	(12,521,002,791)	21,944,677,008
64	-	371,752,458,207	371,752,458,207	-	35,465,184,513	(12,882,826,887)	22,582,357,626
65	-	382,533,279,495	382,533,279,495	-	36,493,674,864	(13,255,427,521)	23,238,247,343
66	-	393,626,744,600	393,626,744,600	-	37,551,991,435	(13,639,123,154)	23,912,868,281
67	-	405,041,920,193	405,041,920,193	-	38,640,999,186	(14,034,231,636)	24,606,767,550
68	-	416,788,135,879	416,788,135,879	-	39,761,588,163	(14,441,070,728)	25,320,517,435
69	-	428,874,991,820	428,874,991,820	-	40,914,674,220	(14,859,960,497)	26,054,713,723
70	-	441,312,366,582	441,312,366,582	-	42,101,199,772	(15,291,226,689)	26,809,973,083
71	-	454,110,425,213	454,110,425,213	-	43,322,134,565	(15,735,202,220)	27,586,932,345
72	-	467,279,627,544	467,279,627,544	-	44,578,476,468	(16,192,228,213)	28,386,248,255
73	-	480,830,736,743	480,830,736,743	-	45,871,252,285	(16,662,654,927)	29,208,597,358
74	-	494,774,828,109	494,774,828,109	-	47,201,518,602	(17,146,841,022)	30,054,677,580
75	-	509,123,298,124	509,123,298,124	-	48,570,362,641	(17,645,154,446)	30,925,208,195
76	-	523,887,873,770	523,887,873,770	-	49,978,903,158	(18,157,972,661)	31,820,930,497
77	-	539,080,622,109	539,080,622,109	-	51,428,291,349	(18,685,680,814)	32,742,610,535
78	-	554,713,960,150	554,713,960,150	-	52,919,711,798	(19,228,674,512)	33,691,037,286
79	-	570,800,664,994	570,800,664,994	-	54,454,383,440	(19,787,363,457)	34,667,019,983
80	-	587,353,884,279	587,353,884,279	-	56,033,560,560	(20,362,173,524)	35,671,387,036
81	-	604,387,146,923	604,387,146,923	-	57,658,533,816	(20,953,548,073)	36,704,985,743
82	-	621,914,374,184	621,914,374,184	-	59,330,631,297	(21,561,949,935)	37,768,681,362
83	-	639,949,891,035	639,949,891,035	-	61,051,219,605	(22,187,861,878)	38,863,357,727
84	-	658,508,437,875	658,508,437,875	-	62,821,704,973	(22,831,786,072)	39,989,918,901
85	-	677,605,182,574	677,605,182,574	-	64,643,534,418	(23,494,243,660)	41,149,290,758
86	-	697,255,732,868	697,255,732,868	-	66,518,196,916	(24,175,774,555)	42,342,422,361
87	-	717,476,149,122	717,476,149,122	-	68,447,224,626	(24,876,937,712)	43,570,286,914
88	-	738,282,957,446	738,282,957,446	-	70,432,194,140	(25,598,311,001)	44,833,883,139
89	-	759,693,163,212	759,693,163,212	-	72,474,727,770	(26,340,491,084)	46,134,236,686
90	-	781,724,264,945	781,724,264,945	-	74,576,494,876	(27,104,094,074)	47,472,400,802
91	-	804,394,268,629	804,394,268,629	-	76,739,213,227	(27,889,756,023)	48,849,457,204
92	-	827,721,702,419	827,721,702,419	-	78,964,650,411	(28,698,132,956)	50,266,517,455
93	-	851,725,631,789	851,725,631,789	-	81,254,625,273	(29,529,900,746)	51,724,724,527
94	-	876,425,675,111	876,425,675,111	-	83,611,009,406	(30,385,755,205)	53,225,254,201
95	-	901,842,019,689	901,842,019,689	-	86,035,728,678	(31,266,412,040)	54,769,316,638
96	-	927,995,438,260	927,995,438,260	-	88,530,764,810	(32,265,406,330)	56,265,358,480
97	-	954,907,305,970	954,907,305,970	-	91,098,156,990	(33,200,585,664)	57,897,571,326
98	-	982,599,617,843	982,599,617,843	-	93,740,003,542	(34,162,912,216)	59,577,091,326
99	-	1,011,095,006,760	1,011,095,006,760	-	96,458,463,645	(35,051,818,070)	61,406,645,575



Single Discount Rate Development

PROJECTION OF PLAN FIDUCIARY NET POSITION BEGINNING SEPTEMBER 1, 2024

Year	Projected Beginning	Projected Total	Projected Benefit	Projected	Projected Investment	Projected Ending Plan
	Plan Net Position	Contributions	Payments	Administrative Expenses	Earnings at 7.00%	Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 210,543,258,495	\$ 9,691,139,813	\$ 14,523,228,665	\$ 56,507,974	\$ 14,569,821,043	\$ 220,224,482,712
2	220,224,482,712	9,558,931,372	15,208,613,289	54,394,168	15,219,447,693	229,739,854,320
3	229,739,854,320	9,450,069,958	15,900,904,965	52,440,866	15,858,024,805	239,094,603,252
4	239,094,603,252	9,353,954,187	16,627,862,004	50,552,520	16,484,601,879	248,254,744,794
5	248,254,744,794	9,272,316,930	17,391,923,387	48,747,831	17,096,775,048	257,183,165,554
6	257,183,165,554	9,205,666,269	18,172,405,290	47,006,835	17,692,676,231	265,862,095,928
7	265,862,095,928	9,147,284,134	18,956,791,885	45,317,407	18,271,261,464	274,278,532,235
8	274,278,532,235	9,096,882,168	19,751,948,190	43,653,093	18,831,375,266	282,411,188,386
9	282,411,188,386	9,054,472,601	20,548,326,767	42,014,370	19,371,856,523	290,247,176,372
10	290,247,176,372	9,019,290,009	21,348,860,704	40,393,316	19,891,676,089	297,768,888,450
11	297,768,888,450	8,987,073,213	22,162,342,730	38,749,715	20,389,153,646	304,944,022,863
12	304,944,022,863	8,958,529,777	22,960,078,480	37,089,666	20,863,039,524	311,768,424,019
13	311,768,424,019	8,936,724,550	23,722,300,577	35,441,636	21,313,827,464	318,261,233,820
14	318,261,233,820	8,924,698,536	24,428,886,060	33,834,365	21,743,653,438	324,466,865,370
15	324,466,865,370	8,921,438,432	25,090,178,713	32,258,332	22,155,235,914	330,421,102,671
16	330,421,102,671	8,926,911,658	25,706,739,881	30,713,594	22,551,059,337	336,161,620,190
17	336,161,620,190	8,940,727,732	26,290,557,926	29,195,505	22,933,335,145	341,715,929,636
18	341,715,929,636	8,963,257,927	26,856,385,368	27,708,532	23,303,494,175	347,098,587,838
19	347,098,587,838	8,992,848,047	27,409,343,713	26,238,569	23,662,322,751	352,318,176,354
20	352,318,176,354	9,027,447,451	27,962,876,590	24,767,753	24,009,889,070	357,367,868,531
21	357,367,868,531	9,064,570,110	28,536,989,459	23,276,120	24,344,942,064	362,217,115,126
22	362,217,115,126	9,106,100,743	29,107,305,125	21,781,419	24,666,246,297	366,860,375,622
23	366,860,375,622	9,152,789,348	29,662,596,034	20,289,416	24,973,825,858	371,304,105,377
24	371,304,105,377	9,206,772,871	30,183,707,754	18,817,315	25,268,864,626	375,577,217,805
25	375,577,217,805	9,267,562,318	30,687,415,879	17,362,037	25,552,792,604	379,692,794,812
26	379,692,794,812	9,332,561,089	31,205,732,945	15,903,847	25,825,335,373	383,629,054,482
27	383,629,054,482	9,403,600,649	31,713,721,937	14,457,301	26,085,888,747	387,390,364,640
28	387,390,364,640	9,482,700,185	32,191,164,641	13,038,387	26,335,523,072	391,004,384,869
29	391,004,384,869	9,571,166,238	32,628,489,477	11,657,266	26,576,548,461	394,511,952,824
30	394,511,952,824	9,671,038,297	32,771,374,904	10,328,017	26,820,643,949	398,221,932,150
31	398,221,932,150	9,784,225,448	33,067,400,909	9,063,644	27,074,094,879	402,003,787,926
32	402,003,787,926	9,910,581,567	33,289,511,802	7,862,358	27,335,571,383	405,952,566,716
33	405,952,566,716	10,051,846,217	33,418,682,334	6,736,126	27,612,440,785	410,191,435,257
34	410,191,435,257	10,208,150,835	33,455,880,878	5,684,999	27,913,295,957	414,851,316,172
35	414,851,316,172	10,378,899,618	33,404,603,019	4,703,196	28,247,160,905	420,068,070,480
36	420,068,070,480	10,567,204,766	33,231,575,310	3,814,743	28,624,797,033	426,024,682,226
37	426,024,682,226	10,773,413,484	32,932,366,893	3,022,156	29,059,177,541	432,921,884,203
38	432,921,884,203	10,999,572,091	32,483,922,101	2,341,958	29,565,216,867	441,000,409,101
39	441,000,409,101	11,248,069,278	31,863,864,018	1,791,978	30,160,617,821	450,543,440,205
40	450,543,440,205	11,518,131,707	31,096,241,538	1,359,894	30,864,349,573	461,828,320,052
41	461,828,320,052	11,807,051,465	30,225,433,558	1,016,233	31,694,206,949	475,103,128,676
42	475,103,128,676	12,113,885,091	29,266,526,967	747,993	32,667,004,426	490,616,743,234
43	490,616,743,234	12,437,758,650	28,232,073,199	543,124	33,799,701,880	508,621,587,440
44	508,621,587,440	12,777,444,176	27,138,252,204	387,179	35,109,370,495	529,369,762,727
45	529,369,762,727	13,132,125,068	25,997,807,481	269,660	36,613,191,155	553,117,001,810
46	553,117,001,810	13,501,076,280	24,821,655,204	181,110	38,328,664,925	580,124,906,701
47	580,124,906,701	13,883,916,497	23,618,412,642	115,139	40,273,794,543	610,664,089,959
48	610,664,089,959	14,280,629,819	22,394,326,701	68,330	42,467,307,513	645,017,632,260
49	645,017,632,260	14,691,020,906	21,157,108,168	36,129	44,928,747,605	683,480,256,474



Single Discount Rate Development

Projection of Plan Fiduciary Net Position Beginning September 1, 2024 (continued)

Year	Projected Beginning	Projected Total	Projected Benefit	Projected		Projected Ending Plan
	Plan Net Position	Contributions	Payments	Administrative Expenses	Investment Earnings at 7.00%	Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
50	\$ 683,480,256,474	\$ 15,115,189,871	\$ 19,912,533,536	\$ 16,308	\$ 47,678,550,184	\$ 726,361,446,684
51	726,361,446,684	15,553,257,878	18,666,471,689	6,776	50,738,181,439	773,986,407,536
52	773,986,407,536	16,005,092,627	17,427,382,175	3,003	54,130,110,224	826,694,225,208
53	826,694,225,208	16,470,610,983	16,203,207,638	1,150	57,877,796,551	884,839,423,955
54	884,839,423,955	16,950,037,940	14,998,997,124	280	62,005,891,164	948,796,355,654
55	948,796,355,654	17,443,665,929	13,819,282,234	23	66,540,452,846	1,018,961,192,171
56	1,018,961,192,171	17,951,787,871	12,668,696,260	3	71,509,064,297	1,095,753,348,075
57	1,095,753,348,075	18,474,720,797	11,551,722,072	-	76,940,941,205	1,179,617,288,005
58	1,179,617,288,005	19,012,821,767	10,472,680,822	-	82,867,059,700	1,271,024,488,650
59	1,271,024,488,650	19,566,465,388	9,435,829,571	-	89,320,289,561	1,370,475,414,028
60	1,370,475,414,028	20,136,047,279	8,445,234,089	-	96,335,536,988	1,478,501,764,206
61	1,478,501,764,206	20,721,983,875	7,504,705,325	-	103,949,904,187	1,595,668,946,943
62	1,595,668,946,943	21,324,709,712	6,617,669,829	-	112,202,866,751	1,722,578,853,577
63	1,722,578,853,577	21,944,677,008	5,787,088,074	-	121,136,470,770	1,859,872,913,281
64	1,859,872,913,281	22,582,357,626	5,015,434,084	-	130,795,547,395	2,008,235,384,219
65	2,008,235,384,219	23,238,247,343	4,304,610,846	-	141,227,946,279	2,168,396,966,995
66	2,168,396,966,995	23,912,868,281	3,655,894,801	-	152,484,790,510	2,341,138,730,985
67	2,341,138,730,985	24,606,767,550	3,069,900,755	-	164,620,752,614	2,527,296,350,393
68	2,527,296,350,393	25,320,517,435	2,546,420,953	-	177,694,356,625	2,727,764,803,500
69	2,727,764,803,500	26,054,713,723	2,084,367,904	-	191,768,308,941	2,943,503,458,260
70	2,943,503,458,260	26,809,973,083	1,681,775,698	-	206,909,854,181	3,175,541,509,827
71	3,175,541,509,827	27,586,932,345	1,335,818,355	-	223,191,155,154	3,424,983,778,971
72	3,424,983,778,971	28,386,248,255	1,042,963,333	-	240,689,693,459	3,693,016,757,352
73	3,693,016,757,352	29,208,597,358	799,121,638	-	259,488,687,485	3,980,914,920,557
74	3,980,914,920,557	30,054,677,580	599,779,371	-	279,677,529,851	4,290,047,348,618
75	4,290,047,348,618	30,925,208,195	440,147,442	-	301,352,245,693	4,621,884,655,064
76	4,621,884,655,064	31,820,930,497	315,273,121	-	324,615,973,877	4,978,006,286,317
77	4,978,006,286,317	32,742,610,535	220,102,323	-	349,579,475,912	5,360,108,270,441
78	5,360,108,270,441	33,691,037,286	149,598,453	-	376,361,674,210	5,770,011,383,484
79	5,770,011,383,484	34,667,019,983	98,919,692	-	405,090,217,535	6,209,669,701,310
80	6,209,669,701,310	35,671,387,036	63,619,380	-	435,902,072,702	6,681,179,541,668
81	6,681,179,541,668	36,704,985,743	39,812,044	-	468,944,144,800	7,186,788,860,168
82	7,186,788,860,168	37,768,681,362	24,267,670	-	504,373,931,632	7,728,907,205,491
83	7,728,907,205,491	38,863,357,727	14,434,147	-	542,360,219,828	8,310,116,348,899
84	8,310,116,348,899	39,989,918,901	8,396,197	-	583,083,830,386	8,933,181,701,989
85	8,933,181,701,989	41,149,290,758	4,787,134	-	626,738,421,001	9,601,064,626,614
86	9,601,064,626,614	42,342,422,361	2,679,460	-	673,531,351,569	10,316,935,721,084
87	10,316,935,721,084	43,570,286,914	1,473,726	-	723,684,618,086	11,084,189,152,358
88	11,084,189,152,358	44,833,883,139	797,274	-	777,435,859,424	11,906,458,097,646
89	11,906,458,097,646	46,134,236,686	424,546	-	835,039,441,040	12,787,631,350,826
90	12,787,631,350,826	47,472,400,802	222,473	-	896,767,619,324	13,731,871,148,480
91	13,731,871,148,480	48,849,457,204	114,625	-	962,911,790,687	14,743,632,281,745
92	14,743,632,281,745	50,266,517,455	58,011	-	1,033,783,830,234	15,827,682,571,423
93	15,827,682,571,423	51,724,724,527	28,752	-	1,109,717,525,570	16,989,124,792,769
94	16,989,124,792,769	53,225,254,201	13,880	-	1,191,070,111,866	18,233,420,144,956
95	18,233,420,144,956	54,769,316,638	6,428	-	1,278,223,914,943	19,566,413,370,109
96	19,566,413,370,109	56,265,358,480	2,812	-	1,371,584,916,701	20,994,263,642,477
97	20,994,263,642,477	57,897,571,326	1,184	-	1,471,590,597,073	22,523,751,809,691
98	22,523,751,809,691	59,577,091,326	498	-	1,578,712,557,798	24,162,041,458,317
99	24,162,041,458,317	61,406,645,575	298	-	1,693,455,784,591	25,916,903,888,184



Single Discount Rate Development

Present Values of Projected Benefits Beginning September 1, 2024

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ⁿ /(a)-.5	(g)=(e)*vf ⁿ /(a)-.5	(h)=((c)/((1+sdr) ⁿ)-(a)-.5)
1	\$ 210,543,258,495	\$ 14,523,228,665	\$ 14,523,228,665	\$ -	\$ 13,121,621,578	\$ -	\$ 13,121,621,578
2	220,224,482,712	15,208,613,289	15,208,613,289	-	12,841,926,294	-	12,841,926,294
3	229,739,854,320	15,900,904,965	15,900,904,965	-	12,548,118,751	-	12,548,118,751
4	239,094,603,252	16,627,862,004	16,627,862,004	-	12,263,358,151	-	12,263,358,151
5	248,254,744,794	17,391,923,387	17,391,923,387	-	11,987,726,787	-	11,987,726,787
6	257,183,165,554	18,172,405,290	18,172,405,290	-	11,706,251,736	-	11,706,251,736
7	265,862,095,928	18,956,791,885	18,956,791,885	-	11,412,650,288	-	11,412,650,288
8	274,278,532,235	19,751,948,190	19,751,948,190	-	11,113,422,555	-	11,113,422,555
9	282,411,188,386	20,548,326,767	20,548,326,767	-	10,805,144,406	-	10,805,144,406
10	290,247,176,372	21,348,860,704	21,348,860,704	-	10,491,680,046	-	10,491,680,046
11	297,768,888,450	22,162,342,730	22,162,342,730	-	10,178,932,241	-	10,178,932,241
12	304,944,022,863	22,960,078,480	22,960,078,480	-	9,855,442,923	-	9,855,442,923
13	311,768,424,019	23,722,300,577	23,722,300,577	-	9,516,468,308	-	9,516,468,308
14	318,261,233,820	24,428,886,060	24,428,886,060	-	9,158,806,580	-	9,158,806,580
15	324,466,865,370	25,090,178,713	25,090,178,713	-	8,791,342,513	-	8,791,342,513
16	330,421,102,671	25,706,739,881	25,706,739,881	-	8,418,111,451	-	8,418,111,451
17	336,161,620,190	26,290,557,926	26,290,557,926	-	8,046,067,898	-	8,046,067,898
18	341,715,929,636	26,856,385,368	26,856,385,368	-	7,681,528,972	-	7,681,528,972
19	347,098,587,838	27,409,343,713	27,409,343,713	-	7,326,810,719	-	7,326,810,719
20	352,318,176,354	27,962,876,590	27,962,876,590	-	6,985,771,941	-	6,985,771,941
21	357,367,868,531	28,536,989,459	28,536,989,459	-	6,662,802,417	-	6,662,802,417
22	362,217,115,126	29,107,305,125	29,107,305,125	-	6,351,363,963	-	6,351,363,963
23	366,860,375,622	29,662,596,034	29,662,596,034	-	6,049,094,674	-	6,049,094,674
24	371,304,105,377	30,183,707,754	30,183,707,754	-	5,752,677,582	-	5,752,677,582
25	375,577,217,805	30,687,415,879	30,687,415,879	-	5,466,054,883	-	5,466,054,883
26	379,692,794,812	31,205,732,945	31,205,732,945	-	5,194,745,540	-	5,194,745,540
27	383,629,054,482	31,713,721,937	31,713,721,937	-	4,933,933,908	-	4,933,933,908
28	387,390,364,640	32,191,164,641	32,191,164,641	-	4,680,573,024	-	4,680,573,024
29	391,004,384,869	32,628,489,477	32,628,489,477	-	4,433,794,160	-	4,433,794,160
30	394,511,952,824	32,771,374,904	32,771,374,904	-	4,161,878,936	-	4,161,878,936
31	398,221,932,150	33,067,400,909	33,067,400,909	-	3,924,741,556	-	3,924,741,556
32	402,003,787,926	33,289,511,802	33,289,511,802	-	3,692,620,288	-	3,692,620,288
33	405,952,566,716	33,418,682,334	33,418,682,334	-	3,464,437,809	-	3,464,437,809
34	410,191,435,257	33,455,880,878	33,455,880,878	-	3,241,396,352	-	3,241,396,352
35	414,851,316,172	33,404,603,019	33,404,603,019	-	3,024,699,309	-	3,024,699,309
36	420,068,070,480	33,231,575,310	33,231,575,310	-	2,812,179,536	-	2,812,179,536
37	426,024,682,226	32,932,366,893	32,932,366,893	-	2,604,541,501	-	2,604,541,501
38	432,921,884,203	32,483,922,101	32,483,922,101	-	2,401,004,751	-	2,401,004,751
39	441,000,409,101	31,863,864,018	31,863,864,018	-	2,201,097,201	-	2,201,097,201
40	450,543,440,205	31,096,241,538	31,096,241,538	-	2,007,543,224	-	2,007,543,224
41	461,828,320,052	30,225,433,558	30,225,433,558	-	1,823,667,948	-	1,823,667,948
42	475,103,128,676	29,266,526,967	29,266,526,967	-	1,650,291,400	-	1,650,291,400
43	490,616,743,234	28,232,073,199	28,232,073,199	-	1,487,813,318	-	1,487,813,318
44	508,621,587,440	27,138,252,204	27,138,252,204	-	1,336,607,111	-	1,336,607,111
45	529,369,762,727	25,997,807,481	25,997,807,481	-	1,196,671,199	-	1,196,671,199
46	553,117,001,810	24,821,655,204	24,821,655,204	-	1,067,788,099	-	1,067,788,099
47	580,124,906,701	23,618,412,642	23,618,412,642	-	949,557,495	-	949,557,495
48	610,664,089,959	22,394,326,701	22,394,326,701	-	841,443,174	-	841,443,174
49	645,017,632,260	21,157,108,168	21,157,108,168	-	742,949,528	-	742,949,528



Single Discount Rate Development

PVs of Projected Benefits Beginning September 1, 2024 (continued)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^(a)-.5	(g)=(e)*vf^(a)-.5	(h)=(c)/(1+sdr)^(a)-.5
50	\$ 683,480,256,474	\$ 19,912,533,536	\$ 19,912,533,536	\$ -	\$ 653,500,234	\$ -	\$ 653,500,234
51	726,361,446,684	18,666,471,689	18,666,471,689	-	572,529,258	-	572,529,258
52	773,986,407,536	17,427,382,175	17,427,382,175	-	499,555,594	-	499,555,594
53	826,694,225,208	16,203,207,638	16,203,207,638	-	434,079,115	-	434,079,115
54	884,839,423,955	14,998,997,124	14,998,997,124	-	375,531,471	-	375,531,471
55	948,796,355,654	13,819,282,234	13,819,282,234	-	323,359,649	-	323,359,649
56	1,018,961,192,171	12,668,696,260	12,668,696,260	-	277,043,831	-	277,043,831
57	1,095,753,348,075	11,551,722,072	11,551,722,072	-	236,091,045	-	236,091,045
58	1,179,617,288,005	10,472,680,822	10,472,680,822	-	200,035,406	-	200,035,406
59	1,271,024,488,650	9,435,829,571	9,435,829,571	-	168,440,032	-	168,440,032
60	1,370,475,414,028	8,445,234,089	8,445,234,089	-	140,894,209	-	140,894,209
61	1,478,501,764,206	7,504,705,325	7,504,705,325	-	117,012,246	-	117,012,246
62	1,595,668,946,943	6,617,669,829	6,617,669,829	-	96,431,515	-	96,431,515
63	1,722,578,853,577	5,787,088,074	5,787,088,074	-	78,811,612	-	78,811,612
64	1,859,872,913,281	5,015,434,084	5,015,434,084	-	63,834,413	-	63,834,413
65	2,008,235,384,219	4,304,610,846	4,304,610,846	-	51,203,124	-	51,203,124
66	2,168,396,966,995	3,655,894,801	3,655,894,801	-	40,641,757	-	40,641,757
67	2,341,138,730,985	3,069,900,755	3,069,900,755	-	31,894,760	-	31,894,760
68	2,527,296,350,393	2,546,420,953	2,546,420,953	-	24,725,292	-	24,725,292
69	2,727,764,803,500	2,084,367,904	2,084,367,904	-	18,914,803	-	18,914,803
70	2,943,503,458,260	1,681,775,698	1,681,775,698	-	14,263,028	-	14,263,028
71	3,175,541,509,827	1,335,818,355	1,335,818,355	-	10,587,838	-	10,587,838
72	3,424,983,778,971	1,042,963,333	1,042,963,333	-	7,725,830	-	7,725,830
73	3,693,016,757,352	799,121,638	799,121,638	-	5,532,294	-	5,532,294
74	3,980,914,920,557	599,779,371	599,779,371	-	3,880,611	-	3,880,611
75	4,290,047,348,618	440,147,442	440,147,442	-	2,661,479	-	2,661,479
76	4,621,884,655,064	315,273,121	315,273,121	-	1,781,673	-	1,781,673
77	4,978,006,286,317	220,102,323	220,102,323	-	1,162,470	-	1,162,470
78	5,360,108,270,441	149,598,453	149,598,453	-	738,415	-	738,415
79	5,770,011,383,484	98,919,692	98,919,692	-	456,323	-	456,323
80	6,209,669,701,310	63,619,380	63,619,380	-	274,281	-	274,281
81	6,681,179,541,668	39,812,044	39,812,044	-	160,412	-	160,412
82	7,186,788,860,168	24,267,670	24,267,670	-	91,383	-	91,383
83	7,728,907,205,491	14,434,147	14,434,147	-	50,798	-	50,798
84	8,310,116,348,899	8,396,197	8,396,197	-	27,616	-	27,616
85	8,933,181,701,989	4,787,134	4,787,134	-	14,715	-	14,715
86	9,601,064,626,614	2,679,460	2,679,460	-	7,698	-	7,698
87	10,316,935,721,084	1,473,726	1,473,726	-	3,957	-	3,957
88	11,084,189,152,358	797,274	797,274	-	2,001	-	2,001
89	11,906,458,097,646	424,546	424,546	-	996	-	996
90	12,787,631,350,826	222,473	222,473	-	488	-	488
91	13,731,871,148,480	114,625	114,625	-	235	-	235
92	14,743,632,281,745	58,011	58,011	-	111	-	111
93	15,827,682,571,423	28,752	28,752	-	51	-	51
94	16,989,124,792,769	13,880	13,880	-	23	-	23
95	18,233,420,144,956	6,428	6,428	-	10	-	10
96	19,566,413,370,109	2,812	2,812	-	4	-	4
97	20,994,263,642,477	1,184	1,184	-	2	-	2
98	22,523,751,809,691	498	498	-	1	-	1
99	24,162,041,458,317	298	298	-	-	-	-
Totals					\$ 302,863,108,132	\$ -	\$ 302,863,108,132

