

October 26, 2017

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, 2017**

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, 2017. The total pension liability was determined as of the end of the plan year, August 31, 2017. It is our opinion that the recommended assumptions are internally consistent, reasonable, and comply with the requirements under GASB No. 67.

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.

Certain tables included in the Required Supplementary Information should include a 10-year history of information. As provided for in GASB No. 67, this historical information is only presented for the years in which the information was measured in conformity with the requirements of GASB No. 67. The historical information in this report begins with the information presented for the fiscal year ending August 31, 2014.

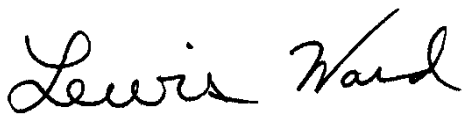
This report compliments the actuarial valuation report that was provided to TRS and should be considered together as a complete report for the plan year ending August 31, 2017. Please see the actuarial valuation report as August 31, 2017 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. 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. Considering the above events, projected employer contributions are based on current statutory funding levels.

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, 2014 and were adopted in September 2015. Post-Retirement Mortality rates for current and future retirees are prepared in accordance with the Actuarial Standards of Practice No. 35 which advises actuaries to *“adjust mortality rates to reflect mortality improvement prior to the measurement date and to include an assumption as to the expected mortality improvement after the measurement date.”* The assumption change shown in the reconciliation of this year’s Net Pension Liability (on page 7 of this report) is the reflection of the change to the assumed retirement patterns of TRS due to the legislative changes made to TRS-Care by the 2017 Legislature.

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,



Lewis Ward
Consultant



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

Summary of Population Statistics

The total pension liability described in this report is based on the plan membership as of August 31, 2017:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	407,768
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	273,028
Active Plan Members	<u>864,261</u>
Total Plan Members	1,545,057

The Average Expected Remaining Service Life (AERSL) of 6.7496 is based on the membership information as of the beginning of the fiscal year. The AERSL of the active employees was 11.9751 years. This calculates to a total remaining service years of $11.9751 \times 847,673 = 10,150,968.94$ years. Divided by the total membership of 1,503,940 as of August 31, 2016 yields an AERSL of 6.7496 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 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).

A single discount rate of 8.000% 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 8.000%. 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 2013 legislative session (please see the actuarial valuation report for a description of these rates).

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.

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, 2014. The active mortality rates were based on 90% of the RP-2014 Employee Mortality Tables for males and females, with full generational mortality using Scale BB. The post-retirement mortality rates for healthy lives were based on the 2015 TRS of Texas Healthy Pensioner Mortality Tables, with full generational projection using Scale BB.

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

Valuation Date	August 31, 2017
Actuarial Cost Method	Individual Entry Age Normal actuarial cost method as required by GASB 67
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Single Discount Rate	8.00%
Long-term Expected Return	8.00%
Municipal Bond Rate	N/A*
Last year ending August 31 in 2017 to 2116 projection period (100 years)	2116
Inflation	2.50%
Salary Increases	3.50% to 9.50% including inflation
Ad hoc post-employment benefit changes	None

* If a municipal bond rate was to be used, the rate would be 3.42% as of August 2017 (i.e. the rate closest to but not later than the Measurement Date). The source for the rate is the Fixed Income Market Data/Yield Curve/Data 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."

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	Current Single Discount	1% Increase
7.00%	Rate Assumption	9.00%
8.00%		
\$53,902,879,534	\$31,974,612,699	\$13,715,771,590

Reconciliation of Fiduciary Net Position

for Year Ended August 31, 2017

	Year Ending August 31, 2017
Additions	
Contributions	
Non-Employer Contributing Entity	\$ 1,697,962,608
Employer	1,588,309,345
Employee	3,242,556,261
Other	80,067,069
Total Contributions	<u>\$ 6,608,895,283</u>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 17,441,071,521
Interest and Dividends	0
Less Investment Expense	<u>(361,264,174)</u>
Net Investment Income	<u>\$ 17,079,807,347</u>
Other	<u>\$ 1,299,284</u>
Total Additions	<u>\$ 23,690,001,914</u>
Deductions	
Benefit payments, including refunds of employee contributions	\$ 10,196,196,528
Pension Plan Administrative Expense	44,189,998
Other	<u>96,330,741</u>
Total Deductions	<u>\$ 10,336,717,267</u>
Net Increase (Decrease) in Net Position	\$ 13,353,284,647
Net Position Restricted for Pensions	
Beginning of Year	<u>\$ 134,008,637,473</u>
End of Year	<u><u>\$ 147,361,922,120</u></u>

Schedules of Required Supplementary Information

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

Fiscal year ending August 31,	2017	2016	2015	2014
Total Pension Liability				
Service Cost	\$ 4,489,045,421	\$ 4,392,076,679	\$ 4,225,448,833	\$ 3,965,994,265
Interest on the Total Pension Liability	13,515,485,995	12,896,571,424	12,555,645,919	11,813,445,940
Benefit Changes	0	0	0	-
Difference between Expected and Actual Experience	(969,830,844)	373,668,629	(1,588,618,832)	482,638,639
Assumption Changes	700,880,288	0	(1,474,723,994)	2,028,541,342
Benefit Payments	(9,775,775,472)	(9,379,122,730)	(8,935,111,459)	(8,548,642,525)
Refunds	(420,421,056)	(373,418,687)	(391,341,181)	(410,600,319)
Net Change in Total Pension Liability	\$ 7,539,384,332	\$ 7,909,775,315	\$ 4,391,299,286	9,331,377,342
Total Pension Liability - Beginning	\$ 171,797,150,487	\$ 163,887,375,172	\$ 159,496,075,886	150,164,698,544
Total Pension Liability - Ending (a)	\$ 179,336,534,819	\$ 171,797,150,487	\$ 163,887,375,172	\$ 159,496,075,886
Plan Fiduciary Net Position				
Non-Contributing Entity	\$ 1,697,962,608	\$ 1,675,631,248	\$ 1,591,482,988	1,530,623,829
Employer Contributions	1,588,309,345	1,483,389,348	1,377,972,653	\$ 984,552,391
Employee Contributions	3,242,556,261	2,943,669,320	2,576,024,311	2,357,686,000
Pension Plan Net Investment Income	17,079,807,347	9,193,280,560	(412,759,100)	19,434,430,034
Benefit Payments	(9,775,775,472)	(9,379,122,730)	(8,935,111,459)	(8,548,642,525)
Refunds	(420,421,056)	(373,418,687)	(391,341,181)	(410,600,319)
Pension Plan Administrative Expense	(44,189,998)	(44,402,710)	(35,556,979)	(41,904,190)
Other	(14,964,388)	(29,095,088)	(11,248,106)	84,954,006
Net Change in Plan Fiduciary Net Position	\$ 13,353,284,647	\$ 5,469,931,261	\$ (4,240,536,873)	15,391,099,226
Plan Fiduciary Net Position - Beginning	\$ 134,008,637,473	\$ 128,538,706,212	\$ 132,779,243,085	117,388,143,859
Plan Fiduciary Net Position - Ending (b)	\$ 147,361,922,120	\$ 134,008,637,473	\$ 128,538,706,212	\$ 132,779,243,085
Net Pension Liability - Ending (a) - (b)	\$ 31,974,612,699	\$ 37,788,513,014	\$ 35,348,668,960	26,716,832,801
Plan Fiduciary Net Position as a Percentage				
of Total Pension Liability	82.17 %	78.00 %	78.43 %	83.25 %
Covered Employee Payroll	\$ 42,111,120,273	\$ 40,742,826,333	\$ 38,448,124,045	\$ 36,654,290,800
Net Pension Liability as a Percentage				
of Covered Employee Payroll	75.93 %	92.75 %	91.94 %	72.89 %
Notes to Schedule:				
N/A				

Schedules of Required Supplementary Information

Schedule of the Net Pension Liability (Historical)

Last 10 Fiscal Years

FY Ending August 31,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2013	\$ 150,164,698,544	\$ 117,388,143,859	\$ 32,776,554,685	78.17%	\$ 35,188,983,344	93.14%
2014	159,496,075,886	132,779,243,085	26,716,832,801	83.25%	36,654,290,800	72.89%
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%

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
2014	\$ 3,177,927,012	\$ 2,515,176,220	\$662,750,792	\$ 36,654,290,800	6.86%
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%

Notes to Schedule of Contributions

Valuation Date: August 31, 2016 (to determine contribution rate for fiscal year ending August 31, 2017).

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

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	For funding purposes, the Ultimate Entry Age Normal actuarial cost method is used
Amortization Method	Level Percentage of Payroll, Floating
Remaining Amortization Period	34 years
Asset Valuation Method	5 Year smoothed market
Inflation	2.50%
Salary Increases	3.50% to 9.50% including inflation
Investment Rate of Return	8.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2015 valuation pursuant to an experience study of the period September 1, 2010 through August 31, 2014.
Mortality	Active Mortality: 90% of the RP-2014 Employee Mortality Tables for males and females, with full generational mortality using Scale BB. Post-Retirement: The 2015 TRS of Texas Healthy Pensioner Mortality Tables, with full generational projection using Scale BB.

Other Information:

Notes There were no benefit changes during the year.

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 8.000%; the municipal bond rate is 3.420% (based on the daily rate closest to but not later than the measurement date of the Fidelity “20-Year Municipal GO AA Index”); and the resulting single discount rate is 8.000%.

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, 2017

Year	Payroll for Current Employees	Payroll for Future Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for All Employees	Employer Normal Cost Contributions Related to Payroll of Future Employees	Total Contributions
1	\$ 40,774,732,822	\$ 2,389,165,458	\$ 43,163,898,280	\$ 3,139,654,427	\$ 3,323,620,168	\$ (53,517,306)	\$ 6,409,757,289
2	39,353,493,304	4,889,502,433	44,242,995,737	3,030,218,984	3,406,710,672	(109,524,854)	6,327,404,802
3	38,208,241,137	7,140,829,493	45,349,070,630	2,942,034,568	3,491,878,439	(159,954,581)	6,273,958,426
4	37,157,686,332	9,325,111,064	46,482,797,396	2,861,141,848	3,579,175,399	(208,882,488)	6,231,434,759
5	36,139,702,241	11,505,165,089	47,644,867,331	2,782,757,073	3,668,654,784	(257,715,698)	6,193,696,159
6	35,158,804,510	13,677,184,504	48,835,989,014	2,707,227,947	3,760,371,154	(306,368,933)	6,161,230,168
7	34,193,131,389	15,863,757,350	50,056,888,739	2,632,871,117	3,854,380,433	(355,348,165)	6,131,903,385
8	33,216,847,534	18,091,463,424	51,308,310,958	2,557,697,260	3,950,739,944	(405,248,781)	6,103,188,423
9	32,215,601,768	20,375,416,964	52,591,018,732	2,480,601,336	4,049,508,442	(456,409,340)	6,073,700,438
10	31,172,611,835	22,733,182,365	53,905,794,200	2,400,291,111	4,150,746,153	(509,223,285)	6,041,813,979
11	30,083,302,556	25,170,136,499	55,253,439,055	2,316,414,297	4,254,514,807	(563,811,058)	6,007,118,046
12	28,937,114,271	27,697,660,760	56,634,775,031	2,228,157,799	4,360,877,677	(620,427,601)	5,968,607,875
13	27,744,054,670	30,306,589,738	58,050,644,407	2,136,292,210	4,469,899,619	(678,867,610)	5,927,324,219
14	26,522,586,722	32,979,323,795	59,501,910,517	2,042,239,178	4,581,647,110	(738,736,853)	5,885,149,435
15	25,275,355,730	35,714,102,551	60,989,458,280	1,946,202,391	4,696,188,288	(799,995,897)	5,842,394,782
16	24,008,366,575	38,505,828,162	62,514,194,737	1,848,644,226	4,813,592,995	(862,530,551)	5,799,706,670
17	22,736,823,485	41,340,226,120	64,077,049,606	1,750,735,408	4,933,932,820	(926,021,065)	5,758,647,163
18	21,485,132,225	44,193,843,621	65,678,975,846	1,654,355,181	5,057,281,140	(989,942,097)	5,721,694,224
19	20,281,739,130	47,039,211,112	67,320,950,242	1,561,693,913	5,183,713,169	(1,053,678,329)	5,691,728,753
20	19,145,435,078	49,858,538,920	69,003,973,998	1,474,198,501	5,313,305,998	(1,116,831,272)	5,670,673,227
21	18,078,306,815	52,650,766,533	70,729,073,348	1,392,029,625	5,446,138,648	(1,179,377,170)	5,658,791,103
22	17,060,548,211	55,436,751,970	72,497,300,182	1,313,662,212	5,582,292,114	(1,241,783,244)	5,654,171,082
23	16,089,767,403	58,219,965,283	74,309,732,686	1,238,912,090	5,721,849,417	(1,304,127,222)	5,656,634,285
24	15,146,742,125	61,020,733,878	76,167,476,003	1,166,299,144	5,864,895,652	(1,366,864,439)	5,664,330,357
25	14,212,105,897	63,859,557,006	78,071,662,903	1,094,332,154	6,011,518,044	(1,430,454,077)	5,675,396,121
26	13,268,386,712	66,755,067,764	80,023,454,476	1,021,665,777	6,161,805,995	(1,495,313,518)	5,688,158,254
27	12,302,907,660	69,721,133,178	82,024,040,838	947,323,890	6,315,851,145	(1,561,753,383)	5,701,421,652
28	11,305,853,415	72,768,788,444	84,074,641,859	870,550,713	6,473,747,423	(1,630,020,861)	5,714,277,275
29	10,320,752,850	75,855,755,055	86,176,507,905	794,697,969	6,635,591,109	(1,699,168,913)	5,731,120,165
30	9,361,216,799	78,969,703,803	88,330,920,603	720,813,694	6,801,480,886	(1,768,921,365)	5,753,373,215
31	8,430,707,711	82,108,485,907	90,539,193,618	649,164,494	6,971,517,909	(1,839,230,084)	5,781,452,319
32	7,519,520,870	85,283,152,589	92,802,673,458	579,003,107	7,145,805,856	(1,910,342,618)	5,814,466,345
33	6,600,693,306	88,522,046,989	95,122,740,295	508,253,385	7,324,451,003	(1,982,893,853)	5,849,810,535
34	5,682,187,200	91,818,621,603	97,500,808,802	437,528,414	7,507,562,278	(2,056,737,124)	5,888,353,568
35	4,787,733,929	95,150,595,093	99,938,329,022	368,655,513	7,695,251,335	(2,131,373,330)	5,932,533,518
36	3,933,973,647	98,502,813,601	102,436,787,248	302,915,971	7,887,632,618	(2,206,463,025)	5,984,085,564
37	3,151,200,098	101,846,506,831	104,997,706,929	242,642,408	8,084,823,434	(2,281,361,753)	6,046,104,089
38	2,464,698,151	105,157,951,451	107,622,649,602	189,781,758	8,286,944,019	(2,355,538,113)	6,121,187,664
39	1,893,433,916	108,419,781,927	110,313,215,842	145,794,412	8,494,117,620	(2,428,603,115)	6,211,308,917
40	1,451,491,766	111,619,554,472	113,071,046,238	111,764,866	8,706,470,560	(2,500,278,020)	6,317,957,406
41	1,114,650,584	114,783,171,810	115,897,822,394	85,828,095	8,924,132,324	(2,571,143,049)	6,438,817,370
42	845,630,989	117,949,636,965	118,795,267,954	65,113,586	9,147,235,632	(2,642,071,868)	6,570,277,350
43	632,393,959	121,132,755,694	121,765,149,653	48,694,335	9,375,916,523	(2,713,373,728)	6,711,237,130
44	467,008,900	124,342,269,495	124,809,278,394	35,959,685	9,610,314,436	(2,785,266,837)	6,861,007,284
45	336,943,653	127,592,566,701	127,929,510,354	25,944,661	9,850,572,297	(2,858,073,494)	7,018,443,464
46	235,091,651	130,892,656,462	131,127,748,113	18,102,057	10,096,836,605	(2,931,995,505)	7,182,943,157
47	156,289,906	134,249,651,910	134,405,941,816	12,034,323	10,349,257,520	(3,007,192,203)	7,354,099,640
48	96,874,734	137,669,215,627	137,766,090,361	7,459,355	10,607,988,958	(3,083,790,430)	7,531,657,883
49	54,417,269	141,155,825,352	141,210,242,620	4,190,130	10,873,188,682	(3,161,890,488)	7,715,488,324
50	26,539,450	144,713,959,236	144,740,498,686	2,043,538	11,145,018,399	(3,241,592,687)	7,905,469,250

Single Discount Rate Development

Projection of Contributions Beginning September 1, 2017(continued)

Year	Payroll for Current Employees	Payroll for Future Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for All Employees	Employer Normal Cost Contributions Related to Payroll of Future Employees	Total Contributions
51	10,376,431	148,348,634,723	148,359,011,153	798,985	11,423,643,859	(3,323,009,418)	8,101,433,426
52	3,765,247	152,064,221,185	152,067,986,432	289,924	11,709,234,955	(3,406,238,555)	8,303,286,324
53	1,603,858	155,868,082,235	155,869,686,093	123,497	12,001,965,829	(3,491,445,042)	8,510,644,284
54	615,537	159,765,812,708	159,766,428,245	47,396	12,302,014,975	(3,578,754,205)	8,723,308,166
55	151,998	163,760,436,953	163,760,588,951	11,704	12,609,565,349	(3,668,233,788)	8,941,343,265
56	29,005	167,854,574,670	167,854,603,675	2,233	12,924,804,483	(3,759,942,473)	9,164,864,243
57	2,861	172,050,965,906	172,050,968,767	220	13,247,924,595	(3,853,941,636)	9,393,983,179
58	-	176,352,242,986	176,352,242,986	-	13,579,122,710	(3,950,290,243)	9,628,832,467
59	-	180,761,049,061	180,761,049,061	-	13,918,600,778	(4,049,047,499)	9,869,553,279
60	-	185,280,075,287	185,280,075,287	-	14,266,565,797	(4,150,273,686)	10,116,292,111
61	-	189,912,077,169	189,912,077,169	-	14,623,229,942	(4,254,030,529)	10,369,199,413
62	-	194,659,879,098	194,659,879,098	-	14,988,810,691	(4,360,381,292)	10,628,429,399
63	-	199,526,376,076	199,526,376,076	-	15,363,530,958	(4,469,390,824)	10,894,140,134
64	-	204,514,535,478	204,514,535,478	-	15,747,619,232	(4,581,125,595)	11,166,493,637
65	-	209,627,398,865	209,627,398,865	-	16,141,309,713	(4,695,653,735)	11,445,655,978
66	-	214,868,083,836	214,868,083,836	-	16,544,842,455	(4,813,045,078)	11,731,797,377
67	-	220,239,785,932	220,239,785,932	-	16,958,463,517	(4,933,371,205)	12,025,092,312
68	-	225,745,780,581	225,745,780,581	-	17,382,425,105	(5,056,705,485)	12,325,719,620
69	-	231,389,425,095	231,389,425,095	-	17,816,985,732	(5,183,123,122)	12,633,862,610
70	-	237,174,160,723	237,174,160,723	-	18,262,410,376	(5,312,701,200)	12,949,709,176
71	-	243,103,514,741	243,103,514,741	-	18,718,970,635	(5,445,518,730)	13,273,451,905
72	-	249,181,102,609	249,181,102,609	-	19,186,944,901	(5,581,656,698)	13,605,288,203
73	-	255,410,630,174	255,410,630,174	-	19,666,618,523	(5,721,198,116)	13,945,420,407
74	-	261,795,895,929	261,795,895,929	-	20,158,283,987	(5,864,228,069)	14,294,055,918
75	-	268,340,793,327	268,340,793,327	-	20,662,241,086	(6,010,833,771)	14,651,407,315
76	-	275,049,313,160	275,049,313,160	-	21,178,797,113	(6,161,104,615)	15,017,692,498
77	-	281,925,545,989	281,925,545,989	-	21,708,267,041	(6,315,132,230)	15,393,134,811
78	-	288,973,684,639	288,973,684,639	-	22,250,973,717	(6,473,010,536)	15,777,963,181
79	-	296,198,026,755	296,198,026,755	-	22,807,248,060	(6,634,835,799)	16,172,412,261
80	-	303,602,977,424	303,602,977,424	-	23,377,429,262	(6,800,706,694)	16,576,722,568
81	-	311,193,051,859	311,193,051,859	-	23,961,864,993	(6,970,724,362)	16,991,140,631
82	-	318,972,878,156	318,972,878,156	-	24,560,911,618	(7,144,992,471)	17,415,919,147
83	-	326,947,200,110	326,947,200,110	-	25,174,934,408	(7,323,617,282)	17,851,317,126
84	-	335,120,880,112	335,120,880,112	-	25,804,307,769	(7,506,707,715)	18,297,600,054
85	-	343,498,902,115	343,498,902,115	-	26,449,415,463	(7,694,375,407)	18,755,040,056
86	-	352,086,374,668	352,086,374,668	-	27,110,650,849	(7,886,734,793)	19,223,916,056
87	-	360,888,534,035	360,888,534,035	-	27,788,417,121	(8,083,903,162)	19,704,513,959
88	-	369,910,747,386	369,910,747,386	-	28,483,127,549	(8,286,000,741)	20,197,126,808
89	-	379,158,516,070	379,158,516,070	-	29,195,205,737	(8,493,150,760)	20,702,054,977
90	-	388,637,478,972	388,637,478,972	-	29,925,085,881	(8,705,479,529)	21,219,606,352
91	-	398,353,415,946	398,353,415,946	-	30,673,213,028	(8,923,116,517)	21,750,096,511
92	-	408,312,251,345	408,312,251,345	-	31,440,043,354	(9,146,194,430)	22,293,848,924
93	-	418,520,057,629	418,520,057,629	-	32,226,044,437	(9,374,849,291)	22,851,195,146
94	-	428,983,059,069	428,983,059,069	-	33,031,695,548	(9,609,220,523)	23,422,475,025
95	-	439,707,635,546	439,707,635,546	-	33,857,487,937	(9,849,451,036)	24,008,036,901
96	-	450,700,326,435	450,700,326,435	-	34,703,925,135	(10,095,687,312)	24,608,237,823
97	-	461,967,834,596	461,967,834,596	-	35,571,523,264	(10,348,079,495)	25,223,443,769
98	-	473,517,030,460	473,517,030,460	-	36,460,811,345	(10,606,781,482)	25,854,029,863
99	-	485,354,956,222	485,354,956,222	-	37,372,331,629	(10,871,951,019)	26,500,380,610
100	-	497,488,830,127	497,488,830,127	-	38,306,639,920	(11,143,749,795)	27,162,890,125

Single Discount Rate Development

PROJECTION OF PLAN FIDUCIARY NET POSITION BEGINNING SEPTEMBER 1, 2017

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 8.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 147,361,922,120	\$ 6,409,757,289	\$ 12,651,266,372	\$ 48,929,679	\$ 11,542,176,809	\$ 152,613,660,166
2	152,613,660,166	6,327,404,802	10,942,791,888	47,224,192	12,026,176,314	159,977,225,203
3	159,977,225,203	6,273,958,426	11,506,770,052	45,849,889	12,591,093,567	167,289,657,254
4	167,289,657,254	6,231,434,759	12,074,756,114	44,589,224	13,152,186,995	174,553,933,670
5	174,553,933,670	6,193,696,159	12,659,008,589	43,367,643	13,708,976,021	181,754,229,618
6	181,754,229,618	6,161,230,168	13,252,860,198	42,190,565	14,260,475,131	188,880,884,154
7	188,880,884,154	6,131,903,385	13,854,218,328	41,031,758	14,805,910,880	195,923,448,333
8	195,923,448,333	6,103,188,423	14,476,219,506	39,860,217	15,343,834,065	202,854,391,098
9	202,854,391,098	6,073,700,438	15,120,626,503	38,658,722	15,871,919,394	209,640,725,706
10	209,640,725,706	6,041,813,979	15,789,552,812	37,407,134	16,387,382,039	216,242,961,777
11	216,242,961,777	6,007,118,046	16,478,928,390	36,099,963	16,887,206,529	222,622,257,999
12	222,622,257,999	5,968,607,875	17,188,602,732	34,724,537	17,368,252,545	228,735,791,149
13	228,735,791,149	5,927,324,219	17,907,289,847	33,292,866	17,827,577,340	234,550,109,995
14	234,550,109,995	5,885,149,435	18,625,092,985	31,827,104	18,262,966,048	240,041,305,388
15	240,041,305,388	5,842,394,782	19,331,933,083	30,330,427	18,672,913,430	245,194,350,091
16	245,194,350,091	5,799,706,670	20,022,120,186	28,810,040	19,056,465,602	249,999,592,137
17	249,999,592,137	5,758,647,163	20,689,772,679	27,284,188	19,413,141,710	254,454,324,143
18	254,454,324,143	5,721,694,224	21,322,180,419	25,782,159	19,743,319,852	258,571,375,642
19	258,571,375,642	5,691,728,753	21,902,846,027	24,338,087	20,048,785,271	262,384,705,552
20	262,384,705,552	5,670,673,227	22,415,978,452	22,974,522	20,332,948,705	265,949,374,510
21	265,949,374,510	5,658,791,103	22,862,962,455	21,693,968	20,600,170,918	269,323,680,107
22	269,323,680,107	5,654,171,082	23,258,347,114	20,472,658	20,854,470,901	272,553,502,318
23	272,553,502,318	5,656,634,285	23,605,090,636	19,307,721	21,099,396,095	275,685,134,341
24	275,685,134,341	5,664,330,357	23,917,809,762	18,176,091	21,338,004,849	278,751,483,694
25	278,751,483,694	5,675,396,121	24,212,627,862	17,054,527	21,572,225,055	281,769,422,481
26	281,769,422,481	5,688,158,254	24,506,934,780	15,922,064	21,802,659,447	284,737,383,337
27	284,737,383,337	5,701,421,652	24,815,376,366	14,763,489	22,028,561,783	287,637,226,916
28	287,637,226,916	5,714,277,275	25,148,275,218	13,567,024	22,248,040,756	290,437,702,705
29	290,437,702,705	5,731,120,165	25,457,374,535	12,384,903	22,460,659,834	293,159,723,266
30	293,159,723,266	5,753,373,215	25,726,530,020	11,233,460	22,668,780,548	295,844,113,548
31	295,844,113,548	5,781,452,319	25,765,105,840	10,116,849	22,883,163,784	298,733,506,962
32	298,733,506,962	5,814,466,345	25,971,791,732	9,023,425	23,107,544,922	301,674,703,072
33	301,674,703,072	5,849,810,535	26,189,102,987	7,920,832	23,335,745,210	304,663,234,997
34	304,663,234,997	5,888,353,568	26,399,472,690	6,818,625	23,568,130,160	307,713,427,411
35	307,713,427,411	5,932,533,518	26,573,263,812	5,745,281	23,807,102,952	310,874,054,788
36	310,874,054,788	5,984,085,564	26,688,789,105	4,720,768	24,057,483,633	314,222,114,111
37	314,222,114,111	6,046,104,089	26,709,716,960	3,781,440	24,326,977,236	317,881,697,036
38	317,881,697,036	6,121,187,664	26,606,137,356	2,957,638	24,626,785,231	322,020,574,937
39	322,020,574,937	6,211,308,917	26,357,919,445	2,272,121	24,971,195,566	326,842,887,853
40	326,842,887,853	6,317,957,406	25,950,029,991	1,741,790	25,377,186,977	332,586,260,455
41	332,586,260,455	6,438,817,370	25,417,363,059	1,337,581	25,862,310,819	339,468,688,005
42	339,468,688,005	6,570,277,350	24,805,246,867	1,014,757	26,442,088,541	347,674,792,271
43	347,674,792,271	6,711,237,130	24,126,040,583	758,873	27,130,762,433	357,389,992,379
44	357,389,992,379	6,861,007,284	23,387,044,615	560,411	27,942,852,953	368,806,247,591
45	368,806,247,591	7,018,443,464	22,601,273,385	404,332	28,893,161,977	382,116,175,314
46	382,116,175,314	7,182,943,157	21,775,952,246	282,110	29,996,792,140	397,519,676,256
47	397,519,676,256	7,354,099,640	20,916,737,644	187,548	31,269,497,882	415,226,348,586
48	415,226,348,586	7,531,657,883	20,028,062,524	116,250	32,727,863,317	435,457,691,012
49	435,457,691,012	7,715,488,324	19,113,575,671	65,301	34,389,460,230	458,448,998,594
50	458,448,998,594	7,905,469,250	18,177,439,741	31,847	36,272,944,259	484,449,940,514

Single Discount Rate Development

Projection of Plan Fiduciary Net Position Beginning September 1, 2017 (continued)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 8.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	484,449,940,514	8,101,433,426	17,126,840,805	12,452	38,401,923,648	513,826,444,332
52	513,826,444,332	8,303,286,324	16,171,235,330	4,518	40,797,451,917	546,755,942,724
53	546,755,942,724	8,510,644,284	15,211,387,132	1,925	43,477,601,954	583,532,799,906
54	583,532,799,906	8,723,308,166	14,253,695,500	739	46,465,664,189	624,468,076,022
55	624,468,076,022	8,941,343,265	13,301,649,883	182	49,786,389,133	669,894,158,355
56	669,894,158,355	9,164,864,243	12,358,178,085	35	53,466,257,418	720,167,101,896
57	720,167,101,896	9,393,983,179	11,426,340,424	3	57,533,637,792	775,668,382,440
58	775,668,382,440	9,628,832,467	10,509,035,059	-	62,018,939,821	836,807,119,669
59	836,807,119,669	9,869,553,279	9,609,227,724	-	66,954,782,271	904,022,227,495
60	904,022,227,495	10,116,292,111	8,730,038,742	-	72,376,161,591	977,784,642,456
61	977,784,642,456	10,369,199,413	7,874,991,299	-	78,320,620,389	1,058,599,470,959
62	1,058,599,470,959	10,628,429,399	7,047,854,959	-	84,828,425,347	1,147,008,470,746
63	1,147,008,470,746	10,894,140,134	6,252,613,852	-	91,942,766,985	1,243,592,764,013
64	1,243,592,764,013	11,166,493,637	5,493,303,740	-	99,709,983,110	1,348,975,937,020
65	1,348,975,937,020	11,445,655,978	4,774,007,736	-	108,179,806,955	1,463,827,392,217
66	1,463,827,392,217	11,731,797,377	4,098,720,582	-	117,405,640,679	1,588,866,109,691
67	1,588,866,109,691	12,025,092,312	3,471,389,750	-	127,444,854,671	1,724,864,666,924
68	1,724,864,666,924	12,325,719,620	2,895,477,511	-	138,359,126,321	1,872,654,035,354
69	1,872,654,035,354	12,633,862,610	2,374,097,392	-	150,214,818,389	2,033,128,618,962
70	2,033,128,618,962	12,949,709,176	1,909,625,357	-	163,083,397,355	2,207,252,100,135
71	2,207,252,100,135	13,273,451,905	1,503,483,100	-	177,041,909,590	2,396,063,978,530
72	2,396,063,978,530	13,605,288,203	1,155,882,083	-	192,173,514,517	2,600,686,899,167
73	2,600,686,899,167	13,945,420,407	865,568,579	-	208,568,080,858	2,822,334,831,853
74	2,822,334,831,853	14,294,055,918	629,685,536	-	226,322,846,419	3,062,322,048,654
75	3,062,322,048,654	14,651,407,315	443,838,977	-	245,543,133,682	3,322,072,750,675
76	3,322,072,750,675	15,017,692,498	302,284,594	-	266,343,112,636	3,603,131,271,215
77	3,603,131,271,215	15,393,134,811	198,372,591	-	288,846,599,582	3,907,172,633,017
78	3,907,172,633,017	15,777,963,181	125,190,291	-	313,187,876,506	4,236,013,282,412
79	4,236,013,282,412	16,172,412,261	75,934,544	-	339,512,535,213	4,591,622,295,343
80	4,591,622,295,343	16,576,722,568	44,348,294	-	367,978,356,681	4,976,133,026,298
81	4,976,133,026,298	16,991,140,631	25,040,811	-	398,756,230,421	5,391,855,356,538
82	5,391,855,356,538	17,415,919,147	13,742,256	-	432,031,124,355	5,841,288,657,784
83	5,841,288,657,784	17,851,317,126	7,359,577	-	468,003,119,723	6,327,135,735,056
84	6,327,135,735,056	18,297,600,054	3,863,238	-	506,888,530,964	6,852,318,002,835
85	6,852,318,002,835	18,755,040,056	1,997,658	-	548,921,131,167	7,419,992,176,400
86	7,419,992,176,400	19,223,916,056	1,021,104	-	594,353,497,595	8,033,568,568,947
87	8,033,568,568,947	19,704,513,959	517,003	-	643,458,482,864	8,696,731,048,767
88	8,696,731,048,767	20,197,126,808	260,391	-	696,530,816,757	9,413,458,731,941
89	9,413,458,731,941	20,702,054,977	130,715	-	753,888,845,075	10,188,049,501,278
90	10,188,049,501,278	21,219,606,352	65,522	-	815,876,412,971	11,025,145,455,080
91	11,025,145,455,080	21,750,096,511	32,764	-	882,864,901,946	11,929,760,420,773
92	11,929,760,420,773	22,293,848,924	16,314	-	955,255,431,517	12,907,309,684,901
93	12,907,309,684,901	22,851,195,146	8,045	-	1,033,481,237,934	13,963,642,109,936
94	13,963,642,109,936	23,422,475,025	3,890	-	1,118,010,243,687	15,105,074,824,758
95	15,105,074,824,758	24,008,036,901	1,818	-	1,209,347,832,830	16,338,430,692,670
96	16,338,430,692,670	24,608,237,823	803	-	1,308,039,848,476	17,671,078,778,165
97	17,671,078,778,165	25,223,443,769	329	-	1,414,675,830,161	19,110,978,051,767
98	19,110,978,051,767	25,854,029,863	131	-	1,529,892,510,255	20,666,724,591,754
99	20,666,724,591,754	26,500,380,610	54	-	1,654,377,590,110	22,347,602,562,420
100	22,347,602,562,420	27,162,890,125	25	-	1,788,873,818,334	24,163,639,270,853

Single Discount Rate Development

Present Values of Projected Benefits Beginning September 1, 2017

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)
1	\$ 147,361,922,120	\$ 12,651,266,372	\$ 12,651,266,372	\$ -	\$ 12,173,686,743	\$ -	\$ 12,173,686,743
2	152,613,660,166	10,942,791,888	10,942,791,888	-	9,749,728,151	-	9,749,728,151
3	159,977,225,203	11,506,770,052	11,506,770,052	-	9,492,793,763	-	9,492,793,763
4	167,289,657,254	12,074,756,114	12,074,756,114	-	9,223,488,772	-	9,223,488,772
5	174,553,933,670	12,659,008,589	12,659,008,589	-	8,953,499,111	-	8,953,499,111
6	181,754,229,618	13,252,860,198	13,252,860,198	-	8,679,185,318	-	8,679,185,318
7	188,880,884,154	13,854,218,328	13,854,218,328	-	8,400,934,850	-	8,400,934,850
8	195,923,448,333	14,476,219,506	14,476,219,506	-	8,127,874,583	-	8,127,874,583
9	202,854,391,098	15,120,626,503	15,120,626,503	-	7,860,820,227	-	7,860,820,227
10	209,640,725,706	15,789,552,812	15,789,552,812	-	7,600,534,822	-	7,600,534,822
11	216,242,961,777	16,478,928,390	16,478,928,390	-	7,344,792,550	-	7,344,792,550
12	222,622,257,999	17,188,602,732	17,188,602,732	-	7,093,611,280	-	7,093,611,280
13	228,735,791,149	17,907,289,847	17,907,289,847	-	6,842,785,392	-	6,842,785,392
14	234,550,109,995	18,625,092,985	18,625,092,985	-	6,589,883,707	-	6,589,883,707
15	240,041,305,388	19,331,933,083	19,331,933,083	-	6,333,311,202	-	6,333,311,202
16	245,194,350,091	20,022,120,186	20,022,120,186	-	6,073,539,411	-	6,073,539,411
17	249,999,592,137	20,689,772,679	20,689,772,679	-	5,811,172,315	-	5,811,172,315
18	254,454,324,143	21,322,180,419	21,322,180,419	-	5,545,183,124	-	5,545,183,124
19	258,571,375,642	21,902,846,027	21,902,846,027	-	5,274,254,398	-	5,274,254,398
20	262,384,705,552	22,415,978,452	22,415,978,452	-	4,997,979,477	-	4,997,979,477
21	265,949,374,510	22,862,962,455	22,862,962,455	-	4,720,038,224	-	4,720,038,224
22	269,323,680,107	23,258,347,114	23,258,347,114	-	4,445,986,143	-	4,445,986,143
23	272,553,502,318	23,605,090,636	23,605,090,636	-	4,178,026,342	-	4,178,026,342
24	275,685,134,341	23,917,809,762	23,917,809,762	-	3,919,793,183	-	3,919,793,183
25	278,751,483,694	24,212,627,862	24,212,627,862	-	3,674,175,676	-	3,674,175,676
26	281,769,422,481	24,506,934,780	24,506,934,780	-	3,443,366,342	-	3,443,366,342
27	284,737,383,337	24,815,376,366	24,815,376,366	-	3,228,429,789	-	3,228,429,789
28	287,637,226,916	25,148,275,218	25,148,275,218	-	3,029,388,195	-	3,029,388,195
29	290,437,702,705	25,457,374,535	25,457,374,535	-	2,839,465,398	-	2,839,465,398
30	293,159,723,266	25,726,530,020	25,726,530,020	-	2,656,931,917	-	2,656,931,917
31	295,844,113,548	25,765,105,840	25,765,105,840	-	2,463,810,992	-	2,463,810,992
32	298,733,506,962	25,971,791,732	25,971,791,732	-	2,299,606,957	-	2,299,606,957
33	301,674,703,072	26,189,102,987	26,189,102,987	-	2,147,081,699	-	2,147,081,699
34	304,663,234,997	26,399,472,690	26,399,472,690	-	2,004,007,966	-	2,004,007,966
35	307,713,427,411	26,573,263,812	26,573,263,812	-	1,867,778,340	-	1,867,778,340
36	310,874,054,788	26,688,789,105	26,688,789,105	-	1,736,942,933	-	1,736,942,933
37	314,222,114,111	26,709,716,960	26,709,716,960	-	1,609,541,617	-	1,609,541,617
38	317,881,697,036	26,606,137,356	26,606,137,356	-	1,484,536,904	-	1,484,536,904
39	322,020,574,937	26,357,919,445	26,357,919,445	-	1,361,747,354	-	1,361,747,354
40	326,842,887,853	25,950,029,991	25,950,029,991	-	1,241,365,074	-	1,241,365,074
41	332,586,260,455	25,417,363,059	25,417,363,059	-	1,125,818,537	-	1,125,818,537
42	339,468,688,005	24,805,246,867	24,805,246,867	-	1,017,320,277	-	1,017,320,277
43	347,674,792,271	24,126,040,583	24,126,040,583	-	916,170,800	-	916,170,800
44	357,389,992,379	23,387,044,615	23,387,044,615	-	822,322,135	-	822,322,135
45	368,806,247,591	22,601,273,385	22,601,273,385	-	735,827,118	-	735,827,118
46	382,116,175,314	21,775,952,246	21,775,952,246	-	656,441,880	-	656,441,880
47	397,519,676,256	20,916,737,644	20,916,737,644	-	583,833,914	-	583,833,914
48	415,226,348,586	20,028,062,524	20,028,062,524	-	517,619,409	-	517,619,409
49	435,457,691,012	19,113,575,671	19,113,575,671	-	457,393,301	-	457,393,301
50	458,448,998,594	18,177,439,741	18,177,439,741	-	402,769,724	-	402,769,724

Single Discount Rate Development

PVs of Projected Benefits Beginning September 1, 2017 (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 ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=((c)/((1+sdr) ^a ((a)-.5))
51	\$ 484,449,940,514	\$ 17,126,840,805	\$ 17,126,840,805	\$ -	\$ 351,380,461	\$ -	\$ 351,380,461
52	513,826,444,332	16,171,235,330	16,171,235,330	-	307,198,994	-	307,198,994
53	546,755,942,724	15,211,387,132	15,211,387,132	-	267,560,289	-	267,560,289
54	583,532,799,906	14,253,695,500	14,253,695,500	-	232,143,516	-	232,143,516
55	624,468,076,022	13,301,649,883	13,301,649,883	-	200,590,721	-	200,590,721
56	669,894,158,355	12,358,178,085	12,358,178,085	-	172,558,366	-	172,558,366
57	720,167,101,896	11,426,340,424	11,426,340,424	-	147,728,733	-	147,728,733
58	775,668,382,440	10,509,035,059	10,509,035,059	-	125,804,710	-	125,804,710
59	836,807,119,669	9,609,227,724	9,609,227,724	-	106,512,061	-	106,512,061
60	904,022,227,495	8,730,038,742	8,730,038,742	-	89,598,909	-	89,598,909
61	977,784,642,456	7,874,991,299	7,874,991,299	-	74,836,398	-	74,836,398
62	1,058,599,470,959	7,047,854,959	7,047,854,959	-	62,014,893	-	62,014,893
63	1,147,008,470,746	6,252,613,852	6,252,613,852	-	50,942,105	-	50,942,105
64	1,243,592,764,013	5,493,303,740	5,493,303,740	-	41,440,515	-	41,440,515
65	1,348,975,937,020	4,774,007,736	4,774,007,736	-	33,346,549	-	33,346,549
66	1,463,827,392,217	4,098,720,582	4,098,720,582	-	26,508,938	-	26,508,938
67	1,588,866,109,691	3,471,389,750	3,471,389,750	-	20,788,523	-	20,788,523
68	1,724,864,666,924	2,895,477,511	2,895,477,511	-	16,055,236	-	16,055,236
69	1,872,654,035,354	2,374,097,392	2,374,097,392	-	12,189,090	-	12,189,090
70	2,033,128,618,962	1,909,625,357	1,909,625,357	-	9,078,146	-	9,078,146
71	2,207,252,100,135	1,503,483,100	1,503,483,100	-	6,617,955	-	6,617,955
72	2,396,063,978,530	1,155,882,083	1,155,882,083	-	4,711,021	-	4,711,021
73	2,600,686,899,167	865,568,579	865,568,579	-	3,266,474	-	3,266,474
74	2,822,334,831,853	629,685,536	629,685,536	-	2,200,279	-	2,200,279
75	3,062,322,048,654	443,838,977	443,838,977	-	1,436,004	-	1,436,004
76	3,322,072,750,675	302,284,594	302,284,594	-	905,571	-	905,571
77	3,603,131,271,215	198,372,591	198,372,591	-	550,255	-	550,255
78	3,907,172,633,017	125,190,291	125,190,291	-	321,536	-	321,536
79	4,236,013,282,412	75,934,544	75,934,544	-	180,582	-	180,582
80	4,591,622,295,343	44,348,294	44,348,294	-	97,654	-	97,654
81	4,976,133,026,298	25,040,811	25,040,811	-	51,055	-	51,055
82	5,391,855,356,538	13,742,256	13,742,256	-	25,943	-	25,943
83	5,841,288,657,784	7,359,577	7,359,577	-	12,865	-	12,865
84	6,327,135,735,056	3,863,238	3,863,238	-	6,253	-	6,253
85	6,852,318,002,835	1,997,658	1,997,658	-	2,994	-	2,994
86	7,419,992,176,400	1,021,104	1,021,104	-	1,417	-	1,417
87	8,033,568,568,947	517,003	517,003	-	664	-	664
88	8,696,731,048,767	260,391	260,391	-	310	-	310
89	9,413,458,731,941	130,715	130,715	-	144	-	144
90	10,188,049,501,278	65,522	65,522	-	67	-	67
91	11,025,145,455,080	32,764	32,764	-	31	-	31
92	11,929,760,420,773	16,314	16,314	-	14	-	14
93	12,907,309,684,901	8,045	8,045	-	7	-	7
94	13,963,642,109,936	3,890	3,890	-	3	-	3
95	15,105,074,824,758	1,818	1,818	-	1	-	1
96	16,338,430,692,670	803	803	-	1	-	1
97	17,671,078,778,165	329	329	-	0	-	0
98	19,110,978,051,767	131	131	-	0	-	0
99	20,666,724,591,754	54	54	-	0	-	0
100	22,347,602,562,420	25	25	-	0	-	0
Totals					\$ 216,125,263,587	\$ -	\$ 216,125,263,587