City of El Paso Employees Retirement Trust

Actuarial Valuation Report
As of September 1, 2022

January 2023

January 31, 2023

Mr. Robert B. Ash
Pension Administrator
City of El Paso Employees' Retirement Trust
1039 Chelsea St.
El Paso, TX 79903

Dear Robert,

This report summarizes the results of the September 1, 2022 actuarial valuation of the City of El Paso Employees Retirement Trust (Plan).

The primary purposes of the valuation are to (i) determine the adequacy of the current contribution rate of the City, (ii) describe the current financial condition of the Plan, and (iii) analyze changes in the Plan's condition since the last valuation.

Valuations are prepared biennially, as of September 1 of even years. September 1 is the first day of the Plan's plan year. Interim valuations are prepared as of September 1 of odd years based on updated assets and a roll-forward of liabilities from the previous valuation.

Use of this report for any other purpose or by anyone other than the City or the Board may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting it to perform an advance review of any statement, document, or filing based on information contained in this report. Buck will accept no liability for any such statement, document or filing made without prior review by Buck.

The actuarial valuation reflects the benefit and contribution provisions set forth in the Plan's statutes. A summary of the benefit provisions used in the valuation is presented in Schedule B. There were no changes in benefit provisions since the previous valuation.

The actuarial assumptions and methods used in the valuation are presented in Schedule C. In our opinion, the actuarial assumptions are reasonable, taking into account the experience of the Plan and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the Plan. The assumptions and methods used in the valuation were adopted by the Board based on (i) the experience study for the period September 1, 2014 to August 31, 2018, and (ii) the funding policy that was formalized in 2019. All assumptions o are evaluated and discussed annually with the appropriate parties, and actuarial gain/loss experience is reviewed during each valuation to see if any changes are needed. All assumptions represent our best estimate of future experience.

Member data for active, retired, and inactive members was supplied as of July 1, 2022 by the City. The City is solely responsible for the accuracy and comprehensiveness of the data. We did not verify the data submitted but did perform tests for consistency and reasonableness. Asset information was supplied by the City on November 15, 2022.

Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67) was effective for the Plan beginning with fiscal year ending August 31, 2014. We have prepared the member data tables shown in Schedule A of this report for the Statistical Section of the ACFR, as well as the summary of actuarial assumptions shown in Schedule C of this report. Please see our separate GASB 67 reports for other information needed for the ACFR.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of such future differences is beyond the scope of this valuation.

Actuarial Standard of Practice No. 51 (“ASOP 51”) applies to funding calculations such as those presented in this report and requires certain disclosures of potential risks. Schedule D presents an assessment of the key risks applicable to this plan, as well as historical information and plan maturity measures.

Actuarial Standard of Practice No. 56 (“ASOP 56”) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding rules specified in this report. The output from the third-party vendor software is used as input to an internally developed model that applies applicable funding rules to the liabilities derived and other inputs, such as plan assets and contributions, to generate the exhibits found in this report. Buck has an extensive review process whereby the results of the liability calculations are checked using detailed sample output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal model are similarly reviewed in detail and at a high level for accuracy, reasonability and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. The review is performed by experts within the company who are familiar with applicable funding rules as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed. Significant changes to the internal model that are applicable to multiple clients are generally developed, checked and reviewed by multiple experts within the company who are familiar with the details of the required changes.

ASOPs 27 and 35 require the actuary to disclose the information and analysis used to support the actuary’s determination that the assumptions selected by the plan sponsor do not significantly conflict with what, in the actuary’s professional judgment, are reasonable for the purpose of the measurement. In the case of the plan sponsor’s selection of expected return on assets (“EROA”), the signing actuaries have used economic information and tools provided by Buck’s Financial Risk Management (“FRM”) practice. A spreadsheet tool created by the FRM team converts averages, standard deviations, and correlations from Buck’s Capital Markets Assumptions (“CMA”) that are used for stochastic forecasting into approximate percentile ranges for the arithmetic and geometric average returns. It is intended to suggest possible reasonable ranges for EROA without attempting to predict or select a specific best estimate rate of return. It takes into account the duration (horizon) of investment and the target allocation of assets in the portfolio to various asset classes. Based on the actuary's analysis, including consistency with other assumptions used in the valuation and the percentiles generated by the spreadsheet described above, and review of actuarial gain/loss analysis, the actuary believes the assumptions do not conflict with what, in the actuary's professional judgment, are reasonable for the purpose of the measurement.

Where presented, references to "funded ratio" and "unfunded accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the Plan if the Plan were to settle (i.e., purchase annuities) for all or a portion of its liabilities.

This report was prepared under our supervision and in accordance with all applicable Actuarial Standards of Practice. The assumptions and methods used for funding purposes meet the requirements of all applicable Actuarial Standards of Practice. We are Fellows of the Society of Actuaries, Enrolled Actuaries, Members of the American Academy of Actuaries, and Fellows of the Conference of Consulting Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

We are available to discuss this report with you at your convenience. David can be reached at 602-803-6174 and Beth can be reached at (208) 724-5297.

Sincerely,

Buck Global, LLC (Buck)

David J. Kershner, FSA, EA, MAAA, FCA
Principal

Elizabeth A. Wiley, FSA, EA, MAAA, FCA
Senior Consultant

Contents

Section 1 – Summary of Results

	September 1, 2022	September 1, 2020
Membership[1]		
Active	4,128	4,304
Terminated with deferred benefits[2]	173	162
Retired paid from Plan[3]	3,657	3,476
Compensation		
Total	$ 180,531,963	$ 167,790,367
Average	$ 43,734	$ 38,985
Assets		
Market value	$ 907,610,032	$ 877,989,396
Actuarial value	$ 947,404,127	$ 867,570,209
Valuation Results		
Actuarial Accrued Liability (AAL)	$ 1,171,459,737	$ 1,085,022,171
Actuarial Value of Assets (AVA)	$ 947,404,127	$ 867,570,209
Funded ratio (AVA/AAL)	80.9%	80.0%
Unfunded Actuarial Accrued Liability (UAAL)	$ 224,055,610	$ 217,451,962
UAAL funding period	14 years	16 years
Actuarially Determined Contribution (ADC)		
Normal cost rate (net of member contributions)	2.47%	2.99%
UAAL amortization rate	8.55%	8.53%
Total rate	11.02%	11.52%
Excess of City's Fixed Contribution Rate Over ADC	3.03%	2.53%

[1] Census data as of July 1 preceding the valuation date.
[2] Excludes terminated members entitled to refunds of contributions paid after July 1.
[3] Excludes retirees for whom annuities were purchased from Prudential, but whose cost of living increases are paid by the Plan.

Section 2 – Comments on the Valuation

Overview

The overall funded status of the Plan has decreased since the September 1, 2020 valuation. Pay increases were higher than anticipated and more retirements than expected increased liabilities. A $1,500 13th check issued in 2021 was paid from plan assets but was not reflected in the liabilities as of the beginning of the year, thereby increasing the unfunded liability. Assets performed better than expected in fiscal year 2021 but lower than expected in fiscal year 2022[1].

Section 3 shows in more detail the changes to the UAAL.

Funding Status

There are two significant measures of the funding status of the Plan.

- The first is the Actuarially Determined Contribution (ADC). This is the City's contribution rate (the ADC as a percentage of payroll) that is required to pay the Normal Cost and to amortize the UAAL over 25-year periods. This rate is currently 11.02% of pay (the City's fixed contribution rate is 14.05% of pay). The corresponding rate from the September 1, 2020 valuation was 11.52%.
- The second is the UAAL funding period. This is the length of time in years that will be required to amortize the current UAAL based on the fixed contribution rates. This period is currently 14 years, compared to 16 years in 2020.

Benefit Provisions

Schedule B summarizes the benefit provisions of the Plan. The provisions were changed effective September 1, 2011 so that members of the Plan prior to September 1, 2011 are eligible for the First Tier Plan, and members of the Plan on or after September 1, 2011 are eligible for the Second Tier Plan. There are no significant benefits which were not taken into account in this valuation. There were no changes to the benefit provisions since the previous valuation.

Actuarial Assumptions and Methods

Schedule C describes the assumptions and methods used in the valuation. These assumptions and methods were adopted by the Board based on the experience study for the period September 1, 2014 to August 31, 2018 and the funding policy that was formalized in 2019. There were no changes to the assumptions or methods since the previous valuation.

Financial Data

The financial data used in this report was provided by the City on November 15, 2022.

Section 5 shows a reconciliation of the Plan's assets between August 31, 2020 through August 31, 2021, and from August 31, 2021 through August 31, 2022, and shows the development of the Actuarial Value of Assets (AVA). To minimize volatility in contribution rates, we use an adjusted market value (AVA) which phases in market gains and losses over five years. The market returns for the two years since the last valuation were 21.5% and -7.8% for fiscal years 2021 and 2022 respectively. The actuarial returns were 10.7% and 7.4% for fiscal years 2021 and 2022 respectively.

Membership Statistics

Data on active and retired members was supplied by the City as of July 1, 2022. The active membership decreased from 4,304 to 4,128 between 2020 and 2022, while payroll increased from $167.8 million to $180.5 million over the same period. The number of retirees and beneficiaries receiving benefits increased from 3,476 to 3,657 during this 2-year period. Schedule A provides a summary of the membership data used in the current and prior valuations.

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[1] The market returns were approximately 21.5% in fiscal year 2021 and -7.8% in fiscal year 2022.

Section 3 – Actuarial Funding Requirements

Actuarial Liabilities, Costs and Funding Period

		September 1, 2022	September 1, 2020
1.	Covered Payroll (excluding 4% overtime load)	$ 180,531,963	$ 167,790,367
2.	Actuarial present value of future pay	$ 1,386,012,391	$ 1,266,925,833
3.	Current contribution rates		
	a. City	14.05%	14.05%
	b. Member	8.95%	8.95%
	c. Total	23.00%	23.00%
4.	Normal cost rate		
	a. Total (before adjustment for overtime)	11.88%	12.42%
	b. Total (after adjustment for overtime)	11.42%	11.94%
	c. Member contribution rate	8.95%	8.95%
	d. Employer normal cost rate (4b – 4c)	2.47%	2.99%
5.	Actuarial present value of future benefits	$ 1,336,118,009	$ 1,242,374,359
6.	Actuarial present value of future normal costs (4a x 2)	$ 164,658,272	$ 157,352,188
7.	Actuarial accrued liability (5 – 6)	$ 1,171,459,737	$ 1,085,022,171
8.	Actuarial value of assets	$ 947,404,127	$ 867,570,209
9.	Unfunded actuarial accrued liability (UAAL) (7 – 8)	$ 224,055,610	$ 217,451,962
10.	City's Actuarially Determined Contribution (ADC)		
	a. Employer normal cost rate (4d)	2.47%	2.99%
	b. UAAL amortization rate	8.55%	8.53%
	c. Total	11.02%	11.52%
11.	Margin over/(under) ADC (3a – 10c)	3.03%	2.53%
12.	UAAL funding period	14 years	16 years

Section 3 – Actuarial Funding Requirements (continued)

Analysis of Change in UAAL

1.	UAAL as of September 1, 2020	$ 217,451,962
2.	Changes due to:	
	a. Expected increase/(decrease)	1,211,813
	b. Actual contributions greater than expected	(12,188,063)
	c. Other changes including liability experience	42,499,554
	d. Asset experience	(30,509,189)
	e. Assumption Changes	0
	f. 13th Check	5,589,533
	Total Changes	$ 6,603,648
3.	UAAL as of September 1, 2022	$ 224,055,610

Schedule of UAAL Layered Amortizations

	Amortization Period		Balances		
Layer	Date Created	Years Remaining	Initial	Outstanding	End-of-Year Payment
Initial[1]	9/1/2019	22	$ 217,986,352	$ 221,526,633	$ 15,936,939
Change in Assumptions	9/1/2020	23	20,343	20,538	1,440
FY20 Experience[2]	9/1/2020	23	(2,683,153)	(2,708,881)	(189,958)
FY21 Experience[3]	9/1/2021	24	(33,526,549)	(33,712,197)	(2,308,315)
FY22 Experience[4]	9/1/2022	25	38,929,517	38,929,517	2,606,824
Total				$ 224,055,610	$ 16,046,930

[1] Based on the September 1, 2019 roll-forward valuation (includes the FY19 asset loss).
[2] Combination of liability experience, FY20 asset experience, and contributions greater than expected.
[3] Combination of FY21 asset experience and contributions greater than expected.
[4] Combination of liability experience, FY22 asset experience, and contributions greater than expected.

Section 4 – Historical Funding Information

Historical Funding Detail (in $millions)

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL) – Entry Age	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll[1]	UAAL as a Percentage of Covered Payroll
September 1, 2008	552.8	631.6	78.8	87.5%	136.5	57.7%
September 1, 2010	569.7	710.0	140.3	80.2%	143.1	98.0%
September 1, 2012	581.7	788.2	206.5	73.8%	147.7	139.8%
September 1, 2014	663.1	859.7	196.7	77.1%	153.6	128.0%
September 1, 2016	749.0	945.8	196.7	79.2%	156.3	125.9%
September 1, 2018	822.9	1,024.4	201.5	80.3%	167.2	120.5%
September 1, 2020	867.6	1,085.0	217.5	80.0%	167.8	129.6%
September 1, 2022	947.4	1,171.5	224.1	80.9%	180.5	124.1%

[1] Excluding 4% overtime load.

Section 4 – Historical Funding Information (continued)

Schedule of Employer Contributions

Valuation Date	Fiscal Year Ending	City's Actuarially Determined Contribution[1]	Percentage Contributed
September 1, 2008	August 31, 2009	13,459,678	128.1%
September 1, 2010	August 31, 2011	17,544,977	100.5%
September 1, 2012	August 31, 2013	20,668,877	94.5%
September 1, 2014	August 31, 2015	18,848,390	121.6%
September 1, 2016	August 31, 2017	16,274,581	155.6%
September 1, 2018	August 31, 2019	16,488,437	156.2%
September 1, 2020	August 31, 2021	19,329,450	131.5%
September 1, 2022	August 31, 2023	19,894,622	TBD

[1] Based on projected payroll.

Section 4 – Historical Funding Information (continued)

Solvency Test

Valuation as of September 1	(1) Active Member Contributions	(2) Retirees, Beneficiaries, and Deferred Vested	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2012	$ 125,711,138	$ 402,599,130	$ 259,894,173	$ 581,725,101	100%	100%	21%
2014	138,800,612	447,319,039	273,625,284	663,063,411	100%	100%	28%
2016	149,806,820	551,471,729	244,493,549	749,026,818	100%	100%	20%
2018	175,353,211	622,985,979	226,039,977	822,926,030	100%	100%	11%
2020	175,731,674	702,353,131	206,937,366	867,570,209	100%	99%	0%
2022	172,662,959	778,884,327	219,912,451	947,404,127	100%	99%	0%

Section 5 – Summary of Asset Information

Reconciliation of Plan Assets

		Period Ending	
		August 31, 2022	August 31, 2021
1.	Market value of assets at beginning of period	$ 1,028,462,335	$ 877,989,396
2.	Contributions		
	a. City	$ 26,090,035	$ 25,416,971
	b. Member	15,998,718	14,905,816
	c. Total	$ 42,088,753	$ 40,322,787
3.	Benefit payments and refunds	(84,876,133)	(75,230,941)
4.	Investment earnings (net of investment expenses)	(76,419,409)	190,067,092
5.	Administrative expenses	(1,645,514)	(4,685,999)
6.	Market value of assets at end of period	$ 907,610,032	$ 1,028,462,335

Section 5 – Summary of Asset Information (continued)

Determination of Investment Earnings to be Deferred

		Period Ending	
		August 31, 2022	August 31, 2021
1.	Market value at beginning of period	$ 1,028,462,335	$ 877,989,396
2.	Cash flows		
	a. City contributions	$ 26,090,035	$ 25,416,971
	b. Member contributions	15,998,718	14,905,816
	c. Benefit payments	(79,297,591)	(71,426,654)
	d. Refunds	(5,578,542)	(3,804,287)
	e. Total	$ (42,787,380)	$ (34,908,154)
3.	Weighted cash flows (2e x 50%)	$ (21,393,690)	$ (17,454,077)
4.	Assets available (1 + 3)	$ 1,007,068,645	$ 860,535,319
5.	Assumed investment return rate	7.25%	7.25%
6.	Expected net return (4 x 5)	$ 73,012,477	$ 62,388,811
7.	Actual net return		
	a. Total investment return	$ (76,419,409)	$ 190,067,092
	b. Administrative expenses	(1,645,514)	(4,685,999)
	c. Net return	$ (78,064,923)	$ 185,381,093
8.	Gain/(loss) subject to deferral (7c - 6)	$ (151,077,400)	$ 122,992,282

Section 5 – Summary of Asset Information (continued)

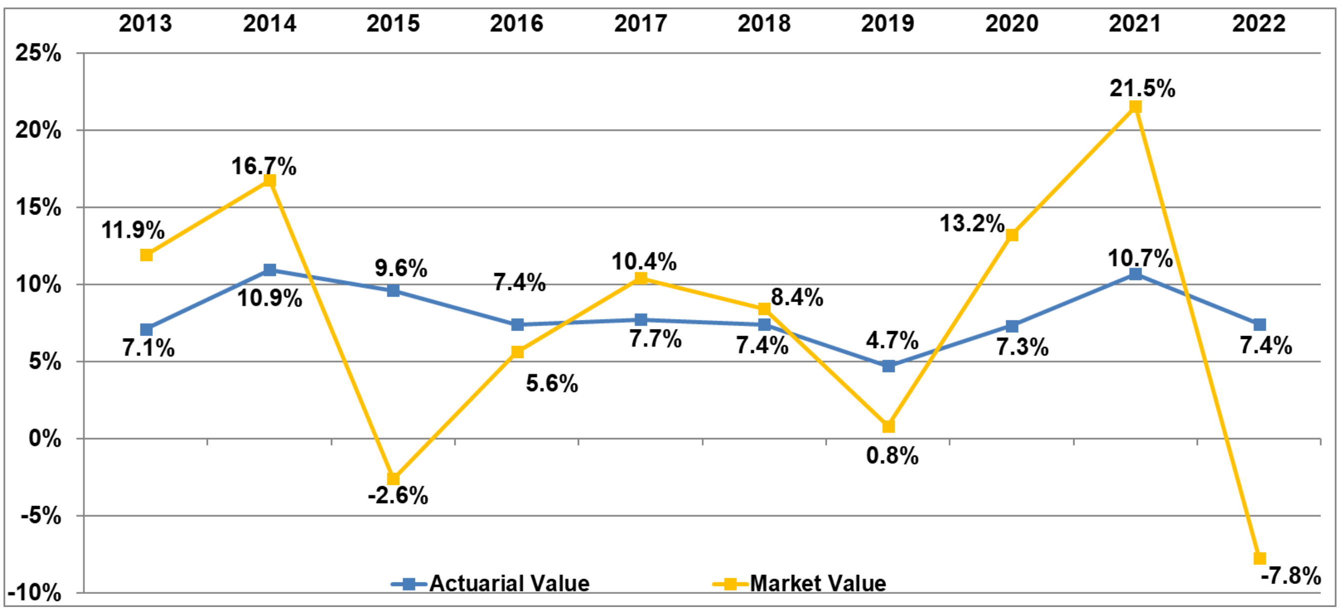
Calculation of Actuarial Value of Assets

1. Market value of assets as of August 31, 2022 — $ 907,610,032
2. Deferral amounts

Year	Total Gain/(Loss)	Percent Deferred	Deferral Amount
2021-2022	$ (151,077,400)	80%	$ (120,861,920)
2020-2021	122,992,282	60%	73,795,396
2019-2020	45,079,403	40%	18,031,761
2018-2019	(53,796,523)	20%	(10,759,305)
Total			$ (39,794,095)

3. Actuarial value of assets as of September 1, 2022 (1 – 2) — $ 947,404,127

Historical Asset Rates of Return



Section 6 – 10-Year Projections[1]

FYE	Expected City Contributions	Expected Member Contributions	Expected Benefit Payments	Expected Refunds
August 31, 2023	$ 26,742,286	$ 16,398,686	$ 85,226,143	$ 5,718,006
August 31, 2024	27,410,843	16,808,653	77,088,847	5,860,956
August 31, 2025	28,096,114	17,228,869	79,229,495	6,007,480
August 31, 2026	28,798,517	17,659,591	81,232,207	6,157,667
August 31, 2027	29,518,480	18,101,081	83,060,028	6,311,608
August 31, 2028	30,256,442	18,553,608	85,013,401	6,469,398
August 31, 2029	31,012,853	19,017,448	86,742,796	6,631,133
August 31, 2030	31,788,174	19,492,884	88,470,509	6,796,912
August 31, 2031	32,582,879	19,980,206	90,184,969	6,966,835
August 31, 2032	33,397,451	20,479,712	91,699,819	7,141,005

[1] Based on projected payroll.

Schedule A - Membership Data

	September 1, 2022[1]	September 1, 2020[1]	September 1, 2018[1]	September 1, 2016[1]	September 1, 2014[1]
1. Active members					
a. Number vested	1,293	1,585	1,902	2,008	1,996
b. Number non-vested	2,835	2,719	2,443	2,209	2,153
c. Total	4,128	4,304	4,345	4,217	4,149
d. Covered payroll	$ 180,531,963	$ 167,790,367	$ 167,225,529	$ 156,336,028	$ 153,613,608
e. Average annual pay	$ 43,734	$ 38,985	$ 38,487	$ 37,073	$ 37,024
f. Percent change in average annual pay	12.2%	1.3%	3.8%	0.1%	3.6%
g. Average age	45.2	45.4	45.8	46.5	46.8
h. Average service (years)	9.9	9.6	10.1	10.6	10.7
2. Retired members					
a. Number currently being paid from Plan[2]	3,657	3,476	3,174	2,863	2,627
b. Total current annual benefit	$ 75,621,789	$ 68,772,742	$ 59,700,507	$ 52,488,661	$ 46,393,663
c. Average current annual benefit	$ 20,679	$ 19,785	$ 18,809	$ 18,333	$ 17,660
d. Average age	70.4	70.2	69.8	69.4	69.1
3. Deferred vested members					
a. Number entitled to deferred benefits[3]	173	162	181	141	150
b. Total deferred annual benefit	$ 2,531,924	$ 2,238,717	$ 2,624,290	$ 1,949,199	$ 1,981,100
c. Average deferred annual benefit	$ 14,635	$ 13,819	$ 14,499	$ 13,824	$ 13,207
d. Average age	50.4	49.7	48.4	49.7	49.1

[1] Census data provided as of July 1 preceding the valuation date is assumed to be the same as of September 1. Compensation amounts have been adjusted for two months at assumed salary increases.
[2] Excludes retirees for whom annuities were purchased from Prudential, but whose cost-of-living increases are paid by the Plan (120 as of July 1, 2020; 99 as of July 1, 2022).
[3] Excludes terminated members entitled to refunds of contributions paid after July 1 (999 members with $7,407,577 in contributions as of July 1, 2020; 1,367 members with $10,133,543 in contributions as of July 1, 2022).

Schedule A - Pension Benefit Recipients (Retirees and Beneficiaries) Added to and Removed from Rolls

	Added to Rolls		Removed from Rolls		Rolls – End of Year			
Valuation Date	Number	Annual Pension Benefits	Number	Annual Pension Benefits	Number	Annual Pension Benefits	Percent Increase in Pension Benefits	Average Annual Pension Benefit
September 1, 2022	471	$ 12,699,881	290	$ 5,850,834	3,657	$ 75,621,789	10.0%	$ 20,679
September 1, 2020	514	$ 11,931,948	212	$ 2,859,713	3,476	$ 68,772,742	15.2%	$ 19,785
September 1, 2018	492	$ 10,185,670	181	$ 2,973,824	3,174	$ 59,700,507	13.7%	$ 18,809

Schedule B - Summary of Benefit Provisions

First Tier Plan

Final Wages

The greatest of (i) average of Member’s total earnings in the 36 months before retirement, (ii) average of Member’s base pay for the year before retirement, or (iii) Member’s base pay in the month preceding retirement.

Member

All classified civil service employees of the City of El Paso, except for members of the Policemen’s or Firemen’s Pension Fund. Permanent part-time employees and certain full-time employees not in the classified civil service are not required to participate but may elect to do so. Special rules apply to certain “grant-funded” employees. The First Tier Plan applies to employees who become plan participants prior to September 1, 2011.

Credited Service

Years and months of service while a Member. At retirement, a Member may convert unused sick leave to service under the plan. An unlimited amount of sick leave may be converted to benefit service. Alternatively, up to six months of sick leave may be applied to meet a benefit eligibility requirement, but if so used, such service cannot also be used in the calculation of the benefit amount.

Contribution Rates

Effective September 1, 2014, active members contribute 8.95% of his/her wages per year. The City contributes 14.05% of the member’s wages per year.

Service Retirement Benefits

Normal Retirement Benefit

Eligibility

Age 55 with 10 years of Credited Service, age 60 with 7 years of Credited Service, or 30 years of Credited Service, if earlier.

Benefit

2.50% of Final Wages times years of Credited Service, subject to a minimum benefit of $75.

Early Retirement Benefit

Eligibility

Age 40 with 10 years of Credited Service, or age 45 with at least 7 years of Credited Service.

Benefit

2.50% of Final Wages times years of Credited Service, multiplied by the appropriate actuarial reduction factor.

Deferred Retirement Benefit

Eligibility

Age 40 with 10 years of Credited Service, or age 45 with at least 7 years of Credited Service.

Benefit

2.50% of Final Wages times years of Credited Service, payable at early retirement age reduced in accordance with the Early Retirement Benefit or unreduced at normal retirement age.

Schedule B - Summary of Benefit Provisions (continued)

Withdrawal (Refund) of Contributions

Eligibility

Immediate.

Benefit

Total employee contributions without interest. If the member has more than five years of service, contributions are paid with interest, credited annually at 5.5%. No other benefits are payable under the Plan once the contributions are withdrawn.

Survivor Benefits

Qualified Surviving Spouse or Child Benefit

Eligibility

Death of a Member due to a job-related accident or age 40 with ten years of service or age 45 with seven years of service.

Benefit

Amount payable if Member had retired immediately prior to death with a Joint and 100% option, subject to a $75 per month minimum benefit. If death is due to a job-related accident, there is a minimum $550 per month benefit and the benefit is computed as if the Member were age 70 with 30 years of service. Benefits payable to the surviving spouse continue for life or until remarriage. If Member was not eligible for Early Retirement or death was not due to a job-related accident, a refund of contributions is available to the beneficiary, as described above.

Disability Retirement Benefit

Eligibility

Disability as a result of a job-related cause or any injury not due to the Member’s own fault if Member has seven years of service.

Benefit

2.50% of Final Wages times Credited Service, with a minimum benefit of $75 per month (or $250 per month if disability is job-related).

Normal Form of Retirement Benefit

Joint and 2/3 survivor annuity. Optional forms of benefit are life only, joint and 100% survivor, joint and 50% survivor, and modified cash refund.

Schedule B - Summary of Benefit Provisions (continued)

Second Tier Plan

Final Wages

The average of Member's total earnings in the 36 months before retirement.

Member

All classified civil service employees of the City of El Paso, except for members of the Policemen's or Firemen's Pension Fund. Permanent part-time employees and certain full-time employees not in the classified civil service are not required to participate but may elect to do so. Special rules apply to certain "grant-funded" employees. The Second Tier Plan applies to employees who become plan participants after August 31, 2011.

Credited Service

Years and months of service while a Member. At retirement, a Member may convert unused sick leave to service under the plan. An unlimited amount of sick leave may be converted to benefit service. Alternatively, up to six months of sick leave may be applied to meet a benefit eligibility requirement, but if so used, such service cannot also be used in the calculation of the benefit amount.

Contribution Rates

Effective September 1, 2014, active members contribute 8.95% of his/her wages per year. The City contributes 14.05% of the member's wages per year.

Service Retirement Benefits

Normal Retirement Benefit

Eligibility

Age 60 with 7 years of Credited Service, or 35 years of Credited Service, if earlier.

Benefit

2.25% of Final Wages times years of Credited Service, subject to a minimum benefit of $75, limited to 90% of the 3-year final average pay.

Early Retirement Benefit

Eligibility

Age 45 with 7 years of Credited Service.

Benefit

2.25% of Final Wages times years of Credited Service, multiplied by the appropriate actuarial reduction factor.

Deferred Retirement Benefit

Eligibility

Age 45 with 7 years of Credited Service.

Benefit

2.25% of Final Wages times years of Credited Service, payable at early retirement age reduced in accordance with the Early Retirement Benefit or unreduced at normal retirement age.

Schedule B - Summary of Benefit Provisions (continued)

Withdrawal (Refund) of Contributions

Eligibility

Immediate.

Benefit

Total employee contributions without interest. If the member has more than seven years of service, contributions are paid with interest, credited annually at 3.0%. No other benefits are payable under the Plan once the contributions are withdrawn.

Survivor Benefits

Qualified Surviving Spouse or Child Benefit

Eligibility

Death of a Member due to a job-related accident or age 45 with seven years of service.

Benefit

Amount payable if Member had retired immediately prior to death with a Joint and 100% option, subject to a $75 per month minimum benefit. If death is due to a job-related accident, there is a minimum $550 per month benefit and the benefit is computed as if the Member were age 70 with 30 years of service. Benefits payable to the surviving spouse continue for life or until remarriage. If Member was not eligible for Early Retirement or death was not due to a job-related accident, a refund of contributions is available to the beneficiary, as described above.

Disability Retirement Benefit

Eligibility

Disability as a result of a job-related cause or any injury not due to the Member's own fault if Member has seven years of service.

Benefit

2.25% of Final Wages times Credited Service, with a minimum benefit of $75 per month (or $250 per month if disability is job-related).

Normal Form of Retirement Benefit

Joint and 2/3 survivor annuity. Optional forms of benefit are life only, joint and 100% survivor, joint and 50% survivor, and modified cash refund.

Changes in plan provisions since the previous valuation

None.

Schedule C - Statement of Actuarial Methods and Assumptions

The economic and demographic assumptions used in the valuation were adopted by the Board in consultation with Buck. The Board's established practice is to review the experience of the Plan periodically to determine if any changes to the valuation assumptions are warranted. The assumptions and methods used in the valuation are based on the experience study for the period September 1, 2014 through August 31, 2018, and the funding policy that was formalized in 2019.

Investment Return

7.25% per year, net of expenses.

Separations Before Normal Retirement

Representative values of the assumed annual rates of withdrawal are as follows:

	Withdrawal					
	Years of Credited Service					
Age	**1**	**2**	**3**	**4**	**5**	**6+**
25	15.0%	15.0%	12.0%	12.0%	10.0%	9.0%
30	15.0	15.0	12.0	12.0	10.0	9.0
35	15.0	15.0	9.0	12.0	10.0	7.0
40	10.0	10.0	9.0	8.0	7.0	7.0
45	10.0	10.0	9.0	8.0	7.0	7.0
50	7.5	7.5	6.0	4.0	7.0	6.0
55	7.5	7.5	6.0	4.0	4.0	6.0
60	7.5	7.5	6.0	4.0	4.0	6.0

Mortality

Mortality rates for active and deferred participants are based on the RP-2014 employee tables with Blue Collar adjustment projected with Scale MP-2019 on a fully generational basis. Mortality rates for healthy retirees and survivors are based on the RP-2014 healthy annuitant tables with Blue Collar adjustment (92% of male rates and 100% of female rates) projected with Scale MP-2019 on a fully generational basis. Mortality rates for disabled participants are based on the RP-2014 disabled annuitant table projected with Scale MP-2019 on a fully generational basis.

Disability

None assumed.

Occupational Death

5% of deaths among active participants are assumed to be job-related deaths. The remaining 95% of deaths are assumed not to be job-related.

Schedule C - Statement of Actuarial Methods and Assumptions (continued)

Salary Increases

The assumed annual rates of future salary increase attributable to longevity and promotion are as follows:

Years of Service	Annual Rate of Salary Increase
Less than 3	4.50%
3	4.00
4	4.00
5	4.00
6	4.00
7	3.50
8	3.50
9	3.50
10	3.50
11	3.50
12	3.00
13	3.00
14	3.00
15	3.00
16 or more	2.75

Total payroll is assumed to increase 2.50% per year. This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

Overtime is assumed to be 4% of base and longevity pay.

Schedule C - Statement of Actuarial Methods and Assumptions (continued)

Retirement Rates

The percentage of those eligible for retirement assumed to retire at various ages are shown below for Tier 1:

Tier 1 Retirement Rates					
Early			Normal		
Age	Male	Female	Age	Male	Female
40	3.0%	3.0%	40	n/a	n/a
45	3.0	3.5	45	6.0%	9.0%
50	4.0	3.5	50	6.0	9.0
55	4.0	4.0	55	12.0	10.0
60	—	—	60	12.0	10.0
65	—	—	65	25.0	20.0
70	—	—	70	40.0	25.0
75+	—	—	75	100.0	100.0

The percentage of those eligible for retirement assumed to retire at various ages are shown below for Tier 2:

Tier 2 Retirement Rates					
Early			Normal		
Age	Male	Female	Age	Male	Female
45	2.5%	2.5%	45	2.5%	2.5%
50	1.5	1.5	50	1.5	1.5
55	—	—	55	1.5	7.0
60	—	—	60	8.0	7.0
65	—	—	65	10.0	12.0
70	—	—	70	40.0	20.0
75+	—	—	75+	100.0	100.0

Schedule C - Statement of Actuarial Methods and Assumptions (continued)

Spouses

100% of active members are assumed to be married with the male three years older than the female. No children's benefits were valued.

Form of Payment

85% of participants eligible for early retirement are assumed to be paid through a joint and 2/3 survivor annuity. The remaining 15% of participants eligible for early retirement are assumed to elect a refund of contributions.

Future Expenses

None assumed.

Valuation Method

The method used to determine Normal Cost and Accrued Actuarial Liability is the Entry Age Normal Cost Method. Under the Entry Age Normal Cost Method, an annual Normal Cost is determined for each covered active Member which is the contribution required to provide all the projected pension benefits assuming this contribution is payable over a period ending on the date of retirement (separation from active service) and expressed as a level percentage of compensation. The Actuarial Accrued Liability is determined as the excess of the total present value of all pension benefits over the total present value of future Normal Costs. The Unfunded Actuarial Accrued Liability as of the valuation date is determined as the excess of the Actuarial Accrued Liability over the Actuarial Value of Assets of the Plan. Effective with the September 1, 2019 roll-forward valuation, the Unfunded Actuarial Accrued Liability is amortized over closed 25-year periods ("layers").

Actuarial Value of Assets

The actuarial value of assets is calculated based on the following formula:

$$\begin{aligned} MV \quad & - (8/10) \times G/(L)_1 - (6/10) \times G/(L)_2 \\ & - (4/10) \times G/(L)_3 - (2/10) \times G/(L)_4 \end{aligned}$$

where:

MV = the market value of assets as of the valuation date

$G/(L)_i$ = the asset gain or (loss) (i.e., actual return on assets less expected return on assets) for the i-th year preceding the valuation date.

Changes in methods and assumptions since the previous valuation

None.

Schedule D – ASOP 51 Assessment of Risks

Actuarial Standard of Practice No. 51 (ASOP 51) requires certain disclosures of potential risks to the plan and provides useful information for intended users of actuarial reports that determine plan contributions or evaluate the adequacy of specified contribution levels to support benefit provisions.

Under ASOP 51, risk is defined as the potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience.

The more significant risk factors affecting the future funded status and contribution rates of the Plan are described below:

Investment Risk

The potential that future investment returns will be different than the current assumption of 7.25%. Plan costs are very sensitive to the market return. If market returns are lower than the assumed rate of return on assets, future costs will increase.

Contribution Risk

Under the El Paso City Municipal Code, the City contributes 14.05% of pay each year and active members contribute 8.95% of pay each year. The Actuarially Determined Contribution (ADC) for the plan year beginning September 1, 2022 is 11.02% of pay (excluding active member contributions). The ADC is currently less than the fixed City contribution rate of 14.05%. This should be monitored closely to ensure the contributions to the Plan do not fall below the ADC. If this were to happen, the liabilities of the Plan would grow faster than the assets, which would cause the unfunded liability and ADC to increase over time.

Longevity Risk

The potential that mortality rates of plan participants will be different than assumed. The mortality assumption includes an assumption for future mortality improvement. If participants live longer than the life expectancies predicted by the baseline mortality table and mortality improvement scale, benefits will be paid over a longer period of time than expected, which will lead to increases in liabilities and costs.

Other Demographic Risk

The potential that demographic experience patterns (especially retirement and turnover) will be different than assumed. If participants retire earlier than expected based on the retirement assumption, or lower turnover leads to more participants receiving benefits than expected, future liabilities and costs will increase.

Other Risks

Payroll does not grow as expected, thereby increasing future Actuarially Determined Contribution rates.

This information is provided to comply with ASOP 51 and furnish beneficial information on potential risks to the plan. **This list is not all-inclusive**; it is an attempt to identify the more significant risks and how those risks might affect the results shown in this report.

Note that ASOP 51 does not require the actuary to evaluate the ability or willingness of the plan sponsor to make contributions to the plan when due, or to assess the likelihood or consequences of potential future changes in law. In addition, this valuation report is not intended to provide investment advice or to provide guidance on the management or reduction of risk.

Historical Information

Monitoring certain information over time may help understand risks faced by the Plan. Historical information is included throughout this report. Some examples are:

- Historical Asset Rates of Return in Section 5 illustrates how the Plan’s assets have performed over time.
- Funded Ratio History shown in Section 4 illustrates how the Plan’s funded status (comparison of actuarial accrued liabilities to actuarial value of assets) has changed over time.

Schedule D – ASOP 51 Assessment of Risks (continued)

- Section 4 shows how the Actuarially Determined Contribution has changed over time.
- Schedule A shows how member census data has changed over time.

Plan Maturity Measures

There are certain measures that may aid in understanding the significant risks to the Plan.

Ratio of Cash Flow to Assets	September 1, 2018	September 1, 2020	September 1, 2022
1. Retiree and Beneficiary Actuarial Accrued Liability	$598,442,205	$677,266,185	$ 748,113,778
2. Total Actuarial Accrued Liability	1,024,379,167	1,085,022,171	1,171,459,737
3. Ratio, (1) ÷ (2)	58.4%	62.4%	63.9%

A high percentage of liability concentrated on participants in pay status indicates a mature plan (often a ratio above 60% - 65%). An increasing percentage may indicate a need for a less risky asset allocation, which may lead to a lower long-term return on asset assumption and increased costs. Higher percentages may also indicate greater investment risk as benefit payments may be greater than contributions creating an increased reliance on investment returns. This ratio should be monitored each year in the future.

Ratio of Cash Flow to Assets	FYE August 31, 2020	FYE August 31, 2021	FYE August 31, 2022
1. Contributions	$41,410,781	$40,322,787	$42,088,753
2. Benefit Payments and Refunds	70,376,992	75,230,941	84,876,133
3. Cash Flow, (1) - (2)	$ (28,966,211)	$ (34,908,154)	$ (42,787,380)
4. Fair Value of Assets	$ 877,989,396	$ 1,028,462,335	$ 907,610,032
5. Ratio, (3) ÷ (4)	(3.3%)	(3.4%)	(4.7%)

When this cash flow ratio is negative, more cash is being paid out than deposited in the trust. Negative cash flow indicates the trust needs to rely on investment returns to cover benefit payments and/or may need to invest in more liquid assets to cover the benefit payments. More liquid assets may not generate the same returns as less liquid assets, which can increase the investment risk. Currently, the low magnitude of the ratio implies there may already be enough liquid assets to cover the benefit payments, less investment return is needed to cover the shortfall, or only a small portion of assets will need to be converted to cash. Therefore, the investment risk is likely not amplified at this time. This maturity measure should be monitored in the future.

Contribution Volatility	FYE August 31, 2020	FYE August 31, 2021	FYE August 31, 2022
1. Fair Value of Assets	$ 877,989,396	$ 1,028,462,335	$ 907,610,032
2. Payroll	172,242,295	167,790,367	171,985,126
3. Asset to Payroll Ratio, (1) ÷ (2)	509.7%	612.9%	527.7%
4. Accrued Liability	$1,054,386,523	$1,108,078,648	$1,171,459,737
5. Liability to Payroll Ratio, (4) ÷ (2)	612.2%	660.4%	681.1%

Plans that have higher asset-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 10% may experience twice the contribution volatility due to investment return volatility than a plan with an asset-to-payroll ratio of 5%. Plans that have higher liability-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, if an assumption change increases the liability of two plans by the same percent, the plan with a liability-to-payroll ratio of 10% may experience twice the contribution volatility than a plan with a liability-to-payroll ratio of 5%.

Schedule E – Glossary of Terms

Actuarial Accrued Liability

The portion, as determined by a particular cost method, of the total present value of benefits that is attributable to past service credit.

Actuarial Assumptions

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement rate or rates of investment income and salary increases. Actuarial assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Gain (Loss) or Liability/Asset Experience

A measure of the difference between actual and expected experience based upon a set of actuarial assumptions.

Actuarial Present Value of Future Benefits

Also referred to as the present value of benefits. It is the value, as of a specified date, of an amount payable in the future, where the amount has been adjusted to reflect both the time value of money and the probability that the payment is actually made.

Actuarial Present Value of Future Normal Costs

The value, as of a specified date, of future normal costs, equal to the employer normal cost rate times the actuarial present value of future pay.

Actuarial Present Value of Future Pay

The value, as of a specified date, of future pay where the amount has been adjusted to reflect both the future value of money and the probability that the payment is actually made.

Amortization Rate or UAAL Payment

That portion of the pension plan contribution which is designed to pay off (amortize) the unfunded actuarial accrued liability in a systematic fashion.

Cost-of-living adjustments

Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

Covered Payroll

The rate of pay as of a specified date adjusted with a half-year salary increase based on the assumed salary increase assumptions.

Entry Age Actuarial Cost Method

This method assumes that the annual costs are the level premiums needed from entry age until retirement age to fund the ultimate retirement benefit. These premiums are expressed as a percentage of salary. The portion of this actuarial present value allocated to a valuation year is called the normal cost.

Schedule E – Glossary of Terms (continued)

Normal Cost

The ongoing annual cost allocated to the system by a particular actuarial cost method for providing benefits (future cost). Normal cost payments are made during the working lifetime of the member.

Unfunded Actuarial Accrued Liability

The excess of the actuarial accrued liability over the actuarial value of assets.

Vested Benefit

The benefit an employee is entitled to, based on vesting service, even if the employee separates from active service prior to normal retirement age.

Table 1 - The Number and Average Annual Wages of Active Members Distributed by Fifth Age and Service as of September 1, 2022

Attained Age	Years of Credited Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	71 29,008	56 29,808	1 28,941	0 0	0 0	0 0	0 0	0 0	0 0	0 0	128
25 to 29	142 33,033	230 36,128	46 40,726	0 0	0 0	0 0	0 0	0 0	0 0	0 0	418
30 to 34	94 34,114	209 39,646	146 43,499	10 44,236	0 0	0 0	0 0	0 0	0 0	0 0	459
35 to 39	67 36,393	144 39,244	171 43,655	77 55,248	18 43,358	0 0	0 0	0 0	0 0	0 0	477
40 to 44	49 33,808	143 40,108	139 46,312	91 49,927	72 50,497	10 58,729	0 0	0 0	0 0	0 0	504
45 to 49	31 39,625	99 38,960	137 44,517	108 49,134	93 55,836	62 61,138	6 59,717	1 81,158	0 0	0 0	537
50 to 54	36 36,000	118 37,666	86 40,820	85 47,530	99 48,509	81 52,289	65 49,514	15 49,590	0 0	0 0	585
55 to 59	19 37,236	88 37,388	88 51,516	94 43,170	81 47,902	57 50,573	51 65,708	25 57,230	7 62,575	0 0	510
60 to 64	13 40,733	50 40,508	74 39,399	58 40,216	65 49,463	52 47,732	28 55,196	25 65,150	12 94,860	1 47,606	378
65 to 69	1 33,180	18 37,757	14 42,827	17 37,073	20 47,134	15 53,219	8 52,388	3 47,498	2 83,447	0 0	98
70 & up	0 0	6 25,369	8 44,517	3 38,055	11 45,632	1 35,035	2 53,511	2 37,472	0 0	1 39,652	34
Total	523	1,161	910	543	459	278	160	71	21	2	4,128

Table 2 - The Number and Annual Retirement Allowances of Retired Members, Disabled Members and Beneficiaries by Age as of July 1, 2022

Age	Number	Benefit	Average Benefit
Less than 20	2	$ 9,200	$ 4,600
36	1	16,842	16,842
37	1	24,161	24,161
38	1	13,183	13,183
39	1	7,566	7,566
40	1	18,031	18,031
41	1	7,999	7,999
46	2	54,577	27,289
47	1	6,140	6,140
48	1	8,856	8,856
49	3	29,342	9,781
50	3	45,760	15,253
51	6	50,228	8,371
52	14	229,845	16,418
53	17	184,370	10,845
54	16	390,921	24,433
55	27	495,434	18,349
56	41	1,007,421	24,571
57	48	913,846	19,038
58	70	1,990,773	28,440
59	91	2,522,095	27,715
60	112	2,638,452	23,558
61	103	2,557,154	24,827
62	101	2,391,376	23,677
63	150	3,379,585	22,531
64	150	3,851,671	25,678
65	141	3,258,484	23,110
66	164	3,598,930	21,945
67	167	3,759,558	22,512
68	142	3,025,154	21,304
69	186	3,995,877	21,483
70	167	3,845,128	23,025
71	150	3,154,296	21,029
72	126	2,381,887	18,904
73	126	2,282,198	18,113
74	131	2,754,785	21,029
75	120	2,631,536	21,929

Table 2 - The Number and Annual Retirement Allowances of Retired Members, Disabled Members and Beneficiaries by Age as of July 1, 2022 (continued)

Age	Number	Benefit	Average Benefit
76	152	3,047,470	20,049
77	93	1,717,728	18,470
78	79	1,364,719	17,275
79	87	1,368,362	15,728
80	80	1,624,157	20,302
81	54	1,123,738	20,810
82	73	1,229,263	16,839
83	55	821,967	14,945
84	52	778,218	14,966
85	50	757,261	15,145
86	46	624,828	13,583
87	54	798,487	14,787
88	39	599,574	15,374
89	23	360,260	15,663
90	40	578,770	14,469
90 & over	96	1,294,326	13,483
TOTAL	3,657	$ 75,621,789	$ 20,679

Table 3 - The Number and Future Annual Allowances of Terminated Members, Entitled to a Future Benefit by Age as of July 1, 2022

Age	Number	Benefit	Average Benefit
32	1	$ 960	$ 960
34	1	17,880	17,880
36	2	5,832	2,916
37	1	525	525
38	1	2,188	2,188
39	4	34,191	8,548
40	1	5,660	5,660
41	1	20,756	20,756
42	5	99,559	19,912
43	4	84,845	21,211
44	6	122,697	20,450
45	3	36,976	12,325
46	9	103,993	11,555
47	9	140,264	15,585
48	11	185,615	16,874
49	9	144,522	16,058
50	6	66,075	11,013
51	11	254,128	23,103
52	14	248,629	17,759
53	16	238,808	14,926
54	13	222,432	17,110
55	13	199,280	15,329
56	5	55,812	11,162
57	5	19,126	3,825
58	2	10,776	5,388
59	3	16,560	5,520
60	4	77,003	19,251
61	3	22,560	7,520
62	4	41,835	10,459
63	2	19,080	9,540
65	2	13,440	6,720
67	1	15,120	15,120
75	1	4,797	4,797
TOTAL	173	$ 2,531,924	$ 14,635