



City and County of San Francisco Employees' Retirement System

GASB 67/68 Report as of June 30, 2020

Produced by Cheiron

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TABLE OF CONTENTS

<i>Section</i>		<i>Page</i>
Section I	Board Summary	1
Section II	Certification	3
Section III	Determination of Discount Rate	5
Section IV	Projection of Total Pension Liability	7
Section V	GASB 67 Reporting Information.....	8
Section VI	GASB 68 Collective Information	13
Section VII	GASB 68 Reporting Information for Employers.....	17
 <i>Appendices</i>		
Appendix A	Membership Information	24
Appendix B	Actuarial Assumptions and Methods	26
Appendix C	Summary of Plan Provisions.....	30
Appendix D	Determination of Discount Rate	31
Appendix E	Glossary of Terms.....	36

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION I – BOARD SUMMARY

The purpose of this report is to provide accounting and financial reporting information under the Governmental Accounting Standards Board Statements 67 and 68 (GASB 67 and 68) for the City and County of San Francisco Employees' Retirement System ("System") and for the participating employers, respectively. This information includes:

- Determination of the discount rate as of June 30, 2020,
- Projection of the Total Pension Liability from the valuation date to the measurement date,
- Note disclosures and required supplementary information under GASB 67 for the System,
- Determination of collective amounts under GASB 68, and
- Schedules for the financial reporting of participating employers under GASB 68.

Highlights

The measurement date for the City and County of San Francisco Employees' Retirement System ("System") is June 30, 2020. Measurements are based on the fair value of assets as of June 30, 2020 and the Total Pension Liability as of the valuation date, June 30, 2019, updated to June 30, 2020.

The beginning and end of year measurements are based on different discount rates and Supplemental COLA assumptions. A detailed description of the Supplemental COLA assumptions can be found in Appendix B of this report.

The table below provides a summary of the key collective results during this measurement period.

Table I-1 Summary of Collective Results			
		Measurement Date	
		6/30/2020	6/30/2019
Net Pension Liability	\$	5,410,800	\$ 4,476,640
Deferred Outflows		(594,128)	(669,827)
Deferred Inflows		110,667	874,194
Net Impact on Statement of Net Position	\$	4,927,339	\$ 4,681,007
Pension Expense (\$ Amount)	\$	989,317	\$ 936,265
Pension Expense (% of Payroll)		27.74%	27.74%

Amounts in Thousands

As of the end of the measurement year, the System and its participating employers in aggregate report a Net Pension Liability of \$5,410,800,000, Deferred Inflows of \$110,667,000, and

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION I – BOARD SUMMARY

Deferred Outflows of \$594,128,000. Consequently, the net impact on the aggregate of participating employers' Statements of Net Position due to the System is \$4,927,339,000 at the end of the measurement year. Participating employers also report any contributions between the measurement date and their reporting date as deferred outflows of resources.

The Net Pension Liability (NPL) increased by about \$934 million since the prior measurement date, primarily due to investment losses (\$975 million). There were also experience losses on the Total Pension Liability (\$206 million) that further increased the NPL and assumption changes (\$117 million) related to the decreased likelihood of future Supplemental COLAs that slightly offset the investment and liability experience losses. The investment gains are recognized over five years, and the actuarial gains and assumption changes are recognized over the average remaining service life, which is also five years. Unrecognized amounts are reported as deferred inflows and deferred outflows.

For the measurement year ending June 30, 2020, the collective annual pension expense is \$989,317,000 or 27.74% of covered payroll. This amount is not related to participating employers' contributions to the System (\$742,985,000), but instead represents the change in the net impact on participating employers' Statements of Net Position plus employer contributions (\$4,927,339,000 – \$4,681,007,000 + \$742,985,000). The collective pension expense of \$989,317,000 is larger than the collective expense for the prior year of \$936,265,000. Volatility in pension expense from year to year is to be expected. It will largely be driven by investment gains or losses, but other changes can also have a significant impact. A breakdown of the components of the collective net pension expense is shown in Section VI of the report.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION II – CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB 67 for the City and County of San Francisco Employees' Retirement System ("System") and under GASB 68 for the employers that participate in the System. This report is for the use of the System, the participating employers, and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for the System.

In preparing our report, we relied on information (some oral and some written) supplied by the System. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Cheiron utilizes ProVal actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this GASB 67/68 valuation, including inputs to the crossover test. The probability of future supplemental COLAs was developed using R-scan, our proprietary stochastic projection tool for assessing probabilities of different outcomes. We have relied on Cheiron colleagues who developed the tool, and we have used the tool in accordance with its purpose. The stochastic projections of investment returns are based on an assumption that each future year's investment return is independent from all other years and is identically distributed according to a lognormal distribution. This assumption may result in an unrealistically wide range of compound investment returns over longer periods of time.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and, changes in plan provisions or applicable law.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION II – CERTIFICATION

This report was prepared for the System for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.



William R. Hallmark, ASA, EA, FCA, MAAA
Consulting Actuary



Anne D. Harper, FSA, EA, MAAA
Principal Consulting Actuary

SECTION III – DETERMINATION OF DISCOUNT RATE

The discount rate used to measure the Total Pension Liability was 7.40%.

The projection of cash flows used to determine the discount rate assumed that plan member contributions will continue to be made at the rates specified in the Charter. Employer contributions were assumed to be made in accordance with the contribution policy in effect for the July 1, 2019 actuarial valuation. That policy includes contributions equal to the employer portion of the Entry Age normal cost for members as of the valuation date, a payment for the expected administrative expenses, and an amortization payment on the Unfunded Actuarial Liability.

The amortization payment is based on closed periods that vary in length depending on the source. Charter amendments prior to July 1, 2014 are amortized over 20 years. After July 1, 2014, any Charter changes to active member benefits are amortized over 15 years and changes to inactive member benefits, including Supplemental COLAs, are amortized over 5 years. The remaining Unfunded Actuarial Liability not attributable to Charter amendments as of July 1, 2013 is amortized over a 19-year period commencing July 1, 2014. Experience gains and losses and assumption or method changes on or after July 1, 2014 are amortized over 20 years. For the July 1, 2016 valuation, the increase in the Unfunded Actuarial Liability attributable to the Supplemental COLAs granted on July 1, 2013 and July 1, 2014 are amortized over 17-years and 5-years, respectively. All amortization schedules are established as a level percentage of payroll so payments increase 3.5% each year.

The Unfunded Actuarial Liability is based on an Actuarial Value of Assets that smooths investment gains and losses over five years and a measurement of the Actuarial Liability that excludes the value of any future Supplemental COLAs.

While the contributions and measure of Actuarial Liability in the funding valuation do not anticipate any future Supplemental COLAs, the projected contributions for the determination of the discount rate include the anticipated future amortization payments on future Supplemental COLAs for current members when they are expected to be granted. For members who worked after November 6, 1996 and before Proposition C passed (Post 97 Retirees), a Supplemental COLA is granted if the actual investment earnings during the year exceed the expected investment earnings on the Actuarial Value of Assets. For members who did not work after November 6, 1996 and before Proposition C passed, the Market Value of Assets must also exceed the Actuarial Liability at the beginning of the year for a Supplemental COLA to be granted. When a Supplemental COLA is granted, the amount depends on the amount of excess earnings and the basic COLA amount for each membership group. The large majority of members receive a 1.50% Supplemental COLA when a full Supplemental COLA is granted.

Because the probability of a Supplemental COLA depends on the current funded level of the System for certain members, we developed an assumption as of June 30, 2020 for the probability and amount of Supplemental COLA for each future year. There were no excess earnings during the fiscal year ending June 30, 2020; consequently, no Supplemental COLA will be paid effective July 1, 2020. The table on the next page shows the net assumed Supplemental COLA

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION III – DETERMINATION OF DISCOUNT RATE

for members with a 2.00% Basic COLA for sample years. Appendix B contains complete information on the assumption.

Assumed Supplemental COLA for Members with a 2.00% Basic COLA		
July 1,	96 – Prop C	Before 96 or After Prop C
2020	0.00%	0.000%
2022	0.75%	0.190%
2024	0.75%	0.270%
2026	0.75%	0.300%
2028	0.75%	0.330%
2030	0.75%	0.350%
2032	0.75%	0.370%
2034+	0.75%	0.375%

The projection of benefit payments to current members for determining the discount rate includes the payment of anticipated future Supplemental COLAs.

Based on these assumptions, the System’s fiduciary net position was projected to be available to make projected future benefit payments for current members until FYE 2099, when only a portion of the projected benefit payments are expected to be made from the projected fiduciary net position. Projected benefit payments are discounted at the long-term expected return on assets of 7.40% to the extent the fiduciary net position is available to make the payments and at the municipal bond rate of 2.21% to the extent they are not available. The single equivalent rate used to determine the Total Pension Liability as of June 30, 2020 rounded to four decimals is 7.40%.

Appendix D shows the details of this calculation.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION IV – PROJECTION OF TOTAL PENSION LIABILITY

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2020 is measured as of a valuation date of June 30, 2019 and projected to June 30, 2020. Because the TPL shown in the prior report was measured as of June 30, 2018 and projected to June 30, 2019, it will not match the amounts measured as of June 30, 2019 that are shown in this exhibit.

The table below shows the projection of the TPL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure.

Table IV-1			
Projection of Collective Total Pension Liability from Valuation to Measurement Date			
Discount Rate	6.40%	7.40%	8.40%
Valuation Collective Total Pension Liability, 6/30/2019			
Actives	\$ 13,659,621	\$ 11,585,415	\$ 9,910,052
Inactives	20,986,148	19,054,601	17,421,265
Total	\$ 34,645,769	\$ 30,640,016	\$ 27,331,317
Service Cost	\$ 892,812	\$ 702,448	\$ 558,880
Benefit Payments	\$ 1,548,077	\$ 1,548,077	\$ 1,548,077
Interest	\$ 2,196,686	\$ 2,236,631	\$ 2,255,122
Collective Total Pension Liability, 6/30/2020	\$ 36,187,190	\$ 32,031,018	\$ 28,597,242

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION V – GASB 67 REPORTING INFORMATION

Note Disclosures

The table below shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of System assets), and the Net Pension Liability during the measurement year.

Table V-1 Change in Collective Net Pension Liability			
	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at 6/30/2019	\$ 30,555,289	\$ 26,078,649	\$ 4,476,640
Changes for the year:			
Service cost	704,637		704,637
Interest	2,230,441		2,230,441
Changes of benefits	0		0
Differences between expected and actual experience	205,869		205,869
Changes of assumptions	(117,141)		(117,141)
Contributions - employer		742,985	(742,985)
Contributions - member		400,649	(400,649)
Net investment income		966,282	(966,282)
Benefit payments	(1,548,077)	(1,548,077)	0
Administrative expense		(20,270)	20,270
Net changes	<u>1,475,729</u>	<u>541,569</u>	<u>934,160</u>
Balances at 6/30/2020	<u>\$ 32,031,018</u>	<u>\$ 26,620,218</u>	<u>\$ 5,410,800</u>

Amounts in Thousands

During the measurement year, the collective NPL increased by approximately \$934 million. The service cost and interest cost increased the collective NPL by approximately \$2,935 million while contributions and investment income offset by administrative expenses decreased the collective NPL by approximately \$2,090 million.

There were actuarial experience losses of approximately \$206 million offset somewhat by assumption changes that decreased the TPL by \$117 million.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION V – GASB 67 REPORTING INFORMATION

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The table below shows the sensitivity of the collective NPL to the discount rate.

Table V-2			
Sensitivity of Collective Net Pension Liability to Changes in Discount Rate			
	1% Decrease 6.40%	Discount Rate 7.40%	1% Increase 8.40%
Total Pension Liability	\$ 36,187,190	\$ 32,031,018	\$ 28,597,242
Plan Fiduciary Net Position	<u>26,620,218</u>	<u>26,620,218</u>	<u>26,620,218</u>
Collective Net Pension Liability	<u>\$ 9,566,972</u>	<u>\$ 5,410,800</u>	<u>\$ 1,977,024</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	73.6%	83.1%	93.1%

Amounts in Thousands

A one percent decrease in the discount rate increases the TPL by approximately 13% and increases the collective NPL by approximately 77%. A one percent increase in the discount rate decreases the TPL by approximately 11% and decreases the collective NPL by approximately 63%.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION V – GASB 67 REPORTING INFORMATION

Required Supplementary Information

The schedules of Required Supplementary Information generally start with information as of the implementation of GASB 67, and eventually will build up to 10 years of information. The schedule below shows the changes in collective NPL and related ratios required by GASB for the seven years since implementation.

Table V-3 Schedule of Changes in Collective Net Pension Liability and Related Ratios							
	FYE 2020	FYE 2019	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014
Total Pension Liability							
Service cost (MOY)	\$ 704,637	\$ 675,065	\$ 632,118	\$ 644,277	\$ 567,576	\$ 523,644	\$ 509,200
Interest (includes interest on service cost)	2,230,441	2,131,847	2,041,110	1,924,206	1,669,996	1,621,582	1,542,266
Changes of benefit terms	0	0	0	0	1,293,714	0	0
Differences between expected and actual experience	205,869	12,484	(42,382)	57,911	(119,270)	(197,981)	0
Changes of assumptions	(117,141)	351,902	170,699	88,180	1,087,309	216,845	(73,315)
Benefit payments, including refunds of member contributions	(1,548,077)	(1,456,682)	(1,364,587)	(1,278,140)	(1,256,146)	(1,131,030)	(1,072,526)
Net change in total pension liability	\$ 1,475,729	\$ 1,714,616	\$ 1,436,958	\$ 1,436,434	\$ 3,243,179	\$ 1,033,060	\$ 905,625
Total pension liability - beginning	30,555,289	28,840,673	27,403,715	25,967,281	22,724,102	21,691,042	20,785,417
Total pension liability - ending	\$ 32,031,018	\$ 30,555,289	\$ 28,840,673	\$ 27,403,715	\$ 25,967,281	\$ 22,724,102	\$ 21,691,042
Plan fiduciary net position							
Contributions - employer	\$ 742,985	\$ 645,056	\$ 619,067	\$ 551,810	\$ 526,805	\$ 592,643	\$ 532,882
Contributions - member	400,649	380,980	364,696	316,844	322,764	301,682	289,020
Net investment income	966,282	1,970,312	2,549,674	2,683,467	150,190	763,429	3,175,431
Benefit payments, including refunds of member contributions	(1,548,077)	(1,456,682)	(1,364,587)	(1,278,140)	(1,256,146)	(1,131,030)	(1,072,526)
Administrative expense	(20,270)	(18,983)	(21,234)	(18,134)	(17,179)	(19,262)	(15,745)
Net change in plan fiduciary net position	\$ 541,569	\$ 1,520,683	\$ 2,147,616	\$ 2,255,847	\$ (273,566)	\$ 507,462	\$ 2,909,062
Plan fiduciary net position - beginning	26,078,649	24,557,966	22,410,350	20,154,503	20,428,069	19,920,607	17,011,545
Plan fiduciary net position - ending	\$ 26,620,218	\$ 26,078,649	\$ 24,557,966	\$ 22,410,350	\$ 20,154,503	\$ 20,428,069	\$ 19,920,607
Net pension liability - ending	\$ 5,410,800	\$ 4,476,640	\$ 4,282,707	\$ 4,993,365	\$ 5,812,778	\$ 2,296,033	\$ 1,770,435
Plan fiduciary net position as a percentage of the total pension liability	83.11%	85.35%	85.15%	81.78%	77.61%	89.90%	91.84%
Covered payroll	\$ 3,566,991	\$ 3,375,447	\$ 3,221,544	\$ 3,041,818	\$ 2,836,498	\$ 2,642,752	\$ 2,507,162
Net pension liability as a percentage of covered payroll	151.69%	132.62%	132.94%	164.16%	204.93%	86.88%	70.62%

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION V – GASB 67 REPORTING INFORMATION

Because an Actuarially Determined Contribution (ADC) has been calculated historically, the full 10 years of information in the following schedule is required. The actual covered payroll and the ratio of contributions to covered payroll has been left blank prior to FYE 2013 because we do not have that information. The covered payroll shown in this exhibit is pensionable pay for all years reported.

Table V-4 Schedule of Collective Employer Contributions					
	FYE 2020	FYE 2019	FYE 2018	FYE 2017	FYE 2016
Actuarially Determined Contribution	\$ 742,985	\$ 645,056	\$ 619,067	\$ 551,810	\$ 526,805
Contributions in Relation to the Actuarially Determined Contribution	<u>742,985</u>	<u>645,056</u>	<u>619,067</u>	<u>551,810</u>	<u>526,805</u>
Contribution Deficiency/(Excess)	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Covered Payroll	\$ 3,566,991	\$ 3,375,447	\$ 3,221,544	\$ 3,041,818	\$ 2,836,498
Contributions as a Percentage of Covered Payroll	20.83%	19.11%	19.22%	18.14%	18.57%
	FYE 2015	FYE 2014	FYE 2013	FYE 2012	FYE 2011
Actuarially Determined Contribution	\$ 592,643	\$ 532,882	\$ 442,870	\$ 410,797	\$ 308,823
Contributions in Relation to the Actuarially Determined Contribution	<u>592,643</u>	<u>532,882</u>	<u>442,870</u>	<u>410,797</u>	<u>308,823</u>
Contribution Deficiency/(Excess)	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Covered Payroll	\$ 2,642,752	\$ 2,507,162	\$ 2,448,734	n/a	n/a
Contributions as a Percentage of Covered Payroll	22.43%	21.25%	18.09%	n/a	n/a

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION V – GASB 67 REPORTING INFORMATION

The notes below summarize the key methods and assumptions used to determine the ADC for FYE 2020.

Notes to Schedule

Valuation Date	7/1/2018
Timing	Actuarially determined contribution rates are calculated in the actuarial valuation one year prior to the beginning of the plan year

Key Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method	Entry Age
Asset valuation method	5-year smoothed market
Amortization method	Benefit changes made prior to July 1, 2014 are amortized over closed 20-year periods as a level percentage of payroll. The UAL as of July 1, 2013 not attributable to benefit changes was amortized over a closed 19-year period starting July 1, 2014. Assumption changes and experience gains and losses are amortized over a closed 20-year period as a level percentage of payroll. Increases in the UAL due to Supplemental COLAs are amortized over a closed 5-year period.
Discount rate	7.40%
Amortization growth rate	3.50%
Price inflation	2.75%
Salary increases	3.50% plus merit component based on employee classification and years of service
Mortality	For healthy annuitants, the sex distinct 2009 CalPERS healthy annuitant mortality table, adjusted 1.014 for females and 0.909 for males. For active members, the sex distinct 2009 CalPERS employee mortality tables, adjusted 0.918 for females and 0.948 for males. Rates are projected generationally from the base year using a modified version of the MP-2015 projection scale.

A complete description of the methods and assumptions used to determine contribution rates for the year ending June 30, 2020 can be found in the July 1, 2018 actuarial valuation report.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VI – GASB 68 COLLECTIVE INFORMATION

We understand that all of the employers elected to use the 2014 measurement date for their initial reporting under GASB 68 on their June 30, 2015 reporting date. As a result, the schedules in this report are to be used for employer reporting as of June 30, 2021 reporting dates and the schedules from our prior report are to be used for employer reporting as of June 30, 2020.

Because the System is a cost-sharing multiple-employer pension plan, each employer participating in the System must reflect a portion of the collective Net Pension Liability, Pension Expense, and Deferred Outflows and Inflows in their financial statements. This section develops the collective amounts that are allocated to participating employers.

The impact of experience gains or losses and assumption changes on the TPL are recognized in expense over the average expected remaining service life of all active and inactive members of the System. As of the beginning of the measurement period, this recognition period was 5 years.

During the year, there was an experience loss of approximately \$206 million. Approximately \$41 million of that loss was recognized as an increase in collective pension expense in the current year (and identical amounts will be recognized in each of the next four years). Unrecognized increases in the TPL from prior experience losses were approximately \$33 million, of which \$14 million was recognized as an increase in collective pension expense in the current year. The combination of unrecognized current and prior experience losses results in a collective deferred outflow of \$184 million as of June 30, 2020.

Unrecognized experience gains from prior periods were approximately \$49 million, of which \$32 million was recognized as a reduction in collective pension expense in the current year, resulting in a collective deferred inflow of \$17 million as of June 30, 2020.

Assumption changes since the last measurement date decreased the TPL by \$117 million. Approximately \$23 million of that decrease was recognized as a decrease in pension expense in the current year and an identical amount will be recognized in each of the next four years, resulting in a collective deferred inflow of \$94 million as of June 30, 2020.

Unrecognized increases to the TPL from prior period assumption changes were approximately \$637 million, of which \$340 million was recognized as an increase in collective pension expense in the current year, resulting in a collective deferred outflow of resources as of June 30, 2020 of approximately \$297 million.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of approximately \$975 million. Approximately \$195 million of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. The combination of unrecognized net investment gains and losses from prior periods was a net gain of approximately \$825 million. Approximately \$159 million was recognized as a decrease in collective pension expense in the current year. The combination of unrecognized current and prior investment gains and losses results in a collective deferred outflow of resources as of June 30, 2020 of approximately \$113 million.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VI – GASB 68 COLLECTIVE INFORMATION

The table below summarizes the current balances of collective deferred outflows and deferred inflows of resources along with the net recognition over the next five years.

Table VI-1														
Schedule of Collective Deferred Inflows and Outflows of Resources														
	Deferred Outflows of Resources	Deferred Inflows of Resources												
Differences between expected and actual experience	\$ 183,768	\$ 16,954												
Changes in assumptions	297,057	93,713												
Net difference between projected and actual earnings on pension plan investments	113,303	0												
Total	<u>\$ 594,128</u>	<u>\$ 110,667</u>												
<p>Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:</p> <p style="text-align: center;">Measurement year ended June 30:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">2021</td> <td style="text-align: right;">(94,968)</td> </tr> <tr> <td style="text-align: right;">2022</td> <td style="text-align: right;">109,510</td> </tr> <tr> <td style="text-align: right;">2023</td> <td style="text-align: right;">256,247</td> </tr> <tr> <td style="text-align: right;">2024</td> <td style="text-align: right;">212,672</td> </tr> <tr> <td style="text-align: right;">2025</td> <td style="text-align: right;">0</td> </tr> <tr> <td style="text-align: right;">Thereafter</td> <td style="text-align: right;">\$ 0</td> </tr> </table>			2021	(94,968)	2022	109,510	2023	256,247	2024	212,672	2025	0	Thereafter	\$ 0
2021	(94,968)													
2022	109,510													
2023	256,247													
2024	212,672													
2025	0													
Thereafter	\$ 0													

Amounts in Thousands

The collective annual pension expense recognized by the employers can be calculated two different ways. It is the change in the amounts reported on the employers' Statements of Net Position that relate to the System and are not attributable to employer contributions. That is, it is the change in collective NPL plus the changes in collective deferred outflows and inflows plus participating employer contributions.

Alternatively, annual pension expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table on the following page, we believe it helps to understand the level and volatility of the collective pension expense.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VI – GASB 68 COLLECTIVE INFORMATION

Table VI-2 Calculation of Collective Pension Expense		
	Measurement Year Ending	
	2020	2019
Change in Net Pension Liability	\$ 934,160	\$ 193,933
Change in Deferred Outflows	75,699	32,680
Change in Deferred Inflows	(763,527)	64,596
Employer Contributions	<u>742,985</u>	<u>645,056</u>
Pension Expense	\$ 989,317	\$ 936,265
Pension Expense as % of Payroll	27.74%	27.74%
Operating Expenses		
Service cost	\$ 704,637	\$ 675,065
Employee contributions	(400,649)	(380,980)
Administrative expenses	<u>20,270</u>	<u>18,983</u>
Total	\$ 324,258	\$ 313,068
Financing Expenses		
Interest cost	\$ 2,230,441	\$ 2,131,847
Expected return on assets	<u>(1,940,918)</u>	<u>(1,823,792)</u>
Total	\$ 289,523	\$ 308,055
Changes		
Benefit changes	\$ 0	\$ 0
Recognition of assumption changes	316,190	382,987
Recognition of liability gains and losses	22,923	(57,847)
Recognition of investment gains and losses	<u>36,423</u>	<u>(9,998)</u>
Total	\$ 375,536	\$ 315,142
Pension Expense	\$ 989,317	\$ 936,265

Amounts in Thousands

Operating expenses are items directly attributable to the operation of the plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the System for the year.

The financing expenses are the interest on the Total Pension Liability, including service cost, less the expected return on assets.

The recognition of changes will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VI – GASB 68 COLLECTIVE INFORMATION

The total collective pension expense increased from the prior year by about \$53 million. The recognition of changes increased by approximately \$60 million, accounting for more than the total change in pension expense.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS

Proportionate Shares

GASB 68 requires that the proportionate share for each employer be determined based on the “employer’s projected long-term contribution effort to the pension ... as compared to the total projected long-term contribution effort of all employers ...” Proportionate shares for each participating employer in the System are determined based on the ratio of each participating employer’s actual contribution to the System during the measurement year to the sum of the actual contributions for all participating employers. The table below shows the actual employer contributions and proportionate shares for each participating employer for the current and prior measurement years.

Table VII-1 Determination of Employers' Proportionate Share					
Employer	June 30, 2020		June 30, 2019		
	Employer Contribution	Proportionate Share	Employer Contribution	Proportionate Share	
City and County	\$ 701,306	94.3903%	\$ 607,183	94.1288%	
Trial Courts	7,573	1.0193%	7,192	1.1149%	
Unified School District	23,514	3.1648%	20,495	3.1772%	
Community College District	10,592	1.4256%	10,186	1.5791%	
Total	\$ 742,985	100.0000%	\$ 645,056	100.0000%	

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS

The table below shows the proportionate share of the collective NPL (using three different discount rates), the collective deferred outflows, the collective deferred inflows, and the collective pension expense allocated to each participating employer as of June 30, 2020.

Table VII-2 Schedule of Employers' Proportionate Share of Collective Amounts at June 30, 2020							
Employer	Proportionate Share	Share of NPL @ 6.40%	Share of NPL @ 7.40%	Share of NPL @ 8.40%	Share of Deferred Outflows	Share of Deferred Inflows	Pension Expense
City and County	94.3903%	9,030,293	5,107,271	1,866,119	560,799	104,458	933,819
Trial Courts	1.0193%	97,516	55,152	20,152	6,056	1,128	10,084
Unified School District	3.1648%	302,776	171,241	62,569	18,803	3,503	31,310
Community College District	1.4256%	136,387	77,136	28,184	8,470	1,578	14,104
Total	100.0000%	\$ 9,566,972	\$ 5,410,800	\$ 1,977,024	\$ 594,128	\$ 110,667	\$ 989,317

Amounts in Thousands

The proportionate share allocated to each individual employer will change on each measurement date. The net effect of the change in proportion on the share of the collective NPL, collective deferred outflows, and collective deferred inflows allocated to each employer becomes a deferred outflow or inflow for that employer and is recognized over the average future working life of the System's active and inactive members (5 years).

Similarly, the difference between each employer's actual contributions and the employer's proportionate share of collective employer contributions becomes a deferred outflow or inflow for that employer and is recognized over the average future working life of the System's active and inactive members (5 years). Because proportionate shares are determined based on each employer's actual contributions, there is no difference between the actual contributions and the proportionate share of collective contributions for each employer.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS

The table below shows the change in proportion and the impact of that change in proportion on the proportionate share of the collective NPL, collective deferred outflows, and collective deferred inflows. It also shows any contribution differences.

**Table VII-3
Schedule of Employers' Changes in Proportion and Contribution Differences**

Employer	Proportionate Shares		Impact of Change in Proportion				Contributions		
	6/30/2019	6/30/2020	Net Pension Liability	Deferred Outflows	Deferred Inflows	Net Effect	Actual	Share	Difference
City and County	94.1288%	94.3903%	\$ 11,707	\$ 1,751	\$ (2,286)	\$ 12,242	\$ 701,306	\$ 701,306	\$ 0
Trial Courts	1.1149%	1.0193%	(4,280)	(640)	836	(4,476)	7,573	7,573	0
Unified School District	3.1772%	3.1648%	(555)	(83)	108	(580)	23,514	23,514	0
Community College District	1.5791%	1.4256%	(6,872)	(1,028)	1,342	(7,186)	10,592	10,592	0
Total	100.0000%	100.0000%	\$ 0	\$ 0	\$ 0	\$ 0	\$ 742,985	\$ 742,985	\$ 0

Amounts in Thousands

The table below shows the reconciliation of deferred outflows and inflows due to proportion changes for each participating employer from the prior measurement date to the current measurement date.

**Table VII-4
Reconciliation of Deferred Outflows and Inflows Due to Proportion Change**

Employer	Deferred Outflows				Deferred Inflows			
	6/30/2019	Current Year Net Effect	Recognition	6/30/2020	6/30/2019	Current Year Net Effect	Recognition	6/30/2020
City and County	\$ 3,657	\$ 12,242	\$ 4,795	\$ 11,104	\$ (2,557)	\$ 0	\$ (1,279)	\$ (1,278)
Trial Courts	0	0	0	0	(6,313)	(4,476)	(3,214)	(7,575)
Unified School District	4,547	0	1,803	2,744	(853)	(580)	(969)	(464)
Community College District	2,192	0	912	1,280	(673)	(7,186)	(2,048)	(5,811)
Total	\$ 10,396	\$ 12,242	\$ 7,510	\$ 15,128	\$ (10,396)	\$ (12,242)	\$ (7,510)	\$ (15,128)

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS

The table below shows the reconciliation of deferred outflows and inflows due to contribution differences for each participating employer from the prior measurement date to the current measurement date.

Table VII-5 Reconciliation of Deferred Outflows and Inflows Due to Contribution Differences										
Employer	Deferred Outflows				Deferred Inflows					
	Current Year		Recognition	6/30/2020	Current Year		Recognition	6/30/2020	6/30/2019	6/30/2019
	6/30/2019	Difference			Difference	Difference				
City and County	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Trial Courts	0	0	0	0	0	0	0	0	0	0
Unified School District	0	0	0	0	0	0	0	0	0	0
Community College District	0	0	0	0	0	0	0	0	0	0
Total	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS

The table below summarizes the deferred outflows allocated to each employer for experience, assumption changes, investment returns, proportion changes, and contribution differences.

Table VII-6 Schedule of Employers' Deferred Outflows at June 30, 2020							
Employer	Proportionate Shares	Experience	Assumption Changes	Investment Return	Proportion Change	Contribution Difference	
City and County	94.3903%	\$ 173,459	\$ 280,393	\$ 106,947	\$ 11,104	\$ 0	0
Trial Courts	1.0193%	1,873	3,028	1,155	0	0	0
Unified School District	3.1648%	5,816	9,401	3,586	2,744	0	0
Community College District	1.4256%	2,620	4,235	1,615	1,280	0	0
Total	100.0000%	\$ 183,768	\$ 297,057	\$ 113,303	\$ 15,128	\$ 0	0

Amounts in Thousands

The table below summarizes the deferred inflows allocated to each employer for experience, assumption changes, investment returns, proportion changes, and contribution differences.

Table VII-7 Schedule of Employers' Deferred Inflows at June 30, 2020							
Employer	Proportionate Shares	Experience	Assumption Changes	Investment Return	Proportion Change	Contribution Difference	
City and County	94.3903%	\$ 16,002	\$ 88,456	\$ 0	\$ 1,278	\$ 0	0
Trial Courts	1.0193%	173	955	0	7,575	0	0
Unified School District	3.1648%	537	2,966	0	464	0	0
Community College District	1.4256%	242	1,336	0	5,811	0	0
Total	100.0000%	\$ 16,954	\$ 93,713	\$ 0	\$ 15,128	\$ 0	0

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS

The table below shows the net amount of deferred outflows and inflows to be recognized in each of the next five years and the total thereafter.

Table VII-8							
Schedule of Employers' Recognition of Deferred Outflows and Inflows at June 30, 2020							
Employer	Recognition for Measurement Year Ending						The reafter
	2021	2022	2023	2024	2025		
City and County	\$ (87,925)	\$ 106,362	\$ 244,538	\$ 203,191	\$ 0	\$ 0	0
Trial Courts	(3,822)	(1,425)	1,328	1,272	0	0	0
Unified School District	(1,321)	4,100	8,187	6,615	0	0	0
Community College District	(1,900)	473	2,194	1,594	0	0	0
Total	\$ (94,968)	\$ 109,510	\$ 256,247	\$ 212,672	\$ 0	\$ 0	0

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS

The table below shows the calculation of the pension expense for each participating employer. The calculation is shown first as the sum of the proportionate share of the collective pension expense and the amounts recognized for proportion changes and contribution differences. The right side of the table shows the calculation as the sum of the changes in NPL and deferred amounts not attributable to contributions.

Table VII-9 Schedule of Employers' Pension Expense for the Measurement Year Ending June 30, 2020									
Employer	Collective			Employer Pension Expense	Change in Employer			Employer Contributions	Employer Pension Expense
	Pension Expense	Change in Proportion	Contribution Difference		Net Pension Liability	Deferred Outflows	Deferred Inflows		
City and County	\$ 933,819	\$ 3,516	\$ 0	\$ 937,335	\$ 893,464	\$ 62,254	\$ (719,689)	\$ 701,306	\$ 937,335
Trial Courts	10,084	(3,214)	0	6,870	5,241	1,412	(7,356)	7,573	6,870
Unified School District	31,310	834	0	32,144	29,010	4,282	(24,662)	23,514	32,144
Community College District	14,104	(1,136)	0	12,968	6,445	3,019	(7,088)	10,592	12,968
Total	\$ 989,317	\$ 0	\$ 0	\$ 989,317	\$ 934,160	\$ 70,967	\$(758,795)	\$ 742,985	\$ 989,317

Amounts in Thousands

The table below summarizes the information needed for each employer's schedules of required supplementary information.

Table VII-10 Schedule of Employers' RSI Information at June 30, 2020									
Employer	Proportionate Shares	Proportionate Share of NPL	Covered Payroll	Share of NPL as a % of Payroll	Plan Fiduciary Net Position as % of TPL	Contractually Required Contribution	Actual Contributions	Contribution Deficiency	Contributions as a % of Payroll
Trial Courts	1.0193%	55,152	35,978	153.3%	83.1%	7,573	7,573	0	21.0%
Unified School District	3.1648%	171,241	104,492	163.9%	83.1%	23,514	23,514	0	22.5%
Community College District	1.4256%	77,136	47,576	162.1%	83.1%	10,592	10,592	0	22.3%
Total	100.0000%	\$ 5,410,800	\$ 3,566,991	151.7%	83.1%	\$ 742,985	\$ 742,985	\$ 0	20.8%

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX A – MEMBERSHIP INFORMATION

Active Member Data - By Group			
	July 1, 2019	July 1, 2018	% Change
Total			
Count	34,202	33,946	0.8%
Average Current Age	46.6	46.6	0.0
Average Service	10.6	10.6	0.0
Annual Pensionable Earnings	\$ 3,378,714,262	\$ 3,235,979,830	4.4%
Average Pensionable Earnings	\$ 98,787	\$ 95,327	3.6%
Police			
Count	2,471	2,394	3.2%
Average Current Age	40.6	40.6	0.0
Average Service	12.1	12.0	0.1
Annual Pensionable Earnings	\$ 312,984,374	\$ 291,499,014	7.4%
Average Pensionable Earnings	\$ 126,663	\$ 121,762	4.0%
Fire			
Count	1,675	1,642	2.0%
Average Current Age	43.7	44.0	-0.3
Average Service	13.3	13.4	-0.1
Annual Pensionable Earnings	\$ 222,140,313	\$ 210,854,043	5.4%
Average Pensionable Earnings	\$ 132,621	\$ 128,413	3.3%
Miscellaneous			
Count	30,056	29,910	0.5%
Average Current Age	47.3	47.3	0.0
Average Service	10.3	10.4	-0.1
Annual Pensionable Earnings	\$ 2,843,589,575	\$ 2,733,626,773	4.0%
Average Pensionable Earnings	\$ 94,610	\$ 91,395	3.5%

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX A – MEMBERSHIP INFORMATION

Non-Active Member Data - Total System			
	July 1, 2019	July 1, 2018	Change
Retired			
Count	24,218	23,404	3.5%
Average Age	70.7	70.5	0.2
Total Annual Benefit*	\$ 1,202,485,890	\$ 1,124,937,875	6.9%
Average Annual Benefit	\$ 49,653	\$ 48,066	3.3%
Disabled			
Count	2,533	2,554	-0.8%
Average Age	69.2	69.1	0.1
Total Annual Benefit*	\$ 169,403,447	\$ 164,031,034	3.3%
Average Annual Benefit	\$ 66,879	\$ 64,225	4.1%
Beneficiaries			
Count	4,027	4,007	0.5%
Average Age	77.5	77.4	0.1
Total Annual Benefit*	\$ 141,546,744	\$ 135,355,732	4.6%
Average Annual Benefit	\$ 35,149	\$ 33,780	4.1%
Payee Total			
Count	30,778	29,965	2.7%
Average Age	71.4	71.3	0.1
Total Annual Benefit*	\$ 1,513,436,081	\$ 1,424,324,641	6.3%
Average Annual Benefit	\$ 49,173	\$ 47,533	3.4%
Inactives			
Count	9,955	9,183	8.4%
Average Age	47.1	47.1	0.0
Total Contribution Balance with Interest	\$ 294,295,619	\$ 255,588,224	15.1%
Average Contribution Balance with Interest	\$ 29,563	\$ 27,833	6.2%

* Benefits provided in June 30 valuation data, plus estimated Basic COLAs effective July 1 and December 28, 2019 for the Old Safety COLA groups. Estimated Supplemental COLAs effective July 1, 2019 for eligible members are also included. If applicable, limited by Section 415(b) of the Internal Revenue Code.

Please refer to the July 1, 2019 actuarial valuation report for a more complete summary of the data.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

A summary of the actuarial assumptions and methods used to calculate the Total Pension Liability as of June 30, 2020 is provided below, including any assumptions that differ from those used in the July 1, 2019 actuarial valuation. Please refer to the July 1, 2019 actuarial valuation report for a complete description of all other assumptions.

Key Actuarial Assumptions

Expected Return on Assets 7.40 percent net of investment expenses

Municipal Bond Yield 3.50 percent as of June 30, 2019
2.21 percent as of June 30, 2020
Bond Buyer 20-Bond GO Index, June 27, 2019 and June 25, 2020

Discount Rate 7.40 percent

Administrative Expenses 0.60 percent of payroll

Basic COLA:

Old Miscellaneous and all New Plans	Old Police & Fire, Pre 7/1/75 Retirements	Old Police & Fire, Charters A8.595 and A8.596	Old Police & Fire, Charters A8.559 and A8.585
2.00%	2.50%	3.10%	4.20%

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Supplemental COLA: Before 96 or After Prop C Group

July 1,	June 30, 2019			June 30, 2020		
	Old Miscellaneous and all New Plans	Old Police & Fire, pre 7/1/75 Retirements	Old Police & Fire Charter A8.595 and A8.596	Old Miscellaneous and all New Plans	Old Police & Fire, pre 7/1/75 Retirements	Old Police & Fire Charter A8.595 and A8.596
2019	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2020	0.200%	0.140%	0.050%	0.000%	0.000%	0.000%
2021	0.270%	0.180%	0.070%	0.110%	0.070%	0.030%
2022	0.310%	0.210%	0.080%	0.190%	0.130%	0.050%
2023	0.340%	0.230%	0.090%	0.230%	0.150%	0.060%
2024	0.350%	0.240%	0.090%	0.270%	0.180%	0.070%
2025	0.360%	0.240%	0.100%	0.290%	0.190%	0.080%
2026	0.370%	0.240%	0.100%	0.300%	0.200%	0.080%
2027	0.370%	0.250%	0.100%	0.320%	0.210%	0.080%
2028	0.370%	0.250%	0.100%	0.330%	0.220%	0.090%
2029	0.375%	0.250%	0.100%	0.340%	0.230%	0.090%
2030	0.375%	0.250%	0.100%	0.350%	0.230%	0.090%
2031	0.375%	0.250%	0.100%	0.360%	0.240%	0.100%
2032	0.375%	0.250%	0.100%	0.370%	0.240%	0.100%
2033	0.375%	0.250%	0.100%	0.370%	0.250%	0.100%
2034+	0.375%	0.250%	0.100%	0.375%	0.250%	0.100%

Supplemental COLA: After 96 and Before Prop C:

June 30, 2019: Old Misc. and New Plans – 1.0% for July 1, 2019; 0.75% thereafter
Old Safety Plans – For July 1, 2019, (3.0% less assumed Basic COLA), not less than zero; After 2019 – $\frac{1}{2} \times$ (3.5% less assumed Basic COLA), not less than zero

June 30, 2020: Old Misc. and New Plans – 0.0% for July 1, 2020; 0.75% thereafter
Old Safety Plans – 0.0% for July 1, 2020; After 2020 – $\frac{1}{2} \times$ (3.5% less assumed Basic COLA), not less than zero

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Contribution Allocation Procedure

The contribution allocation procedure primarily consists of an actuarial cost method, an asset smoothing method, and an amortization method as described below.

1. Actuarial Cost Method

The Entry Age actuarial cost method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member’s date of hire and assumed retirement. The Actuarial Liability is the difference between the present value of future benefits and the present value of future normal costs. The normal cost and Actuarial Liability are calculated on an individual basis. The sum of the individual amounts is the normal cost and Actuarial Liability for the System.

2. Asset Valuation Method

For the purpose of determining contribution rates, an Actuarial Value of Assets is used that dampens the volatility in the Market Value of Assets, resulting in a smoother pattern of contribution rates.

The Actuarial Value of Assets is calculated by recognizing 20% of each of the past five years of actual investment earnings compared to the expected earnings on the Actuarial Value of Assets.

3. Amortization Method

The Unfunded Actuarial Liability is the difference between the Actuarial Liability and the Actuarial Value of Assets. Effective with the July 1, 2014 actuarial valuation, the Board adopted changes to the amortization methods. The amortization is based on level percent of pay, assuming pay increases 3.5% a year.

Source	Method
Charter amendments	15-year closed for active members and 5-year closed for inactive members effective July 1, 2014 20-year closed for amortizations established prior to July 1, 2014
Actuarial gains and losses, assumption, and method changes	20-year closed Remaining portion of 2013 amortization is re-amortized over 19 years as of July 1, 2014 2015 assumption change amortization is phased in over 5 years
Supplemental COLAs	5-year closed Remaining portion of 2013 amortization is re-amortized over 19 years as of July 1, 2014

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

4. Contributions

The normal cost for members as of the valuation date, increased with interest to the middle of the year, is divided by the total salary expected to be paid during the year (including new entrants) to determine the total normal cost rate. The employer's normal cost rate is the total normal cost rate less the employee contribution rate.

The total employer contribution rate is the sum of the employer normal cost rate, the administrative expense rate, and the UAL rate. The UAL payments are adjusted for interest from the valuation date to the date of expected payment in the following fiscal year. The UAL rate is determined by dividing the UAL payments by the total expected payroll for the fiscal year (including new entrants).

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

The plan provisions are the same as those summarized in the July 1, 2019 actuarial valuation report.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2021	\$ 26,620,218	\$ 632,128	\$ 594,969	\$ 19,667	\$ 1,682,798	\$ 1,947,426	\$ 28,092,276	\$ 1,682,798	\$ 0
2022	28,092,276	613,967	568,688	19,097	1,778,614	2,050,986	29,528,206	1,778,614	0
2023	29,528,206	595,707	529,844	18,543	1,877,586	2,151,288	30,908,916	1,877,586	0
2024	30,908,916	577,079	467,606	17,995	1,977,779	2,246,592	32,204,419	1,977,779	0
2025	32,204,419	557,579	466,102	17,435	2,082,080	2,337,604	33,466,188	2,082,080	0
2026	33,466,188	537,222	499,440	16,859	2,189,130	2,427,246	34,724,108	2,189,130	0
2027	34,724,108	516,138	552,059	16,262	2,297,451	2,517,229	35,995,822	2,297,451	0
2028	35,995,822	495,484	576,019	15,669	2,403,861	2,607,283	37,255,077	2,403,861	0
2029	37,255,077	475,372	598,419	15,083	2,508,900	2,696,430	38,501,315	2,508,900	0
2030	38,501,315	455,500	501,952	14,498	2,613,170	2,780,335	39,611,434	2,613,170	0
2031	39,611,434	435,549	511,264	13,903	2,717,026	2,858,024	40,685,341	2,717,026	0
2032	40,685,341	415,794	528,614	13,309	2,819,556	2,933,385	41,730,268	2,819,556	0
2033	41,730,268	395,925	546,240	12,713	2,920,758	3,006,659	42,745,623	2,920,758	0
2034	42,745,623	375,915	563,755	12,115	3,019,539	3,077,832	43,731,471	3,019,539	0
2035	43,731,471	356,090	140,653	11,519	3,115,575	3,130,924	44,232,043	3,115,575	0
2036	44,232,043	336,092	219,913	10,917	3,208,899	3,166,462	44,734,694	3,208,899	0
2037	44,734,694	315,594	161,494	10,301	3,301,346	3,197,168	45,097,303	3,301,346	0
2038	45,097,303	293,990	154,688	9,657	3,393,804	3,219,347	45,361,868	3,393,804	0
2039	45,361,868	271,196	208,718	8,977	3,485,824	3,236,456	45,583,438	3,485,824	0
2040	45,583,438	248,297	229,988	8,291	3,573,695	3,249,354	45,729,091	3,573,695	0
2041	45,729,091	225,586	207,578	7,608	3,657,679	3,255,206	45,752,173	3,657,679	0
2042	45,752,173	203,002	211,566	6,927	3,735,763	3,253,184	45,677,235	3,735,763	0
2043	45,677,235	180,095	263,460	6,236	3,810,983	3,245,752	45,549,323	3,810,983	0
2044	45,549,323	157,025	285,849	5,540	3,882,723	3,233,458	45,337,393	3,882,723	0
2045	45,337,393	134,687	280,671	4,859	3,946,432	3,214,289	45,015,748	3,946,432	0

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2046	\$ 45,015,748	\$ 113,136	\$ 255,772	\$ 4,192	\$ 4,003,901	\$ 3,186,557	\$ 44,563,120	\$ 4,003,901	\$ 0
2047	44,563,120	92,638	249,455	3,545	4,054,254	3,150,127	43,997,540	4,054,254	0
2048	43,997,540	73,710	240,995	2,931	4,094,982	3,105,695	43,320,027	4,094,982	0
2049	43,320,027	57,009	236,505	2,371	4,124,258	3,053,655	42,540,568	4,124,258	0
2050	42,540,568	43,166	232,266	1,883	4,140,098	2,994,711	41,668,731	4,140,098	0
2051	41,668,731	32,290	245,065	1,475	4,140,846	2,930,250	40,734,015	4,140,846	0
2052	40,734,015	23,928	241,727	1,143	4,127,874	2,861,180	39,731,834	4,127,874	0
2053	39,731,834	17,567	234,712	874	4,102,601	2,787,539	38,668,176	4,102,601	0
2054	38,668,176	12,765	226,287	659	4,066,687	2,709,771	37,549,654	4,066,687	0
2055	37,549,654	9,158	216,847	488	4,021,215	2,628,325	36,382,282	4,021,215	0
2056	36,382,282	6,457	272,103	354	3,967,306	2,545,980	35,239,162	3,967,306	0
2057	35,239,162	4,476	254,681	251	3,905,673	2,463,118	34,055,512	3,905,673	0
2058	34,055,512	3,024	252,133	174	3,837,176	2,378,086	32,851,405	3,837,176	0
2059	32,851,405	1,971	242,465	116	3,762,434	2,291,541	31,624,832	3,762,434	0
2060	31,624,832	1,264	222,940	76	3,681,735	2,203,223	30,370,448	3,681,735	0
2061	30,370,448	776	207,672	48	3,595,872	2,113,212	29,096,189	3,595,872	0
2062	29,096,189	449	199,274	28	3,505,243	2,022,174	27,812,815	3,505,243	0
2063	27,812,815	257	187,310	16	3,410,088	1,930,514	26,520,792	3,410,088	0
2064	26,520,792	139	167,976	9	3,310,915	1,838,108	25,216,091	3,310,915	0
2065	25,216,091	61	152,832	4	3,208,072	1,745,062	23,905,970	3,208,072	0
2066	23,905,970	27	142,344	2	3,101,665	1,651,926	22,598,600	3,101,665	0
2067	22,598,600	11	135,245	1	2,992,039	1,559,245	21,301,061	2,992,039	0
2068	21,301,061	4	125,664	0	2,879,472	1,467,316	20,014,574	2,879,472	0
2069	20,014,574	1	116,363	0	2,764,217	1,376,322	18,743,043	2,764,217	0
2070	18,743,043	0	106,660	0	2,646,516	1,286,517	17,489,704	2,646,516	0

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2071	\$ 17,489,704	\$ 0	\$ 97,106	\$ 0	\$ 2,526,629	\$ 1,198,150	\$ 16,258,330	\$ 2,526,629	\$ 0
2072	16,258,330	0	85,279	0	2,404,833	1,111,400	15,050,176	2,404,833	0
2073	15,050,176	0	76,050	0	2,281,415	1,026,527	13,871,339	2,281,415	0
2074	13,871,339	0	67,873	0	2,156,700	943,913	12,726,425	2,156,700	0
2075	12,726,425	0	60,296	0	2,031,086	863,867	11,619,502	2,031,086	0
2076	11,619,502	0	53,236	0	1,905,009	786,669	10,554,398	1,905,009	0
2077	10,554,398	0	36,950	0	1,778,936	712,230	9,524,642	1,778,936	0
2078	9,524,642	0	31,495	0	1,653,363	640,781	8,543,555	1,653,363	0
2079	8,543,555	0	25,009	0	1,528,821	572,855	7,612,598	1,528,821	0
2080	7,612,598	0	19,940	0	1,405,874	508,628	6,735,292	1,405,874	0
2081	6,735,292	0	16,855	0	1,285,120	448,356	5,915,383	1,285,120	0
2082	5,915,383	0	13,650	0	1,167,158	392,217	5,154,093	1,167,158	0
2083	5,154,093	0	9,803	0	1,052,607	340,258	4,451,547	1,052,607	0
2084	4,451,547	0	6,868	0	942,133	292,519	3,808,800	942,133	0
2085	3,808,800	0	5,505	0	836,398	249,075	3,226,983	836,398	0
2086	3,226,983	0	4,001	0	736,031	209,923	2,704,876	736,031	0
2087	2,704,876	0	2,169	0	641,611	174,943	2,240,377	641,611	0
2088	2,240,377	0	199	0	553,660	143,966	1,830,882	553,660	0
2089	1,830,882	0	0	0	472,605	116,852	1,475,129	472,605	0
2090	1,475,129	0	0	0	398,738	93,439	1,169,830	398,738	0
2091	1,169,830	0	0	0	332,250	73,468	911,048	332,250	0
2092	911,048	0	0	0	273,183	56,647	694,512	273,183	0
2093	694,512	0	0	0	221,425	42,664	515,751	221,425	0
2094	515,751	0	0	0	176,720	31,198	370,229	176,720	0
2095	370,229	0	0	0	138,700	21,928	253,457	138,700	0

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2096	\$ 253,457	\$ 0	\$ 0	\$ 0	\$ 106,898	\$ 14,541	\$ 161,101	\$ 106,898	\$ 0
2097	161,101	0	0	0	80,762	8,737	89,076	80,762	0
2098	89,076	0	1,216	0	59,695	4,282	34,879	59,695	0
2099	34,879	0	1,860	0	43,074	950	(5,385)	34,879	8,195
2100	(5,385)	0	2,694	0	30,269	(1,494)	(34,454)	0	30,269
2101	(34,454)	0	3,384	0	20,670	(3,242)	(54,981)	0	20,670
2102	(54,981)	0	3,812	0	13,694	(4,470)	(69,333)	0	13,694
2103	(69,333)	0	4,272	0	8,793	(5,322)	(79,176)	0	8,793
2104	(79,176)	0	4,845	0	5,476	(5,899)	(85,705)	0	5,476
2105	(85,705)	0	5,290	0	3,320	(6,281)	(90,016)	0	3,320
2106	(90,016)	0	5,484	0	1,979	(6,540)	(93,051)	0	1,979
2107	(93,051)	0	5,669	0	1,180	(6,726)	(95,288)	0	1,180
2108	(95,288)	0	5,891	0	723	(6,866)	(96,986)	0	723
2109	(96,986)	0	6,124	0	467	(6,973)	(98,302)	0	467
2110	(98,302)	0	6,231	0	322	(7,061)	(99,453)	0	322
2111	(99,453)	0	6,424	0	237	(7,135)	(100,401)	0	237
2112	(100,401)	0	6,703	0	180	(7,193)	(101,071)	0	180
2113	(101,071)	0	7,034	0	139	(7,229)	(101,405)	0	139
2114	(101,405)	0	7,327	0	106	(7,242)	(101,425)	0	106
2115	(101,425)	0	7,594	0	78	(7,233)	(101,142)	0	78
2116	(101,142)	0	7,823	0	55	(7,202)	(100,577)	0	55
2117	(100,577)	0	7,996	0	37	(7,154)	(99,772)	0	37
2118	(99,772)	0	8,093	0	23	(7,090)	(98,791)	0	23
2119	(98,791)	0	7,883	0	13	(7,025)	(97,946)	0	13
2120	(97,946)	0	7,740	0	7	(6,967)	(97,179)	0	7

Amounts in Thousands

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM
GASB 67 AND 68 REPORTING FOR JUNE 30, 2020 MEASUREMENT DATE**

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Projected Beginning Fiduciary Net Position	Normal Cost Contribution - Employer and Employee	UAL Contribution	Projected Admin Expenses	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	
2121	\$ (97,179)	\$ 0	\$ 7,578	\$ 0	\$ 0	\$ (6,916)	\$ (96,517)	\$ 0	\$ 0	
2122	(96,517)	0	7,440	0	0	(6,872)	(95,949)	0	0	
2123	(95,949)	0	7,346	0	0	(6,833)	(95,435)	0	0	
2124	(95,435)	0	7,254	0	0	(6,799)	(94,980)	0	0	
2125	(94,980)	0	7,146	0	0	(6,769)	(94,603)	0	0	
2126	(94,603)	0	7,060	0	0	(6,744)	(94,287)	0	0	
2127	(94,287)	0	7,015	0	0	(6,722)	(93,994)	0	0	
2128	(93,994)	0	6,976	0	0	(6,702)	(93,720)	0	0	
								Discount Rate:	7.40%	2.21%
								Present Value:	\$ 37,592,048	\$ 16,334
								Total Present Value:	\$ 37,608,382	
								GASB Discount Rate:	7.40%	

Amounts in Thousands

APPENDIX E – GLOSSARY OF TERMS

1. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

3. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

4. Deferred Outflow of Resources

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability, or investment losses that are recognized in future reporting periods.

5. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 and 68 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the service cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

6. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the actuarial valuation date to the measurement date. The measurement date must be the same as the reporting date for the plan.

APPENDIX E – GLOSSARY OF TERMS

7. Net Pension Liability

The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

8. Plan Fiduciary Net Position

The fair or Market Value of Assets.

9. Reporting Date

The last day of the plan or employer's fiscal year.

10. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The service cost is the normal cost calculated under the Entry Age actuarial cost method.

11. Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the Actuarial Liability calculated under the Entry Age actuarial cost method.



Classic Values, Innovative Advice