



# **City and County of San Francisco Employees' Retirement System**

## **GASB 67/68 Report as of June 30, 2017**

**Produced by Cheiron**

**November 2017**

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November 2, 2017

Retirement Board  
City and County of San Francisco  
Employees' Retirement System  
1145 Market Street, 5<sup>th</sup> Floor  
San Francisco, CA 94103

Dear Members of the Board:

The purpose of this report is to provide accounting and financial reporting information under the Government 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, 2017,
- 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.

If you have any questions about the report or would like additional information, please let us know.

Sincerely,  
Cheiron



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



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



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 MEASUREMENT DATE**

**SECTION I – BOARD SUMMARY**

**Highlights**

The measurement date for the City and County of San Francisco Employees' Retirement System ("System") is June 30, 2017. Measurements are based on the fair value of assets as of June 30, 2017 and the Total Pension Liability as of the valuation date, June 30, 2016, updated to June 30, 2017.

The beginning and end of year measurements are based on different 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.

|   |    | <b>Measurement Date</b> |                  |             |
|---|----|-------------------------|------------------|-------------|
|   |    | <b>6/30/2017</b>        | <b>6/30/2016</b> |             |
| Net Pension Liability                   | \$ | 4,993,365               | \$               | 5,812,778   |
| Deferred Outflows                       |    | (855,996)               |                  | (1,794,715) |
| Deferred Inflows                        |    | 351,690                 |                  | 243,531     |
| Net Impact on Statement of Net Position | \$ | 4,489,059               | \$               | 4,261,594   |
| Pension Expense (\$ Amount)             | \$ | 779,275                 | \$               | 1,919,972   |
| Pension Expense (% of Payroll)          |    | 25.62%                  |                  | 67.69%      |

*Amounts in Thousands*

The Net Pension Liability (NPL) decreased by about \$819 million since the prior measurement date, primarily due to investment gains of \$1,169 million. There were also Actuarial Liability losses (\$58 million) and Supplemental COLA assumption changes (\$88 million) that offset the investment gains. 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.

As of the end of the measurement year, the System and its participating employers would report a Net Pension Liability of \$4,993,365,000, Deferred Inflows of \$351,690,000, and Deferred Outflows of \$855,996,000. Consequently, the net impact on the aggregate of participating employers' Statements of Net Position due to the System would be \$4,489,059,000 at the end of the measurement year.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 MEASUREMENT DATE**

**SECTION I – BOARD SUMMARY**

For the measurement year ending June 30, 2017, the collective annual pension expense is \$779,275,000 or 25.62% of covered payroll. This amount is not related to participating employers' contributions to the System (\$551,810,000), but instead represents the change in the net impact on participating employers' Statements of Net Position plus employer contributions (\$4,489,059,000 – \$4,261,594,000 + \$551,810,000). The collective pension expense of \$779,275,000 is significantly smaller than the collective expense for the prior year of \$1,919,972,000. The majority of this decrease is due to the impact of the Appeals Court decision (\$1,294 million) that was recognized in its entirety last year. 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 net pension expense is shown in the report.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**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.

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.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. 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.

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  
Consulting Actuary

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 MEASUREMENT DATE**

**SECTION III – DETERMINATION OF DISCOUNT RATE**

The discount rate used to measure the Total Pension Liability was 7.50%.

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, 2014 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 3.75% 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 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, 2017 for the probability and amount of Supplemental COLA for each future year. We have assumed that a full Supplemental COLA will be paid to all Post 97 Retirees effective July 1, 2017. The table on the following page shows the net assumed Supplemental COLA for members with a 2.00% Basic COLA for sample years. Appendix B contains complete information on the assumption.

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**SECTION III – DETERMINATION OF DISCOUNT RATE**

| <b>Assumed Supplemental COLA<br/>for Members with a 2.00% Basic COLA</b> |                    |                                      |
|--|--------------------|--------------------------------------|
| <b>July 1,</b>   | <b>96 – Prop C</b> | <b>Before 96 or After<br/>Prop C</b> |
| 2017   | 1.50%              | 0.00%                                |
| 2018   | 0.75%              | 0.00%                                |
| 2023   | 0.75%              | 0.29%                                |
| 2028   | 0.75%              | 0.35%                                |
| 2033   | 0.75%              | 0.38%                                |
| 2038+  | 0.75%              | 0.38%                                |

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 2096 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 7.50% to the extent the fiduciary net position is available to make the payments and at the municipal bond rate of 3.58% to the extent they are not available. The single equivalent rate used to determine the Total Pension Liability as of June 30, 2017 rounded to four decimals is 7.50%.

Appendix D shows the details of this calculation.



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION IV – PROJECTION OF TOTAL PENSION LIABILITY**

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2017, is measured as of a valuation date of June 30, 2016 and projected to June 30, 2017. Because the TPL shown in the prior report was measured as of June 30, 2015 and projected to June 30, 2016, it will not match the amounts measured as of June 30, 2016 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.

| <b>Table IV-1</b>  |                      |                      |                      |
|--|----------------------|----------------------|----------------------|
| <b>Projection of Collective TPL from Valuation to Measurement Date</b> |                      |                      |                      |
| Discount Rate  | 6.50%                | 7.50%                | 8.50%                |
| <b>Collective Total Pension Liability, 6/30/2016</b>                   |                      |                      |                      |
| Actives  | \$ 12,043,469        | \$ 10,244,632        | \$ 8,785,330         |
| Deferred Vested  | 559,355              | 473,182              | 406,068              |
| Retirees   | <u>16,918,414</u>    | <u>15,383,779</u>    | <u>14,081,505</u>    |
| <b>Total</b>   | <b>\$ 29,521,237</b> | <b>\$ 26,101,594</b> | <b>\$ 23,272,902</b> |
| <b>Service Cost</b>  | 817,542              | 645,922              | 515,963              |
| <b>Benefit Payments</b>  | 1,278,140            | 1,278,140            | 1,278,140            |
| <b>Interest</b>  | 1,904,147            | 1,934,340            | 1,946,465            |
| <b>Collective Total Pension Liability, 6/30/2017</b>                   | <b>\$ 30,964,786</b> | <b>\$ 27,403,715</b> | <b>\$ 24,457,190</b> |

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**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.

| <b>Table V-1</b>                                   |                                    |  |                                  |
|--|------------------------------------|--|----------------------------------|
| <b>Change in Collective Net Pension Liability</b>  |                                    |  |                                  |
|  | <b>Increase (Decrease)</b>         |  |                                  |
|  | <b>Total Pension<br/>Liability</b> | <b>Plan Fiduciary<br/>Net Position</b> | <b>Net Pension<br/>Liability</b> |
|  | <b>(a)</b>                         | <b>(b)</b>                             | <b>(a) - (b)</b>                 |
| <b>Balances at 6/30/2016</b>                       | \$ 25,967,281                      | \$ 20,154,503                          | \$ 5,812,778                     |
| <b>Changes for the year:</b>                       |                                    |  |                                  |
| Service cost                                       | 644,277                            |  | 644,277                          |
| Interest   | 1,924,206                          |  | 1,924,206                        |
| Changes of benefits                                | 0                                  |  | 0                                |
| Differences between expected and actual experience | 57,911                             |  | 57,911                           |
| Changes of assumptions                             | 88,180                             |  | 88,180                           |
| Contributions - employer                           |                                    | 551,810                                | (551,810)                        |
| Contributions - member                             |                                    | 316,844                                | (316,844)                        |
| Net investment income                              |                                    | 2,683,467                              | (2,683,467)                      |
| Benefit payments                                   | (1,278,140)                        | (1,278,140)                            | 0                                |
| Administrative expense                             |                                    | (18,134)                               | 18,134                           |
| <b>Net changes</b>                                 | <u>1,436,434</u>                   | <u>2,255,847</u>                       | <u>(819,413)</u>                 |
| <b>Balances at 6/30/2017</b>                       | <u>\$ 27,403,715</u>               | <u>\$ 22,410,350</u>                   | <u>\$ 4,993,365</u>              |

*Amounts in Thousands*

During the measurement year, the collective NPL decreased by approximately \$819 million. The service cost and interest cost increased the collective NPL by approximately \$2,568 million while contributions and investment income offset by administrative expenses decreased the collective NPL by approximately \$3,534 million.

There were actuarial experience losses and assumption changes during the year of approximately \$58 million and \$88 million, respectively.

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 on the next page shows the sensitivity of the collective NPL to the discount rate.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 MEASUREMENT DATE**

**SECTION V – GASB 67 REPORTING INFORMATION**

| <b>Table V-2</b>  |                                  |                                    |                                  |
|---|----------------------------------|------------------------------------|----------------------------------|
| <b>Sensitivity of Collective NPL to Changes in Discount Rate</b>              |                                  |                                    |                                  |
|   | <b>1%<br/>Decrease<br/>6.50%</b> | <b>Discount<br/>Rate<br/>7.50%</b> | <b>1%<br/>Increase<br/>8.50%</b> |
| Total Pension Liability   | \$ 30,964,786                    | \$ 27,403,715                      | \$ 24,457,190                    |
| Plan Fiduciary Net Position   | <u>22,410,350</u>                | <u>22,410,350</u>                  | <u>22,410,350</u>                |
| Collective Net Pension Liability  | <u>\$ 8,554,436</u>              | <u>\$ 4,993,365</u>                | <u>\$ 2,046,840</u>              |
| Plan Fiduciary Net Position as a<br>Percentage of the Total Pension Liability | 72.4%                            | 81.8%                              | 91.6%                            |

*Amounts in Thousands*

A one percent decrease in the discount rate increases the TPL by approximately 13% and increases the collective NPL by approximately 71%. A one percent increase in the discount rate decreases the TPL by approximately 11% and decreases the collective NPL by approximately 59%.

**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 on the next page shows the changes in collective NPL and related ratios required by GASB for the four years since implementation.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION V – GASB 67 REPORTING INFORMATION**

| <b>Table V-3</b>  |                             |                             |                             |                             |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| <b>Schedule of Changes in Collective Net Pension Liability and Related Ratios</b> |                             |                             |                             |                             |
|   | <b>FYE 2017</b>             | <b>FYE 2016</b>             | <b>FYE 2015</b>             | <b>FYE 2014</b>             |
| <b><u>Total Pension Liability</u></b>   |                             |                             |                             |                             |
| Service cost (MOY)  | \$ 644,277                  | \$ 567,576                  | \$ 523,644                  | \$ 509,200                  |
| Interest (includes interest on service cost)                                      | 1,924,206                   | 1,669,996                   | 1,621,582                   | 1,542,266                   |
| Changes of benefit terms  | 0                           | 1,293,714                   | 0                           | 0                           |
| Differences between expected and actual experience                                | 57,911                      | (119,270)                   | (197,981)                   | 0                           |
| Changes of assumptions  | 88,180                      | 1,087,309                   | 216,845                     | (73,315)                    |
| Benefit payments, including refunds of member contributions                       | <u>(1,278,140)</u>          | <u>(1,256,146)</u>          | <u>(1,131,030)</u>          | <u>(1,072,526)</u>          |
| <b>Net change in total pension liability</b>                                      | <b>\$ 1,436,434</b>         | <b>\$ 3,243,179</b>         | <b>\$ 1,033,060</b>         | <b>\$ 905,625</b>           |
| <b>Total pension liability - beginning</b>  | <b><u>25,967,281</u></b>    | <b><u>22,724,102</u></b>    | <b><u>21,691,042</u></b>    | <b><u>20,785,417</u></b>    |
| <b>Total pension liability - ending</b>   | <b><u>\$ 27,403,715</u></b> | <b><u>\$ 25,967,281</u></b> | <b><u>\$ 22,724,102</u></b> | <b><u>\$ 21,691,042</u></b> |
| <b><u>Plan fiduciary net position</u></b>   |                             |                             |                             |                             |
| Contributions - employer  | \$ 551,810                  | \$ 526,805                  | \$ 592,643                  | \$ 532,882                  |
| Contributions - member  | 316,844                     | 322,764                     | 301,682                     | 289,020                     |
| Net investment income   | 2,683,467                   | 150,190                     | 763,429                     | 3,175,431                   |
| Benefit payments, including refunds of member contributions                       | <u>(1,278,140)</u>          | <u>(1,256,146)</u>          | <u>(1,131,030)</u>          | <u>(1,072,526)</u>          |
| Administrative expense  | <u>(18,134)</u>             | <u>(17,179)</u>             | <u>(19,262)</u>             | <u>(15,745)</u>             |
| <b>Net change in plan fiduciary net position</b>                                  | <b>\$ 2,255,847</b>         | <b>\$ (273,566)</b>         | <b>\$ 507,462</b>           | <b>\$ 2,909,062</b>         |
| <b>Plan fiduciary net position - beginning</b>                                    | <b><u>20,154,503</u></b>    | <b><u>20,428,069</u></b>    | <b><u>19,920,607</u></b>    | <b><u>17,011,545</u></b>    |
| <b>Plan fiduciary net position - ending</b>                                       | <b><u>\$ 22,410,350</u></b> | <b><u>\$ 20,154,503</u></b> | <b><u>\$ 20,428,069</u></b> | <b><u>\$ 19,920,607</u></b> |
| <b>Net pension liability - ending</b>   | <b><u>\$ 4,993,365</u></b>  | <b><u>\$ 5,812,778</u></b>  | <b><u>\$ 2,296,033</u></b>  | <b><u>\$ 1,770,435</u></b>  |
| <b>Plan fiduciary net position as a percentage of the total pension liability</b> | 81.78%                      | 77.61%                      | 89.90%                      | 91.84%                      |
| <b>Covered payroll</b>  | \$ 3,041,818                | \$ 2,836,498                | \$ 2,642,752                | \$ 2,507,162                |
| <b>Net pension liability as a percentage of covered payroll</b>                   | 164.16%                     | 204.93%                     | 86.88%                      | 70.62%                      |

*Amounts in Thousands*

Because an Actuarially Determined Contribution (ADC) has been calculated historically, technically 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. In previous GASB reports, total reported pay was shown.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION V – GASB 67 REPORTING INFORMATION**

**Table V-4  
Schedule of Collective Employer Contributions**

|  | <b>FYE 2017</b> | <b>FYE 2016</b> | <b>FYE 2015</b> | <b>FYE 2014</b> | <b>FYE 2013</b> | <b>FYE 2012</b> | <b>FYE 2011</b> | <b>FYE 2010</b> | <b>FYE 2009</b> | <b>FYE 2008</b> |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Actuarially Determined Contribution                                  | \$ 551,810      | \$ 526,805      | \$ 592,643      | \$ 532,882      | \$ 442,870      | \$ 410,797      | \$ 308,823      | \$ 223,614      | \$ 119,751      | \$ 134,060      |
| Contributions in Relation to the Actuarially Determined Contribution | <u>551,810</u>  | <u>526,805</u>  | <u>592,643</u>  | <u>532,882</u>  | <u>442,870</u>  | <u>410,797</u>  | <u>308,823</u>  | <u>223,614</u>  | <u>119,751</u>  | <u>134,060</u>  |
| Contribution Deficiency/(Excess)                                     | <u>\$ 0</u>     | <u>\$ 0</u>     | <u>\$ 0</u>     | <u>\$ 0</u>     | <u>\$ 0</u>     | <u>\$ 0</u>     | <u>\$ 0</u>     | <u>\$ 0</u>     | <u>\$ 0</u>     | <u>\$ 0</u>     |
| Covered Payroll  | \$3,041,818     | \$2,836,498     | \$2,642,752     | \$2,507,162     | \$2,448,734     |                 |                 |                 |                 |                 |
| Contributions as a Percentage of Covered Payroll                     | 18.14%          | 18.57%          | 22.43%          | 21.25%          | 18.09%          |                 |                 |                 |                 |                 |

*Amounts in Thousands*

The notes below summarize the key methods and assumptions used to determine the ADC for FYE 2017.

**Notes to Schedule**

Valuation Date                   7/1/2015  
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                   7.50%  
Amortization growth rate       3.75%  
Price inflation                  3.25%  
Salary increases                 3.75% 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. Rates are projected generationally from the base year using a modified version of the MP-2015 projection scale.  
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, 2017 can be found in the July 1, 2015 actuarial valuation report.



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 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, 2018 reporting dates and the schedules from our prior report are to be used for employer reporting as of June 30, 2017.

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 measurement date, this recognition period was 5.0 years.

During the year, there was an experience loss of approximately \$58 million. Approximately \$12 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), resulting in a collective deferred outflow of \$46 million. Unrecognized experience gains from prior periods were approximately \$214 million, of which \$63 million was recognized as a reduction in collective pension expense in the current year, resulting in a collective deferred inflow of \$151 million as of June 30, 2017.

Assumption changes since the last measurement date increased the TPL by \$88 million. Approximately \$18 million of that increase was recognized as an increase in pension expense in the current year and an identical amount will be recognized in each of the next four years. Unrecognized increases to the TPL from prior period assumption changes were approximately \$1,000 million, of which \$261 million was recognized as an increase in collective pension expense in the current year. The combination of the unrecognized current and prior assumption changes that increased the TPL results in a collective deferred outflow of resources as of June 30, 2017 of approximately \$810 million.

Unrecognized decreases in the TPL from prior assumption changes were approximately \$29.3 million, of which approximately \$14.7 million was recognized as a decrease in collective pension expense in the current year, leaving a collective deferred inflow of resources as of June 30, 2017 of approximately \$14.7 million.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of approximately \$1,169 million. Approximately \$234 million of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized net investment losses from prior periods were approximately \$795 million of which \$46 million was recognized as an increase in collective pension expense in the current year. The combination of unrecognized investment gains this year and unrecognized net investment losses from prior periods results in a collective deferred inflow of resources as of June 30, 2017 of approximately \$186 million.

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**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.

| <b>Table VI-1</b>  |   |  |
|--|---|--|
| <b>Schedule of Collective Deferred Inflows and Outflows of Resources</b>   |   |  |
|  | <b>Deferred<br/>Outflows of<br/>Resources</b> | <b>Deferred<br/>Inflows of<br/>Resources</b> |
| Differences between expected and actual experience   | \$ 46,329                                     | \$ 150,754                                   |
| Changes in assumptions   | 809,667                                       | 14,663                                       |
| Net difference between projected and actual earnings on pension plan investments   | <u>0</u>                                      | <u>186,273</u>                               |
| <b>Total</b>   | <b><u>\$ 855,996</u></b>                      | <b><u>\$ 351,690</u></b>                     |
| <p>Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:</p> |   |  |
| <b>Measurement year ended June 30:</b>   |   |  |
| 2018   | 24,465  |  |
| 2019   | 418,301                                       |  |
| 2020   | 266,022                                       |  |
| 2021   | (204,483)                                     |  |
| 2022   | 0   |  |
| Thereafter \$  | 0   |  |

*Amounts in Thousands*

The collective annual pension expense recognized by the employers can be calculated two different ways. First, 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 next page, we believe it helps to understand the level and volatility of the collective pension expense.

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**SECTION VI – GASB 68 COLLECTIVE INFORMATION**

| <b>Table VI-2<br/>Calculation of Collective Pension Expense</b> |                                |                     |
|---|--------------------------------|---------------------|
|   | <b>Measurement Year Ending</b> |                     |
|   | <b>2017</b>                    | <b>2016</b>         |
| Change in Net Pension Liability                                 | \$ (819,413)                   | \$ 3,516,745        |
| Change in Deferred Outflows                                     | 938,719                        | (1,621,239)         |
| Change in Deferred Inflows                                      | 108,159                        | (502,339)           |
| Employer Contributions  | <u>551,810</u>                 | <u>526,805</u>      |
| <b>Pension Expense</b>  | <b>\$ 779,275</b>              | <b>\$ 1,919,972</b> |
| <b>Pension Expense as % of Payroll</b>                          | <b>25.62%</b>                  | <b>67.69%</b>       |
| <b>Operating Expenses</b>                                       |                                |                     |
| Service cost  | \$ 644,277                     | \$ 567,576          |
| Employee contributions  | (316,844)                      | (322,764)           |
| Administrative expenses   | <u>18,134</u>                  | <u>17,179</u>       |
| Total   | \$ 345,566                     | \$ 261,991          |
| <b>Financing Expenses</b>                                       |                                |                     |
| Interest cost   | \$ 1,924,206                   | \$ 1,669,996        |
| Expected return on assets                                       | <u>(1,514,962)</u>             | <u>(1,534,677)</u>  |
| Total   | \$ 409,244                     | \$ 135,319          |
| <b>Changes</b>  |                                |                     |
| Benefit changes   | \$ 0                           | \$ 1,293,714        |
| Recognition of assumption changes                               | 263,804                        | 246,168             |
| Recognition of liability gains and losses                       | (51,868)                       | (63,450)            |
| Recognition of investment gains and losses                      | <u>(187,471)</u>               | <u>46,230</u>       |
| Total   | \$ 24,465                      | \$ 1,522,662        |
| <b>Pension Expense</b>  | <b>\$ 779,275</b>              | <b>\$ 1,919,972</b> |

*Amounts in Thousands*

First, there are components referred to as operating expenses. These 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.

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

The final category is changes. This category 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



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amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses. The total collective pension expense decreased from the prior year by about \$1,141 million. The recognition of changes decreased by approximately \$1,498 million, which offset by the increase in service and interest costs, accounts for the change in pension expense.

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**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.

| <b>Table VII-1<br/>Determination of Employers' Proportionate Share</b> |                                  |                                |                                  |                                |  |
|--|----------------------------------|--------------------------------|----------------------------------|--------------------------------|--|
| <b>Employer</b>  | <b>June 30, 2017</b>             |                                | <b>June 30, 2016</b>             |                                |  |
|  | <b>Employer<br/>Contribution</b> | <b>Proportionate<br/>Share</b> | <b>Employer<br/>Contribution</b> | <b>Proportionate<br/>Share</b> |  |
| City and County  | \$ 519,073                       | 94.0674%                       | \$ 496,343                       | 94.2175%                       |  |
| Trial Courts   | 7,169                            | 1.2992%                        | 7,039                            | 1.3362%                        |  |
| Unified School District  | 17,068                           | 3.0930%                        | 15,645                           | 2.9698%                        |  |
| Community College District   | 8,500                            | 1.5403%                        | 7,779                            | 1.4766%                        |  |
| <b>Total</b>   | <b>\$ 551,810</b>                | <b>100.0000%</b>               | <b>\$ 526,805</b>                | <b>100.0000%</b>               |  |

*Amounts in Thousands*

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**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, 2017.

| <b>Table VII-2<br/>Schedule of Employers' Proportionate Share of Collective Amounts at June 30, 2017</b> |                            |                             |                             |                             |                                   |                                  |                        |
|--|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------------|----------------------------------|------------------------|
| <b>Employer</b>  | <b>Proportionate Share</b> | <b>Share of NPL @ 6.50%</b> | <b>Share of NPL @ 7.50%</b> | <b>Share of NPL @ 8.50%</b> | <b>Share of Deferred Outflows</b> | <b>Share of Deferred Inflows</b> | <b>Pension Expense</b> |
| City and County  | 94.0674%                   | \$ 8,046,939                | \$ 4,697,131                | \$ 1,925,410                | \$ 805,214                        | \$ 330,826                       | \$ 733,044             |
| Trial Courts   | 1.2992%                    | 111,143                     | 64,876                      | 26,593                      | 11,121                            | 4,569                            | 10,125                 |
| Unified School District  | 3.0930%                    | 264,590                     | 154,445                     | 63,309                      | 26,476                            | 10,878                           | 24,103                 |
| Community College District   | 1.5403%                    | 131,764                     | 76,913                      | 31,528                      | 13,185                            | 5,417                            | 12,003                 |
| <b>Total</b>   | <b>100.0000%</b>           | <b>\$ 8,554,436</b>         | <b>\$ 4,993,365</b>         | <b>\$ 2,046,840</b>         | <b>\$ 855,996</b>                 | <b>\$ 351,690</b>                | <b>\$ 779,275</b>      |

*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.

The table on the following page 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.

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**SECTION VII – GASB 68 REPORTING INFORMATION FOR EMPLOYERS**

| Table VII-3   |                      |                  |                                |                   |                  |             |                   |                     |             |
|---|----------------------|------------------|--------------------------------|-------------------|------------------|-------------|-------------------|---------------------|-------------|
| Schedule of Employers' Changes in Proportion and Contribution Differences |                      |                  |                                |                   |                  |             |                   |                     |             |
| Employer  | Proportionate Shares |                  | Impact of Change in Proportion |                   |                  |             | Contributions     |                     |             |
|   | 6/30/2016            | 6/30/2017        | Net Pension Liability          | Deferred Outflows | Deferred Inflows | Net Effect  | Actual            | Proportionate Share | Difference  |
| City and County   | 94.2175%             | 94.0674%         | \$ (8,720)                     | \$ (2,692)        | \$ 365           | \$ (6,393)  | \$ 519,073        | \$ 519,073          | \$ 0        |
| Trial Courts  | 1.3362%              | 1.2992%          | (2,146)                        | (662)             | 90               | (1,573)     | 7,169             | 7,169               | 0           |
| Unified School District   | 2.9698%              | 3.0930%          | 7,165                          | 2,212             | (300)            | 5,253       | 17,068            | 17,068              | 0           |
| Community College District  | 1.4766%              | 1.5403%          | 3,702                          | 1,143             | (155)            | 2,714       | 8,500             | 8,500               | 0           |
| <b>Total</b>  | <b>100.0000%</b>     | <b>100.0000%</b> | <b>\$ 0</b>                    | <b>\$ 0</b>       | <b>\$ 0</b>      | <b>\$ 0</b> | <b>\$ 551,810</b> | <b>\$ 551,810</b>   | <b>\$ 0</b> |

*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   |                         |                   |                    |  |
|  | 6/30/2016         | Current Year Net Effect | Recognition     | 6/30/2017        | 6/30/2016          | Current Year Net Effect | Recognition       | 6/30/2017          |  |
| City and County  | \$ 9,627          | \$ 0                    | \$ 2,608        | \$ 7,019         | \$ (5,132)         | \$ (6,393)              | \$ (3,845)        | \$ (7,681)         |  |
| Trial Courts   | 282               | 0                       | 141             | 141              | (3,249)            | (1,573)                 | (1,278)           | (3,544)            |  |
| Unified School District  | 5,564             | 5,253                   | 3,354           | 7,462            | (3,419)            | 0                       | (855)             | (2,564)            |  |
| Community College District   | 2,154             | 2,714                   | 1,620           | 3,248            | (5,827)            | 0                       | (1,746)           | (4,081)            |  |
| <b>Total</b>   | <b>\$ 17,626</b>  | <b>\$ 7,966</b>         | <b>\$ 7,723</b> | <b>\$ 17,870</b> | <b>\$ (17,626)</b> | <b>\$ (7,966)</b>       | <b>\$ (7,723)</b> | <b>\$ (17,870)</b> |  |

*Amounts in Thousands*

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**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.

| <b>Table VII-5</b>   |                          |                   |                    |                  |                  |                         |                   |                    |                  |                  |
|--|--------------------------|-------------------|--------------------|------------------|------------------|-------------------------|-------------------|--------------------|------------------|------------------|
| <b>Reconciliation of Deferred Outflows and Inflows Due to Contribution Differences</b> |                          |                   |                    |                  |                  |                         |                   |                    |                  |                  |
| <b>Employer</b>  | <b>Deferred Outflows</b> |                   |                    |                  |                  | <b>Deferred Inflows</b> |                   |                    |                  |                  |
|  | <b>Current</b>           |                   | <b>Recognition</b> | <b>6/30/2017</b> | <b>6/30/2016</b> | <b>Current</b>          |                   | <b>Recognition</b> | <b>6/30/2017</b> | <b>6/30/2016</b> |
|  | <b>Year</b>              | <b>Difference</b> |                    |                  |                  | <b>Year</b>             | <b>Difference</b> |                    |                  |                  |
|  | <b>6/30/2016</b>         |                   |                    |                  |                  |                         |                   |                    |                  |                  |
| City and County  | \$ 0                     | \$ 0              | \$ 0               | \$ 0             | \$ 0             | \$ 0                    | \$ 0              | \$ 0               | \$ 0             |                  |
| Trial Courts   | 0                        | 0                 | 0                  | 0                | 0                | 0                       | 0                 | 0                  | 0                |                  |
| Unified School District  | 0                        | 0                 | 0                  | 0                | 0                | 0                       | 0                 | 0                  | 0                |                  |
| Community College District   | 0                        | 0                 | 0                  | 0                | 0                | 0                       | 0                 | 0                  | 0                |                  |
| <b>Total</b>   | <b>\$ 0</b>              | <b>\$ 0</b>       | <b>\$ 0</b>        | <b>\$ 0</b>      | <b>\$ 0</b>      | <b>\$ 0</b>             | <b>\$ 0</b>       | <b>\$ 0</b>        | <b>\$ 0</b>      |                  |

*Amounts in Thousands*

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**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.

| <b>Table VII-6<br/>Schedule of Employers' Deferred Outflows at June 30, 2017</b> |                                 |                   |                               |                              |                              |                                    |  |
|--|---------------------------------|-------------------|-------------------------------|------------------------------|------------------------------|------------------------------------|--|
| <b>Employer</b>  | <b>Proportionate<br/>Shares</b> | <b>Experience</b> | <b>Assumption<br/>Changes</b> | <b>Investment<br/>Return</b> | <b>Proportion<br/>Change</b> | <b>Contribution<br/>Difference</b> |  |
| City and County  | 94.0674%                        | \$ 43,581         | \$ 761,633                    | \$ 0                         | \$ 7,019                     | \$ 0                               |  |
| Trial Courts   | 1.2992%                         | 602               | 10,520                        | 0                            | 141                          | 0                                  |  |
| Unified School District  | 3.0930%                         | 1,433             | 25,043                        | 0                            | 7,462                        | 0                                  |  |
| Community College District   | 1.5403%                         | 714               | 12,471                        | 0                            | 3,248                        | 0                                  |  |
| <b>Total</b>   | <b>100.0000%</b>                | <b>\$ 46,329</b>  | <b>\$ 809,667</b>             | <b>\$ 0</b>                  | <b>\$ 17,870</b>             | <b>\$ 0</b>                        |  |

*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.

| <b>Table VII-7<br/>Schedule of Employers' Deferred Inflows at June 30, 2017</b> |                                 |                   |                               |                              |                              |                                    |  |
|---|---------------------------------|-------------------|-------------------------------|------------------------------|------------------------------|------------------------------------|--|
| <b>Employer</b>   | <b>Proportionate<br/>Shares</b> | <b>Experience</b> | <b>Assumption<br/>Changes</b> | <b>Investment<br/>Return</b> | <b>Proportion<br/>Change</b> | <b>Contribution<br/>Difference</b> |  |
| City and County   | 94.0674%                        | \$ 141,811        | \$ 13,793                     | \$ 175,222                   | \$ 7,681                     | \$ 0                               |  |
| Trial Courts  | 1.2992%                         | 1,959             | 191                           | 2,420                        | 3,544                        | 0                                  |  |
| Unified School District   | 3.0930%                         | 4,663             | 454                           | 5,761                        | 2,564                        | 0                                  |  |
| Community College District  | 1.5403%                         | 2,322             | 226                           | 2,869                        | 4,081                        | 0                                  |  |
| <b>Total</b>  | <b>100.0000%</b>                | <b>\$ 150,754</b> | <b>\$ 14,663</b>              | <b>\$ 186,273</b>            | <b>\$ 17,870</b>             | <b>\$ 0</b>                        |  |

*Amounts in Thousands*



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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.

| <b>Table VII-8</b>  |  |                   |                   |                     |             |                   |
|---|--|-------------------|-------------------|---------------------|-------------|-------------------|
| <b>Schedule of Employers' Recognition of Deferred Outflows and Inflows at June 30, 2017</b> |  |                   |                   |                     |             |                   |
| <b>Employer</b>   | <b>Recognition for Measurement Year Ending</b> |                   |                   |                     |             |                   |
|   | <b>2018</b>                                    | <b>2019</b>       | <b>2020</b>       | <b>2021</b>         | <b>2022</b> | <b>Thereafter</b> |
| City and County   | \$ 21,777                                      | \$ 394,815        | \$ 250,765        | \$ (193,630)        | \$ 0        | \$ 0              |
| Trial Courts  | (820)  | 4,156             | 2,784             | (2,971)             | 0           | 0                 |
| Unified School District   | 3,256  | 14,090            | 8,424             | (5,274)             | 0           | 0                 |
| Community College District  | 251  | 5,240             | 4,050             | (2,607)             | 0           | 0                 |
| <b>Total</b>  | <b>\$ 24,465</b>                               | <b>\$ 418,301</b> | <b>\$ 266,022</b> | <b>\$ (204,483)</b> | <b>\$ 0</b> | <b>\$ 0</b>       |

*Amounts in Thousands*

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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<br>Schedule of Employers' Pension Expense for the Measurement Year Ending June 30, 2017 |                    |                         |                            |                                |                          |                      |                     |                           |                                |
|---|--------------------|-------------------------|----------------------------|--------------------------------|--------------------------|----------------------|---------------------|---------------------------|--------------------------------|
| Employer  | Collective         |                         |                            | Employer<br>Pension<br>Expense | Change in Employer       |                      |                     | Employer<br>Contributions | Employer<br>Pension<br>Expense |
|   | Pension<br>Expense | Change in<br>Proportion | Contribution<br>Difference |                                | Net Pension<br>Liability | Deferred<br>Outflows | Deferred<br>Inflows |                           |                                |
| City and County   | \$ 733,044         | \$ (1,236)              | \$ 0                       | \$ 731,808                     | \$ (779,522)             | \$ 888,330           | \$ 103,926          | \$ 519,073                | \$ 731,808                     |
| Trial Courts  | 10,125             | (1,137)                 | 0                          | 8,987                          | (12,792)                 | 13,000               | 1,610               | 7,169                     | 8,987                          |
| Unified School District   | 24,103             | 2,500                   | 0                          | 26,603                         | (18,180)                 | 24,924               | 2,791               | 17,068                    | 26,603                         |
| Community College District  | 12,003             | (126)                   | 0                          | 11,877                         | (8,920)                  | 12,222               | 75                  | 8,500                     | 11,877                         |
| <b>Total</b>  | <b>\$ 779,275</b>  | <b>\$ 0</b>             | <b>\$ 0</b>                | <b>\$ 779,275</b>              | <b>\$ (819,413)</b>      | <b>\$ 938,476</b>    | <b>\$ 108,403</b>   | <b>\$ 551,810</b>         | <b>\$ 779,275</b>              |

*Amounts in Thousands*

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

| Table VII-10<br>Schedule of Employers' RSI Information at June 30, 2017 |                         |                               |                     |                                      |   |   |                         |                            |                                       |
|---|-------------------------|-------------------------------|---------------------|--------------------------------------|---|---|-------------------------|----------------------------|---------------------------------------|
| Employer  | Proportionate<br>Shares | Proportionate<br>Share of NPL | Covered<br>Payroll  | Share of NPL<br>as a % of<br>Payroll | Plan Fiduciary<br>Net Position as<br>% of TPL | Contractually<br>Required<br>Contribution | Actual<br>Contributions | Contribution<br>Deficiency | Contributions<br>as a % of<br>Payroll |
| City and County   | 94.0674%                | \$ 4,697,131                  | \$ 2,880,112        | 163.1%                               | 81.8%   | \$ 519,073                                | \$ 519,073              | \$ 0                       | 18.0%                                 |
| Trial Courts  | 1.2992%                 | 64,876                        | 39,406              | 164.6%                               | 81.8%   | 7,169                                     | 7,169                   | 0                          | 18.2%                                 |
| Unified School District   | 3.0930%                 | 154,445                       | 79,404              | 194.5%                               | 81.8%   | 17,068                                    | 17,068                  | 0                          | 21.5%                                 |
| Community College District  | 1.5403%                 | 76,913                        | 42,895              | 179.3%                               | 81.8%   | 8,500                                     | 8,500                   | 0                          | 19.8%                                 |
| <b>Total</b>  | <b>100.0000%</b>        | <b>\$ 4,993,365</b>           | <b>\$ 3,041,818</b> | <b>164.2%</b>                        | <b>81.8%</b>                                  | <b>\$ 551,810</b>                         | <b>\$ 551,810</b>       | <b>\$ 0</b>                | <b>18.1%</b>                          |



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

| <b>Table A-1</b>                     |                     |                     |                 |
|--------------------------------------|---------------------|---------------------|-----------------|
| <b>Active Member Data - By Group</b> |                     |                     |                 |
|                                      | <b>July 1, 2016</b> | <b>July 1, 2015</b> | <b>% Change</b> |
| <b>Total</b>                         |                     |                     |                 |
| Count                                | 32,406              | 30,837              | 5.1%            |
| Average Current Age                  | 46.9                | 47.4                | -0.5            |
| Average Service                      | 11.1                | 11.6                | -0.5            |
| Annual Pensionable Earnings* \$      | 2,902,722,369       | \$ 2,700,739,913    | 7.5%            |
| Average Pensionable Earnings \$      | 89,574              | \$ 87,581           | 2.3%            |
| <b>Police</b>                        |                     |                     |                 |
| Count                                | 2,223               | 2,118               | 5.0%            |
| Average Current Age                  | 41.3                | 41.8                | -0.5            |
| Average Service                      | 12.6                | 13.1                | -0.5            |
| Annual Pensionable Earnings* \$      | 267,454,223         | \$ 254,388,969      | 5.1%            |
| Average Pensionable Earnings \$      | 120,312             | \$ 120,108          | 0.2%            |
| <b>Fire</b>                          |                     |                     |                 |
| Count                                | 1,560               | 1,486               | 5.0%            |
| Average Current Age                  | 44.6                | 44.9                | -0.3            |
| Average Service                      | 14.0                | 14.4                | -0.4            |
| Annual Pensionable Earnings* \$      | 195,298,648         | \$ 187,030,689      | 4.4%            |
| Average Pensionable Earnings \$      | 125,191             | \$ 125,862          | -0.5%           |
| <b>Miscellaneous</b>                 |                     |                     |                 |
| Count                                | 28,623              | 27,233              | 5.1%            |
| Average Current Age                  | 47.5                | 47.9                | -0.4            |
| Average Service                      | 10.8                | 11.3                | -0.5            |
| Annual Pensionable Earnings* \$      | 2,439,969,498       | \$ 2,259,320,255    | 8.0%            |
| Average Pensionable Earnings \$      | 85,245              | \$ 82,963           | 2.8%            |

\* Fiscal Year ending June 30, 2015 and June 30, 2014, excludes DROP members

| <b>Table A-3</b>                              |                     |                     |            |
|---|---------------------|---------------------|------------|
| <b>Active DROP Member Data - Total System</b> |                     |                     |            |
|   | <b>July 1, 2016</b> | <b>July 1, 2015</b> |            |
| <b>Total Active DROP</b>                      |                     |                     |            |
| Count   |                     | 0                   | 2          |
| Average Current Age                           |                     |                     | 59.5       |
| Total Annual Benefit*                         | \$                  | 0                   | \$ 207,068 |
| Average Annual Benefit                        | \$                  | 0                   | \$ 103,534 |
| Total DROP Account Balance                    | \$                  | 0                   | \$ 423,995 |

\* Benefits provided in June 30, valuation data.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

| <b>Table A-4</b>                             |                     |                     |               |
|--|---------------------|---------------------|---------------|
| <b>Non-Active Member Data - Total System</b> |                     |                     |               |
|  | <b>July 1, 2016</b> | <b>July 1, 2015</b> | <b>Change</b> |
| <b>Retired</b>                               |                     |                     |               |
| Count  | 21,761              | 21,029              | 3.5%          |
| Average Age                                  | 70.3                | 70.1                | 0.2           |
| Total Annual Benefit*                        | \$ 969,672,532      | \$ 894,343,016      | 8.4%          |
| Average Annual Benefit                       | \$ 44,560           | \$ 42,529           | 4.8%          |
| <b>Disabled</b>                              |                     |                     |               |
| Count  | 2,593               | 2,612               | -0.7%         |
| Average Age                                  | 68.6                | 68.3                | 0.3           |
| Total Annual Benefit*                        | \$ 154,169,480      | \$ 147,219,197      | 4.7%          |
| Average Annual Benefit                       | \$ 59,456           | \$ 56,363           | 5.5%          |
| <b>Beneficiaries</b>                         |                     |                     |               |
| Count  | 3,932               | 3,844               | 2.3%          |
| Average Age                                  | 77.4                | 77.3                | 0.1           |
| Total Annual Benefit*                        | \$ 123,388,233      | \$ 115,519,467      | 6.8%          |
| Average Annual Benefit                       | \$ 31,381           | \$ 30,052           | 4.4%          |
| <b>Payee Total</b>                           |                     |                     |               |
| Count  | 28,286              | 27,485              | 2.9%          |
| Average Age                                  | 71.1                | 70.9                | 0.2           |
| Total Annual Benefit*                        | \$ 1,247,230,245    | \$ 1,157,081,680    | 7.8%          |
| Average Annual Benefit                       | \$ 44,094           | \$ 42,099           | 4.7%          |
| <b>Inactives</b>                             |                     |                     |               |
| Count  | 7,645               | 7,092               | 7.8%          |
| Average Age                                  | 47.7                | 48.0                | -0.3          |
| Total Contribution Balance with Interest     | \$ 213,978,231      | \$ 205,789,703      | 4.0%          |
| Average Contribution Balance with Interest   | \$ 27,989           | \$ 29,017           | -3.5%         |

\* Benefits provided in June 30, valuation data

Please refer to the July 1, 2016 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, 2017 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, 2017 is provided below, including any assumptions that differ from those used in the July 1, 2016 actuarial valuation. Please refer to the July 1, 2016 actuarial valuation report for a complete description of all other assumptions.

**Key Actuarial Assumptions**

**Expected Return on Assets** 7.50 percent net of investment expenses

**Municipal Bond Yield** 2.85 percent as of June 30, 2016  
3.58 percent as of June 30, 2017  
Bond Buyer 20-Bond GO Index, June 30, 2016 and June 29, 2017

**Discount Rate** 7.50 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%                               | 2.70%                                     | 3.30%   | 4.40%   |

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 MEASUREMENT DATE**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**Supplemental COLA: Before 96 or After Prop C Group**

| July 1, | June 30, 2016                       |   | June 30, 2017                       |   |   |
|---------|-------------------------------------|---|-------------------------------------|---|---|
|         | Old Miscellaneous and all New Plans | Old Police & Fire, pre 7/1/75 Retirements | Old Miscellaneous and all New Plans | Old Police & Fire, pre 7/1/75 Retirements | Old Police & Fire A8.595, A8.596, Retirements |
| 2017    | 0.000%                              | 0.000%                                    | 0.000%                              | 0.000%                                    | 0.000%  |
| 2018    | 0.000%                              | 0.000%                                    | 0.000%                              | 0.000%                                    | 0.000%  |
| 2019    | 0.060%                              | 0.032%                                    | 0.113%                              | 0.060%                                    | 0.020%  |
| 2020    | 0.112%                              | 0.060%                                    | 0.188%                              | 0.100%                                    | 0.030%  |
| 2021    | 0.152%                              | 0.081%                                    | 0.229%                              | 0.120%                                    | 0.030%  |
| 2022    | 0.186%                              | 0.099%                                    | 0.278%                              | 0.150%                                    | 0.040%  |
| 2023    | 0.220%                              | 0.117%                                    | 0.294%                              | 0.160%                                    | 0.040%  |
| 2024    | 0.247%                              | 0.132%                                    | 0.310%                              | 0.170%                                    | 0.040%  |
| 2025    | 0.270%                              | 0.144%                                    | 0.327%                              | 0.170%                                    | 0.040%  |
| 2026    | 0.290%                              | 0.155%                                    | 0.332%                              | 0.180%                                    | 0.040%  |
| 2027    | 0.307%                              | 0.164%                                    | 0.335%                              | 0.180%                                    | 0.040%  |
| 2028    | 0.322%                              | 0.172%                                    | 0.345%                              | 0.180%                                    | 0.050%  |
| 2029    | 0.335%                              | 0.179%                                    | 0.362%                              | 0.190%                                    | 0.050%  |
| 2030    | 0.346%                              | 0.185%                                    | 0.362%                              | 0.190%                                    | 0.050%  |
| 2031    | 0.355%                              | 0.189%                                    | 0.368%                              | 0.200%                                    | 0.050%  |
| 2032    | 0.363%                              | 0.194%                                    | 0.375%                              | 0.200%                                    | 0.050%  |
| 2033    | 0.370%                              | 0.197%                                    | 0.375%                              | 0.200%                                    | 0.050%  |
| 2034    | 0.375%                              | 0.200%                                    | 0.375%                              | 0.200%                                    | 0.050%  |
| 2035+   | 0.375%                              | 0.200%                                    | 0.375%                              | 0.200%                                    | 0.050%  |

**96 – Prop C:** June 30, 2016 – Old Misc. and New Plans - 0.75%; Old Safety Plans –  $\frac{1}{2}$  x (3.5% less assumed Basic COLA), not less than zero  
 June 30, 2017 – Old Misc. and New Plans - 1.5% for July 1, 2017; 0.75% thereafter  
 Old Safety Plans – For July 1, 2017, (3.5% less assumed Basic COLA), not less than zero; After 2017 –  $\frac{1}{2}$  x (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 3.75% a year.

| Source   | Method  |
|--|---|
| Charter amendments   | 15-year closed for active members and 5-year closed for inactive members effective July 1, 2014<br>20-year closed for amortizations established prior to July 1, 2014 |
| Actuarial gains and losses, assumption, and method changes | 20-year closed<br>Remaining portion of 2013 amortization is re-amortized over 19 years as of July 1, 2014   |
| Supplemental COLAs   | 5-year closed<br>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, 2017 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  
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**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

The plan provisions are the same as those summarized in the July 1, 2016 actuarial valuation report.

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 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 |
|-------|--|--|------------------|--------------------------|----------------------------|-------------------------------|---|--------------------------------------|--|
| 2018* | \$ 22,309,046                              | \$ 572,355                                       | \$ 378,430       | \$ 16,898                | \$ 1,406,583               | \$ 1,651,372                  | \$ 23,487,721                           | \$ 1,406,583                         | \$ 0                                   |
| 2019  | 23,487,721                                 | 557,385  | 434,726          | 16,420                   | 1,491,932                  | 1,737,902                     | 24,709,382                              | 1,491,932                            | 0                                      |
| 2020  | 24,709,382                                 | 542,786  | 475,626          | 15,967                   | 1,578,503                  | 1,827,053                     | 25,960,377                              | 1,578,503                            | 0                                      |
| 2021  | 25,960,377                                 | 526,611  | 556,061          | 15,488                   | 1,669,489                  | 1,919,626                     | 27,277,698                              | 1,669,489                            | 0                                      |
| 2022  | 27,277,698                                 | 509,519  | 565,767          | 15,000                   | 1,764,898                  | 2,014,360                     | 28,587,446                              | 1,764,898                            | 0                                      |
| 2023  | 28,587,446                                 | 491,472  | 531,707          | 14,491                   | 1,865,187                  | 2,106,684                     | 29,837,632                              | 1,865,187                            | 0                                      |
| 2024  | 29,837,632                                 | 472,943  | 476,335          | 13,972                   | 1,966,173                  | 2,193,711                     | 31,000,476                              | 1,966,173                            | 0                                      |
| 2025  | 31,000,476                                 | 453,605  | 491,380          | 13,438                   | 2,068,344                  | 2,276,704                     | 32,140,382                              | 2,068,344                            | 0                                      |
| 2026  | 32,140,382                                 | 433,179  | 520,010          | 12,884                   | 2,172,282                  | 2,358,368                     | 33,266,771                              | 2,172,282                            | 0                                      |
| 2027  | 33,266,771                                 | 412,174  | 537,335          | 12,318                   | 2,277,131                  | 2,438,543                     | 34,365,375                              | 2,277,131                            | 0                                      |
| 2028  | 34,365,375                                 | 391,735  | 557,706          | 11,760                   | 2,381,013                  | 2,516,806                     | 35,438,848                              | 2,381,013                            | 0                                      |
| 2029  | 35,438,848                                 | 371,908  | 579,344          | 11,212                   | 2,482,382                  | 2,593,354                     | 36,489,861                              | 2,482,382                            | 0                                      |
| 2030  | 36,489,861                                 | 352,598  | 480,250          | 10,671                   | 2,582,267                  | 2,663,849                     | 37,393,620                              | 2,582,267                            | 0                                      |
| 2031  | 37,393,620                                 | 333,320  | 489,327          | 10,123                   | 2,680,771                  | 2,727,341                     | 38,252,713                              | 2,680,771                            | 0                                      |
| 2032  | 38,252,713                                 | 314,374  | 506,562          | 9,580                    | 2,777,597                  | 2,787,861                     | 39,074,333                              | 2,777,597                            | 0                                      |
| 2033  | 39,074,333                                 | 295,315  | 524,115          | 9,035                    | 2,872,160                  | 2,845,669                     | 39,858,237                              | 2,872,160                            | 0                                      |
| 2034  | 39,858,237                                 | 275,888  | 541,571          | 8,483                    | 2,964,478                  | 2,900,722                     | 40,603,457                              | 2,964,478                            | 0                                      |
| 2035  | 40,603,457                                 | 256,519  | 105,197          | 7,934                    | 3,053,319                  | 2,936,303                     | 40,840,223                              | 3,053,319                            | 0                                      |
| 2036  | 40,840,223                                 | 237,414  | (9,802)          | 7,388                    | 3,138,215                  | 2,945,751                     | 40,867,983                              | 3,138,215                            | 0                                      |
| 2037  | 40,867,983                                 | 218,134  | 101,124          | 6,837                    | 3,220,320                  | 2,947,947                     | 40,908,031                              | 3,220,320                            | 0                                      |
| 2038  | 40,908,031                                 | 198,308  | 105,322          | 6,273                    | 3,300,109                  | 2,947,209                     | 40,852,489                              | 3,300,109                            | 0                                      |
| 2039  | 40,852,489                                 | 177,628  | 153,095          | 5,688                    | 3,378,076                  | 2,940,947                     | 40,740,396                              | 3,378,076                            | 0                                      |
| 2040  | 40,740,396                                 | 156,979  | 191,285          | 5,105                    | 3,450,383                  | 2,930,319                     | 40,563,491                              | 3,450,383                            | 0                                      |
| 2041  | 40,563,491                                 | 137,089  | 170,143          | 4,541                    | 3,515,771                  | 2,912,949                     | 40,263,360                              | 3,515,771                            | 0                                      |
| 2042  | 40,263,360                                 | 118,061  | 156,314          | 3,992                    | 3,572,315                  | 2,886,990                     | 39,848,419                              | 3,572,315                            | 0                                      |

\* Fiduciary Net Position based on Chief Investment Officer's Report at the July 12, 2017 Board Meeting

Amounts in Thousands



**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 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 |
|------|--|--|------------------|--------------------------|----------------------------|-------------------------------|---|--------------------------------------|--|
| 2043 | \$ 39,848,419                              | \$ 100,021                                       | \$ 196,408       | \$ 3,461                 | \$ 3,621,417               | \$ 2,854,739                  | \$ 39,374,709                           | \$ 3,621,417                         | \$ 0                                   |
| 2044 | 39,374,709                                 | 83,038   | 210,851          | 2,952                    | 3,662,539                  | 2,817,494                     | 38,820,600                              | 3,662,539                            | 0                                      |
| 2045 | 38,820,600                                 | 67,430   | 224,706          | 2,477                    | 3,693,459                  | 2,774,653                     | 38,191,453                              | 3,693,459                            | 0                                      |
| 2046 | 38,191,453                                 | 53,196   | 225,954          | 2,032                    | 3,715,233                  | 2,726,135                     | 37,479,473                              | 3,715,233                            | 0                                      |
| 2047 | 37,479,473                                 | 40,607   | 222,738          | 1,624                    | 3,727,117                  | 2,671,695                     | 36,685,772                              | 3,727,117                            | 0                                      |
| 2048 | 36,685,772                                 | 30,444   | 219,448          | 1,276                    | 3,725,803                  | 2,611,737                     | 35,820,321                              | 3,725,803                            | 0                                      |
| 2049 | 35,820,321                                 | 22,684   | 214,545          | 994                      | 3,711,305                  | 2,546,952                     | 34,892,203                              | 3,711,305                            | 0                                      |
| 2050 | 34,892,203                                 | 16,803   | 208,165          | 767                      | 3,685,407                  | 2,477,935                     | 33,908,932                              | 3,685,407                            | 0                                      |
| 2051 | 33,908,932                                 | 12,314   | 219,199          | 584                      | 3,649,774                  | 2,405,861                     | 32,895,947                              | 3,649,774                            | 0                                      |
| 2052 | 32,895,947                                 | 8,961  | 213,317          | 438                      | 3,605,226                  | 2,331,332                     | 31,843,893                              | 3,605,226                            | 0                                      |
| 2053 | 31,843,893                                 | 6,440  | 203,986          | 324                      | 3,552,935                  | 2,254,085                     | 30,755,145                              | 3,552,935                            | 0                                      |
| 2054 | 30,755,145                                 | 4,542  | 193,776          | 234                      | 3,493,835                  | 2,174,347                     | 29,633,740                              | 3,493,835                            | 0                                      |
| 2055 | 29,633,740                                 | 3,137  | 183,240          | 165                      | 3,428,508                  | 2,092,415                     | 28,483,859                              | 3,428,508                            | 0                                      |
| 2056 | 28,483,859                                 | 2,108  | 242,427          | 113                      | 3,357,563                  | 2,011,151                     | 27,381,870                              | 3,357,563                            | 0                                      |
| 2057 | 27,381,870                                 | 1,390  | 254,543          | 76                       | 3,281,404                  | 1,931,966                     | 26,288,289                              | 3,281,404                            | 0                                      |
| 2058 | 26,288,289                                 | 877  | 227,310          | 49                       | 3,200,666                  | 1,852,152                     | 25,167,914                              | 3,200,666                            | 0                                      |
| 2059 | 25,167,914                                 | 527  | 214,015          | 30                       | 3,115,636                  | 1,771,019                     | 24,037,810                              | 3,115,636                            | 0                                      |
| 2060 | 24,037,810                                 | 315  | 194,982          | 18                       | 3,026,550                  | 1,689,112                     | 22,895,651                              | 3,026,550                            | 0                                      |
| 2061 | 22,895,651                                 | 177  | 177,213          | 10                       | 2,933,898                  | 1,606,493                     | 21,745,626                              | 2,933,898                            | 0                                      |
| 2062 | 21,745,626                                 | 84   | 168,917          | 5                        | 2,837,995                  | 1,523,764                     | 20,600,390                              | 2,837,995                            | 0                                      |
| 2063 | 20,600,390                                 | 39   | 160,131          | 2                        | 2,738,989                  | 1,441,501                     | 19,463,070                              | 2,738,989                            | 0                                      |
| 2064 | 19,463,070                                 | 18   | 142,988          | 1                        | 2,637,225                  | 1,359,636                     | 18,328,486                              | 2,637,225                            | 0                                      |
| 2065 | 18,328,486                                 | 7  | 129,513          | 0                        | 2,533,010                  | 1,278,209                     | 17,203,205                              | 2,533,010                            | 0                                      |
| 2066 | 17,203,205                                 | 2  | 116,648          | 0                        | 2,426,603                  | 1,197,590                     | 16,090,842                              | 2,426,603                            | 0                                      |
| 2067 | 16,090,842                                 | 0  | 106,038          | 0                        | 2,318,296                  | 1,118,099                     | 14,996,684                              | 2,318,296                            | 0                                      |

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 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 |
|------|--|--|------------------|--------------------------|----------------------------|-------------------------------|---|--------------------------------------|--|
| 2068 | \$ 14,996,684                              | \$ 0   | \$ 96,511        | \$ 0                     | \$ 2,208,403               | \$ 1,040,077                  | \$ 13,924,869                           | \$ 2,208,403                         | \$ 0                                   |
| 2069 | 13,924,869                                 | 0  | 87,303           | 0                        | 2,097,249                  | 963,792                       | 12,878,716                              | 2,097,249                            | 0                                      |
| 2070 | 12,878,716                                 | 0  | 78,620           | 0                        | 1,985,179                  | 889,489                       | 11,861,646                              | 1,985,179                            | 0                                      |
| 2071 | 11,861,646                                 | 0  | 70,474           | 0                        | 1,872,547                  | 817,408                       | 10,876,982                              | 1,872,547                            | 0                                      |
| 2072 | 10,876,982                                 | 0  | 59,975           | 0                        | 1,759,722                  | 747,679                       | 9,924,914                               | 1,759,722                            | 0                                      |
| 2073 | 9,924,914                                  | 0  | 52,320           | 0                        | 1,647,089                  | 680,492                       | 9,010,637                               | 1,647,089                            | 0                                      |
| 2074 | 9,010,637                                  | 0  | 45,754           | 0                        | 1,535,056                  | 616,155                       | 8,137,491                               | 1,535,056                            | 0                                      |
| 2075 | 8,137,491                                  | 0  | 39,748           | 0                        | 1,424,081                  | 554,882                       | 7,308,040                               | 1,424,081                            | 0                                      |
| 2076 | 7,308,040                                  | 0  | 34,186           | 0                        | 1,314,639                  | 496,841                       | 6,524,428                               | 1,314,639                            | 0                                      |
| 2077 | 6,524,428                                  | 0  | 18,286           | 0                        | 1,207,201                  | 441,776                       | 5,777,290                               | 1,207,201                            | 0                                      |
| 2078 | 5,777,290                                  | 0  | 9,655            | 0                        | 1,102,242                  | 389,616                       | 5,074,319                               | 1,102,242                            | 0                                      |
| 2079 | 5,074,319                                  | 0  | 8,184            | 0                        | 1,000,246                  | 340,914                       | 4,423,172                               | 1,000,246                            | 0                                      |
| 2080 | 4,423,172                                  | 0  | 5,424            | 0                        | 901,684                    | 295,914                       | 3,822,826                               | 901,684                              | 0                                      |
| 2081 | 3,822,826                                  | 0  | 3,844            | 0                        | 807,021                    | 254,612                       | 3,274,261                               | 807,021                              | 0                                      |
| 2082 | 3,274,261                                  | 0  | 2,517            | 0                        | 716,683                    | 217,030                       | 2,777,125                               | 716,683                              | 0                                      |
| 2083 | 2,777,125                                  | 0  | 109              | 0                        | 631,075                    | 183,076                       | 2,329,235                               | 631,075                              | 0                                      |
| 2084 | 2,329,235                                  | 0  | (1,898)          | 0                        | 550,603                    | 152,626                       | 1,929,360                               | 550,603                              | 0                                      |
| 2085 | 1,929,360                                  | 0  | (2,193)          | 0                        | 475,627                    | 125,619                       | 1,577,159                               | 475,627                              | 0                                      |
| 2086 | 1,577,159                                  | 0  | (2,596)          | 0                        | 406,445                    | 101,953                       | 1,270,072                               | 406,445                              | 0                                      |
| 2087 | 1,270,072                                  | 0  | (2,771)          | 0                        | 343,286                    | 81,439                        | 1,005,454                               | 343,286                              | 0                                      |
| 2088 | 1,005,454                                  | 0  | (2,964)          | 0                        | 286,293                    | 63,862                        | 780,059                                 | 286,293                              | 0                                      |
| 2089 | 780,059                                    | 0  | (3,025)          | 0                        | 235,515                    | 48,984                        | 590,502                                 | 235,515                              | 0                                      |
| 2090 | 590,502                                    | 0  | (2,845)          | 0                        | 190,903                    | 36,556                        | 433,309                                 | 190,903                              | 0                                      |
| 2091 | 433,309                                    | 0  | (2,475)          | 0                        | 152,310                    | 26,322                        | 304,847                                 | 152,310                              | 0                                      |
| 2092 | 304,847                                    | 0  | (1,948)          | 0                        | 119,473                    | 18,019                        | 201,444                                 | 119,473                              | 0                                      |

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 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 |
|------|--|--|------------------|--------------------------|----------------------------|-------------------------------|---|--------------------------------------|--|
| 2093 | 201,444                                    | 0  | (850)            | 0                        | 92,023                     | 11,401                        | 119,972                                 | 92,023                               | 0                                      |
| 2094 | 119,972                                    | 0  | 4                | 0                        | 69,499                     | 6,221                         | 56,698                                  | 69,499                               | 0                                      |
| 2095 | 56,698                                     | 0  | 805              | 0                        | 51,390                     | 2,229                         | 8,342                                   | 51,390                               | 0                                      |
| 2096 | 8,342                                      | 0  | 1,627            | 0                        | 37,154                     | (799)                         | (27,984)                                | 8,342                                | 28,812                                 |
| 2097 | (27,984)                                   | 0  | 2,468            | 0                        | 26,232                     | (3,056)                       | (54,804)                                | 0                                    | 26,232                                 |
| 2098 | (54,804)                                   | 0  | 4,965            | 0                        | 18,066                     | (4,649)                       | (72,555)                                | 0                                    | 18,066                                 |
| 2099 | (72,555)                                   | 0  | 6,445            | 0                        | 12,129                     | (5,689)                       | (83,927)                                | 0                                    | 12,129                                 |
| 2100 | (83,927)                                   | 0  | 6,744            | 0                        | 7,934                      | (6,363)                       | (91,480)                                | 0                                    | 7,934                                  |
| 2101 | (91,480)                                   | 0  | 7,178            | 0                        | 5,063                      | (6,799)                       | (96,163)                                | 0                                    | 5,063                                  |
| 2102 | (96,163)                                   | 0  | 7,447            | 0                        | 3,166                      | (7,065)                       | (98,947)                                | 0                                    | 3,166                                  |
| 2103 | (98,947)                                   | 0  | 7,669            | 0                        | 1,958                      | (7,217)                       | (100,454)                               | 0                                    | 1,958                                  |
| 2104 | (100,454)                                  | 0  | 8,053            | 0                        | 1,217                      | (7,286)                       | (100,905)                               | 0                                    | 1,217                                  |
| 2105 | (100,905)                                  | 0  | 8,375            | 0                        | 777                        | (7,291)                       | (100,598)                               | 0                                    | 777                                    |
| 2106 | (100,598)                                  | 0  | 8,417            | 0                        | 521                        | (7,256)                       | (99,958)                                | 0                                    | 521                                    |
| 2107 | (99,958)                                   | 0  | 8,449            | 0                        | 372                        | (7,201)                       | (99,081)                                | 0                                    | 372                                    |
| 2108 | (99,081)                                   | 0  | 8,441            | 0                        | 283                        | (7,132)                       | (98,056)                                | 0                                    | 283                                    |
| 2109 | (98,056)                                   | 0  | 8,428            | 0                        | 227                        | (7,053)                       | (96,908)                                | 0                                    | 227                                    |
| 2110 | (96,908)                                   | 0  | 8,390            | 0                        | 188                        | (6,967)                       | (95,673)                                | 0                                    | 188                                    |
| 2111 | (95,673)                                   | 0  | 8,310            | 0                        | 158                        | (6,876)                       | (94,397)                                | 0                                    | 158                                    |
| 2112 | (94,397)                                   | 0  | 8,197            | 0                        | 134                        | (6,783)                       | (93,118)                                | 0                                    | 134                                    |
| 2113 | (93,118)                                   | 0  | 8,057            | 0                        | 113                        | (6,692)                       | (91,867)                                | 0                                    | 113                                    |
| 2114 | (91,867)                                   | 0  | 7,828            | 0                        | 94                         | (6,606)                       | (90,738)                                | 0                                    | 94                                     |
| 2115 | (90,738)                                   | 0  | 7,636            | 0                        | 77                         | (6,527)                       | (89,707)                                | 0                                    | 77                                     |
| 2116 | (89,707)                                   | 0  | 7,458            | 0                        | 62                         | (6,456)                       | (88,767)                                | 0                                    | 62                                     |
| 2117 | (88,767)                                   | 0  | 7,282            | 0                        | 48                         | (6,391)                       | (87,925)                                | 0                                    | 48                                     |

*Amounts in Thousands*

**CITY AND COUNTY OF SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2017 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 |            |
|------|--|--|------------------|--------------------------|----------------------------|-------------------------------|---|--------------------------------------|--|------------|
| 2118 | (87,925)                                   | 0  | 7,107            | 0                        | 12                         | (6,333)                       | (87,163)                                | 0                                    | 12                                     |            |
| 2119 | (87,163)                                   | 0  | 6,681            | 0                        | 3                          | (6,291)                       | (86,777)                                | 0                                    | 3                                      |            |
| 2120 | (86,777)                                   | 0  | 6,218            | 0                        | 1                          | (6,279)                       | (86,839)                                | 0                                    | 1                                      |            |
| 2121 | (86,839)                                   | 0  | 5,938            | 0                        | 0                          | (6,294)                       | (87,195)                                | 0                                    | 0                                      |            |
| 2122 | (87,195)                                   | 0  | 5,630            | 0                        | 0                          | (6,332)                       | (87,898)                                | 0                                    | 0                                      |            |
|      |  |  |                  |                          |                            |                               |   | Discount Rate:                       | 7.50%                                  | 3.58%      |
|      |  |  |                  |                          |                            |                               |   | Present Value: \$                    | 32,480,591                             | \$ 6,325   |
|      |  |  |                  |                          |                            |                               |   | Total Present Value:                 | \$                                     | 32,486,916 |
|      |  |  |                  |                          |                            |                               |   | GASB Discount Rate:                  |  | 7.50%      |

*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*