

OAKLAND COUNTY EMPLOYEES' RETIREMENT SYSTEM
GASB STATEMENT NO. 67 PLAN REPORTING AND
ACCOUNTING SCHEDULES
SEPTEMBER 30, 2015

December 23, 2015

The Retirement Commission
Oakland County Employees' Retirement System
Pontiac, MI

Dear Commission Members:

This report provides information required by the Oakland County Employees' Retirement System in connection with the Governmental Accounting Standards Board Statement No. 67 (GASB 67) "Financial Reporting for Pension Plans." The information provided herein was prepared for the purpose of assisting the Retirement System in its efforts to comply with the financial reporting and disclosure requirements of GASB 67. The information provided is presented in draft form for review by the System's auditor. Please let us know if any information changes so that we may maintain consistency with the County's financial statements.

The calculation of the liability in this report was performed for the purpose of satisfying the requirements of GASB 67 and is not applicable for purposes of funding the plan. A calculation of the plan's liability for other purposes may produce significantly different results. This report may be provided to parties other than the Retirement System only in its entirety and only with the permission of the System.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of September 30, 2014. The total pension liability was "rolled-forward" from September 30, 2014 to the year ending September 30, 2015 using generally accepted actuarial principles. With the exception of the assumption change, there were no significant events or changes in benefit provisions that required an adjustment to the "rolled-forward" liabilities.

This report is based upon information, furnished by the Retirement System and County, which includes benefit provisions, membership information, and financial data. This information was checked for internal consistency, but was not otherwise audited by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the information provided. The 2014 actuarial valuation report includes additional information about the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

The Retirement Commission

December 23, 2015

Page 2

To the best of our knowledge, this report is accurate, complete and all calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Louise M. Gates and Mark Buis are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,



Louise M. Gates ASA, MAAA



Mark Buis FSA, EA, MAAA

LG/MB:mrp

TABLE OF CONTENTS

| | <u>Page</u> |
|------------------|---|
| Section A | Executive Summary |
| | Executive Summary 1 |
| | Discussion 2 |
| Section B | Financial Statements |
| | Statement of Fiduciary Net Position 5 |
| | Statement of Changes in Fiduciary Net Position 6 |
| Section C | Required Supplementary Information |
| | Schedule of Changes in Net Pension Liability and Related Ratios Multiyear..... 7 |
| | Schedule of Net Pension Liability Multiyear..... 8 |
| | Schedule of Contributions Multiyear 9 |
| | Notes to Schedule of Contributions 10 |
| Section D | Notes to Financial Statements |
| | Asset Allocation..... 11 |
| | Sensitivity of Net Pension Liability to the Single Discount Rate Assumption..... 12 |
| | Summary of Population Statistics 13 |
| Section E | Summary of Benefits 14 |
| Section F | Actuarial Methods and Actuarial Assumptions |
| | Valuation Methods..... 16 |
| | Actuarial Assumptions..... 17 |
| Section G | Calculation of the Single Discount Rate |
| | Calculation of the Single Discount Rate 21 |
| | Projection of Contributions 22 |
| | Projection of Plan Fiduciary Net Position..... 23 |
| | Present Values of Projected Benefits 25 |
| | Projection of Plan Net Position and Benefit Payments 27 |
| Section H | Glossary of Terms..... 28 |

SECTION A
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

| | |
|--|--------------------|
| Actuarial Valuation Date | September 30, 2014 |
| Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date) | September 30, 2015 |

Membership ¹

| | |
|---------------------------------|---------------|
| Number of | |
| - Retirees and Beneficiaries | 1,975 |
| - Inactive, Non-Retired Members | 113 |
| - Active Members | 403 |
| - Total | 2,491 |
| Covered Payroll ² | \$ 24,707,298 |

Net Pension Liability

| | |
|---|----------------|
| Total Pension Liability | \$ 758,378,456 |
| Plan Fiduciary Net Position | 745,659,828 |
| Net Pension Liability | \$ 12,718,628 |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | 98.32% |
| Net Pension Liability as a Percentage of Covered Payroll | 51.48% |

Development of the Single Discount Rate

| | |
|--|-------|
| Single Discount Rate | 7.25% |
| Long-Term Expected Rate of Return | 7.25% |
| Long-Term Municipal Bond Rate ³ | 3.71% |
| Last Year Ending September 30 in the 2016 to 2115 projection period for which projected benefit payments are fully funded | 2115 |

¹ As of the actuarial valuation date.

² Valuation payroll projected to fiscal year 2015.

³ Source: "State & local bonds" rate from Federal Reserve statistical release (H.15) as of September 24, 2015. The statistical release describes this rate as "Bond Buyer Index, general obligation, 20 years to maturity, mixed quality." In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

DISCUSSION

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, "Financial Reporting for Pension Plans," replaces the requirements of GASB Statement No. 25, "Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans," and GASB Statement No. 50, "Pension Disclosures." GASB Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability of employers and non-employer contributing entities for benefits provided through the pension plan.

The following discussion provides a summary of the information that is required to be disclosed under this new accounting standard. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report, and your internal staff will be responsible for preparing that information to comply with this accounting standard.

Financial Statements

GASB Statement No. 67 requires defined benefit pension plans to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position.

The *statement of fiduciary net position* presents the following items as of the end of the pension plan's reporting period, such as:

- assets;
- deferred inflows and outflows of resources;
- liabilities; and
- fiduciary net position (assets, plus deferred outflows, minus liabilities, minus deferred inflows).

The *statement of changes in fiduciary net position* presents the following for the plan's reporting period:

- additions, such as contributions and investment income;
- deductions, such as benefit payments and expenses; and
- net increase or decrease in the fiduciary net position (the difference between additions and deductions).

Notes to Financial Statements

GASB Statement No. 67 also requires the notes of the plan's financial statements to include additional disclosure information. This disclosure information should include:

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- the number and classes of employees covered by the benefit terms;
- the composition of the pension plan's Board and the authority under which benefit terms may be amended;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- a description of how fair value is determined;
- concentrations of investments greater than or equal to 5%;
- annual money-weighted rate of return on pension plan investments;
- the portion of the present value of benefits to be provided through the pension plan to current active and inactive plan members;
- the pension plan's fiduciary net position;
- the net pension liability;
- the pension plan's fiduciary net position as a percentage of the total pension liability;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll;
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- the annual money-weighted rate of return on pension plan investments for each year.

The tables will be built prospectively as the information becomes available.

Measurement of the Net Pension Liability

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total pension liability is required to be rolled forward from the actuarial valuation date to the pension plan's fiscal year end.

The total pension liability shown in this report is based on an actuarial valuation performed as of September 30, 2014 and a measurement date of September 30, 2015. The total pension liability reflects changes as a result of an assumption study adopted by the Retirement System for use in the annual valuations beginning with the September 30, 2015 valuation.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 3.71% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 7.25%.

Effective Date and Transition

GASB Statement No. 67 is effective for a pension plan's fiscal years beginning after June 15, 2013; however, earlier application is encouraged by the GASB.

SECTION B

FINANCIAL STATEMENTS

Information in this section of the report was provided by the County and is included here as supporting documentation.

**STATEMENT OF FIDUCIARY NET POSITION
AS OF SEPTEMBER 30, 2015**

Assets

Cash and Deposits

Receivables

Accounts Receivable - Sale of Investments

Accrued Interest and Other Dividends

Contributions

Accounts Receivable - Other

Total Receivables

Investments

Fixed Income

Domestic Equities

International Equities

Real Estate

Other

Total Investments

Total Assets

Liabilities

Payables

Accounts Payable - Purchase of Investments

Accrued Expenses

Accounts Payable - Other

Total Liabilities

Net Position Restricted for Pensions\$ 745,659,828

Detailed asset information required by GASB Statement No. 67 will be provided by the Retirement System.

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR YEAR ENDED SEPTEMBER 30, 2015**

Additions

Contributions

| | |
|---------------------|--------------|
| Employer | \$ 4,554,832 |
| Employee | 473,247 |
| Other | - |
| Total Contributions | 5,028,079 |

Investment Income

| | |
|---|--------------|
| Net Appreciation in Fair Value of Investments | 31,897,139 |
| Interest and Dividends | 5,135,745 |
| Other Investment Income | (29,521,076) |
| Less Investment Expense | (2,412,348) |
| Net Investment Income | 5,099,460 |

Other

| | |
|-----------------|------------|
| Total Additions | 10,127,539 |
|-----------------|------------|

Deductions

| | |
|---|------------|
| Benefit payments, including refunds of employee contributions | 52,066,966 |
| Pension Plan Administrative Expense | 296,825 |
| Other | - |
| Total Deductions | 52,363,791 |

| | |
|-------------------------------------|--------------|
| Net Increase in Net Position | (42,236,252) |
|-------------------------------------|--------------|

Net Position Restricted for Pensions

| | |
|-------------------|----------------|
| Beginning of Year | \$ 787,896,080 |
| End of Year | \$ 745,659,828 |

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Oakland County Employees' Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years (which may be built prospectively)

| Fiscal year ending September 30, | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
|---|-----------------------|-----------------------|------|------|------|------|------|------|------|------|
| Total Pension Liability | | | | | | | | | | |
| Service Cost | \$ 3,705,776 | \$ 4,196,269 | | | | | | | | |
| Interest on the Total Pension Liability | 50,740,081 | 50,492,624 | | | | | | | | |
| Benefit Changes | - | - | | | | | | | | |
| Difference between Expected and Actual Experience | 2,621,256 | - | | | | | | | | |
| Assumption Changes | 29,334,529 | - | | | | | | | | |
| Benefit Payments and Refunds | (52,066,966) | (49,993,923) | | | | | | | | |
| Net Change in Total Pension Liability | 34,334,676 | 4,694,970 | | | | | | | | |
| Total Pension Liability - Beginning | 724,043,780 | 719,348,810 | | | | | | | | |
| Total Pension Liability - Ending (a) | \$ 758,378,456 | \$ 724,043,780 | | | | | | | | |
| Plan Fiduciary Net Position | | | | | | | | | | |
| Employer Contributions | \$ 4,554,832 | \$ 5,770,835 | | | | | | | | |
| Employee Contributions | 473,247 | 560,091 | | | | | | | | |
| Pension Plan Net Investment Income | 5,099,460 | 70,247,939 | | | | | | | | |
| Benefit Payments and Refunds | (52,066,966) | (49,993,923) | | | | | | | | |
| Pension Plan Administrative Expense | (296,825) | (2,959,649) | | | | | | | | |
| Other | - | - | | | | | | | | |
| Net Change in Plan Fiduciary Net Position | (42,236,252) | 23,625,293 | | | | | | | | |
| Plan Fiduciary Net Position - Beginning | 787,896,080 | 764,270,787 | | | | | | | | |
| Plan Fiduciary Net Position - Ending (b) | \$ 745,659,828 | \$ 787,896,080 | | | | | | | | |
| Net Pension Liability - Ending (a) - (b) | 12,718,628 | (63,852,300) | | | | | | | | |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | 98.32 % | 108.82 % | | | | | | | | |
| Covered-Employee Payroll | \$ 24,707,298 | \$ 29,901,825 | | | | | | | | |
| Net Pension Liability as a Percentage of Covered-Employee Payroll | 51.48 % | (213.54)% | | | | | | | | |

Covered payroll is valuation payroll projected to determine employer contributions for the indicated fiscal year.

SCHEDULE OF THE EMPLOYERS' NET PENSION LIABILITY MULTIYEAR

| <u>FY Ending September 30,</u> | <u>Total Pension Liability</u> | <u>Plan Net Position</u> | <u>Net Pension Liability</u> | <u>Plan Net Position as a % of Total Pension Liability</u> | <u>Covered Payroll</u> | <u>Net Pension Liability as a % of Covered Payroll</u> |
|------------------------------------|--|------------------------------|----------------------------------|--|----------------------------|--|
| 2006 | | | - | | | |
| 2007 | | | - | | | |
| 2008 | | | - | | | |
| 2009 | | | - | | | |
| 2010 | | | - | | | |
| 2011 | | | - | | | |
| 2012 | | | - | | | |
| 2013 | | | - | | | |
| 2014 | \$ 724,043,780 | \$ 787,896,080 | \$ (63,852,300) | 108.82% | \$ 29,901,825 | (213.54)% |
| 2015 | 758,378,456 | 745,659,828 | 12,718,628 | 98.32% | 24,707,298 | 51.48 % |

This schedule includes the results of the most recent "GASB 67" valuation for the plan's fiscal year ending September 30, 2015. Results for all other years within the last 10 are not available. We understand that this information may be developed prospectively beginning in 2014 until, eventually 10 years of information is available.

SCHEDULE OF CONTRIBUTIONS

| FY Ending September 30, | Actuarially Determined Contribution | Actual Contribution | Contribution Deficiency (Excess) | Covered Payroll | Actual Contribution as a % of Covered Payroll |
|------------------------------------|--|--------------------------------|---|----------------------------|--|
| 2006 | | | | | |
| 2007 | | | | | |
| 2008 | | | | | |
| 2009 | | | | | |
| 2010 | | | | | |
| 2011 | | | | | |
| 2012 | | | | | |
| 2013 | | | | | |
| 2014 | \$ 5,770,835 | \$ 5,770,835 | \$ - | \$ 29,901,825 | 19.30% |
| 2015 | 4,554,832 | 4,554,832 | - | 24,707,298 | 18.44% |

This schedule includes employer contributions for the plan's fiscal year ending on September 30th of the indicated years. Results for other years within the last 10 are not available. We understand that this information may be developed prospectively beginning in 2014 until, eventually, 10 years of information is available.

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:

Notes Actuarially determined contribution amounts for fiscal year 2015 are calculated based upon the results of the September 30, 2013 actuarial valuation.

Methods and Assumptions Used to Determine Contributions for the Fiscal Year Ending September 30, 2015:

| | |
|-------------------------------|--|
| Actuarial Cost Method | Aggregate |
| Amortization Method | N/A |
| Remaining Amortization Period | N/A |
| Asset Valuation Method | 5-year smoothed market |
| Salary Increases | 4.50% wage inflation |
| Investment Rate of Return | 7.25% net of investment and administrative expenses |
| Retirement Age | Age-based table of rates that are specific to the type of eligibility condition. |
| Mortality | 1994 Group Annuity Mortality Table, set back 0 years for men and 1 year for women. |
| Post-Retirement COLA | Cost-of-Living Adjustments (COLA): 1.5% non-compounding annually. |

Other Information:

Notes Changes as a result of an assumption study have been adopted by the Retirement System for use in the annual valuations beginning with the September 30, 2015 valuation. These assumptions have been used to develop the Total Pension Liability as of September 30, 2015 and are described in Section F of this report.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The assumed rate of investment return was adopted by System trustees after considering input from the plan's investment consultant(s). Additional information about the assumed rate of investment return is included in our actuarial valuation report as of September 30, 2014.

The approach used to determine the long-term expected rate of return on pension plan investments was based on the building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan administrative and investment expenses and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long term expected rates of return for each major asset class included in the pension plan's target asset allocation are summarized in the following table:

Asset Allocation

| Asset Class | Target Asset Allocation | Expected * Rate of Return |
|--------------------------------|-------------------------|------------------------------|
| Core Bonds | 20.00% | 2.80% |
| Core Plus | 10.00% | 3.07% |
| Global Bonds | 5.00% | 2.63% |
| U.S. Large Cap Equity | 20.00% | 7.80% |
| U.S. Mid Cap Equity | 7.50% | 8.47% |
| U.S. Small Cap Equity | 7.50% | 9.09% |
| International Developed Equity | 10.00% | 8.79% |
| Emerging Market Equity | 5.00% | 10.14% |
| Long/Short Equity | 5.00% | 7.64% |
| Core Real Estate | 6.00% | 5.51% |
| Opportunistic Real Estate | 4.00% | 8.80% |
| Total | 100.00% | |

* Arithmetic average real rate of return.

The information shown in the table above was provided by the Retirement System's investment consultant and is included here as supporting documentation for the investment return assumption. Gabriel, Roeder, Smith and Company does not provide investment advice.

The nature of Retirement System obligations is long term and a long term forecast of System investment returns is needed to establish the expected rate of return on Plan assets. Based on a review of expected rates of return over a 30-year period for a portfolio comparable to the Retirement System portfolio, we believe an investment return assumption of 7.25% is reasonable.

Single Discount Rate

A Single Discount Rate of 7.25% was used to measure the total pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.25%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

As required by GASB Statement No. 67, we have determined the sensitivity of the net pension liability to changes in the Single Discount Rate. The following table presents the plan's net pension liability, calculated using a Single Discount Rate of 7.25%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

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

| | <u>6.25%</u> | <u>7.25%</u> | <u>8.25%</u> |
|-------------------------------|--------------------|--------------------|--------------------|
| Total Pension Liability | \$ 835,070,512 | \$ 758,378,456 | \$ 692,098,549 |
| Plan Fiduciary Net Position | <u>745,659,828</u> | <u>745,659,828</u> | <u>745,659,828</u> |
| Net Pension Liability/(Asset) | \$ 89,410,684 | \$ 12,718,628 | \$ (53,561,279) |

Summary of Population Statistics as of June 30, 2014

| | |
|--|------------|
| Retired Plan Members and Beneficiaries Currently Receiving Benefits ¹ | 1,975 |
| Inactive Plan Members Entitled to But Not Yet Receiving Benefits | 113 |
| Active Plan Members | <u>403</u> |
| Total Plan Members | 2,491 |

¹ *Includes alternate payees under EDRO, beneficiaries of deceased members, and 32 individuals with \$0 pension benefits receiving retiree health benefits only.*

SECTION E

SUMMARY OF BENEFITS

BRIEF SUMMARY OF BENEFIT PROVISIONS

| Eligibility | Amount |
|---|--|
| REGULAR RETIREMENT | |
| Sheriff's Deputies: 25 years of service regardless of age, or age 60 with 8 years of service. | 2.2% of final average compensation (FAC) times the first 14 years of service plus 2.5% of FAC for each additional year. |
| Command Officers: 25 years of service regardless of age, or age 60 with 8 years of service. | Total service times 2.5% of FAC. |
| All Others: Age 55 with 25 years of service, or age 60 with 8 years. | Total service times 2.0% of FAC for Plan A members (2.2% for years in excess of 14 for contributing members). Total service times 1.8% of FAC for Plan B members (1.98% for years in excess of 14 for contributing members). Maximum County Portion is 75% of FAC. Type of final average compensation - Highest 5 consecutive years out of the last 10. Some lump sums are included. Sheriff's Deputies hired after 12/31/92, Command Officers entering BU after 5/31/94 and BU48 nurses hired after 12/31/92 overtime pay is excluded from FAC. |
| DEFERRED RETIREMENT | |
| 8 years of service - benefit begins at age 60. 25 years of service - benefit at age 55. | Computed as a regular retirement but based upon service and final average compensation at termination date. |
| NON-DUTY DEATH-IN-SERVICE | |
| 10 years of service. | Computed as a regular retirement but actuarially reduced in accordance with a 100% joint and survivor election (50% joint and survivor benefit if less than 15 years of service and under age 60). |
| DUTY DEATH-IN-SERVICE | |
| No age or service requirements. | Upon termination of Worker's Compensation, a benefit equal to the Worker's Compensation benefit is payable to the spouse, children under age 18 and dependent parents. |

BRIEF SUMMARY OF BENEFIT PROVISIONS

Eligibility

Amount

NON-DUTY DISABILITY

10 years of service.

Computed as a regular retirement.

DUTY DISABILITY

No age or service requirements.

Computed as a regular retirement with additional service credited until attainment of age 60. Retirement benefits are offset by Worker's Compensation payments.

COST-OF-LIVING ADJUSTMENTS

Annual increase based upon change in CPI, not in excess of 1-1/2% of base benefit. Additional one-time increases granted January 1, 1976, 1979, 1981, 1982, July 1, 1984, January 1, 1986, 1987, 1988 and October 1, 1997. A special one-time payment was made to retirees during 1990.

MEMBER CONTRIBUTIONS

Sheriff's Deputies.

3% of annual earnings for the first 14 years of service and 5% thereafter.

Command Officers.

5% of annual earnings.

All Others.

1% of annual earnings for years after 14 years of service for members electing the 2.2% or 1.98% benefit.

COUNTY CONTRIBUTIONS

Actuarially determined amounts which, together with member contributions, are sufficient to cover value of future benefits during the expected future working lifetimes of present members.

COVERAGE

The System was closed to new hires effective at various dates during 1994 and 1995.

SECTION F

ACTUARIAL METHODS AND ACTUARIAL ASSUMPTIONS

VALUATION METHODS

The Individual Entry-Age Actuarial Cost Method is a method for determining the normal cost and the allocation of benefit values between service rendered before and after the valuation date. It has the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

The individual entry age actuarial cost method is the basis for determining the Total Pension Liability for GASB No. 67 purposes. Starting with the September 30, 2015 actuarial valuation, the individual entry age cost method will also be the basis used to determine employer contributions for funding purposes. The aggregate cost method was the basis for determining the fiscal year 2015 employer contribution for funding purposes.

Valuation Assets - The funding value of assets recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, funding value of assets will tend to be lower than market value. During periods when investment performance is less than the assumed rate, funding value of assets will tend to be greater than market value. The funding value of assets is unbiased with respect to market value. At any time it may be either greater or less than market value. This method was used in the annual funding valuations.

The market value of assets was used for GASB 67 reporting purposes and in the projections shown in Section G of this report.

ACTUARIAL ASSUMPTIONS

Investment Return (net of expenses): 4.00% per year in excess of pay inflation. If pay inflation matches the assumption of 3.25%, this implies a 7.25% rate of return. The price inflation assumption is 3.0% per year.

Pay Projections: These assumptions are used to project current pays to those upon which benefits will be based.

| Sample Ages | Annual Rate of Pay Increase for Sample Ages | | | | | | |
|----------------|---|----------------------|-------|---------------------|----------------------|----------------------|-------|
| | General County Members | | | Years of Service | Sheriff's Department | | |
| | Base (Economic) | Merit & Longevity | Total | | Base (Economic) | Merit & Longevity | Total |
| 20 | 3.25% | 4.00% | 7.25% | 1 to 7 | 3.25% | 6.00% | 9.25% |
| 25 | 3.25 | 3.00 | 6.25 | 8 to 15 | 3.25 | 3.00 | 6.25 |
| 30 | 3.25 | 2.00 | 5.25 | thereafter | 3.25 | 0.00 | 3.25 |
| 35 | 3.25 | 2.00 | 5.25 | | | | |
| 40 | 3.25 | 1.00 | 4.25 | | | | |
| 45 | 3.25 | 1.00 | 4.25 | | | | |
| 50 | 3.25 | 0.50 | 3.75 | | | | |
| 55 | 3.25 | 0.50 | 3.75 | | | | |
| 60 | 3.25 | 0.25 | 3.50 | | | | |

ACTUARIAL ASSUMPTIONS

Lump Sum Payments: Lump sum payments for unused sick leave and vacation were assumed to increase final average compensation for the present members by 1%.

Mortality: The RP-2014 Healthy Annuitant Mortality Table (unadjusted) projected to 2021 using a static projection based on the 2-dimensional MP-2014 improvement scales. Sample values follow:

| Sample Ages | Actuarial Present Value of \$1 Monthly for Life | | Future Life Expectancy (Years) | |
|----------------|--|----------|-----------------------------------|-------|
| | Men | Women | Men | Women |
| 50 | \$147.31 | \$151.52 | 33.50 | 36.20 |
| 55 | 140.72 | 145.66 | 29.15 | 31.69 |
| 60 | 132.68 | 138.11 | 24.96 | 27.26 |
| 65 | 122.70 | 128.61 | 20.91 | 22.97 |
| 70 | 110.60 | 117.00 | 17.05 | 18.88 |
| 75 | 96.35 | 103.26 | 13.44 | 15.06 |
| 80 | 80.32 | 87.66 | 10.17 | 11.58 |

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. The membership size in this group is not sufficiently large to determine if there is a margin for mortality improvements. However, based upon our experience with a broad cross section of public sector plans similar in nature to this plan, it is our opinion that there is a provision for future mortality improvement in the current mortality assumption.

ACTUARIAL ASSUMPTIONS

Rates of Separation from Active Membership: The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

| Sample Ages | Percent of Active Members Separating within Next Year | |
|----------------|--|----------|
| | General | Sheriffs |
| 20 | 5.00% | 4.00% |
| 25 | 5.00 | 4.00 |
| 30 | 4.00 | 3.40 |
| 35 | 4.00 | 2.50 |
| 40 | 3.00 | 1.80 |
| 45 | 3.00 | 1.30 |
| 50 | 2.00 | 0.80 |
| 55 | 1.00 | 0.40 |
| 60 | 0.50 | 0.10 |
| 65 | 0.50 | 0.00 |

Rates of Disability: These rates represent the probabilities of active members becoming disabled.

| Sample Ages | Percent Becoming Disabled within Next Year | |
|----------------|---|----------|
| | General | Sheriffs |
| 20 | 0.02% | 0.14% |
| 25 | 0.02 | 0.15 |
| 30 | 0.04 | 0.18 |
| 35 | 0.06 | 0.23 |
| 40 | 0.16 | 0.30 |
| 45 | 0.19 | 0.51 |
| 50 | 0.31 | 1.00 |
| 55 | 0.71 | 1.55 |

ACTUARIAL ASSUMPTIONS

Rates of Retirement: These rates are used to measure the probabilities of an eligible member retiring during the next year.

| Percent of Active Members Retiring within One Year | | | | | |
|---|----------|-----------------------------|----------|----------------|----------|
| General County | | Sheriff's Department | | | |
| Ages | % | Ages | % | Service | % |
| 55 | 20% | 60 | 20% | 25 | 40% |
| 56 | 15 | 61 | 40 | 26 | 35 |
| 57 | 15 | 62 | 70 | 27 | 35 |
| 58 | 15 | 63 | 50 | 28 | 35 |
| 59 | 15 | 64 | 50 | 29 | 35 |
| 60 | 20 | 65 | 100 | 30 | 40 |
| 61 | 15 | | | 31 | 40 |
| 62 | 25 | | | 32 | 50 |
| 63 | 15 | | | 33 | 70 |
| 64 | 15 | | | 34 | 70 |
| 65 | 35 | | | 35 | 100 |
| 66 | 40 | | | | |
| 67 | 50 | | | | |
| 68 | 70 | | | | |
| 69 | 80 | | | | |
| 70 | 100 | | | | |

A member was assumed to be eligible for retirement after attaining age 55 with 25 or more years of service (after 25 years of service regardless of age for Deputies and Command Officers), or age 60 with 8 or more years of service.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

CALCULATION OF THE SINGLE DISCOUNT RATE

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

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 3.71%; and the resulting Single Discount Rate is 7.25%.

The tables in this section provide background for the development of the Single Discount Rate.

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

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

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

There may be cases where schedules do not add, or where they do not exactly balance to other related schedules due to rounding.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF CONTRIBUTIONS

| Year | Contributions from Current Employees | Normal Cost Contributions | UAL Contributions | Total Contributions |
|------|---|------------------------------|----------------------|------------------------|
| 1 | \$ 391,892 | | | \$ 3,720,997 |
| 2 | 314,806 | \$ 1,953,643 | \$ 1,669,715 | 3,938,163 |
| 3 | 250,038 | 1,650,973 | 1,669,715 | 3,570,726 |
| 4 | 195,709 | 1,380,538 | 1,669,715 | 3,245,962 |
| 5 | 149,442 | 1,138,745 | 1,669,715 | 2,957,902 |
| 6 | 112,081 | 931,811 | 1,669,715 | 2,713,607 |
| 7 | 82,616 | 754,141 | 1,669,715 | 2,506,472 |
| 8 | 60,535 | 606,371 | 1,669,715 | 2,336,621 |
| 9 | 45,381 | 491,706 | 1,669,715 | 2,206,802 |
| 10 | 34,051 | 395,172 | 1,669,715 | 2,098,938 |
| 11 | 25,539 | 313,847 | 1,669,715 | 2,009,101 |
| 12 | 19,147 | 246,256 | - | 265,403 |
| 13 | 14,024 | 188,525 | - | 202,550 |
| 14 | 10,045 | 141,394 | - | 151,439 |
| 15 | 7,126 | 104,216 | - | 111,341 |
| 16 | 5,013 | 75,407 | - | 80,420 |
| 17 | 3,537 | 54,540 | - | 58,076 |
| 18 | 2,483 | 39,279 | - | 41,763 |
| 19 | 1,721 | 28,398 | - | 30,119 |
| 20 | 1,158 | 20,542 | - | 21,699 |
| 21 | 707 | 14,289 | - | 14,996 |
| 22 | 381 | 9,426 | - | 9,806 |
| 23 | 179 | 5,944 | - | 6,122 |
| 24 | 65 | 3,594 | - | 3,659 |
| 25 | 16 | 1,998 | - | 2,014 |
| 26 | 2 | 1,028 | - | 1,030 |
| 27 | - | 485 | - | 485 |
| 28 | - | 180 | - | 180 |
| 29 | - | 45 | - | 45 |
| 30 | - | 6 | - | 6 |
| 31 | - | - | - | - |
| 32 | - | - | - | - |
| 33 | - | - | - | - |
| 34 | - | - | - | - |
| 35 | - | - | - | - |
| 36 | - | - | - | - |
| 37 | - | - | - | - |
| 38 | - | - | - | - |
| 39 | - | - | - | - |
| 40 | - | - | - | - |
| 41 | - | - | - | - |
| 42 | - | - | - | - |
| 43 | - | - | - | - |
| 44 | - | - | - | - |
| 45 | - | - | - | - |
| 46 | - | - | - | - |
| 47 | - | - | - | - |
| 48 | - | - | - | - |
| 49 | - | - | - | - |
| 50 | - | - | - | - |

Year 1 employer contributions (\$3,329,105) are based on the Aggregate actuarial cost method.

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION

| Year | Projected Beginning | | Projected Total | Projected Benefit | | Projected | | Projected Ending Plan |
|------|---------------------|--------------|-----------------|-------------------|---------------|------------------------------|----------------|-----------------------|
| | Plan Net Position | | | Payments | | Investment Earnings at 7.25% | | |
| | (a) | (b) | | (c) | (d) | (e)=(a)+(b)-(c)+(d) | | |
| 1 | \$ 745,659,828 | \$ 3,720,997 | \$ | \$ 54,611,843 | \$ 52,247,821 | \$ | \$ 747,016,803 | |
| 2 | 747,016,803 | 3,938,163 | | 56,874,600 | 52,273,347 | | 746,353,714 | |
| 3 | 746,353,714 | 3,570,726 | | 58,787,822 | 52,144,045 | | 743,280,664 | |
| 4 | 743,280,664 | 3,245,962 | | 60,539,679 | 51,847,289 | | 737,834,235 | |
| 5 | 737,834,235 | 2,957,902 | | 62,037,315 | 51,388,824 | | 730,143,646 | |
| 6 | 730,143,646 | 2,713,607 | | 63,245,023 | 50,779,542 | | 720,391,772 | |
| 7 | 720,391,772 | 2,506,472 | | 64,241,285 | 50,029,671 | | 708,686,631 | |
| 8 | 708,686,631 | 2,336,621 | | 64,933,979 | 49,150,328 | | 695,239,601 | |
| 9 | 695,239,601 | 2,206,802 | | 65,354,889 | 48,155,804 | | 680,247,317 | |
| 10 | 680,247,317 | 2,098,938 | | 65,575,099 | 47,057,179 | | 663,828,336 | |
| 11 | 663,828,336 | 2,009,101 | | 65,607,901 | 45,862,435 | | 646,091,971 | |
| 12 | 646,091,971 | 265,403 | | 65,443,287 | 44,520,308 | | 625,434,396 | |
| 13 | 625,434,396 | 202,550 | | 65,081,214 | 43,033,291 | | 603,589,022 | |
| 14 | 603,589,022 | 151,439 | | 64,522,712 | 41,467,572 | | 580,685,322 | |
| 15 | 580,685,322 | 111,341 | | 63,754,481 | 39,832,987 | | 556,875,169 | |
| 16 | 556,875,169 | 80,420 | | 62,788,262 | 38,140,062 | | 532,307,390 | |
| 17 | 532,307,390 | 58,076 | | 61,624,626 | 36,399,546 | | 507,140,387 | |
| 18 | 507,140,387 | 41,763 | | 60,299,044 | 34,621,569 | | 481,504,675 | |
| 19 | 481,504,675 | 30,119 | | 58,815,938 | 32,815,387 | | 455,534,243 | |
| 20 | 455,534,243 | 21,699 | | 57,180,426 | 30,990,481 | | 429,365,998 | |
| 21 | 429,365,998 | 14,996 | | 55,411,145 | 29,156,059 | | 403,125,908 | |
| 22 | 403,125,908 | 9,806 | | 53,505,607 | 27,321,335 | | 376,951,442 | |
| 23 | 376,951,442 | 6,122 | | 51,470,198 | 25,496,047 | | 350,983,414 | |
| 24 | 350,983,414 | 3,659 | | 49,315,682 | 23,690,012 | | 325,361,404 | |
| 25 | 325,361,404 | 2,014 | | 47,053,455 | 21,912,929 | | 300,222,892 | |
| 26 | 300,222,892 | 1,030 | | 44,696,475 | 20,174,297 | | 275,701,743 | |
| 27 | 275,701,743 | 485 | | 42,259,988 | 18,483,272 | | 251,925,513 | |
| 28 | 251,925,513 | 180 | | 39,761,135 | 16,848,483 | | 229,013,042 | |
| 29 | 229,013,042 | 45 | | 37,218,217 | 15,277,892 | | 207,072,761 | |
| 30 | 207,072,761 | 6 | | 34,651,120 | 13,778,650 | | 186,200,298 | |
| 31 | 186,200,298 | - | | 32,080,958 | 12,356,934 | | 166,476,274 | |
| 32 | 166,476,274 | - | | 29,529,093 | 11,017,829 | | 147,965,009 | |
| 33 | 147,965,009 | - | | 27,016,595 | 9,765,247 | | 130,713,661 | |
| 34 | 130,713,661 | - | | 24,563,760 | 8,601,883 | | 114,751,784 | |
| 35 | 114,751,784 | - | | 22,189,641 | 7,529,203 | | 100,091,346 | |
| 36 | 100,091,346 | - | | 19,911,528 | 6,547,458 | | 86,727,277 | |
| 37 | 86,727,277 | - | | 17,744,537 | 5,655,742 | | 74,638,482 | |
| 38 | 74,638,482 | - | | 15,701,348 | 4,852,075 | | 63,789,209 | |
| 39 | 63,789,209 | - | | 13,792,019 | 4,133,504 | | 54,130,694 | |
| 40 | 54,130,694 | - | | 12,023,830 | 3,496,238 | | 45,603,102 | |
| 41 | 45,603,102 | - | | 10,401,293 | 2,935,775 | | 38,137,584 | |
| 42 | 38,137,584 | - | | 8,926,244 | 2,447,060 | | 31,658,399 | |
| 43 | 31,658,399 | - | | 7,597,896 | 2,024,629 | | 26,085,132 | |
| 44 | 26,085,132 | - | | 6,413,076 | 1,662,766 | | 21,334,822 | |
| 45 | 21,334,822 | - | | 5,366,573 | 1,355,640 | | 17,323,889 | |
| 46 | 17,323,889 | - | | 4,451,529 | 1,097,437 | | 13,969,797 | |
| 47 | 13,969,797 | - | | 3,659,748 | 882,466 | | 11,192,515 | |
| 48 | 11,192,515 | - | | 2,981,990 | 705,252 | | 8,915,777 | |
| 49 | 8,915,777 | - | | 2,408,272 | 560,621 | | 7,068,126 | |
| 50 | 7,068,126 | - | | 1,928,151 | 443,767 | | 5,583,741 | |

SINGLE DISCOUNT RATE DEVELOPMENT
PROJECTION OF PLAN FIDUCIARY NET POSITION

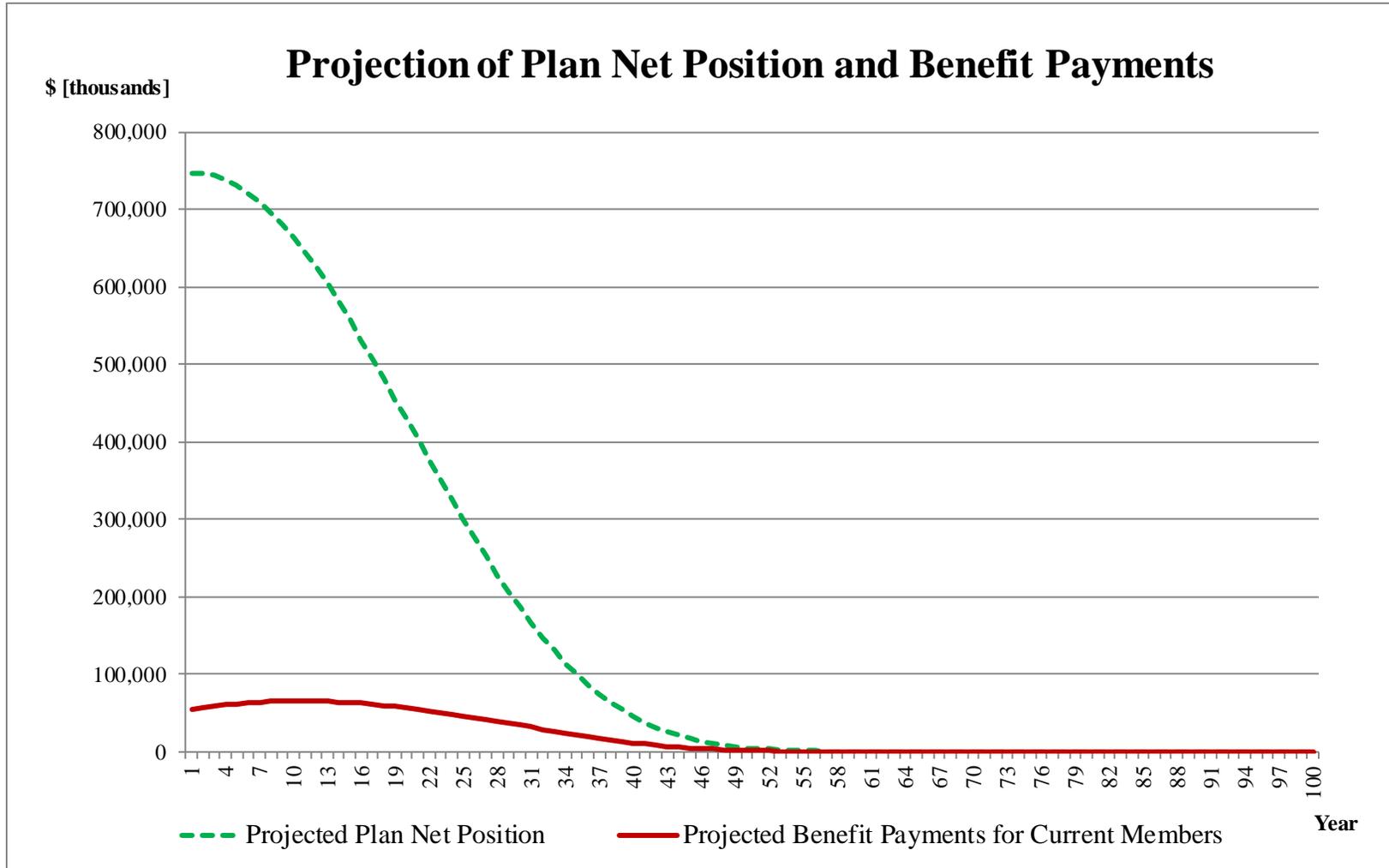
| Year | Projected Beginning | Projected Total | Projected Benefit | Projected | Projected Ending Plan |
|------|---------------------|-----------------|-------------------|------------------------------|-----------------------|
| | Plan Net Position | Contributions | Payments | Investment Earnings at 7.25% | Net Position |
| | (a) | (b) | (c) | (d) | (e)=(a)+(b)-(c)+(d) |
| 51 | \$ 5,583,741 | \$ - | \$ 1,531,013 | \$ 350,293 | \$ 4,403,020 |
| 52 | 4,403,020 | - | 1,206,368 | 276,253 | 3,472,906 |
| 53 | 3,472,906 | - | 944,124 | 218,160 | 2,746,942 |
| 54 | 2,746,942 | - | 734,820 | 172,982 | 2,185,104 |
| 55 | 2,185,104 | - | 569,781 | 138,127 | 1,753,450 |
| 56 | 1,753,450 | - | 441,220 | 111,411 | 1,423,641 |
| 57 | 1,423,641 | - | 342,281 | 91,023 | 1,172,383 |
| 58 | 1,172,383 | - | 267,042 | 75,487 | 980,828 |
| 59 | 980,828 | - | 210,474 | 63,614 | 833,968 |
| 60 | 833,968 | - | 168,373 | 54,466 | 720,061 |
| 61 | 720,061 | - | 137,286 | 47,315 | 630,090 |
| 62 | 630,090 | - | 114,424 | 41,606 | 557,272 |
| 63 | 557,272 | - | 97,579 | 36,927 | 496,620 |
| 64 | 496,620 | - | 85,043 | 32,976 | 444,554 |
| 65 | 444,554 | - | 75,525 | 29,540 | 398,569 |
| 66 | 398,569 | - | 68,066 | 26,472 | 356,975 |
| 67 | 356,975 | - | 61,971 | 23,674 | 318,678 |
| 68 | 318,678 | - | 56,751 | 21,083 | 283,010 |
| 69 | 283,010 | - | 52,070 | 18,664 | 249,604 |
| 70 | 249,604 | - | 47,704 | 16,397 | 218,296 |
| 71 | 218,296 | - | 43,513 | 14,277 | 189,061 |
| 72 | 189,061 | - | 39,419 | 12,303 | 161,944 |
| 73 | 161,944 | - | 35,394 | 10,480 | 137,031 |
| 74 | 137,031 | - | 31,440 | 8,815 | 114,406 |
| 75 | 114,406 | - | 27,583 | 7,312 | 94,134 |
| 76 | 94,134 | - | 23,861 | 5,975 | 76,248 |
| 77 | 76,248 | - | 20,322 | 4,804 | 60,731 |
| 78 | 60,731 | - | 17,016 | 3,797 | 47,512 |
| 79 | 47,512 | - | 13,989 | 2,946 | 36,469 |
| 80 | 36,469 | - | 11,278 | 2,242 | 27,434 |
| 81 | 27,434 | - | 8,904 | 1,672 | 20,202 |
| 82 | 20,202 | - | 6,876 | 1,220 | 14,545 |
| 83 | 14,545 | - | 5,187 | 870 | 10,228 |
| 84 | 10,228 | - | 3,817 | 606 | 7,016 |
| 85 | 7,016 | - | 2,737 | 411 | 4,691 |
| 86 | 4,691 | - | 1,909 | 272 | 3,054 |
| 87 | 3,054 | - | 1,295 | 175 | 1,934 |
| 88 | 1,934 | - | 853 | 110 | 1,191 |
| 89 | 1,191 | - | 545 | 67 | 713 |
| 90 | 713 | - | 338 | 40 | 415 |
| 91 | 415 | - | 203 | 23 | 234 |
| 92 | 234 | - | 118 | 13 | 129 |
| 93 | 129 | - | 67 | 7 | 69 |
| 94 | 69 | - | 37 | 4 | 36 |
| 95 | 36 | - | 20 | 2 | 18 |
| 96 | 18 | - | 10 | 1 | 9 |
| 97 | 9 | - | 5 | 0 | 4 |
| 98 | 4 | - | 3 | 0 | 1 |
| 99 | 1 | - | 1 | 0 | 0 |
| 100 | 0 | - | - | 0 | 0 |

**SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFIT PAYMENTS**

| Year | Projected Beginning Plan Net Position | Projected Benefit Payments | Funded Portion of Benefit Payments | Unfunded Portion of Benefit Payments | Present Value of Funded Benefit Payments using Expected Return Rate (v) | Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf) | Present Value of Benefit Payments using Single Discount Rate (sdr) |
|------|---------------------------------------|----------------------------|------------------------------------|--------------------------------------|---|---|--|
| (a) | (b) | (c) | (d) | (e) | (f)=(d)*v ^{(a)-.5} | (g)=(e)*vf ^{(a)-.5} | (h)=[(c)/(1+sdr)] ^{(a)-.5} |
| 1 | \$ 745,659,828 | \$ 54,611,843 | \$ 54,611,843 | \$ - | \$ 52,733,693 | \$ - | \$ 52,733,693 |
| 2 | 747,016,803 | 56,874,600 | 56,874,600 | - | 51,206,183 | - | 51,206,183 |
| 3 | 746,353,714 | 58,787,822 | 58,787,822 | - | 49,350,791 | - | 49,350,791 |
| 4 | 743,280,664 | 60,539,679 | 60,539,679 | - | 47,385,947 | - | 47,385,947 |
| 5 | 737,834,235 | 62,037,315 | 62,037,315 | - | 45,275,696 | - | 45,275,696 |
| 6 | 730,143,646 | 63,245,023 | 63,245,023 | - | 43,036,922 | - | 43,036,922 |
| 7 | 720,391,772 | 64,241,285 | 64,241,285 | - | 40,759,773 | - | 40,759,773 |
| 8 | 708,686,631 | 64,933,979 | 64,933,979 | - | 38,414,241 | - | 38,414,241 |
| 9 | 695,239,601 | 65,354,889 | 65,354,889 | - | 36,049,648 | - | 36,049,648 |
| 10 | 680,247,317 | 65,575,099 | 65,575,099 | - | 33,725,981 | - | 33,725,981 |
| 11 | 663,828,336 | 65,607,901 | 65,607,901 | - | 31,461,866 | - | 31,461,866 |
| 12 | 646,091,971 | 65,443,287 | 65,443,287 | - | 29,261,470 | - | 29,261,470 |
| 13 | 625,434,396 | 65,081,214 | 65,081,214 | - | 27,132,473 | - | 27,132,473 |
| 14 | 603,589,022 | 64,522,712 | 64,522,712 | - | 25,081,243 | - | 25,081,243 |
| 15 | 580,685,322 | 63,754,481 | 63,754,481 | - | 23,107,335 | - | 23,107,335 |
| 16 | 556,875,169 | 62,788,262 | 62,788,262 | - | 21,218,775 | - | 21,218,775 |
| 17 | 532,307,390 | 61,624,626 | 61,624,626 | - | 19,417,747 | - | 19,417,747 |
| 18 | 507,140,387 | 60,299,044 | 60,299,044 | - | 17,715,673 | - | 17,715,673 |
| 19 | 481,504,675 | 58,815,938 | 58,815,938 | - | 16,111,833 | - | 16,111,833 |
| 20 | 455,534,243 | 57,180,426 | 57,180,426 | - | 14,604,948 | - | 14,604,948 |
| 21 | 429,365,998 | 55,411,145 | 55,411,145 | - | 13,196,308 | - | 13,196,308 |
| 22 | 403,125,908 | 53,505,607 | 53,505,607 | - | 11,881,119 | - | 11,881,119 |
| 23 | 376,951,442 | 51,470,198 | 51,470,198 | - | 10,656,549 | - | 10,656,549 |
| 24 | 350,983,414 | 49,315,682 | 49,315,682 | - | 9,520,253 | - | 9,520,253 |
| 25 | 325,361,404 | 47,053,455 | 47,053,455 | - | 8,469,498 | - | 8,469,498 |
| 26 | 300,222,892 | 44,696,475 | 44,696,475 | - | 7,501,396 | - | 7,501,396 |
| 27 | 275,701,743 | 42,259,988 | 42,259,988 | - | 6,613,036 | - | 6,613,036 |
| 28 | 251,925,513 | 39,761,135 | 39,761,135 | - | 5,801,403 | - | 5,801,403 |
| 29 | 229,013,042 | 37,218,217 | 37,218,217 | - | 5,063,286 | - | 5,063,286 |
| 30 | 207,072,761 | 34,651,120 | 34,651,120 | - | 4,395,385 | - | 4,395,385 |
| 31 | 186,200,298 | 32,080,958 | 32,080,958 | - | 3,794,282 | - | 3,794,282 |
| 32 | 166,476,274 | 29,529,093 | 29,529,093 | - | 3,256,380 | - | 3,256,380 |
| 33 | 147,965,009 | 27,016,595 | 27,016,595 | - | 2,777,911 | - | 2,777,911 |
| 34 | 130,713,661 | 24,563,760 | 24,563,760 | - | 2,354,969 | - | 2,354,969 |
| 35 | 114,751,784 | 22,189,641 | 22,189,641 | - | 1,983,551 | - | 1,983,551 |
| 36 | 100,091,346 | 19,911,528 | 19,911,528 | - | 1,659,588 | - | 1,659,588 |
| 37 | 86,727,277 | 17,744,537 | 17,744,537 | - | 1,378,997 | - | 1,378,997 |
| 38 | 74,638,482 | 15,701,348 | 15,701,348 | - | 1,137,727 | - | 1,137,727 |
| 39 | 63,789,209 | 13,792,019 | 13,792,019 | - | 931,819 | - | 931,819 |
| 40 | 54,130,694 | 12,023,830 | 12,023,830 | - | 757,442 | - | 757,442 |
| 41 | 45,603,102 | 10,401,293 | 10,401,293 | - | 610,937 | - | 610,937 |
| 42 | 38,137,584 | 8,926,244 | 8,926,244 | - | 488,856 | - | 488,856 |
| 43 | 31,658,399 | 7,597,896 | 7,597,896 | - | 387,979 | - | 387,979 |
| 44 | 26,085,132 | 6,413,076 | 6,413,076 | - | 305,340 | - | 305,340 |
| 45 | 21,334,822 | 5,366,573 | 5,366,573 | - | 238,241 | - | 238,241 |
| 46 | 17,323,889 | 4,451,529 | 4,451,529 | - | 184,260 | - | 184,260 |
| 47 | 13,969,797 | 3,659,748 | 3,659,748 | - | 141,246 | - | 141,246 |
| 48 | 11,192,515 | 2,981,990 | 2,981,990 | - | 107,309 | - | 107,309 |
| 49 | 8,915,777 | 2,408,272 | 2,408,272 | - | 80,805 | - | 80,805 |
| 50 | 7,068,126 | 1,928,151 | 1,928,151 | - | 60,322 | - | 60,322 |

**SINGLE DISCOUNT RATE DEVELOPMENT
PRESENT VALUES OF PROJECTED BENEFIT PAYMENTS**

| Year | Projected Beginning Plan Net Position | Projected Benefit Payments | Funded Portion of Benefit Payments | Unfunded Portion of Benefit Payments | Present Value of Funded Benefit Payments using Expected Return Rate (v) | Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf) | Present Value of Benefit Payments using Single Discount Rate (sdr) |
|---------------|---|-------------------------------|---------------------------------------|--|---|---|--|
| (a) | (b) | (c) | (d) | (e) | (f)=(d)*v ^a ((a)-.5) | (g)=(e)*vf ^a ((a)-.5) | (h)=(c)/(1+sdr) ^a ((a)-.5) |
| 51 | \$ 5,583,741 | \$ 1,531,013 | \$ 1,531,013 | \$ - | \$ 44,660 | \$ - | \$ 44,660 |
| 52 | 4,403,020 | 1,206,368 | 1,206,368 | - | 32,811 | - | 32,811 |
| 53 | 3,472,906 | 944,124 | 944,124 | - | 23,943 | - | 23,943 |
| 54 | 2,746,942 | 734,820 | 734,820 | - | 17,375 | - | 17,375 |
| 55 | 2,185,104 | 569,781 | 569,781 | - | 12,562 | - | 12,562 |
| 56 | 1,753,450 | 441,220 | 441,220 | - | 9,070 | - | 9,070 |
| 57 | 1,423,641 | 342,281 | 342,281 | - | 6,560 | - | 6,560 |
| 58 | 1,172,383 | 267,042 | 267,042 | - | 4,772 | - | 4,772 |
| 59 | 980,828 | 210,474 | 210,474 | - | 3,507 | - | 3,507 |
| 60 | 833,968 | 168,373 | 168,373 | - | 2,616 | - | 2,616 |
| 61 | 720,061 | 137,286 | 137,286 | - | 1,989 | - | 1,989 |
| 62 | 630,090 | 114,424 | 114,424 | - | 1,546 | - | 1,546 |
| 63 | 557,272 | 97,579 | 97,579 | - | 1,229 | - | 1,229 |
| 64 | 496,620 | 85,043 | 85,043 | - | 999 | - | 999 |
| 65 | 444,554 | 75,525 | 75,525 | - | 827 | - | 827 |
| 66 | 398,569 | 68,066 | 68,066 | - | 695 | - | 695 |
| 67 | 356,975 | 61,971 | 61,971 | - | 590 | - | 590 |
| 68 | 318,678 | 56,751 | 56,751 | - | 504 | - | 504 |
| 69 | 283,010 | 52,070 | 52,070 | - | 431 | - | 431 |
| 70 | 249,604 | 47,704 | 47,704 | - | 368 | - | 368 |
| 71 | 218,296 | 43,513 | 43,513 | - | 313 | - | 313 |
| 72 | 189,061 | 39,419 | 39,419 | - | 264 | - | 264 |
| 73 | 161,944 | 35,394 | 35,394 | - | 221 | - | 221 |
| 74 | 137,031 | 31,440 | 31,440 | - | 183 | - | 183 |
| 75 | 114,406 | 27,583 | 27,583 | - | 150 | - | 150 |
| 76 | 94,134 | 23,861 | 23,861 | - | 121 | - | 121 |
| 77 | 76,248 | 20,322 | 20,322 | - | 96 | - | 96 |
| 78 | 60,731 | 17,016 | 17,016 | - | 75 | - | 75 |
| 79 | 47,512 | 13,989 | 13,989 | - | 57 | - | 57 |
| 80 | 36,469 | 11,278 | 11,278 | - | 43 | - | 43 |
| 81 | 27,434 | 8,904 | 8,904 | - | 32 | - | 32 |
| 82 | 20,202 | 6,876 | 6,876 | - | 23 | - | 23 |
| 83 | 14,545 | 5,187 | 5,187 | - | 16 | - | 16 |
| 84 | 10,228 | 3,817 | 3,817 | - | 11 | - | 11 |
| 85 | 7,016 | 2,737 | 2,737 | - | 7 | - | 7 |
| 86 | 4,691 | 1,909 | 1,909 | - | 5 | - | 5 |
| 87 | 3,054 | 1,295 | 1,295 | - | 3 | - | 3 |
| 88 | 1,934 | 853 | 853 | - | 2 | - | 2 |
| 89 | 1,191 | 545 | 545 | - | 1 | - | 1 |
| 90 | 713 | 338 | 338 | - | 1 | - | 1 |
| 91 | 415 | 203 | 203 | - | 0 | - | 0 |
| 92 | 234 | 118 | 118 | - | 0 | - | 0 |
| 93 | 129 | 67 | 67 | - | 0 | - | 0 |
| 94 | 69 | 37 | 37 | - | 0 | - | 0 |
| 95 | 36 | 20 | 20 | - | 0 | - | 0 |
| 96 | 18 | 10 | 10 | - | 0 | - | 0 |
| 97 | 9 | 5 | 5 | - | 0 | - | 0 |
| 98 | 4 | 3 | 3 | - | 0 | - | 0 |
| 99 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 100 | 0 | - | - | - | - | - | - |
| Totals | | | | | \$ 768,957,112 | \$ - | \$ 768,957,112 |



SECTION H

GLOSSARY OF TERMS

GLOSSARY OF TERMS

| | |
|---|---|
| <i>Actuarial Accrued Liability (AAL)</i> | The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability." |
| <i>Actuarial Assumptions</i> | These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation. |
| <i>Accrued Service</i> | Service credited under the system which was rendered before the date of the actuarial valuation. |
| <i>Actuarial Equivalent</i> | A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions. |
| <i>Actuarial Cost Method</i> | A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method. |
| <i>Actuarial Gain (Loss)</i> | The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities. |
| <i>Actuarial Present Value (APV)</i> | The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment. |
| <i>Actuarial Valuation</i> | The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions. |
| <i>Actuarial Valuation Date</i> | The date as of which an actuarial valuation is performed. |

GLOSSARY OF TERMS

| | |
|---|--|
| <i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i> | A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment. |
| <i>Amortization Payment</i> | The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal. |
| <i>Amortization Method</i> | The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year). |
| <i>Cost-of-Living Adjustments</i> | Postemployment benefit changes intended to adjust benefit payments for the effects of inflation. |
| <i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i> | A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan. |
| <i>Covered-Employee Payroll</i> | The payroll of employees that are provided with pensions through the pension plan. |
| <i>Deferred Inflows and Outflows</i> | The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources. |
| <i>Discount Rate</i> | For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"> 1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate. |

GLOSSARY OF TERMS

| | |
|--|--|
| <i>Entry Age Actuarial Cost Method (EAN)</i> | The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits. |
| <i>GASB</i> | The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities. |
| <i>Fiduciary Net Position</i> | The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions. |
| <i>Long-Term Expected Rate of Return</i> | The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio. |
| <i>Money-Weighted Rate of Return</i> | The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense. |
| <i>Multiple-Employer Defined Benefit Pension Plan</i> | A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer. |
| <i>Municipal Bond Rate</i> | The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted. |
| <i>Net Pension Liability (NPL)</i> | The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan. |
| <i>Non-Employer Contributing Entities</i> | Non-employer contributing entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities. |

GLOSSARY OF TERMS

| | |
|---|--|
| <i>Normal Cost</i> | The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost. |
| <i>Other Postemployment Benefits (OPEB)</i> | All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits. |
| <i>Real Rate of Return</i> | The real rate of return is the rate of return on an investment after adjustment to eliminate inflation. |
| <i>Service Cost</i> | The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. |
| <i>Total Pension Expense</i> | The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none"> 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets |
| <i>Total Pension Liability (TPL)</i> | The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. |
| <i>Unfunded Actuarial Accrued Liability (UAAL)</i> | The UAAL is the difference between actuarial accrued liability and valuation assets. |
| <i>Valuation Assets</i> | The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement No. 67, the valuation assets are equal to the market value of assets. |