



**Judges' Retirement System  
of the  
State of Montana**

**GASB 67 and 68 Report  
as of  
June 30, 2014**

**Produced by [Cheiron](#)**

**May 2015**

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**JUDGES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**BOARD SUMMARY**

The purpose of this report is to provide accounting and financial disclosure information under the Government Accounting Standards Board Statement 67 and 68 for the Judges' Retirement System and the State of Montana. This information includes:

- Determination of the discount rate,
- Projection of the Total Pension Liability from the actuarial valuation date to the measurement date,
- Changes in the Net Pension Liability/(Asset) from the beginning to the end of the measurement period,
- Calculation of the Net Pension Liability/(Asset) at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Schedule of Changes in Net Pension Liability/(Asset) and Related Ratios,
- Changes in the Net Pension Liability/(Asset),
- Schedule of Employer Contributions,
- Schedule of Deferred Inflows and Outflows, and
- Calculation of Pension Expense/(Income).

**Highlights**

This report is the first report under GASB 68, and is a supplement to the GASB 67 report under the same reporting date previously provided. The reporting date for the State of Montana Judges' Retirement System (JRS) is June 30, 2014. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2014 and the Total Pension Liability as of an actuarial valuation date of June 30, 2013 updated to June 30, 2014. There were no significant events between the valuation date and the measurement date so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments.

Beginning of the year measurements are also based on the actuarial valuation as of June 30, 2013. Because the beginning and ending values are based on the same actuarial valuation and there were no significant events, no liability gains or losses due to experience are reported this year. In future years, liability gains and losses will be reported reflecting the liability gains and losses between actuarial valuation dates as well as any significant events during the update period.

The table on the next page provides a summary of the key results during this reporting period.

**JUDGES' RETIREMENT SYSTEM  
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**BOARD SUMMARY**

|   | <b>Measurement Date</b> |                   |
|---|-------------------------|-------------------|
|   | <b>6/30/2014</b>        | <b>6/30/2013</b>  |
| Total Pension Liability                             | \$ 51,631,895           | \$ 49,236,164     |
| Plan Fiduciary Net Position                         | <u>84,222,842</u>       | <u>72,792,380</u> |
| Net Pension Liability/(Asset)                       | \$ (32,590,947)         | \$ (23,556,216)   |
| Deferred Inflows                                    | 5,453,472               | 0                 |
| Deferred Outflows                                   | <u>0</u>                | <u>0</u>          |
| Net Impact on Statement of Net Position             | \$ (27,137,475)         | \$ (23,556,216)   |
| Pension Expense/(Income) (\$ Amount)                | \$ (1,929,776)          | N/A               |
| Pension Expense/(Income) (% of Pensionable Payroll) | -30.37%                 | N/A               |
| Discount Rate                                       | 7.75%                   | 7.75%             |

\* Throughout this report, pensionable payroll will be used rather than Covered-Employee Payroll as defined by GASB, and described in Appendix A.

If the employer elects to use June 30, 2014 as its initial measurement date under GASB 68, a Net Pension Liability/(Asset) of (\$23,556,216) would be recognized as of the beginning of the reporting year.

As of the end of the reporting year, the employer would report a total Net Pension Liability/(Asset) of (\$32,590,947) and Deferred Inflows of \$5,453,472. Consequently, the net impact on the employer's Statement of Net Position would be (\$27,137,475) at the end of the reporting year. In addition, any contributions between the measurement date and the reporting date by the employer would be reported as deferred outflows to match the cash outflow reported.

For the measurement year ending June 30, 2014, the Pension Expense/(Income) is (\$1,929,776) or (30.37%) of pensionable payroll. This amount is not expected to be the same as the employer's contribution to the Plan (\$1,651,483), but instead represents the change in the net impact on the employer's Statement of Net Position plus employer contributions [(\$27,137,475) + \$1,651,483 - (\$23,556,216)]. A breakdown of the Pension Expense/(Income) is shown in this report.

**JUDGES' RETIREMENT SYSTEM  
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**CERTIFICATION**

The purpose of this report is to provide accounting and financial reporting information under GASB 67 and 68 for the State of Montana Judges' Retirement System (JRS). This report is for the use of JRS, the State of Montana, 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 JRS.

In preparing our report, we relied on information (some oral and some written) supplied by Montana Public Employee Retirement Administration (MPERA). 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.

The membership data, actuarial assumptions, and plan provisions are the same as were described in the June 30, 2013 Actuarial Valuation Report for JRS, except that it has been assumed that the rate of investment return is net only of investment expenses, rather than net of both investment and administrative expenses. The administrative expense rate is assumed to be 0.15% of active member payroll.

Future reporting requirements may differ significantly from the current reporting requirements presented in this report due to such factors as the following: plan experience differing from that anticipated by assumptions; changes in 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 JRS 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 such other users.

Sincerely,  
Cheiron



Stephen T. McElhaney, FSA, FCA, MAAA  
Principal Consulting Actuary



Margaret Tempkin, FSA, MAAA  
Principal Consulting Actuary

**JUDGES' RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**DETERMINATION OF DISCOUNT RATE**

The discount rate as of June 30, 2014 is 7.75% which is the assumed long-term expected rate of return on System investments. Projections of the System's fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current Plan members following the procedures described in paragraphs 39 - 45 of GASB Statement 67. The results of these projections are included within this report in Appendix B.

**JUDGES' RETIREMENT SYSTEM**  
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**PROJECTION OF TOTAL PENSION LIABILITY**

The Total Pension Liability (TPL) at the beginning of the measurement year is measured at the actuarial valuation date of June 30, 2013. The TPL at June 30, 2013 is the same as was reported for actuarial valuation purposes as of June 30, 2013. The TPL at the end of the measurement year, June 30, 2014, is measured as of an actuarial valuation date of June 30, 2013 and projected to June 30, 2014. In future years, both the beginning and end of year TPL will be measured as of an actuarial valuation date one year prior and projected to the appropriate date. There were no significant events during the projection period of which we are aware. 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. TPL and Service Cost have been determined using the Entry Age Actuarial Cost Method as described in paragraph 46 of GASB Statement 67.

| <b>Table 2</b>                               |                   |                   |                   |
|--|-------------------|-------------------|-------------------|
| <b>Projection of Total Pension Liability</b> |                   |                   |                   |
| <b>Discount Rate</b>                         | <b>6.75%</b>      | <b>7.75%</b>      | <b>8.75%</b>      |
| <b>Total Pension Liability, 6/30/2013</b>    |                   |                   |                   |
| <b>Actives</b>                               | \$ 19,593,368     | \$ 17,527,513     | \$ 15,745,157     |
| <b>Deferred Vested</b>                       | 0                 | 0                 | 0                 |
| <b>Retirees</b>                              | <u>34,456,380</u> | <u>31,708,651</u> | <u>29,330,047</u> |
| <b>Total</b>                                 | \$ 54,049,748     | \$ 49,236,164     | \$ 45,075,204     |
| <b>Service Cost, Beginning of Year</b>       |                   |                   |                   |
| <b>Service Cost Rate</b>                     | 29.06%            | 24.67%            | 21.05%            |
| <b>Expected Payroll During Year</b>          | \$ 6,460,697      | \$ 6,460,697      | \$ 6,460,697      |
| <b>Service Cost</b>                          | \$ 1,877,479      | \$ 1,593,854      | \$ 1,359,977      |
| <b>Benefit Payments</b>                      | \$ 3,022,512      | \$ 3,022,512      | \$ 3,022,512      |
| <b>Interest</b>                              | \$ 3,674,744      | \$ 3,824,389      | \$ 3,933,616      |
| <b>Change in Benefits</b>                    | \$ 0              | \$ 0              | \$ 0              |
| <b>Change in Assumptions</b>                 | \$ 0              | \$ 0              | \$ 0              |
| <b>Other Significant Events</b>              | \$ 0              | \$ 0              | \$ 0              |
| <b>Total Pension Liability, 6/30/2014</b>    | \$ 56,579,459     | \$ 51,631,895     | \$ 47,346,285     |

**JUDGES' RETIREMENT SYSTEM  
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**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/(Asset) during the measurement year.

| <b>Table 3</b>  |                                    |  |  |
|---|------------------------------------|--|--|
| <b>Change in Net Pension Liability/(Asset)</b>        |                                    |  |  |
| <b>Increase (Decrease)</b>                            |                                    |  |  |
|   | <b>Total Pension<br/>Liability</b> | <b>Plan Fiduciary<br/>Net Position</b> | <b>Net Pension<br/>Liability/(Asset)</b> |
|   | <b>(a)</b>                         | <b>(b)</b>                             | <b>(a) - (b)</b>                         |
| <b>Balances at 6/30/2013</b>                          | <b>\$ 49,236,164</b>               | <b>\$ 72,792,380</b>                   | <b>\$ (23,556,216)</b>                   |
| <b>Changes for the year:</b>                          |                                    |  |  |
| Service cost  | 1,593,854                          |  | 1,593,854                                |
| Interest  | 3,824,389                          |  | 3,824,389                                |
| Changes of benefits                                   | 0                                  |  | 0  |
| Changes of assumptions                                | 0                                  |  | 0  |
| Differences between expected<br>and actual experience | 0                                  |  | 0  |
| Contributions - employer                              |                                    | 1,651,483                              | (1,651,483)                              |
| Contributions - non-employer                          |                                    | 0                                      | 0  |
| Contributions - member                                |                                    | 481,461                                | (481,461)                                |
| Net investment income                                 |                                    | 12,420,597                             | (12,420,597)                             |
| Benefit payments                                      | (3,022,512)                        | (3,022,512)                            | 0  |
| Administrative expense                                |                                    | (100,567)                              | 100,567                                  |
| <b>Net changes</b>                                    | <b>2,395,731</b>                   | <b>11,430,462</b>                      | <b>(9,034,731)</b>                       |
| <b>Balances at 6/30/2014</b>                          | <b>\$ 51,631,895</b>               | <b>\$ 84,222,842</b>                   | <b>\$ (32,590,947)</b>                   |

There were no changes in benefits or changes in assumptions during the year. Because the beginning and end of year TPL are both based on the same actuarial valuation, there are no differences between expected and actual experience reported this year.

Total contributions and investment income exceeded the service cost, interest cost, and administrative expenses, resulting in a decrease in the Net Pension Liability/(Asset) (NPL/NPA) of \$9,034,731. The NPL/NPA remaining as of June 30, 2014, is (\$32,590,947).

**JUDGES' RETIREMENT SYSTEM  
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**NOTE DISCLOSURES**

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/NPA can be very significant for a relatively small change in the discount rate. The table below shows the sensitivity of the NPL/NPA to the discount rate.

| <b>Table 4</b>   |                                  |                                    |                                  |
|--|----------------------------------|------------------------------------|----------------------------------|
| <b>Sensitivity of Net Pension Liability/(Asset) to Changes in Discount Rate</b>  |                                  |                                    |                                  |
| <b>As of June 30, 2014</b>   |                                  |                                    |                                  |
|  | <b>1%<br/>Decrease<br/>6.75%</b> | <b>Discount<br/>Rate<br/>7.75%</b> | <b>1%<br/>Increase<br/>8.75%</b> |
| Total Pension Liability  | \$ 56,579,459                    | \$ 51,631,895                      | \$ 47,346,285                    |
| Plan Fiduciary Net Position  | <u>84,222,842</u>                | <u>84,222,842</u>                  | <u>84,222,842</u>                |
| Net Pension Liability/(Asset)  | <u>\$ (27,643,383)</u>           | <u>\$ (32,590,947)</u>             | <u>\$ (36,876,557)</u>           |
| Plan Fiduciary Net Position<br>as a Percentage of<br>the Total Pension Liability | 148.9%                           | 163.1%                             | 177.9%                           |

A one percent decrease in the discount rate increases the TPL by approximately 9.6% and increases the NPL/NPA by approximately 15.2%. A one percent increase in the discount rate decreases the TPL by approximately 8.3% and decreases the NPL/NPA by approximately 13.1%.

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**REQUIRED SUPPLEMENTARY INFORMATION**

The schedules of Required Supplementary Information generally start with one year of information as of the implementation of GASB 67, but eventually will need to build up to 10 years of information. The schedule below shows the changes in NPL/NPA and related ratios required by GASB.

| <b>Table 5</b>   |                        |
|--|------------------------|
| <b>Schedule of Changes in Net Pension Liability/(Asset) and Related Ratios</b> |                        |
|  | <b>FYE 2014</b>        |
| <b><u>Total Pension Liability</u></b>  |                        |
| Service cost (BOY)   | \$ 1,593,854           |
| Interest (includes interest on service cost)                                   | 3,824,389              |
| Changes of benefit terms   | 0                      |
| Differences between expected and actual experience                             | 0                      |
| Changes of assumptions   | 0                      |
| Benefit payments, including refunds of member contributions                    | (3,022,512)            |
| <b>Net change in total pension liability</b>                                   | <b>\$ 2,395,731</b>    |
| <b>Total pension liability - beginning</b>                                     | <b>49,236,164</b>      |
| <b>Total pension liability - ending</b>  | <b>\$ 51,631,895</b>   |
| <b><u>Plan fiduciary net position</u></b>                                      |                        |
| Contributions - employer   | \$ 1,651,483           |
| Contributions - non-employer   | 0                      |
| Contributions - member   | 481,461                |
| Net investment income  | 12,420,597             |
| Benefit payments, including refunds of member contributions                    | (3,022,512)            |
| Administrative expense   | (100,567)              |
| <b>Net change in plan fiduciary net position</b>                               | <b>\$ 11,430,462</b>   |
| <b>Plan fiduciary net position - beginning</b>                                 | <b>72,792,380</b>      |
| <b>Plan fiduciary net position - ending</b>                                    | <b>\$ 84,222,842</b>   |
| <b>Net pension liability/(asset) - ending</b>                                  | <b>\$ (32,590,947)</b> |
| Plan fiduciary net position as a percentage of the total pension liability     | 163.12%                |
| Pensionable payroll  | \$ 6,354,763           |
| Net pension liability/(asset) as a percentage of pensionable payroll           | -512.86%               |

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**REQUIRED SUPPLEMENTARY INFORMATION**

If an Actuarially Determined Contribution is calculated, the following schedule is required. An Actuarially Determined Contribution is a contribution amount determined in accordance with Actuarial Standards of Practice.

| <b>Table 6</b>   |                          |
|--|--------------------------|
| <b>Schedule of Employer Contributions</b>                            |                          |
| Last Fiscal Year   |                          |
| Dollar Amounts in Thousands  |                          |
|  | <b>2014</b>              |
| Actuarially Determined Contribution                                  | \$ 0                     |
| Contributions in Relation to the Actuarially Determined Contribution |                          |
| Employer Contributions   | \$ 1,651                 |
| Non-Employer Contributions   | <u>0</u>                 |
| Total Contributions  | <u>\$ 1,651</u>          |
| <b>Contribution Deficiency/(Excess)</b>                              | <b><u>\$ (1,651)</u></b> |
| Pensionable Payroll  | \$ 6,355                 |
| Contributions as a Percentage of Pensionable Payroll                 | 25.98%                   |

**JUDGES' RETIREMENT SYSTEM  
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**EMPLOYER REPORTING AMOUNTS**

The employer is not required to implement GASB 68 until its reporting date of June 30, 2015. However, the amounts reported as of June 30, 2015 can be based on either a June 30, 2014 or June 30, 2015 measurement date. The schedules in this section are provided should the employer elect to use the 2014 measurement date for its 2015 reporting.

The impact of experience gains or losses and assumption changes on the TPL are recognized in the Pension Expense/(Income) over the average expected remaining service life of all active and inactive members of the Plan, determined as of the beginning of the measurement period. As of June 30, 2013, this average was 3.91 years<sup>1</sup> which was rounded to 4.00 years for recognition purposes. However, there were no experience gains or losses, and there were no assumption changes during the measurement year.

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 \$6.8 million. Approximately, \$1.4 million of that was recognized in the current year and identical amounts will be recognized in each of the next four years, resulting in a Deferred Inflow of Resources of approximately \$5.5 million. The table below summarizes the current balances of Deferred Outflows and Deferred Inflows of Resources along with the net recognition over the next several years.

| <b>Table 7</b>   |   |  |
|--|---|--|
| <b>Schedule of Deferred Inflows and Outflows</b>   |   |  |
| <b>As of June 30, 2014</b>   |   |  |
|  | <b>Deferred<br/>Outflows of<br/>Resources</b> | <b>Deferred<br/>Inflows of<br/>Resources</b> |
| Differences between expected and actual experience   | \$ 0  | \$ 0   |
| Changes in assumptions   | 0   | 0  |
| Net difference between projected and actual earnings on pension plan investments   | 0   | 5,453,472                                    |
| <b>Total</b>   | <b>\$ 0</b>                                   | <b>\$ 5,453,472</b>                          |
| Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense/(income) as follows: |   |  |
| <b>Year ended June 30:</b>   |   |  |
| 2015   | \$ (1,363,368)                                |  |
| 2016   | \$ (1,363,368)                                |  |
| 2017   | \$ (1,363,368)                                |  |
| 2018   | \$ (1,363,368)                                |  |
| 2019   | \$ 0  |  |
| Thereafter   | \$ 0  |  |

<sup>1</sup> The average expected future working lifetime for 54 active members was 8.61 years.

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**EMPLOYER REPORTING AMOUNTS**

The Pension Expense/(Income) of the Plan can be calculated two different ways. First, it is the change in the amounts reported on the employer's Statement of Net Position that relate to the Plan and are not attributable to employer contributions. That is, it is the change in NPL/NPA plus the changes in deferred outflows and inflows plus employer contributions.

Alternatively, the Pension Expense/(Income) can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table below, we believe it helps to understand the level and volatility of Pension Expense/(Income).

| <b>Table 8<br/>Calculation of Pension Expense/(Income)<br/>For the Fiscal Year Ending June 30, 2014</b> |                       |
|---|-----------------------|
| Change in Net Pension Liability/(Asset)   | \$ (9,034,731)        |
| Change in Deferred Outflows   | 0                     |
| Change in Deferred Inflows  | 5,453,472             |
| Non-Employer Contributions  | 0                     |
| Employer Contributions  | <u>1,651,483</u>      |
| <b>Pension Expense/(Income)</b>   | <b>\$ (1,929,776)</b> |
| <b>Pension Expense/(Income) as % of Pensionable Payroll</b>   | <b>-30.37%</b>        |
| <b>Operating Expenses</b>   |                       |
| Service cost  | \$ 1,593,854          |
| Employee contributions  | (481,461)             |
| Administrative expenses   | <u>100,567</u>        |
| Total   | \$ 1,212,960          |
| <b>Financing Expenses</b>   |                       |
| Interest cost   | \$ 3,824,389          |
| Expected return on assets   | <u>(5,603,757)</u>    |
| Total   | \$ (1,779,368)        |
| <b>Changes</b>  |                       |
| Benefit changes   | \$ 0                  |
| Recognition of assumption changes   | 0                     |
| Recognition of liability (gains)/losses   | 0                     |
| Recognition of investment (gains)/losses  | <u>(1,363,368)</u>    |
| Total   | \$ (1,363,368)        |
| <b>Pension Expense/(Income)</b>   | <b>\$ (1,929,776)</b> |

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**EMPLOYER REPORTING AMOUNTS**

First, there are components that we refer to as operating expenses. These items are directly attributable to the operation of the Plan during the measurement year. Service cost less employee contributions represents the increase in the employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the Plan for the year.

Second, there are the financing expenses: the interest on the Total Pension Liability less the expected return on assets. Since the discount rate is equal to the long-term expected return on assets, the financing expense is just the interest on the Net Pension Liability/(Asset), service cost, contributions, and administrative expenses. The calculation of the expected return on assets is detailed below.

| <b>Table 9<br/>Calculation of Expected Return on Assets<br/>For the Fiscal Year Ending June 30, 2014</b> |           |                  |
|--|-----------|------------------|
| Market Value of Assets - beginning of year   | \$        | 72,792,380       |
| Expected Return on Market Value  | \$        | 5,641,409        |
| Employee Contributions   | \$        | 481,461          |
| Non-Employer Contributions   |           | 0                |
| Employer Contributions   |           | 1,651,483        |
| Benefit Payments   |           | (3,022,512)      |
| Administrative Expenses  |           | (100,567)        |
| Net Cash Flow - during year  | \$        | (990,135)        |
| Expected Return on Cash Flow Items   | \$        | (37,652)         |
| <b>Expected Return on Assets</b>   | <b>\$</b> | <b>5,603,757</b> |

The final category is changes. This category will drive most of the volatility in Pension Expense/(Income) from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains, or losses on the TPL, and investment gains or losses. For the first year, there is an investment gain recognized that offsets a large portion of the financing expense.

**APPENDIX A  
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. Covered-Employee Payroll**

The payroll of employees that are provided with pensions through the pension plan.<sup>2</sup>

**4. 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.

**5. 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.

**6. 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.

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<sup>2</sup> This payroll includes all pay to employees, whether or not included in pensionable pay. MPERA has advised that Covered-Employee Payroll is not available. Therefore, pensionable payroll has been used throughout this report.

**APPENDIX A  
GLOSSARY OF TERMS**

**7. 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.

**8. Net Pension Liability/(Asset)**

The liability of employers and non-employer 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.

**9. Pension Expense/(Income)**

The economic cost of pensions that an entity recognizes during a reporting period.

**10. Plan Fiduciary Net Position**

The fair or market value of assets.

**11. Reporting Date**

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

**12. 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.

**13. 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.

**JUDGES' RETIREMENT SYSTEM**  
**GASB 67 AND 68 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**APPENDIX B**  
**DEVELOPMENT OF DISCOUNT RATE**

**Table 1 - Projection of Contributions**

Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1 (except Payroll)

\* Total pensionable payroll increases 4.00% per year

| Year | Projected Pensionable Payroll     |                                  |  | Projected Rates   |                   |                                     | Projected Contributions                                    |  |  |   |
|------|-----------------------------------|----------------------------------|--|-------------------|-------------------|-------------------------------------|--|--|--|---|
|      | Payroll for Current Employees (a) | Payroll for Future Employees (b) | Total Employee Payroll * (c) = (a) + (b) | Employee Rate (d) | Employer Rate (e) | Rate Available for Amortization (f) | Member Contributions for Current Employees (g) = (a) x (d) | Employer Contributions for Current Employees (h) = (a) x (e) | Contributions Related to Payroll of Future Employees (i) = (b) x (f) | Total Contributions (j) = (g) + (h) + (i) |
| 1    | \$ 6,461                          | \$ 0                             | \$ 6,461                                 |                   |                   |                                     | \$ 481   | \$ 1,651   | \$ 0   | \$ 2,133                                  |
| 2    | 6,068                             | 651                              | 6,719                                    | 7.0%              | 25.8%             | 8.1%                                | 425  | 1,566  | 53   | 2,044                                     |
| 3    | 5,933                             | 1,055                            | 6,988                                    | 7.0%              | 25.8%             | 8.1%                                | 415  | 1,531  | 86   | 2,032                                     |
| 4    | 5,937                             | 1,330                            | 7,267                                    | 7.0%              | 25.8%             | 8.1%                                | 416  | 1,532  | 108  | 2,056                                     |
| 5    | 5,495                             | 2,063                            | 7,558                                    | 7.0%              | 25.8%             | 8.1%                                | 385  | 1,418  | 168  | 1,971                                     |
| 6    | 5,065                             | 2,795                            | 7,860                                    | 7.0%              | 25.8%             | 8.1%                                | 355  | 1,307  | 228  | 1,889                                     |
| 7    | 5,004                             | 3,171                            | 8,175                                    | 7.0%              | 25.8%             | 8.1%                                | 350  | 1,292  | 258  | 1,900                                     |
| 8    | 4,724                             | 3,778                            | 8,502                                    | 7.0%              | 25.8%             | 8.1%                                | 331  | 1,219  | 308  | 1,857                                     |
| 9    | 4,078                             | 4,764                            | 8,842                                    | 7.0%              | 25.8%             | 8.1%                                | 285  | 1,052  | 388  | 1,726                                     |
| 10   | 3,859                             | 5,337                            | 9,196                                    | 7.0%              | 25.8%             | 8.1%                                | 270  | 996  | 434  | 1,701                                     |
| 11   | 3,640                             | 5,923                            | 9,563                                    | 7.0%              | 25.8%             | 8.1%                                | 255  | 940  | 482  | 1,676                                     |
| 12   | 3,311                             | 6,635                            | 9,946                                    | 7.0%              | 25.8%             | 8.1%                                | 232  | 855  | 540  | 1,626                                     |
| 13   | 3,217                             | 7,127                            | 10,344                                   | 7.0%              | 25.8%             | 8.1%                                | 225  | 830  | 580  | 1,636                                     |
| 14   | 2,932                             | 7,826                            | 10,758                                   | 7.0%              | 25.8%             | 8.1%                                | 205  | 757  | 637  | 1,599                                     |
| 15   | 2,669                             | 8,518                            | 11,188                                   | 7.0%              | 25.8%             | 8.1%                                | 187  | 689  | 693  | 1,569                                     |
| 16   | 2,426                             | 9,209                            | 11,635                                   | 7.0%              | 25.8%             | 8.1%                                | 170  | 626  | 750  | 1,546                                     |
| 17   | 1,989                             | 10,112                           | 12,101                                   | 7.0%              | 25.8%             | 8.1%                                | 139  | 513  | 823  | 1,476                                     |
| 18   | 1,757                             | 10,828                           | 12,585                                   | 7.0%              | 25.8%             | 8.1%                                | 123  | 453  | 881  | 1,458                                     |
| 19   | 1,254                             | 11,834                           | 13,088                                   | 7.0%              | 25.8%             | 8.1%                                | 88   | 324  | 963  | 1,375                                     |
| 20   | 844                               | 12,768                           | 13,612                                   | 7.0%              | 25.8%             | 8.1%                                | 59   | 218  | 1,039  | 1,316                                     |
| 21   | 820                               | 13,337                           | 14,156                                   | 7.0%              | 25.8%             | 8.1%                                | 57   | 212  | 1,086  | 1,354                                     |
| 22   | 494                               | 14,228                           | 14,722                                   | 7.0%              | 25.8%             | 8.1%                                | 35   | 128  | 1,158  | 1,320                                     |
| 23   | 349                               | 14,962                           | 15,311                                   | 7.0%              | 25.8%             | 8.1%                                | 24   | 90   | 1,218  | 1,332                                     |
| 24   | 342                               | 15,582                           | 15,924                                   | 7.0%              | 25.8%             | 8.1%                                | 24   | 88   | 1,268  | 1,380                                     |
| 25   | 334                               | 16,227                           | 16,561                                   | 7.0%              | 25.8%             | 8.1%                                | 23   | 86   | 1,321  | 1,430                                     |
| 26   | 208                               | 17,015                           | 17,223                                   | 7.0%              | 25.8%             | 8.1%                                | 15   | 54   | 1,385  | 1,453                                     |
| 27   | 203                               | 17,709                           | 17,912                                   | 7.0%              | 25.8%             | 8.1%                                | 14   | 53   | 1,441  | 1,508                                     |
| 28   | 178                               | 18,451                           | 18,629                                   | 7.0%              | 25.8%             | 8.1%                                | 12   | 46   | 1,502  | 1,560                                     |
| 29   | 173                               | 19,200                           | 19,374                                   | 7.0%              | 25.8%             | 8.1%                                | 12   | 45   | 1,563  | 1,620                                     |
| 30   | 169                               | 19,980                           | 20,149                                   | 7.0%              | 25.8%             | 8.1%                                | 12   | 44   | 1,626  | 1,682                                     |
| 31   | 164                               | 20,790                           | 20,955                                   | 7.0%              | 25.8%             | 8.1%                                | 12   | 42   | 1,692  | 1,746                                     |
| 32   | 160                               | 21,633                           | 21,793                                   | 7.0%              | 25.8%             | 8.1%                                | 11   | 41   | 1,761  | 1,813                                     |
| 33   | 0                                 | 22,665                           | 22,665                                   |                   |                   | 8.1%                                | 0  | 0  | 1,845  | 1,845                                     |
| 34   | 0                                 | 23,571                           | 23,571                                   |                   |                   | 8.1%                                | 0  | 0  | 1,919  | 1,919                                     |
| 35   | 0                                 | 24,514                           | 24,514                                   |                   |                   | 8.1%                                | 0  | 0  | 1,995  | 1,995                                     |
| 36   | 0                                 | 25,494                           | 25,494                                   |                   |                   | 8.1%                                | 0  | 0  | 2,075  | 2,075                                     |
| 37   | 0                                 | 26,514                           | 26,514                                   |                   |                   | 8.1%                                | 0  | 0  | 2,158  | 2,158                                     |
| 38   | 0                                 | 27,575                           | 27,575                                   |                   |                   | 8.1%                                | 0  | 0  | 2,245  | 2,245                                     |
| 39   | 0                                 | 28,678                           | 28,678                                   |                   |                   | 8.1%                                | 0  | 0  | 2,334  | 2,334                                     |
| 40   | 0                                 | 29,825                           | 29,825                                   |                   |                   | 8.1%                                | 0  | 0  | 2,428  | 2,428                                     |
| 41   | 0                                 | 31,018                           | 31,018                                   |                   |                   | 8.1%                                | 0  | 0  | 2,525  | 2,525                                     |
| 42   | 0                                 | 32,259                           | 32,259                                   |                   |                   | 8.1%                                | 0  | 0  | 2,626  | 2,626                                     |
| 43   | 0                                 | 33,549                           | 33,549                                   |                   |                   | 8.1%                                | 0  | 0  | 2,731  | 2,731                                     |
| 44   | 0                                 | 34,891                           | 34,891                                   |                   |                   | 8.1%                                | 0  | 0  | 2,840  | 2,840                                     |
| 45   | 0                                 | 36,287                           | 36,287                                   |                   |                   | 8.1%                                | 0  | 0  | 2,954  | 2,954                                     |
| 46   | 0                                 | 37,738                           | 37,738                                   |                   |                   | 8.1%                                | 0  | 0  | 3,072  | 3,072                                     |
| 47   | 0                                 | 39,248                           | 39,248                                   |                   |                   | 8.1%                                | 0  | 0  | 3,195  | 3,195                                     |
| 48   | 0                                 | 40,817                           | 40,817                                   |                   |                   | 8.1%                                | 0  | 0  | 3,323  | 3,323                                     |
| 49   | 0                                 | 42,450                           | 42,450                                   |                   |                   | 8.1%                                | 0  | 0  | 3,455  | 3,455                                     |
| 50   | 0                                 | 44,148                           | 44,148                                   |                   |                   | 8.1%                                | 0  | 0  | 3,594  | 3,594                                     |
| 51   | 0                                 | 45,914                           | 45,914                                   |                   |                   | 8.1%                                | 0  | 0  | 3,737  | 3,737                                     |
| 52   | 0                                 | 47,751                           | 47,751                                   |                   |                   | 8.1%                                | 0  | 0  | 3,887  | 3,887                                     |
| 53   | 0                                 | 49,661                           | 49,661                                   |                   |                   | 8.1%                                | 0  | 0  | 4,042  | 4,042                                     |
| 54   | 0                                 | 51,647                           | 51,647                                   |                   |                   | 8.1%                                | 0  | 0  | 4,204  | 4,204                                     |
| 55   | 0                                 | 53,713                           | 53,713                                   |                   |                   | 8.1%                                | 0  | 0  | 4,372  | 4,372                                     |
| 56   | 0                                 | 55,862                           | 55,862                                   |                   |                   | 8.1%                                | 0  | 0  | 4,547  | 4,547                                     |
| 57   | 0                                 | 58,096                           | 58,096                                   |                   |                   | 8.1%                                | 0  | 0  | 4,729  | 4,729                                     |
| 58   | 0                                 | 60,420                           | 60,420                                   |                   |                   | 8.1%                                | 0  | 0  | 4,918  | 4,918                                     |
| 59   | 0                                 | 62,837                           | 62,837                                   |                   |                   | 8.1%                                | 0  | 0  | 5,115  | 5,115                                     |

**JUDGES' RETIREMENT SYSTEM**  
**GASB 67 AND 68 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**APPENDIX B**  
**DEVELOPMENT OF DISCOUNT RATE**

**Table 1 - Projection of Contributions Continued**  
*Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1 (except Payroll)*  
*\* Total pensionable payroll increases 4.00% per year*

| Year | Projected Pensionable Payroll     |                                  |  | Projected Rates   |                   |                                     | Projected Contributions                                    |  |  |   |
|------|-----------------------------------|----------------------------------|--|-------------------|-------------------|-------------------------------------|--|--|--|---|
|      | Payroll for Current Employees (a) | Payroll for Future Employees (b) | Total Employee Payroll * (c) = (a) + (b) | Employee Rate (d) | Employer Rate (e) | Rate Available for Amortization (f) | Member Contributions for Current Employees (g) = (a) x (d) | Employer Contributions for Current Employees (h) = (a) x (e) | Contributions Related to Payroll of Future Employees (i) = (b) x (f) | Total Contributions (j) = (g) + (h) + (i) |
| 60   | 0                                 | 65,350                           | 65,350                                   |                   |                   | 8.1%                                | 0  | 0  | 5,320  | 5,320                                     |
| 61   | 0                                 | 67,964                           | 67,964                                   |                   |                   | 8.1%                                | 0  | 0  | 5,532  | 5,532                                     |
| 62   | 0                                 | 70,683                           | 70,683                                   |                   |                   | 8.1%                                | 0  | 0  | 5,754  | 5,754                                     |
| 63   | 0                                 | 73,510                           | 73,510                                   |                   |                   | 8.1%                                | 0  | 0  | 5,984  | 5,984                                     |
| 64   | 0                                 | 76,450                           | 76,450                                   |                   |                   | 8.1%                                | 0  | 0  | 6,223  | 6,223                                     |
| 65   | 0                                 | 79,508                           | 79,508                                   |                   |                   | 8.1%                                | 0  | 0  | 6,472  | 6,472                                     |
| 66   | 0                                 | 82,689                           | 82,689                                   |                   |                   | 8.1%                                | 0  | 0  | 6,731  | 6,731                                     |
| 67   | 0                                 | 85,996                           | 85,996                                   |                   |                   | 8.1%                                | 0  | 0  | 7,000  | 7,000                                     |
| 68   | 0                                 | 89,436                           | 89,436                                   |                   |                   | 8.1%                                | 0  | 0  | 7,280  | 7,280                                     |
| 69   | 0                                 | 93,014                           | 93,014                                   |                   |                   | 8.1%                                | 0  | 0  | 7,571  | 7,571                                     |
| 70   | 0                                 | 96,734                           | 96,734                                   |                   |                   | 8.1%                                | 0  | 0  | 7,874  | 7,874                                     |
| 71   | 0                                 | 100,604                          | 100,604                                  |                   |                   | 8.1%                                | 0  | 0  | 8,189  | 8,189                                     |
| 72   | 0                                 | 104,628                          | 104,628                                  |                   |                   | 8.1%                                | 0  | 0  | 8,517  | 8,517                                     |
| 73   | 0                                 | 108,813                          | 108,813                                  |                   |                   | 8.1%                                | 0  | 0  | 8,857  | 8,857                                     |
| 74   | 0                                 | 113,165                          | 113,165                                  |                   |                   | 8.1%                                | 0  | 0  | 9,212  | 9,212                                     |
| 75   | 0                                 | 117,692                          | 117,692                                  |                   |                   | 8.1%                                | 0  | 0  | 9,580  | 9,580                                     |
| 76   | 0                                 | 122,400                          | 122,400                                  |                   |                   | 8.1%                                | 0  | 0  | 9,963  | 9,963                                     |
| 77   | 0                                 | 127,296                          | 127,296                                  |                   |                   | 8.1%                                | 0  | 0  | 10,362   | 10,362                                    |
| 78   | 0                                 | 132,387                          | 132,387                                  |                   |                   | 8.1%                                | 0  | 0  | 10,776   | 10,776                                    |
| 79   | 0                                 | 137,683                          | 137,683                                  |                   |                   | 8.1%                                | 0  | 0  | 11,207   | 11,207                                    |
| 80   | 0                                 | 143,190                          | 143,190                                  |                   |                   | 8.1%                                | 0  | 0  | 11,656   | 11,656                                    |
| 81   | 0                                 | 148,918                          | 148,918                                  |                   |                   | 8.1%                                | 0  | 0  | 12,122   | 12,122                                    |
| 82   | 0                                 | 154,874                          | 154,874                                  |                   |                   | 8.1%                                | 0  | 0  | 12,607   | 12,607                                    |
| 83   | 0                                 | 161,069                          | 161,069                                  |                   |                   | 8.1%                                | 0  | 0  | 13,111   | 13,111                                    |
| 84   | 0                                 | 167,512                          | 167,512                                  |                   |                   | 8.1%                                | 0  | 0  | 13,635   | 13,635                                    |
| 85   | 0                                 | 174,213                          | 174,213                                  |                   |                   | 8.1%                                | 0  | 0  | 14,181   | 14,181                                    |
| 86   | 0                                 | 181,181                          | 181,181                                  |                   |                   | 8.1%                                | 0  | 0  | 14,748   | 14,748                                    |
| 87   | 0                                 | 188,428                          | 188,428                                  |                   |                   | 8.1%                                | 0  | 0  | 15,338   | 15,338                                    |
| 88   | 0                                 | 195,966                          | 195,966                                  |                   |                   | 8.1%                                | 0  | 0  | 15,952   | 15,952                                    |
| 89   | 0                                 | 203,804                          | 203,804                                  |                   |                   | 8.1%                                | 0  | 0  | 16,590   | 16,590                                    |
| 90   | 0                                 | 211,956                          | 211,956                                  |                   |                   | 8.1%                                | 0  | 0  | 17,253   | 17,253                                    |
| 91   | 0                                 | 220,435                          | 220,435                                  |                   |                   | 8.1%                                | 0  | 0  | 17,943   | 17,943                                    |
| 92   | 0                                 | 229,252                          | 229,252                                  |                   |                   | 8.1%                                | 0  | 0  | 18,661   | 18,661                                    |
| 93   | 0                                 | 238,422                          | 238,422                                  |                   |                   | 8.1%                                | 0  | 0  | 19,408   | 19,408                                    |
| 94   | 0                                 | 247,959                          | 247,959                                  |                   |                   | 8.1%                                | 0  | 0  | 20,184   | 20,184                                    |
| 95   | 0                                 | 257,877                          | 257,877                                  |                   |                   | 8.1%                                | 0  | 0  | 20,991   | 20,991                                    |
| 96   | 0                                 | 268,193                          | 268,193                                  |                   |                   | 8.1%                                | 0  | 0  | 21,831   | 21,831                                    |
| 97   | 0                                 | 278,920                          | 278,920                                  |                   |                   | 8.1%                                | 0  | 0  | 22,704   | 22,704                                    |
| 98   | 0                                 | 290,077                          | 290,077                                  |                   |                   | 8.1%                                | 0  | 0  | 23,612   | 23,612                                    |
| 99   | 0                                 | 301,680                          | 301,680                                  |                   |                   | 8.1%                                | 0  | 0  | 24,557   | 24,557                                    |
| 100  | 0                                 | 313,747                          | 313,747                                  |                   |                   | 8.1%                                | 0  | 0  | 25,539   | 25,539                                    |
| 101  | 0                                 | 326,297                          | 326,297                                  |                   |                   | 8.1%                                | 0  | 0  | 26,561   | 26,561                                    |
| 102  | 0                                 | 339,349                          | 339,349                                  |                   |                   | 8.1%                                | 0  | 0  | 27,623   | 27,623                                    |
| 103  | 0                                 | 352,923                          | 352,923                                  |                   |                   | 8.1%                                | 0  | 0  | 28,728   | 28,728                                    |
| 104  | 0                                 | 367,040                          | 367,040                                  |                   |                   | 8.1%                                | 0  | 0  | 29,877   | 29,877                                    |
| 105  | 0                                 | 381,722                          | 381,722                                  |                   |                   | 8.1%                                | 0  | 0  | 31,072   | 31,072                                    |
| 106  | 0                                 | 396,990                          | 396,990                                  |                   |                   | 8.1%                                | 0  | 0  | 32,315   | 32,315                                    |
| 107  | 0                                 | 412,870                          | 412,870                                  |                   |                   | 8.1%                                | 0  | 0  | 33,608   | 33,608                                    |
| 108  | 0                                 | 429,385                          | 429,385                                  |                   |                   | 8.1%                                | 0  | 0  | 34,952   | 34,952                                    |
| 109  | 0                                 | 446,560                          | 446,560                                  |                   |                   | 8.1%                                | 0  | 0  | 36,350   | 36,350                                    |

**JUDGES' RETIREMENT SYSTEM**  
**GASB 67 AND 68 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**APPENDIX B**  
**DEVELOPMENT OF DISCOUNT RATE**

**Table 2 - Projection of the Pension Plan's Fiduciary Net Position**

Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1

\* From Table 1 - Projection of Contributions, column (j)

| Year | Projected Beginning Fiduciary Net Position (a) | Projected Total Contributions* (b) | Projected Benefit Payments (c) | Projected Administrative Expense (d) | Projected Investment Earnings (e) | Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e) |
|------|--|------------------------------------|--------------------------------|--------------------------------------|-----------------------------------|---|
| 1    | \$ 72,792                                      | \$ 2,133                           | \$ 3,023                       | \$ 101                               | \$ 12,421                         | \$ 84,223   |
| 2    | 84,223   | 2,044                              | 3,410                          | 10                                   | 6,475                             | 89,322  |
| 3    | 89,322   | 2,032                              | 3,535                          | 10                                   | 6,865                             | 94,674  |
| 4    | 94,674   | 2,056                              | 3,837                          | 11                                   | 7,269                             | 100,151   |
| 5    | 100,151  | 1,971                              | 4,093                          | 11                                   | 7,681                             | 105,699   |
| 6    | 105,699  | 1,889                              | 4,188                          | 12                                   | 8,104                             | 111,492   |
| 7    | 111,492  | 1,900                              | 4,337                          | 12                                   | 8,548                             | 117,591   |
| 8    | 117,591  | 1,857                              | 4,761                          | 12                                   | 9,002                             | 123,677   |
| 9    | 123,677  | 1,726                              | 4,901                          | 13                                   | 9,464                             | 129,953   |
| 10   | 129,953  | 1,701                              | 5,105                          | 13                                   | 9,941                             | 136,477   |
| 11   | 136,477  | 1,676                              | 5,293                          | 14                                   | 10,439                            | 143,286   |
| 12   | 143,286  | 1,626                              | 5,352                          | 14                                   | 10,962                            | 150,509   |
| 13   | 150,509  | 1,636                              | 5,537                          | 14                                   | 11,516                            | 158,109   |
| 14   | 158,109  | 1,599                              | 5,686                          | 15                                   | 12,097                            | 166,104   |
| 15   | 166,104  | 1,569                              | 5,825                          | 15                                   | 12,711                            | 174,544   |
| 16   | 174,544  | 1,546                              | 6,034                          | 16                                   | 13,356                            | 183,396   |
| 17   | 183,396  | 1,476                              | 6,131                          | 16                                   | 14,036                            | 192,760   |
| 18   | 192,760  | 1,458                              | 6,428                          | 17                                   | 14,749                            | 202,522   |
| 19   | 202,522  | 1,375                              | 6,602                          | 17                                   | 15,496                            | 212,774   |
| 20   | 212,774  | 1,316                              | 6,486                          | 17                                   | 16,293                            | 223,880   |
| 21   | 223,880  | 1,354                              | 6,542                          | 17                                   | 17,153                            | 235,828   |
| 22   | 235,828  | 1,320                              | 6,425                          | 17                                   | 18,082                            | 248,789   |
| 23   | 248,789  | 1,332                              | 6,221                          | 16                                   | 19,095                            | 262,979   |
| 24   | 262,979  | 1,380                              | 6,005                          | 16                                   | 20,204                            | 278,544   |
| 25   | 278,544  | 1,430                              | 5,848                          | 15                                   | 21,419                            | 295,530   |
| 26   | 295,530  | 1,453                              | 5,581                          | 14                                   | 22,746                            | 314,134   |
| 27   | 314,134  | 1,508                              | 5,310                          | 14                                   | 24,200                            | 334,518   |
| 28   | 334,518  | 1,560                              | 5,029                          | 13                                   | 25,793                            | 356,829   |
| 29   | 356,829  | 1,620                              | 4,723                          | 12                                   | 27,536                            | 381,249   |
| 30   | 381,249  | 1,682                              | 4,421                          | 11                                   | 29,442                            | 407,940   |
| 31   | 407,940  | 1,746                              | 4,118                          | 11                                   | 31,525                            | 437,082   |
| 32   | 437,082  | 1,813                              | 3,931                          | 10                                   | 33,793                            | 468,747   |
| 33   | 468,747  | 1,845                              | 3,630                          | 9                                    | 36,260                            | 503,213   |
| 34   | 503,213  | 1,919                              | 3,334                          | 9                                    | 38,945                            | 540,733   |
| 35   | 540,733  | 1,995                              | 3,047                          | 8                                    | 41,867                            | 581,540   |
| 36   | 581,540  | 2,075                              | 2,756                          | 7                                    | 45,043                            | 625,896   |
| 37   | 625,896  | 2,158                              | 2,484                          | 6                                    | 48,494                            | 674,058   |
| 38   | 674,058  | 2,245                              | 2,223                          | 6                                    | 52,240                            | 726,314   |
| 39   | 726,314  | 2,334                              | 1,975                          | 5                                    | 56,303                            | 782,972   |
| 40   | 782,972  | 2,428                              | 1,741                          | 5                                    | 60,706                            | 844,361   |
| 41   | 844,361  | 2,525                              | 1,523                          | 4                                    | 65,476                            | 910,834   |
| 42   | 910,834  | 2,626                              | 1,322                          | 3                                    | 70,639                            | 982,773   |
| 43   | 982,773  | 2,731                              | 1,140                          | 3                                    | 76,225                            | 1,060,587   |
| 44   | 1,060,587                                      | 2,840                              | 975                            | 3                                    | 82,266                            | 1,144,715   |
| 45   | 1,144,715                                      | 2,954                              | 829                            | 2                                    | 88,796                            | 1,235,634   |
| 46   | 1,235,634                                      | 3,072                              | 700                            | 2                                    | 95,852                            | 1,333,856   |
| 47   | 1,333,856                                      | 3,195                              | 588                            | 2                                    | 103,473                           | 1,439,935   |
| 48   | 1,439,935                                      | 3,323                              | 491                            | 1                                    | 111,703                           | 1,554,468   |
| 49   | 1,554,468                                      | 3,455                              | 408                            | 1                                    | 120,587                           | 1,678,102   |
| 50   | 1,678,102                                      | 3,594                              | 337                            | 1                                    | 130,177                           | 1,811,534   |
| 51   | 1,811,534                                      | 3,737                              | 276                            | 1                                    | 140,526                           | 1,955,521   |
| 52   | 1,955,521                                      | 3,887                              | 224                            | 1                                    | 151,692                           | 2,110,876   |
| 53   | 2,110,876                                      | 4,042                              | 180                            | 0                                    | 163,740                           | 2,278,477   |
| 54   | 2,278,477                                      | 4,204                              | 143                            | 0                                    | 176,736                           | 2,459,274   |
| 55   | 2,459,274                                      | 4,372                              | 113                            | 0                                    | 190,756                           | 2,654,288   |
| 56   | 2,654,288                                      | 4,547                              | 88                             | 0                                    | 205,877                           | 2,864,624   |
| 57   | 2,864,624                                      | 4,729                              | 67                             | 0                                    | 222,186                           | 3,091,471   |
| 58   | 3,091,471                                      | 4,918                              | 51                             | 0                                    | 239,774                           | 3,336,112   |
| 59   | 3,336,112                                      | 5,115                              | 38                             | 0                                    | 258,742                           | 3,599,931   |

**JUDGES' RETIREMENT SYSTEM**  
**GASB 67 AND 68 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**APPENDIX B**  
**DEVELOPMENT OF DISCOUNT RATE**

**Table 2 - Projection of the Pension Plan's Fiduciary Net Position Continued**  
*Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1*  
*\* From Table 1 - Projection of Contributions, column (j)*

| <b>Year</b> | <b>Projected Beginning Fiduciary Net Position (a)</b> | <b>Projected Total Contributions* (b)</b> | <b>Projected Benefit Payments (c)</b> | <b>Projected Administrative Expense (d)</b> | <b>Projected Investment Earnings (e)</b> | <b>Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)</b> |
|-------------|---|---|---------------------------------------|---|--|--|
| 60          | 3,599,931   | 5,320                                     | 28                                    | 0   | 279,196                                  | 3,884,418  |
| 61          | 3,884,418   | 5,532                                     | 21                                    | 0   | 301,252                                  | 4,191,181  |
| 62          | 4,191,181   | 5,754                                     | 15                                    | 0   | 325,035                                  | 4,521,954  |
| 63          | 4,521,954   | 5,984                                     | 11                                    | 0   | 350,679                                  | 4,878,605  |
| 64          | 4,878,605   | 6,223                                     | 8                                     | 0   | 378,328                                  | 5,263,149  |
| 65          | 5,263,149   | 6,472                                     | 6                                     | 0   | 408,140                                  | 5,677,755  |
| 66          | 5,677,755   | 6,731                                     | 4                                     | 0   | 440,282                                  | 6,124,764  |
| 67          | 6,124,764   | 7,000                                     | 3                                     | 0   | 474,935                                  | 6,606,696  |
| 68          | 6,606,696   | 7,280                                     | 2                                     | 0   | 512,296                                  | 7,126,270  |
| 69          | 7,126,270   | 7,571                                     | 1                                     | 0   | 552,574                                  | 7,686,414  |
| 70          | 7,686,414   | 7,874                                     | 1                                     | 0   | 595,996                                  | 8,290,284  |
| 71          | 8,290,284   | 8,189                                     | 1                                     | 0   | 642,808                                  | 8,941,280  |
| 72          | 8,941,280   | 8,517                                     | 0                                     | 0   | 693,273                                  | 9,643,070  |
| 73          | 9,643,070   | 8,857                                     | 0                                     | 0   | 747,675                                  | 10,399,601   |
| 74          | 10,399,601  | 9,212                                     | 0                                     | 0   | 806,319                                  | 11,215,132   |
| 75          | 11,215,132  | 9,580                                     | 0                                     | 0   | 869,537                                  | 12,094,249   |
| 76          | 12,094,249  | 9,963                                     | 0                                     | 0   | 937,683                                  | 13,041,895   |
| 77          | 13,041,895  | 10,362                                    | 0                                     | 0   | 1,011,141                                | 14,063,398   |
| 78          | 14,063,398  | 10,776                                    | 0                                     | 0   | 1,090,323                                | 15,164,498   |
| 79          | 15,164,498  | 11,207                                    | 0                                     | 0   | 1,175,675                                | 16,351,380   |
| 80          | 16,351,380  | 11,656                                    | 0                                     | 0   | 1,267,675                                | 17,630,711   |
| 81          | 17,630,711  | 12,122                                    | 0                                     | 0   | 1,366,841                                | 19,009,674   |
| 82          | 19,009,674  | 12,607                                    | 0                                     | 0   | 1,473,729                                | 20,496,009   |
| 83          | 20,496,009  | 13,111                                    | 0                                     | 0   | 1,588,939                                | 22,098,060   |
| 84          | 22,098,060  | 13,635                                    | 0                                     | 0   | 1,713,118                                | 23,824,813   |
| 85          | 23,824,813  | 14,181                                    | 0                                     | 0   | 1,846,962                                | 25,685,957   |
| 86          | 25,685,957  | 14,748                                    | 0                                     | 0   | 1,991,222                                | 27,691,927   |
| 87          | 27,691,927  | 15,338                                    | 0                                     | 0   | 2,146,708                                | 29,853,973   |
| 88          | 29,853,973  | 15,952                                    | 0                                     | 0   | 2,314,289                                | 32,184,214   |
| 89          | 32,184,214  | 16,590                                    | 0                                     | 0   | 2,494,907                                | 34,695,711   |
| 90          | 34,695,711  | 17,253                                    | 0                                     | 0   | 2,689,574                                | 37,402,538   |
| 91          | 37,402,538  | 17,943                                    | 0                                     | 0   | 2,899,379                                | 40,319,860   |
| 92          | 40,319,860  | 18,661                                    | 0                                     | 0   | 3,125,499                                | 43,464,020   |
| 93          | 43,464,020  | 19,408                                    | 0                                     | 0   | 3,369,200                                | 46,852,628   |
| 94          | 46,852,628  | 20,184                                    | 0                                     | 0   | 3,631,846                                | 50,504,658   |
| 95          | 50,504,658  | 20,991                                    | 0                                     | 0   | 3,914,909                                | 54,440,558   |
| 96          | 54,440,558  | 21,831                                    | 0                                     | 0   | 4,219,973                                | 58,682,362   |
| 97          | 58,682,362  | 22,704                                    | 0                                     | 0   | 4,548,746                                | 63,253,813   |
| 98          | 63,253,813  | 23,612                                    | 0                                     | 0   | 4,903,068                                | 68,180,493   |
| 99          | 68,180,493  | 24,557                                    | 0                                     | 0   | 5,284,922                                | 73,489,972   |
| 100         | 73,489,972  | 25,539                                    | 0                                     | 0   | 5,696,444                                | 79,211,955   |
| 101         | 79,211,955  | 26,561                                    | 0                                     | 0   | 6,139,937                                | 85,378,453   |
| 102         | 85,378,453  | 27,623                                    | 0                                     | 0   | 6,617,880                                | 92,023,956   |
| 103         | 92,023,956  | 28,728                                    | 0                                     | 0   | 7,132,949                                | 99,185,633   |
| 104         | 99,185,633  | 29,877                                    | 0                                     | 0   | 7,688,023                                | 106,903,533  |
| 105         | 106,903,533   | 31,072                                    | 0                                     | 0   | 8,286,205                                | 115,220,810  |
| 106         | 115,220,810   | 32,315                                    | 0                                     | 0   | 8,930,842                                | 124,183,967  |
| 107         | 124,183,967   | 33,608                                    | 0                                     | 0   | 9,625,535                                | 133,843,110  |
| 108         | 133,843,110   | 34,952                                    | 0                                     | 0   | 10,374,170                               | 144,252,232  |
| 109         | 144,252,232   | 36,350                                    | 0                                     | 0   | 11,180,930                               | 155,469,512  |

**JUDGES' RETIREMENT SYSTEM**  
**GASB 67 AND 68 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**APPENDIX B**  
**DEVELOPMENT OF DISCOUNT RATE**

**Table 3 - Actuarial Present Values of Projected Benefit Payments**

Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1

\* From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (a)

\*\* From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (c)

| Year | Projected Beginning Fiduciary Net Position * | Projected Benefit Payments for current plan participants ** | "Funded" Portion of Benefit Payments<br>(d) = (c) if (b) >= (c) | "Unfunded" Portion of Benefit Payments<br>(e) = (c) - (d) | Present Value of "Funded" Benefit Payments<br>(f) = (d) / (1+ 7.75%)^(a) | Present Value of "Unfunded" Benefit Payments<br>(g) = (e) / (1+4.29%)^(a) | Present Value of Benefit Payments Using the Single Discount Rate<br>(h) = (c) / (1+ 7.75%)^(a) |
|------|--|---|---|---|--|---|--|
| (a)  | (b)  | (c)   | (d) = (c) if (b) >= (c)   | (e) = (c) - (d)   | (f) = (d) / (1+ 7.75%)^(a)   | (g) = (e) / (1+4.29%)^(a)   | (h) = (c) / (1+ 7.75%)^(a)   |
| 1    | \$ 72,792                                    | \$ 3,023  | \$ 3,023  | \$ 0  | \$ 2,805   | \$ 0  | \$ 2,805   |
| 2    | 84,223                                       | 3,410   | 3,410   | 0   | 2,937  | 0   | 2,937  |
| 3    | 89,322                                       | 3,535   | 3,535   | 0   | 2,826  | 0   | 2,826  |
| 4    | 94,674                                       | 3,837   | 3,837   | 0   | 2,846  | 0   | 2,846  |
| 5    | 100,151                                      | 4,093   | 4,093   | 0   | 2,818  | 0   | 2,818  |
| 6    | 105,699                                      | 4,188   | 4,188   | 0   | 2,676  | 0   | 2,676  |
| 7    | 111,492                                      | 4,337   | 4,337   | 0   | 2,572  | 0   | 2,572  |
| 8    | 117,591                                      | 4,761   | 4,761   | 0   | 2,620  | 0   | 2,620  |
| 9    | 123,677                                      | 4,901   | 4,901   | 0   | 2,503  | 0   | 2,503  |
| 10   | 129,953                                      | 5,105   | 5,105   | 0   | 2,420  | 0   | 2,420  |
| 11   | 136,477                                      | 5,293   | 5,293   | 0   | 2,329  | 0   | 2,329  |
| 12   | 143,286                                      | 5,352   | 5,352   | 0   | 2,185  | 0   | 2,185  |
| 13   | 150,509                                      | 5,537   | 5,537   | 0   | 2,098  | 0   | 2,098  |
| 14   | 158,109                                      | 5,686   | 5,686   | 0   | 2,000  | 0   | 2,000  |
| 15   | 166,104                                      | 5,825   | 5,825   | 0   | 1,901  | 0   | 1,901  |
| 16   | 174,544                                      | 6,034   | 6,034   | 0   | 1,828  | 0   | 1,828  |
| 17   | 183,396                                      | 6,131   | 6,131   | 0   | 1,724  | 0   | 1,724  |
| 18   | 192,760                                      | 6,428   | 6,428   | 0   | 1,677  | 0   | 1,677  |
| 19   | 202,522                                      | 6,602   | 6,602   | 0   | 1,599  | 0   | 1,599  |
| 20   | 212,774                                      | 6,486   | 6,486   | 0   | 1,458  | 0   | 1,458  |
| 21   | 223,880                                      | 6,542   | 6,542   | 0   | 1,364  | 0   | 1,364  |
| 22   | 235,828                                      | 6,425   | 6,425   | 0   | 1,244  | 0   | 1,244  |
| 23   | 248,789                                      | 6,221   | 6,221   | 0   | 1,117  | 0   | 1,117  |
| 24   | 262,979                                      | 6,005   | 6,005   | 0   | 1,001  | 0   | 1,001  |
| 25   | 278,544                                      | 5,848   | 5,848   | 0   | 905  | 0   | 905  |
| 26   | 295,530                                      | 5,581   | 5,581   | 0   | 801  | 0   | 801  |
| 27   | 314,134                                      | 5,310   | 5,310   | 0   | 708  | 0   | 708  |
| 28   | 334,518                                      | 5,029   | 5,029   | 0   | 622  | 0   | 622  |
| 29   | 356,829                                      | 4,723   | 4,723   | 0   | 542  | 0   | 542  |
| 30   | 381,249                                      | 4,421   | 4,421   | 0   | 471  | 0   | 471  |
| 31   | 407,940                                      | 4,118   | 4,118   | 0   | 407  | 0   | 407  |
| 32   | 437,082                                      | 3,931   | 3,931   | 0   | 361  | 0   | 361  |
| 33   | 468,747                                      | 3,630   | 3,630   | 0   | 309  | 0   | 309  |
| 34   | 503,213                                      | 3,334   | 3,334   | 0   | 264  | 0   | 264  |
| 35   | 540,733                                      | 3,047   | 3,047   | 0   | 223  | 0   | 223  |
| 36   | 581,540                                      | 2,756   | 2,756   | 0   | 188  | 0   | 188  |
| 37   | 625,896                                      | 2,484   | 2,484   | 0   | 157  | 0   | 157  |
| 38   | 674,058                                      | 2,223   | 2,223   | 0   | 130  | 0   | 130  |
| 39   | 726,314                                      | 1,975   | 1,975   | 0   | 107  | 0   | 107  |
| 40   | 782,972                                      | 1,741   | 1,741   | 0   | 88   | 0   | 88   |
| 41   | 844,361                                      | 1,523   | 1,523   | 0   | 71   | 0   | 71   |
| 42   | 910,834                                      | 1,322   | 1,322   | 0   | 58   | 0   | 58   |
| 43   | 982,773                                      | 1,140   | 1,140   | 0   | 46   | 0   | 46   |
| 44   | 1,060,587                                    | 975   | 975   | 0   | 37   | 0   | 37   |
| 45   | 1,144,715                                    | 829   | 829   | 0   | 29   | 0   | 29   |
| 46   | 1,235,634                                    | 700   | 700   | 0   | 23   | 0   | 23   |
| 47   | 1,333,856                                    | 588   | 588   | 0   | 18   | 0   | 18   |
| 48   | 1,439,935                                    | 491   | 491   | 0   | 14   | 0   | 14   |
| 49   | 1,554,468                                    | 408   | 408   | 0   | 11   | 0   | 11   |
| 50   | 1,678,102                                    | 337   | 337   | 0   | 8  | 0   | 8  |
| 51   | 1,811,534                                    | 276   | 276   | 0   | 6  | 0   | 6  |
| 52   | 1,955,521                                    | 224   | 224   | 0   | 5  | 0   | 5  |
| 53   | 2,110,876                                    | 180   | 180   | 0   | 3  | 0   | 3  |
| 54   | 2,278,477                                    | 143   | 143   | 0   | 3  | 0   | 3  |
| 55   | 2,459,274                                    | 113   | 113   | 0   | 2  | 0   | 2  |
| 56   | 2,654,288                                    | 88  | 88  | 0   | 1  | 0   | 1  |
| 57   | 2,864,624                                    | 67  | 67  | 0   | 1  | 0   | 1  |
| 58   | 3,091,471                                    | 51  | 51  | 0   | 1  | 0   | 1  |
| 59   | 3,336,112                                    | 38  | 38  | 0   | 0  | 0   | 0  |

**JUDGES' RETIREMENT SYSTEM**  
**GASB 67 AND 68 REPORTING FOR JUNE 30, 2014 MEASUREMENT DATE**

**APPENDIX B**  
**DEVELOPMENT OF DISCOUNT RATE**

**Table 3 - Actuarial Present Values of Projected Benefit Payments Continued**

Amounts in Thousands, Projections Commence June 30, 2013, Actual Amounts Shown for Year 1

\* From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (a)

\*\* From Table 2 - Projection of the Pension Plan's Fiduciary Net Position, column (c)

| Year | Projected Beginning Fiduciary Net Position * | Projected Benefit Payments for current plan participants ** | "Funded" Portion of Benefit Payments<br>(d) = (c) if (b) >= (c) | "Unfunded" Portion of Benefit Payments<br>(e) = (c) - (d) | Present Value of "Funded" Benefit Payments<br>(f) = (d) / (1+ 7.75%)^(a) | Present Value of "Unfunded" Benefit Payments<br>(g) = (e) / (1+4.29%)^(a) | Present Value of Benefit Payments Using the Single Discount Rate<br>(h) = (c) / (1+ 7.75%)^(a) |
|------|--|---|---|---|--|---|--|
| (a)  | (b)  | (c)   | (d) = (c) if (b) >= (c)   | (e) = (c) - (d)   | (f) = (d) / (1+ 7.75%)^(a)   | (g) = (e) / (1+4.29%)^(a)   | (h) = (c) / (1+ 7.75%)^(a)   |
| 60   | 3,599,931                                    | 28  | 28  | 0   | 0  | 0   | 0  |
| 61   | 3,884,418                                    | 21  | 21  | 0   | 0  | 0   | 0  |
| 62   | 4,191,181                                    | 15  | 15  | 0   | 0  | 0   | 0  |
| 63   | 4,521,954                                    | 11  | 11  | 0   | 0  | 0   | 0  |
| 64   | 4,878,605                                    | 8   | 8   | 0   | 0  | 0   | 0  |
| 65   | 5,263,149                                    | 6   | 6   | 0   | 0  | 0   | 0  |
| 66   | 5,677,755                                    | 4   | 4   | 0   | 0  | 0   | 0  |
| 67   | 6,124,764                                    | 3   | 3   | 0   | 0  | 0   | 0  |
| 68   | 6,606,696                                    | 2   | 2   | 0   | 0  | 0   | 0  |
| 69   | 7,126,270                                    | 1   | 1   | 0   | 0  | 0   | 0  |
| 70   | 7,686,414                                    | 1   | 1   | 0   | 0  | 0   | 0  |
| 71   | 8,290,284                                    | 1   | 1   | 0   | 0  | 0   | 0  |
| 72   | 8,941,280                                    | 0   | 0   | 0   | 0  | 0   | 0  |
| 73   | 9,643,070                                    | 0   | 0   | 0   | 0  | 0   | 0  |
| 74   | 10,399,601                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 75   | 11,215,132                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 76   | 12,094,249                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 77   | 13,041,895                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 78   | 14,063,398                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 79   | 15,164,498                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 80   | 16,351,380                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 81   | 17,630,711                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 82   | 19,009,674                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 83   | 20,496,009                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 84   | 22,098,060                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 85   | 23,824,813                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 86   | 25,685,957                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 87   | 27,691,927                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 88   | 29,853,973                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 89   | 32,184,214                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 90   | 34,695,711                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 91   | 37,402,538                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 92   | 40,319,860                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 93   | 43,464,020                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 94   | 46,852,628                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 95   | 50,504,658                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 96   | 54,440,558                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 97   | 58,682,362                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 98   | 63,253,813                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 99   | 68,180,493                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 100  | 73,489,972                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 101  | 79,211,955                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 102  | 85,378,453                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 103  | 92,023,956                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 104  | 99,185,633                                   | 0   | 0   | 0   | 0  | 0   | 0  |
| 105  | 106,903,533                                  | 0   | 0   | 0   | 0  | 0   | 0  |
| 106  | 115,220,810                                  | 0   | 0   | 0   | 0  | 0   | 0  |
| 107  | 124,183,967                                  | 0   | 0   | 0   | 0  | 0   | 0  |
| 108  | 133,843,110                                  | 0   | 0   | 0   | 0  | 0   | 0  |
| 109  | 144,252,232                                  | 0   | 0   | 0   | 0  | 0   | 0  |
|      |  |   |   |   | \$ 57,167  | \$ 0  | \$ 57,167  |