# ALASKA <br> RAILROAD 



> Alaska Railroad Corporation Pension Plan

December 31, 2019
GASBS 67 \& 68 Reporting

Revised - February 3, 2020


# GASBS 67 \& 68 Reporting for the <br> Alaska Railroad Corporation Retirement Plan 

This report presents reporting and disclosure information for the Alaska Railroad Corporation (ARRC) Retirement Plan ("Plan") for the fiscal year ending December 31, 2019 to assist ARRC in preparing financial statement information in accordance with Governmental Accounting Standards Board Statement Nos. 67 and 68 (GASBS 67 \& 68), "Financial Reporting for Pension Plans" and "Accounting and Financial Reporting for Pensions." ARRC implemented GASBS 67 \& 68 beginning fiscal year ending December 31, 2015.

This report is based on our January 1, 2019 actuarial valuation of the Plan for Calendar Year 2019 Funding and our report dated June 17, 2019 which contains complete details of that valuation and is to be considered a part of this report.

The report provides information intended for reporting under GASBS 67 \& 68, but may not be appropriate for other purposes. Information provided in this report may be useful to ARRC for the Plan's financial management. Future results may differ significantly if the Plan's experience differs from our assumptions or if there are changes in Plan design, actuarial methods, or actuarial assumptions. The project scope did not include an analysis of this potential variation.

To the best of our knowledge, this report is complete and accurate and has been conducted using generally accepted actuarial principles and practices. Additionally, in our opinion, actuarial methods and assumptions comply with GASBS 67 \& 68. As members of the American Academy of Actuaries meeting the Academy Qualification Standards, we certify the actuarial results and opinions herein.

Respectfully submitted,

DRAFT<br>Mary Elizabeth Redding, FSA, MAAA, EA, FCA<br>Vice President<br>Bartel Associates, LLC

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## SECTION 1 <br> GASBS 67 \& 68 Applicable Dates and Periods

## Applicable Dates and Periods

| Fiscal Year Ending | December 31, 2019 |  |
| :---: | :---: | :---: |
| Reporting Standards | GASBS 67 | GASBS 68 |
| - Reporting date ${ }^{1}$ <br> - Reporting period | December 31, 2019 <br> Fiscal Year 2019 | December 31, 2019 <br> Fiscal Year 2019 |
| - Measurement date ${ }^{2}$ <br> ■ Measurement period | $\begin{aligned} & \mathrm{N} / \mathrm{A} \\ & \mathrm{~N} / \mathrm{A} \end{aligned}$ | December 31, 2019 <br> January 1, 2019 to <br> December 31, 2019 |
| - Actuarial valuation date ${ }^{3}$ <br> ■ Actuarial valuation roll-forward date | January 1, 2019 <br> December 31, 2019 | January 1, 2019 <br> December 31, 2019 |

[^0]
## SECTION 2

## GASBS 67 \& 68 DISCOUNT RATE

Target Allocation and Expected Rate of Return
(Information provided by the Investment Advisor, The Hyas Group)

|  | Target <br> Allocation | Expected Real Rate <br> of Return - <br> Intermediate Term | Expected Real Rate <br> of Return - Long <br> Term |
| :--- | ---: | ---: | :---: |
| ■ Cash | $0.00 \%$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ |
| ■ US TIPS | $5.00 \%$ | $2.80 \%$ | $1.94 \%$ |
| ■ Total Return Bond | $13.00 \%$ | $2.70 \%$ | $2.43 \%$ |
| ■ Global Bond | $5.00 \%$ | $3.05 \%$ | $2.43 \%$ |
| ■ High Yield Bond | $7.00 \%$ | $4.72 \%$ | $3.88 \%$ |
| ■ Domestic Large Cap | $20.00 \%$ | $4.87 \%$ | $6.80 \%$ |
| ■ Domestic Mid Cap | $12.00 \%$ | $5.60 \%$ | $7.77 \%$ |
| ■ Domestic Small Cap | $8.00 \%$ | $5.85 \%$ | $8.74 \%$ |
| ■ International Equity | $13.00 \%$ | $5.36 \%$ | $7.04 \%$ |
| ■ Commodities | $2.00 \%$ | $4.62 \%$ | $1.46 \%$ |
| ■ Real Estate | $15.00 \%$ | $5.11 \%$ | $4.61 \%$ |

## SECTION 3 <br> GASBS 67 \& 68 NOTE DISCLOSURES

Net Pension Liability/(Asset)

| Net Pension Liability | December 31, 2018 | December 31, 2019 |
| :--- | :---: | :---: |
| Measurement Date | December 31, 2018 | December 31, 2019 |
| $■$ Total pension liability (TPL) | $\$ 212,322,678$ | $\$ 242,030,743$ |
| $\square$ Fiduciary net position (FNP) | $\underline{(177,871,494)}$ | $\underline{(211,840,587)}$ |
| $\square \quad$ Net pension liability (NPL) | $34,451,184$ | $30,190,156$ |
| $\square \quad$ Funded status (FNP/TPL) | $83.8 \%$ | $87.5 \%$ |

## Contribution Rates for 2019

- Employer rate (based on actuarially determined contribution payable at end of year)
■ Employee rate
$\square$
10.72\%
9.00\%


## 2019 Annual Money Weighted Rate of Return

■ Annual Money Weighted Rate of Return, Net of Investment
Expense

## SECTION 3

## GASBS 67 \& 68 NOTE DISCLOSURES

## Changes in Net Pension Liability/(Asset)

Balances at FYE 12/31/18

- Changes for the year:
- Service cost

$$
5,834,954
$$

- Interest
- Change of benefit terms
- Differences between expected and actual experience
$(495,665)$
- Change of assumptions

| Total Pension <br> Liability <br> (a) | Plan <br> Fiduciary <br> Net Position <br> (b) | Net Pension <br> Liability <br> (a) $-(b)$ |
| :---: | :---: | :---: |
| $\$ 212,322,678$ | $\$ 177,871,494$ | $\$ 34,451,184$ |

- Contributions-employer
- Contributions-employee
- Net investment income

$$
\begin{array}{r}
5,834,954 \\
16,058,604 \\
0 \\
(495,665) \\
16,396,011
\end{array}
$$

16,058,604

- Benefit payments, including refunds of employee contributions
- Administrative expense
- Other changes
- Net changes

Balances at FYE 12/31/19

| $(8,085,839)$ | $(8,085,839)$ | 0 |
| ---: | ---: | ---: |
|  | $(269,365)$ | 269,365 |
| 0 | $\frac{0}{0}$ | 0 |
| $29,708,065$ | $33,969,093$ | $(4,261,028)$ |
| $242,030,743$ | $211,840,587$ | $30,190,156$ |

## Sensitivity of Net Pension Liability to Changes in the Discount Rate

Net Pension Liability at 12/31/19

| $\mathbf{1 \%}$ <br> Decrease <br> $\mathbf{( 6 . 2 5 \% )}$ | Discount <br> Rate <br> $\mathbf{( 7 . 2 5 \% )}$ | $\mathbf{1 \%}$ <br> Increase <br> $\mathbf{( 8 . 2 5 \% )}$ |
| :---: | :---: | :---: |
| $\$ 66,566,179$ | $\$ 30,190,156$ | $\$ 480,788$ |

## Pension Expense <br> GASBS 68 Note Disclosure

[^1]| 2019 |
| :---: |
| $\$ 9,149,908$ |

## SECTION 3

## GASBS 67 \& 68 NOTE DISCLOSURES

## Deferred Outflows and Inflows of Resources

## GASBS 68 Note Disclosures

| Deferred Outflows and (Inflows) of Resources | December 31, 2019 |  |
| :---: | :---: | :---: |
|  | Deferred <br> Outflows of Resources | Deferred Inflows of Resources |
| Differences between expected and actual experience | \$1,283,881 | \$(1,937,452) |
| - Changes of assumptions | 13,019,419 | 0 |
| Net difference between actual and projected earnings on investments | 0 | $(6,578,837)$ |
| Employer contributions made subsequent to the Measurement Date | N/A | N/A |
| ■ Total | 14,303,300 | $(8,516,289)$ |

Amounts reported as deferred outflows and inflows of resources will be recognized in pension expense as follows:

| Year Ended December 31 | Total |
| :---: | :---: |
| 2020 | $\$ 2,455,353$ |
| 2021 | $1,354,957$ |
| 2022 | $3,464,419$ |
| 2023 | $(1,487,718)$ |
| 2024 | 0 |
| Thereafter | 0 |

## SECTION 3

## GASBS 67 \& 68 NOTE DISCLOSURES

Significant Actuarial Assumptions Used for Total Pension Liability

| Actuarial Assumption | December 31, 2019 |
| :---: | :---: |
| - Discount Rate | - 7.25\%, based on satisfaction of crossover test |
| Long-Term Rate of Return | 7.25\% Selected by ARRC. Bartel Associates estimates that a passively managed portfolio with a similar asset allocation would exceed the selected rate about $40 \%-45 \%$ of the time. |
| - Inflation | - $2.8 \%$ |
| - Salary Increases | 2.8\% salary inflation plus <br> - Merit Increase Rate based on Alaska Railroad Corporation Pension and Post Retirement Health Care Plans 2010-2014 Experience Study. See rates below. <br> ■ For UTU retirements between $1 / 1 / 2017$ and $1 / 1 / 2020$, salary in 3 final years of employment increased 3.5\% |
| Cost Of Living Allowance | $1.4 \%$ for Tier 1 ( $1 / 2$ assumed inflation) <br> ■ None for Tier 2 |
| ■ Mortality | Society of Actuaries RP-2014 healthy annuitant mortality table adjusted $91 \%$ for males and $96 \%$ for females. <br> Scale MP-2018 generational mortality improvement. This reflects the continuous improvement in longevity that we expect to occur in the future. |
| - Retirement, Disablement, Termination | Based on Alaska Railroad Corporation Pension and Post Retirement Health Care Plans 2010-2014 Experience Study. Rates of disablement were set equal to those used by Alaska PERS as there is little Plan experience. See below for detailed tables. |
| ■ Optional Benefit Forms | All participants are assumed to elect the most beneficial benefit between a life annuity based on the benefit formula or their contribution account balance as a lump sum. For current vested terminated participants who have terminated in the last two years and are calculated to elect the lump sum but who have not yet done so, $50 \%$ are assumed to take the lump sum immediately and $50 \%$ are assumed to defer the lump sum to age 58 for Tier 1 and age 62 for Tier 2. All other vested terminated participants who are calculated to elect the lump sum are assumed to defer the lump sum to age 58 for Tier 1 and age 62 for Tier 2. |
| Crossover Test Assumptions | Administrative expenses: $0.55 \%$ of payroll, based on rounded actual current year expense of $\$ 270,000$. <br> Future employer contribution: $100 \%$ of ADC |

## SECTION 3 <br> GASBS 67 \& 68 NOTE DISCLOSURES

## Changes Since December 31, 2018 Measurement Date

|  | December 31, 2019 |
| :---: | :---: |
| Changes of <br> Assumptions Since the Prior Measurement Date | The discount rate and long-term rate of return were changed from $7.5 \%$ to $7.25 \%$. <br> The salary inflation was changed from $3.0 \%$ to $2.8 \%$. <br> The mortality table and mortality improvement projection were updated. <br> The deferral age for vested terminated participants who have terminated in the last 2 years and are calculated to elect the lump sum was updated. |

## SECTION 3

## GASBS 67 \& 68 NOTE DISCLOSURES

| Age | Disablement <br> (Alaska PERS Rates) |  |
| :---: | :---: | :---: |
|  | Male | Female |
| 20 | $0.03 \%$ | $0.02 \%$ |
| 25 | $0.03 \%$ | $0.03 \%$ |
| 30 | $0.04 \%$ | $0.03 \%$ |
| 35 | $0.04 \%$ | $0.03 \%$ |
| 40 | $0.05 \%$ | $0.04 \%$ |
| 45 | $0.07 \%$ | $0.06 \%$ |
| 50 | $0.11 \%$ | $0.08 \%$ |
| 55 | $0.18 \%$ | $0.13 \%$ |
| 60 | $0.37 \%$ | $0.28 \%$ |


| Age | Rate of <br> Retirement <br> Tier 1 | Rate of <br> Retirement <br> Tier 2 |
| :---: | :---: | :---: |
| 55 | $6.00 \%$ | N/A |
| 56 | $6.00 \%$ | N/A |
| 57 | $12.50 \%$ | N/A |
| 58 | $12.50 \%$ | N/A |
| 59 | $20.00 \%$ | N/A |
| 60 | $20.00 \%$ | $10.00 \%$ |
| 61 | $20.00 \%$ | $10.00 \%$ |
| 62 | $25.00 \%$ | $15.00 \%$ |
| 63 | $15.00 \%$ | $15.00 \%$ |
| 64 | $20.00 \%$ | $20.00 \%$ |
| 65 | $15.00 \%$ | $25.00 \%$ |
| 66 | $15.00 \%$ | $25.00 \%$ |
| 67 | $25.00 \%$ | $25.00 \%$ |
| 68 | $25.00 \%$ | $25.00 \%$ |
| 69 | $25.00 \%$ | $25.00 \%$ |
| 70 | $100.00 \%$ | $100.00 \%$ |


| Service | Salary "Merit" <br> Increase | Termination <br> Rates |
| :---: | :---: | :---: |
| 0 | $8.00 \%$ | $34.00 \%$ |
| 1 | $2.00 \%$ | $28.00 \%$ |
| 2 | $6.50 \%$ | $18.00 \%$ |
| 3 | $6.50 \%$ | $15.00 \%$ |
| 4 | $6.50 \%$ | $12.00 \%$ |
| 5 | $2.50 \%$ | $10.00 \%$ |
| $6-7$ | $1.50 \%$ | $8.00 \%$ |
| $8-10$ | $1.50 \%$ | $6.00 \%$ |
| 11 | $1.25 \%$ | $6.00 \%$ |
| $12-15$ | $1.25 \%$ | $5.00 \%$ |
| $16-17$ | $1.10 \%$ | $5.00 \%$ |
| $18-19$ | $1.10 \%$ | $3.00 \%$ |
| $20+$ | $1.10 \%$ | $2.00 \%$ |

## SECTION 4 <br> GASBS 67 \& 68 REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios ${ }^{4}$

## FY 2019

- Changes in Total Pension Liability
- Service cost
\$5,834,954
- Interest

16,058,604

- Change of benefit terms
- Differences between expected and actual experience
$(495,665)$
- Change of assumptions 16,396,011
- Benefit payments, including refunds of employee contributions
(8,085,839)
- Net changes

29,708,065

- Total Pension Liability at beginning of year

212,322,678

- Total Pension Liability at end of year

242,030,743

- Changes in Plan Fiduciary Net Position
- Contributions-employer

5,219,810

- Contributions-employee

4,476,526

- Net investment income

32,627,961

- Benefit payments, including refunds of employee contributions
$(8,085,839)$
- Reimbursement for administrative expense
$(269,365)$
- Other changes

$$
\begin{array}{r}
0 \\
\hline
\end{array}
$$

■ Net changes
33,969,093

- Plan Fiduciary Net Position at beginning of year

177,871,494

- Plan Fiduciary Net Position at end of year

211,840,587

- Net Pension Liability

30,190,156

- Plan Fiduciary Net Position as percentage of Total Pension Liability
87.5\%

■ Covered employee payroll
TBD

- Net Pension Liability as percentage of covered employee payroll

TBD

[^2]
## SECTION 4 <br> GASBS 67 \& 68 REQUIRED SUPPLEMENTARY INFORMATION

## Schedule of Employer Contributions ${ }^{5}$

## FY 2019

- Actuarially Determined Contribution
\$5,219,810
- Contributions in relation to the actuarially determined contribution

5,219,810

- Contribution deficiency (excess)

■ Covered employee payroll ${ }^{6}$
TBD
■ Contributions as percentage of covered employee payroll

TBD

## Notes to Schedule of Employer Contributions

Significant Actuarial Assumptions Used for Actuarially Determined Contribution

| Assumption | FY 2019 |
| :---: | :---: |
| Actuarial valuation date | ■ January 1, 2019 |
| Amortization period | The UAAL as of January 1, 2018 is amortized as a level dollar payment over a closed 30 -year period and subsequent actuarial gains or losses are amortized over a closed 30 -year period, also as a level dollar payment. Average 29.5 years for 2019. |
| ■ Asset method | Actuarial value of assets <br> 5-year smoothed market value <br> Gains/losses recognized over 5 years |
| Investment rate of return | - 7.25\%, net of investment but not administrative expenses |
| ■ Inflation | ■ 2.8\% |
| Cost of Living Allowance | 1.4\% for Tier 1 <br> None for Tier 2 |
| Administrative Expenses | - \$400,000 payable as of the last day of the plan year |
| All Other Assumptions | Same assumptions used to calculate the December 31, 2019 Total Pension Liability |

[^3]
## Recognition of Deferred Outflows and (Inflows)

## Differences between Expected and Actual Experience

| Measurement Period: |  | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 7}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 1 9}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| ■ Initial amount | $\$ 6,368,553$ | $\$(482,086)$ | $\$(2,321,003)$ | $\$(495,665)$ |  |
| ■ Initial recognition period | 5.01 years | 4.87 years | 4.84 years | 4.71 years |  |
| ■ Amount recognized in pension |  |  |  |  |  |
| expense for fiscal year: |  |  |  |  |  |
| - 2019 | $1,271,168$ | $(98,991)$ | $(479,546)$ | $(105,237)$ | $\$ 587,394$ |
| - 2020 | $1,271,168$ | $(98,991)$ | $(479,546)$ | $(105,237)$ | 587,394 |
| - 2021 | 12,713 | $(86,122)$ | $(479,546)$ | $(105,237)$ | $(658,192)$ |
| - 2022 | 0 | 0 | $(402,819)$ | $(105,237)$ | $(508,056)$ |
| - 2023 | 0 | 0 | 0 | $(74,717)$ | $(74,717)$ |
| - 2024 | 0 | 0 | 0 | 0 | 0 |
| ■ Deferred Outflows as of $12 / 31 / 19$ | $1,283,881$ | 0 | 0 | 0 | $1,283,881$ |
| ■ Deferred Inflows as of $12 / 31 / 19$ | 0 | $(185,113)$ | $(1,361,911)$ | $(390,428)$ | $(1,937,452)$ |

Changes of Assumptions

| Measurement Period: | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 7}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 1 9}$ | Total |
| :--- | ---: | ---: | ---: | ---: | ---: |
| ■ Initial amount | $\$ 0$ | $\$ 272,184$ | $\$ 0$ | $\$ 16,396,011$ |  |
| ■ Initial recognition period | $\mathrm{n} / \mathrm{a}$ | 4.87 years | $\mathrm{n} / \mathrm{a}$ | 4.71 years |  |
| ■ Amount recognized in pension |  |  |  |  |  |
| expense for fiscal year: |  |  |  |  |  |
| - 2019 | 0 | 55,890 | 0 | $3,481,106$ | $\$ 3,536,996$ |
| - 2020 | 0 | 55,890 | 0 | $3,481,106$ | $3,536,996$ |
| - 2021 | 0 | 48,624 | 0 | $3,481,106$ | $3,529,730$ |
| - 2022 | 0 | 0 | 0 | $3,481,106$ | $3,481,106$ |
| - 2023 | 0 | 0 | 0 | $2,471,587$ | $2,471,587$ |
| - 2024 | 0 | 0 | 0 | 0 | 0 |
| ■ Deferred Outflows as of $12 / 31 / 19$ | 0 | 104,514 | 0 | $12,914,905$ | $13,019,419$ |
| ■ Deferred Inflows as of $12 / 31 / 19$ | 0 | 0 | 0 | 0 | 0 |

## SECTION 5 <br> GASBS 67 \& 68 SUPPORTING CALCULATIONS

## Recognition of Deferred Outflows and (Inflows)

## Projected Versus Actual Earnings on Investments

| Measurement Period: | 2015 | 2016 | 2017 | 2018 | 2019 | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - Initial amount | \$11,065,853 | \$(762,282) | \$(10,039,737) | \$21,879,791 | \$(19,422,948) ${ }^{7}$ |  |
| ■ Initial recognition period | 5 years | 5 years | 5 years | 5 years | 5 years |  |
| Amount recognized in pension expense for fiscal year: |  |  |  |  |  |  |
| - 2019 | 2,213,169 | $(152,456)$ | $(2,007,947)$ | 4,375,958 | $(3,884,590)$ | \$544,134 |
| - 2020 | 0 | $(152,458)$ | $(2,007,947)$ | 4,375,958 | $(3,884,590)$ | $(1,669,037)$ |
| - 2021 | 0 | 0 | $(2,007,949)$ | 4,375,958 | $(3,884,590)$ | $(1,516,581)$ |
| - 2022 | 0 | 0 | 0 | 4,375,959 | $(3,884,590)$ | 491,369 |
| - 2023 | 0 | 0 | 0 | 0 | $(3,884,588)$ | $(3,884,588)$ |
| - 2024 | 0 | 0 | 0 | 0 | 0 | - |
| Deferred Outflows (Inflows) as of 12/31/19 | 0 | $(152,458)$ | $(4,015,896)$ | 13,127,875 | $(15,538,358)$ | $(6,578,837)$ |

[^4]
## GASBS 67 \& 68 SUPPORTING CALCULATIONS

## Components of GASBS 68 Pension Expense

|  | $\mathbf{2 0 1 9}$ |
| :--- | ---: |
| ■ Service cost | $\$ 5,834,954$ |
| ■ Interest on the total pension liability including service cost | $16,058,604$ |
| ■ Projected earnings on plan investments | $(13,205,013)$ |
| ■ Employee contributions | $(4,476,526)$ |
| ■ Administrative expense | 269,365 |
| ■ Change in benefit terms | 0 |
| ■ Recognition of deferred outflows and( inflows) of resources: |  |
| - Difference between expected and actual experience | 587,394 |
| - Change of assumptions | $3,536,996$ |
| - Difference between actual and projected earnings on investment | 544,134 |
| ■ Total Pension Expense | $9,149,908$ |

## Calculation of Interest on the Total Pension Liability

|  | Dollar <br> Amount | Discount <br> Rate | Portion <br> of Year | Interest |
| :--- | ---: | ---: | ---: | ---: |
| ■ Beginning total pension liability | $\$ 212,322,678$ | $7.50 \%$ | $100 \%$ | $\$ 15,924,201$ |
| ■ Service cost | $5,834,954$ | $7.50 \%$ | $100 \%$ | 437,622 |
| ■ Change of benefit terms | 0 | $7.50 \%$ | $0 \%$ | 0 |
| ■ Differences between expected and | $(495,665)$ | $7.50 \%$ | $0 \%$ | 0 |
| actual experience | $16,396,011$ | $7.50 \%$ | $0 \%$ | 0 |
| ■ Change of assumptions | $(8,085,839)$ | $7.50 \%$ | $50 \%$ | $\underline{(303,219)}$ |
| ■ Benefit payments |  |  |  | $16,058,604$ |

## GASBS 67 \& 68 SUPPORTING CALCULATIONS

## Calculation of Projected Earnings on Pension Plan Investments

- Beginning fiduciary net position
- Employer contributions
- Employee contributions
- Benefit payments
- Administrative expenses

| Dollar <br> Amount | Expected <br> Return | Portion <br> of Year | Projected <br> Earnings |
| ---: | ---: | ---: | ---: |
| $\$ 177,871,494$ | $7.50 \%$ | $100 \%$ | $\$ 13,340,362$ |
| $5,219,810$ | $7.50 \%$ | $0 \%$ | 0 |
| $4,476,526$ | $7.50 \%$ | $50 \%$ | 167,870 |
| $(8,085,839)$ | $7.50 \%$ | $50 \%$ | $(303,219)$ |
| $(269,365)$ | $7.50 \%$ | $0 \%$ | $\frac{0}{13,205,013}$ |

GASBS 68 Balance Equation

|  | $\mathbf{1 2 / 3 1 / 1 8}$ | $\mathbf{1 2 / 3 1 / 1 9}$ | Change |
| :--- | ---: | :---: | :---: |
| ■ Total Pension Liability | $\$ 212,322,678$ | $\$ 242,030,743$ | $\$ 29,708,065$ |
| ■ Fiduciary Net Position | $\underline{177,871,494}$ | $\underline{211,840,587}$ | $\underline{33,969,093}$ |
| ■ Net Pension Liability | $34,451,184$ | $30,190,156$ | $(4,261,028)$ |
| ■ Deferred inflows of resources | $2,125,561$ | $8,516,289$ | $6,390,728$ |
| ■ Deferred outflows of resources | $(16,103,698)$ | $(14,303,300)$ | $1,800,398$ |
| ■ Employer contributions | $\underline{0}$ | $\underline{5,219,810}$ | $\underline{5,219,810}$ |
| ■ Net impact on balance sheet | $20,473,047$ | $29,622,955$ | $9,149,908$ |

Check:

- Pension expense for year
\$9,149,908


## SECTION 5

GASBS 67 \& 68 SUPPORTING CALCULATIONS

Discount Rate Crossover Test
Projection of Contributions (Amounts in 000 's)

| Year | Payroll | Employer <br> Contributions <br> for Current <br> Employees | Employee <br> Contributions <br> for Current <br> Employees | Contributions <br> from Payroll <br> of Future <br> Employees | Total <br> Contributions |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | $\$ 45,572$ | $\$ 4,357$ | $\$ 4,101$ | $\$ 0$ | $\$ 8,459$ |
| 2 | 43,172 | 4,262 | 3,886 | 0 | 8,148 |
| 3 | 41,140 | 4,178 | 3,703 | 0 | 7,881 |
| 4 | 39,264 | 4,100 | 3,534 | 0 | 7,634 |
| 5 | 37,470 | 4,024 | 3,372 | 0 | 7,397 |
| 6 | 35,763 | 3,952 | 3,219 | 0 | 7,170 |
| 7 | 34,116 | 3,881 | 3,070 | 0 | 6,951 |
| 8 | 32,554 | 3,813 | 2,930 | 0 | 6,743 |
| 9 | 30,975 | 3,746 | 2,788 | 0 | 6,533 |
| 10 | 29,395 | 3,678 | 2,646 | 0 | 6,323 |
| 11 | 27,698 | 3,603 | 2,493 | 0 | 6,096 |
| 12 | 26,153 | 3,537 | 2,354 | 0 | 5,890 |
| 13 | 24,608 | 3,469 | 2,215 | 0 | 5,684 |
| 14 | 23,089 | 3,404 | 2,078 | 0 | 5,482 |
| 15 | 21,746 | 3,346 | 1,957 | 0 | 5,303 |
| 16 | 20,435 | 3,290 | 1,839 | 0 | 5,129 |
| 17 | 19,147 | 3,234 | 1,723 | 0 | 4,957 |
| 18 | 17,905 | 3,179 | 1,611 | 0 | 4,790 |
| 19 | 16,672 | 3,124 | 1,501 | 0 | 4,624 |
| 20 | 15,444 | 3,070 | 1,390 | 0 | 4,459 |
|  | $*$ | $*$ | $*$ | $*$ | $*$ |


| 49 | 37 | 1 | 3 | 0 | 4 |
| :--- | ---: | ---: | ---: | :--- | :--- |
| 50 | 8 | 0 | 1 | 0 | 1 |
| 51 | 1 | 0 | 0 | 0 | 0 |
| 52 | 0 | 0 | 0 | 0 | 0 |
| 53 | 0 | 0 | 0 | 0 | 0 |
|  | $*$ | 0 | 0 | 0 | $*$ |
| 78 | 0 | 0 | 0 | 0 | 0 |
| 79 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 |  |  | 0 | 0 |

* Note: Years 21 to 48, 54 to 77, and 88+ omitted.



## Section 5

GASBS 67 \& 68 SUPPORTING CALCULATIONS

Discount Rate Crossover Test
Projection of Fiduciary Net Position (Amounts in 000’s)

| Year | Projected <br> Beginning Fiduciary Net Position | Projected Total Contributions | Projected <br> Benefit Payments | Projected Administrative Expense | Projected <br> Investment Earnings | Projected Ending Fiduciary Net Position |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | \$211,841 | \$8,459 | \$12,667 | \$251 | \$15,197 | \$222,578 |
| 2 | 222,578 | 8,148 | 10,168 | 237 | 16,055 | 236,376 |
| 3 | 236,376 | 7,881 | 10,835 | 226 | 17,022 | 250,218 |
| 4 | 250,218 | 7,634 | 11,779 | 216 | 17,983 | 263,840 |
| 5 | 263,840 | 7,397 | 12,597 | 206 | 18,932 | 277,365 |
| 6 | 277,365 | 7,170 | 13,634 | 197 | 19,868 | 290,572 |
| 7 | 290,572 | 6,951 | 14,768 | 188 | 20,776 | 303,344 |
| 8 | 303,344 | 6,743 | 15,892 | 179 | 21,654 | 315,670 |
| 9 | 315,670 | 6,533 | 17,185 | 170 | 22,494 | 327,342 |
| 10 | 327,342 | 6,323 | 18,301 | 162 | 23,292 | 338,495 |
| 11 | 338,495 | 6,096 | 19,940 | 152 | 24,034 | 348,532 |
| 12 | 348,532 | 5,890 | 21,086 | 144 | 24,713 | 357,905 |
| 13 | 357,905 | 5,684 | 22,282 | 135 | 25,342 | 366,513 |
| 14 | 366,513 | 5,482 | 23,363 | 127 | 25,919 | 374,424 |
| 15 | 374,424 | 5,303 | 24,461 | 120 | 26,447 | 381,593 |
| 16 | 381,593 | 5,129 | 25,643 | 112 | 26,918 | 387,885 |
| 17 | 387,885 | 4,957 | 26,644 | 105 | 27,332 | 393,424 |
| 18 | 393,424 | 4,790 | 28,190 | 98 | 27,671 | 397,598 |
| 19 | 397,598 | 4,624 | 28,973 | 92 | 27,940 | 401,097 |
| 20 | 401,097 | 4,459 | 30,356 $*$ | 85 $*$ | 28,138 $*$ | 403,254 |
| 49 | 236,974 | 4 | 19,658 | 0 | 16,468 | 233,789 |
| 50 | 233,789 | 1 | 18,494 | 0 | 16,279 | 231,575 |
| 51 | 231,575 | 0 | 17,337 | 0 | 16,161 | 230,399 |
| 52 | 230,399 | 0 | 16,198 | 0 | 16,117 | 230,318 |
| 53 | 230,318 | 0 | 15,081 | 0 | 16,151 | 231,388 |
|  | * | * |  | * | * | * |
| 78 | 782,894 | 0 | 412 | 0 | 56,745 | 839,226 |
| 79 | 839,226 | 0 | 316 | 0 | 60,832 | 899,743 |
| 80 | 899,743 | 0 | 238 | 0 | 65,223 | 964,728 |
| 81 | 964,728 | 0 | 176 | 0 | 69,936 | 1,034,488 |
| 82 | 1,034,488 | 0 | 128 | 0 | 74,996 | 1,109,356 |
| 83 | 1,109,356 | 0 | 91 | 0 | 80,425 | 1,189,690 |
| 84 | 1,189,690 | 0 | 63 | 0 | 86,250 | 1,275,877 |
| 85 | 1,275,877 | 0 | 43 | 0 | 92,500 | 1,368,334 |
| 86 | 1,368,334 | 0 | 29 | 0 | 99,203 | 1,467,508 |
| 87 | 1,467,508 | 0 | 0 | 0 | 106,394 | 1,573,903 |

[^5]
## Section 5

GASBS 67 \& 68 SUPPORTING CALCULATIONS

Discount Rate Crossover Test
Present Values of Projected Benefit Payments (Amounts in 000's)

| Year | Proj. Begin. Fiduciary Net Position | Projected <br> Benefit <br> Payments | "Funded" Portion of Benefit Payments | "Unfunded <br> " Portion of Benefit Payments | PV of <br> "Funded" <br> Benefit <br> Payments | PV of "Unfunded" Benefit Payments | PV Benefit Payments @ 7.25\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | \$211,841 | \$12,667 | \$12,667 | \$0 | \$11,013 | \$0 | \$11,013 |
| 2 | 222,578 | 10,168 | 10,168 | 0 | 8,242 | 0 | 8,242 |
| 3 | 236,376 | 10,835 | 10,835 | 0 | 8,189 | 0 | 8,189 |
| 4 | 250,218 | 11,779 | 11,779 | 0 | 8,300 | 0 | 8,300 |
| 5 | 263,840 | 12,597 | 12,597 | 0 | 8,277 | 0 | 8,277 |
| 6 | 277,365 | 13,634 | 13,634 | 0 | 8,353 | 0 | 8,353 |
| 7 | 290,572 | 14,768 | 14,768 | 0 | 8,436 | 0 | 8,436 |
| 8 | 303,344 | 15,892 | 15,892 | 0 | 8,465 | 0 | 8,465 |
| 9 | 315,670 | 17,185 | 17,185 | 0 | 8,534 | 0 | 8,534 |
| 10 | 327,342 | 18,301 | 18,301 | 0 | 8,474 | 0 | 8,474 |
| 11 | 338,495 | 19,940 | 19,940 | 0 | 8,609 | 0 | 8,609 |
| 12 | 348,532 | 21,086 | 21,086 | 0 | 8,489 | 0 | 8,489 |
| 13 | 357,905 | 22,282 | 22,282 | 0 | 8,364 | 0 | 8,364 |
| 14 | 366,513 | 23,363 | 23,363 | 0 | 8,177 | 0 | 8,177 |
| 15 | 374,424 | 24,461 | 24,461 | 0 | 7,982 | 0 | 7,982 |
| 16 | 381,593 | 25,643 | 25,643 | 0 | 7,802 | 0 | 7,802 |
| 17 | 387,885 | 26,644 | 26,644 | 0 | 7,559 | 0 | 7,559 |
| 18 | 393,424 | 28,190 | 28,190 | 0 | 7,457 | 0 | 7,457 |
| 19 | 397,598 | 28,973 | 28,973 | 0 | 7,146 | 0 | 7,146 |
| 20 | 401,097 | 30,356 ${ }^{\text {* }}$ | 30,356 ${ }_{*}$ | * | 6,981 | * | 6,981 |
| 49 | 236,974 | 19,658 | 19,658 | 0 | 594 | 0 | 594 |
| 50 | 233,789 | 18,494 | 18,494 | 0 | 521 | 0 | 521 |
| 51 | 231,575 | 17,337 | 17,337 | 0 | 455 | 0 | 455 |
| 52 | 230,399 | 16,198 | 16,198 | 0 | 397 | 0 | 397 |
| 53 | 230,318 | 15,081 | 15,081 | 0 | 344 | 0 | 344 |
|  | * | * | * | * | * | * | * |
| 78 | 782,894 | 412 | 412 | 0 | 2 | 0 | 2 |
| 79 | 839,226 | 316 | 316 | 0 | 1 | 0 | 1 |
| 80 | 899,743 | 238 | 238 | 0 | 1 | 0 | 1 |
| 81 | 964,728 | 176 | 176 | 0 | 1 | 0 | 1 |
| 82 | 1,034,488 | 128 | 128 | 0 | 0 | 0 | 0 |
| 83 | 1,109,356 | 91 | 91 | 0 | 0 | 0 | 0 |
| 84 | 1,189,690 | 63 | 63 | 0 | 0 | 0 | 0 |
| 85 | 1,275,877 | 43 | 43 | 0 | 0 | 0 | 0 |
| 86 | 1,368,334 | 29 | 29 | 0 | 0 | 0 | 0 |
| 87 | 1,467,508 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | * | * | * | * | * | * | * |
| Total |  |  |  |  | \$256,523 | \$0 | \$256,523 |

* Note: Years 21 to 48, 54 to 77, and 88+ omitted.


[^0]:    1 Employer's fiscal year-end.
    2 No earlier than employer's prior fiscal year end.
    3 Within 30 months of the employer's fiscal year end for GASBS 68 and 24 months of the Plan's FYE for GASBS 67.

[^1]:    Pension Expense

[^2]:    4 GASBS 67 \& 68 require this information be reported in the employer's Required Supplementary Information for 10 years or as many years are available upon implementation

[^3]:    5 GASBS 67 \& 68 require this information be reported in the employer's Required Supplementary Information for 10 years or as many years are available upon implementation
    ${ }^{6}$ GASBS 82 requires use of pensionable payroll for covered employees for all years

[^4]:    ${ }^{7}$ Projected earnings of $\$ 13,205,013$ (page 13) less Actual Earnings of $\$ 32,627,961$ (page 4$)=\$(19,422,948$ ).

[^5]:    * Note: Years 21 to 48, 54 to 77, and 88+ omitted.

