



GASB 75 ACTUARIAL VALUATION

Fiscal Year Ending June 30, 2019

STORY COUNTY

CONTACT

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December 31, 2019

**Lucy Martin
Story County
900 6th Street
Nevada, IA 50201**

This report summarizes the GASB actuarial valuation for the Story County 2018/19 fiscal year. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statement No. 75 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions).

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate, other economic assumptions, and demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.



Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact us.

A handwritten signature in black ink, appearing to read "S. Datta".

Suraj M. Datta, ASA, MAAA
Consulting Actuary

Executive Summary

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Summary of Results

Presented below is the summary of GASB 75 results for the fiscal year ending June 30, 2019 compared to the prior fiscal year as shown in the County's Notes to Financial Statement.

| | As of June 30, 2018 | As of June 30, 2019 |
|----------------------------------|---------------------|---------------------|
| Total OPEB Liability | \$ 1,236,406 | \$ 1,502,748 |
| Actuarial Value of Assets | \$ 0 | \$ 0 |
| Net OPEB Liability | \$ 1,236,406 | \$ 1,502,748 |
| Funded Ratio | 0.0% | 0.0% |

| | FY 2017/18 | FY 2018/19 |
|--------------------------------------|------------|------------|
| OPEB Expense | \$ 121,238 | \$ 157,290 |
| Annual Employer Contributions | \$ 113,733 | \$ 113,603 |

| | As of June 30, 2018 | As of June 30, 2019 |
|----------------------------------|---------------------|---------------------|
| Discount Rate | 3.87% | 3.51% |
| Expected Return on Assets | N/A | N/A |

| | As of June 30, 2019 |
|-----------------------------------|---------------------|
| Total Active Participants | 257 |
| Total Retiree Participants | 8 |

The active participants' number above may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

Executive Summary

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Summary of Results

Below is a breakdown of total GASB 75 liabilities allocated to past and current service compared to the prior year. The table below also provides a breakdown of the Total OPEB Liability allocated to pre- and post- Medicare eligibility. The liability shown below includes explicit (if any) and implicit subsidies. Refer to the Substantive Plan Provisions section for complete information on the Plan Sponsor's GASB subsidies.

| Present Value of Future Benefits | As of June 30, 2018 | As of June 30, 2019 |
|---|---------------------|---------------------|
| Active Employees | \$ 2,337,882 | \$ 3,205,521 |
| Retired Employees | 396,546 | 350,706 |
| Total Present Value of Future Benefits | \$ 2,734,428 | \$ 3,556,227 |

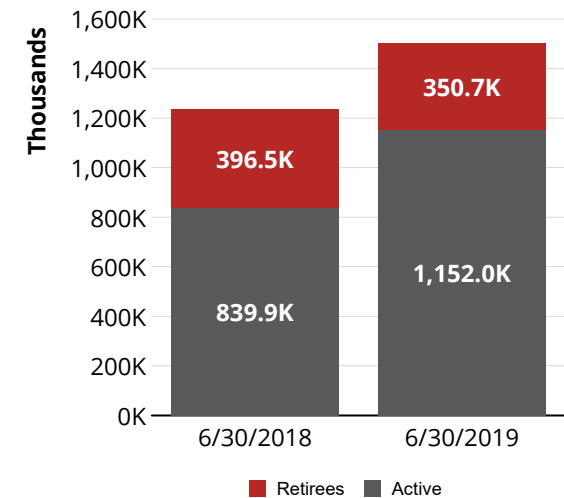
| Total OPEB Liability | As of June 30, 2018 | As of June 30, 2019 |
|----------------------|---------------------|---------------------|
| Active Pre-Medicare | \$ 839,860 | \$ 1,152,042 |
| Active Post-Medicare | 0 | 0 |
| Active Liability | \$ 839,860 | \$ 1,152,042 |

| | | |
|-----------------------|------------|------------|
| Retiree Pre-Medicare | \$ 396,546 | \$ 350,706 |
| Retiree Post-Medicare | 0 | 0 |
| Retiree Liability | \$ 396,546 | \$ 350,706 |

| | | |
|-----------------------------|---------------------|---------------------|
| Total OPEB Liability | \$ 1,236,406 | \$ 1,502,748 |
|-----------------------------|---------------------|---------------------|

| | As of June 30, 2018 | As of June 30, 2019 |
|---------------|---------------------|---------------------|
| Discount Rate | 3.87% | 3.51% |

Changes In Total OPEB Liability



Present Value of Future Benefits (PVFB) is the amount needed as of June 30, 2019 and June 30, 2018, to fully fund the County's retiree health care subsidies for existing and future retirees and their dependents assuming all actuarial assumptions are met.

Total OPEB Liability is the portion of PVFB considered to be accrued or earned as of June 30, 2019 and June 30, 2018. This amount is a required disclosure in the Required Supplementary Information section.

GASB Disclosures

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Schedule of Changes in Net OPEB Liability and Related Ratios

| OPEB Liability | FY 2018/19 | FY 2017/18 | FY 2016/17 |
|--|---------------------|---------------------|---------------------|
| Total OPEB Liability | | | |
| Total OPEB Liability - beginning of year | \$ 1,236,406 | \$ 1,138,874 | \$ 1,172,914 |
| Service cost | 81,028 | 75,302 | 78,565 |
| Interest | 48,807 | 41,218 | 35,031 |
| Change of benefit terms | 0 | 0 | 0 |
| Changes in assumptions | 64,627 | (23,346) | (43,293) |
| Differences between expected and actual experience | 185,483 | 118,091 | 0 |
| Benefit payments | (113,603) | (113,733) | (104,342) |
| Net change in total OPEB liability | \$ 266,342 | \$ 97,532 | \$ (34,039) |
| Total OPEB Liability - end of year | \$ 1,502,748 | \$ 1,236,406 | \$ 1,138,875 |
| Plan Fiduciary Net Position | | | |
| Plan fiduciary net position - beginning of year | \$ 0 | \$ 0 | \$ 0 |
| Contributions - employer | 113,603 | 113,733 | 104,342 |
| Contributions - active employees | 0 | 0 | 0 |
| Net investment income | 0 | 0 | 0 |
| Benefit payments | (113,603) | (113,733) | (104,342) |
| Trust administrative expenses | 0 | 0 | 0 |
| Net change in plan fiduciary net position | \$ 0 | \$ 0 | \$ 0 |
| Plan fiduciary net position - end of year | \$ 0 | \$ 0 | \$ 0 |
| Net OPEB Liability - end of year | \$ 1,502,748 | \$ 1,236,406 | \$ 1,138,875 |
| Plan fiduciary net position as % of total OPEB liability | 0.0% | 0.0% | 0.0% |
| Covered employee payroll | \$ 15,602,603 | \$ 14,593,861 | \$ 14,032,559 |
| Net OPEB liability as % of covered payroll | 9.6% | 8.5% | 8.1% |

GASB Disclosures

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Schedule of Employer Contributions

The Actuarially Determined Contributions (ADC) shown below are based on the Annual Required Contribution (ARC) calculated in prior GASB 45 actuarial valuations as shown in the County's financial statements.

| | FY 2018/19 |
|---|---------------|
| Actuarially Determined Contribution (ADC) | \$ 191,793 |
| Contributions in relation to the ADC | 104,342 |
| Contribution deficiency/(excess) | \$ 0 |
| Covered employee payroll | \$ 15,602,603 |
| Contribution as a % of covered payroll | 0.7% |

GASB Disclosures

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

OPEB Expense

| OPEB Expense | FY 2018/19 | FY 2017/18 |
|---|------------|------------|
| Discount Rate | | |
| Beginning of year | 3.87% | 3.56% |
| End of year | 3.51% | 3.87% |
| Service cost | \$ 81,028 | \$ 75,302 |
| Interest | 48,807 | 41,218 |
| Change of benefit terms | 0 | 0 |
| Projected earnings on OPEB plan investments | 0 | 0 |
| Reduction for contributions from active employees | 0 | 0 |
| OPEB plan administrative expenses | 0 | 0 |
| Current period recognition of deferred outflows / (inflows) of resources | | |
| Differences between expected and actual experience | \$ 27,598 | \$ 10,736 |
| Changes in assumptions | (143) | (6,018) |
| Net difference between projected and actual earnings on OPEB plan investments | 0 | 0 |
| Total current period recognition | \$ 27,455 | \$ 4,718 |
| Total OPEB expense | \$ 157,290 | \$ 121,238 |

GASB Disclosures

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

1. Differences between expected and actual experience of the OPEB plan
2. Changes of assumptions
3. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)

The initial amortization period for the first two items noted above is based on expected future service lives while the difference between the projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the items above.

| Differences between expected and actual experience for FYE | Initial Balance | Initial Amortization Period | Annual Recognition | Unamortized Balance as of June 30, 2019 |
|--|-----------------|-----------------------------|--------------------|---|
| June 30, 2017 | \$ 0 | N/A | \$ 0 | \$ 0 |
| June 30, 2018 | \$ 118,091 | 11 | \$ 10,736 | \$ 96,619 |
| June 30, 2019 | \$ 185,483 | 11 | \$ 16,862 | \$ 168,621 |

| Changes in assumptions for FYE | Initial Balance | Initial Amortization Period | Annual Recognition | Unamortized Balance as of June 30, 2019 |
|--------------------------------|-----------------|-----------------------------|--------------------|---|
| June 30, 2017 | \$ (43,293) | 11 | \$ (3,896) | \$ (31,172) |
| June 30, 2018 | \$ (23,346) | 11 | \$ (2,122) | \$ (19,102) |
| June 30, 2019 | \$ 64,627 | 11 | \$ 5,875 | \$ 58,752 |

| Net Difference between projected and actual earnings in OPEB plan investments for FYE | Initial Balance | Initial Amortization Period | Annual Recognition | Unamortized Balance as of June 30, 2019 |
|---|-----------------|-----------------------------|--------------------|---|
| June 30, 2017 | \$ 0 | N/A | \$ 0 | \$ 0 |
| June 30, 2018 | \$ 0 | N/A | \$ 0 | \$ 0 |
| June 30, 2019 | \$ 0 | N/A | \$ 0 | \$ 0 |

GASB Disclosures

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Deferred Outflows / (Inflows) of Resources (Continued)

| As of fiscal year ending June 30, 2019 | Deferred Outflows | Deferred Inflows |
|---|-------------------|--------------------|
| Differences between expected and actual experience | \$ 265,240 | \$ 0 |
| Changes in assumptions | 58,752 | (50,274) |
| Net difference between projected and actual earnings in OPEB plan investments | N/A | N/A |
| Total | \$ 323,992 | \$ (50,274) |

Annual Amortization of Deferred Outflows / (Inflows)

The balances as of June 30, 2019 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

| FYE | Balance |
|------------|------------|
| 2020 | \$ 27,455 |
| 2021 | \$ 27,455 |
| 2022 | \$ 27,455 |
| 2023 | \$ 27,455 |
| 2024 | \$ 27,455 |
| Thereafter | \$ 136,443 |

GASB Disclosures

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Sensitivity Results

The following presents the Net OPEB Liability as of June 30, 2019, calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 3.51%.
- The 1% decrease in discount rate would be 2.51%.
- The 1% increase in discount rate would be 4.51%.

| As of June 30, 2019 | Net OPEB Liability |
|-----------------------|--------------------|
| 1% Decrease | \$ 1,607,170 |
| Current Discount Rate | \$ 1,502,748 |
| 1% Increase | \$ 1,403,998 |

The following presents the Net OPEB Liability as of June 30, 2019, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 8.50%, decreasing to an ultimate rate of 4.50%.
- The 1% decrease in health care trend rates would assume an initial rate of 7.50%, decreasing to an ultimate rate of 3.50%.
- The 1% increase in health care trend rates would assume an initial rate of 9.50%, decreasing to an ultimate rate of 5.50%.

| As of June 30, 2019 | Net OPEB Liability |
|---------------------|--------------------|
| 1% Decrease | \$ 1,341,494 |
| Current Trend Rates | \$ 1,502,748 |
| 1% Increase | \$ 1,695,006 |

Projection of GASB Disclosures

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

The Total OPEB Liability (TOL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the total OPEB liability and whether they increase or decrease the liability.

Expected Events

- Increases in TOL due to additional benefit accruals as employees continue to earn service each year
- Increases in TOL due to interest as the employees and retirees age
- Decreases in TOL due to benefit payments

Unexpected Events

- Increases in TOL when actual premium rates increase more than expected. A liability decrease occurs when the reverse happens.
- Increases in TOL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in TOL depending on whether benefits are improved or reduced.

| Projection of Total OPEB Liability (TOL) | FY 2018/19 | FY 2019/20 |
|--|---------------------|---------------|
| TOL as of beginning of year | \$ 1,236,406 | \$ 1,502,748 |
| Normal cost as of beginning of year | 81,028 | 127,366 |
| Exp. benefit payments during the year | (113,603) | (148,407) |
| Interest adjustment to end of year | 48,807 | 54,635 |
| Exp. TOL as of end of year | \$ 1,252,638 | \$ 1,536,342 |
| Actuarial Loss / (Gain) | 250,110 | TBD |
| Actual TOL as of end of year | \$ 1,502,748 | \$ TBD |

| | | |
|---------------------------------------|-------|-------|
| Discount rate as of beginning of year | 3.87% | 3.51% |
| Discount rate as of end of year | 3.51% | TBD |

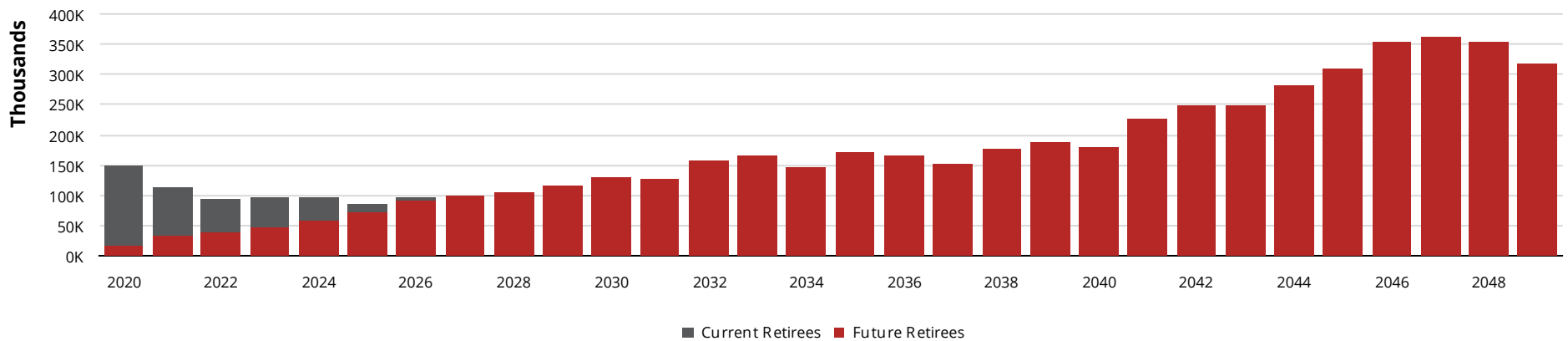
Cash Flow Projections

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next thirty years. Results are shown separately for a closed group of current/future retirees. These projections include explicit and implicit subsidies.

| FYE | Current Retirees | Future Retirees* | Total | FYE | Current Retirees | Future Retirees* | Total | FYE | Current Retirees | Future Retirees* | Total |
|------|------------------|------------------|------------|------|------------------|------------------|------------|------|------------------|------------------|------------|
| 2020 | \$ 132,402 | \$ 16,005 | \$ 148,407 | 2030 | \$ 0 | \$ 130,397 | \$ 130,397 | 2040 | \$ 0 | \$ 180,143 | \$ 180,143 |
| 2021 | \$ 81,115 | \$ 32,335 | \$ 113,450 | 2031 | \$ 0 | \$ 126,821 | \$ 126,821 | 2041 | \$ 0 | \$ 226,232 | \$ 226,232 |
| 2022 | \$ 56,700 | \$ 37,697 | \$ 94,397 | 2032 | \$ 0 | \$ 158,274 | \$ 158,274 | 2042 | \$ 0 | \$ 249,609 | \$ 249,609 |
| 2023 | \$ 48,100 | \$ 47,309 | \$ 95,409 | 2033 | \$ 0 | \$ 166,610 | \$ 166,610 | 2043 | \$ 0 | \$ 248,350 | \$ 248,350 |
| 2024 | \$ 38,064 | \$ 58,839 | \$ 96,903 | 2034 | \$ 0 | \$ 146,871 | \$ 146,871 | 2044 | \$ 0 | \$ 281,974 | \$ 281,974 |
| 2025 | \$ 13,143 | \$ 72,681 | \$ 85,824 | 2035 | \$ 0 | \$ 170,244 | \$ 170,244 | 2045 | \$ 0 | \$ 309,955 | \$ 309,955 |
| 2026 | \$ 6,805 | \$ 90,788 | \$ 97,593 | 2036 | \$ 0 | \$ 164,304 | \$ 164,304 | 2046 | \$ 0 | \$ 352,902 | \$ 352,902 |
| 2027 | \$ 0 | \$ 98,652 | \$ 98,652 | 2037 | \$ 0 | \$ 150,571 | \$ 150,571 | 2047 | \$ 0 | \$ 362,151 | \$ 362,151 |
| 2028 | \$ 0 | \$ 105,788 | \$ 105,788 | 2038 | \$ 0 | \$ 175,343 | \$ 175,343 | 2048 | \$ 0 | \$ 352,705 | \$ 352,705 |
| 2029 | \$ 0 | \$ 114,573 | \$ 114,573 | 2039 | \$ 0 | \$ 188,261 | \$ 188,261 | 2049 | \$ 0 | \$ 318,216 | \$ 318,216 |

Projected Employer Pay-go Cost



* Projections for future retirees do not take into account future new hires.

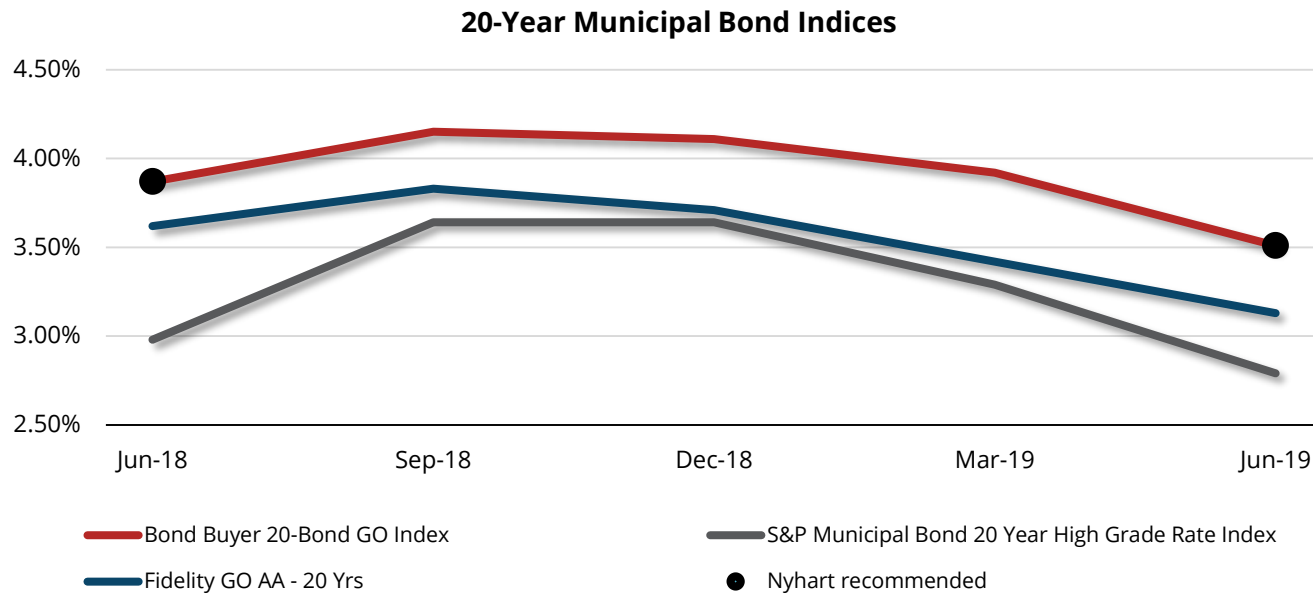
Discussion of Discount Rates

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Under GASB 75, the discount rate used in valuing OPEB liabilities for unfunded plans as of the Measurement Date must be based on a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA /Aa or higher (or equivalent quality on another rating scale).

For the current valuation, the discount rate was selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

| | Bond Buyer Go 20-Bond Municipal Bond Index | S&P Municipal Bond 20-Year High Grade Rate Index | Fidelity 20-Year Go Municipal Bond Index | Bond Index Range | Actual Discount Rate Used |
|---------------------------|--|--|--|------------------|---------------------------|
| Yield as of July 1, 2018 | 3.87% | 2.98% | 3.62% | 2.98% - 3.87% | 3.87% |
| Yield as of June 30, 2019 | 3.51% | 2.79% | 3.13% | 2.79% - 3.51% | 3.51% |



Summary of Plan Participants

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Active Employees

| Actives with coverage | Single | Non-Single | Total | Avg. Age | Avg. Svc | Salary |
|------------------------------------|-----------|------------|------------|-------------|-------------|----------------------|
| Plan 1 | 17 | 10 | 27 | 46.0 | 9.6 | \$ 1,656,207 |
| Plan 2 | 69 | 99 | 168 | 43.2 | 10.4 | \$ 10,277,875 |
| Total actives with coverage | 86 | 109 | 195 | 43.6 | 10.3 | \$ 11,934,082 |

| Actives without coverage | Total | Avg. Age | Avg. Svc | Salary |
|---------------------------------------|-----------|-------------|------------|---------------------|
| Total actives without coverage | 62 | 41.7 | 9.7 | \$ 3,668,522 |

Active employees who currently have no coverage are assumed not to elect coverage at retirement. They have been excluded from the GASB valuation.

Enrollment information above is for full-time employees who are eligible for retiree health care benefits only.

Summary of Plan Participants

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Active Age-Service Distribution

| Age | Years of Service | | | | | | | | | | Total | |
|--------------|------------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|-------|------------|
| | < 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 & up | | |
| Under 25 | 8 | 8 | | | | | | | | | | 16 |
| 25 to 29 | 7 | 10 | 2 | | | | | | | | | 19 |
| 30 to 34 | 5 | 12 | 13 | 3 | | | | | | | | 33 |
| 35 to 39 | 2 | 10 | 13 | 21 | 4 | | | | | | | 50 |
| 40 to 44 | 1 | 9 | 4 | 6 | 4 | | | | | | | 24 |
| 45 to 49 | 2 | 12 | 2 | 4 | 6 | 8 | 2 | | | | | 36 |
| 50 to 54 | | 3 | 4 | 5 | 5 | 9 | 3 | | | | | 29 |
| 55 to 59 | 2 | 4 | 4 | 1 | 3 | 6 | 3 | 2 | 2 | | | 27 |
| 60 to 64 | | 3 | 4 | 2 | 1 | 4 | 3 | | | | | 17 |
| 65 to 69 | 1 | | 1 | 1 | 1 | 2 | | | | | | 6 |
| 70 & up | | | | | | | | | | | | 0 |
| Total | 28 | 71 | 47 | 43 | 24 | 29 | 11 | 2 | 2 | 0 | | 257 |

Summary of Plan Participants

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Retirees

| Retirees with coverage | Single | Non-Single | Total | Avg. Age |
|-------------------------------------|----------|------------|----------|-------------|
| Plan 1 | 2 | 0 | 2 | 63.6 |
| Plan 2 | 4 | 2 | 6 | 61.8 |
| Total retirees with coverage | 6 | 2 | 8 | 62.2 |

Retiree Age Distribution

| Age | Retirees |
|--------------|----------|
| < 45 | |
| 45 to 49 | |
| 50 to 54 | |
| 55 to 59 | 1 |
| 60 to 64 | 7 |
| 65 to 69 | |
| 70 to 74 | |
| 75 to 79 | |
| 80 to 84 | |
| 85 to 89 | |
| 90 & up | |
| Total | 8 |

Substantive Plan Provisions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Eligibility

General

Age 55

Special Service

Age 55 or age 50 with 22 years of service

Spouse Benefit

Surviving spouse / dependents of retirees are not allowed to remain on health coverage.

Explicit Subsidy

Retirees receive free single coverage for a number of months based on years of service at retirement. County paid health insurance payments will cease when an employee becomes eligible for Medicare, even if the retiree has additional months available. The schedule is shown below:

| <u>Years of Service</u> | <u>Months of Free Single Coverage</u> |
|-------------------------|---------------------------------------|
| 10 | 12 |
| 15 | 18 |
| 20 | 24 |
| 25 | 30 |
| 30 | 36 |

There is no explicit subsidy for spouses.

Retiree Cost Sharing

Retirees are responsible for the portion of premium rates not covered by the County's explicit subsidy.

Medical Benefits

Same benefit options are available to retirees as active employees. The health plans are partially self-funded. The monthly premiums effective July 1, 2019 by plan are as shown below.

| <u>Eff. 7/1/2019</u> | <u>Single</u> | <u>Family</u> |
|----------------------|---------------|---------------|
| AS Plan 1 | \$ 888.08 | \$ 2,197.70 |
| AS Plan 2 | \$ 834.68 | \$ 2,064.20 |
| BC Plan 1 | \$ 815.76 | \$ 2,016.90 |
| BC Plan 2 | \$ 765.47 | \$ 1,891.18 |

Actuarial Methods and Assumptions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

The actuarial assumptions used in this report represent a reasonable long-term expectation of future OPEB outcomes. As national economic and County experience change over time, the assumptions will be tested for ongoing reasonableness and, if necessary, updated.

There are changes to the actuarial methods and assumptions since the last GASB valuation, which was for the fiscal year ending June 30, 2017. Refer to Actuary's Notes section for complete information on these changes. For the current year GASB valuation, we have also updated the per capita costs. We expect to update discount rate, health care trend rates, mortality table, and per capita costs again in the next full GASB valuation, which will be for the fiscal year ending June 30, 2021.

Measurement Date

For fiscal year ending June 30, 2019, June 30, 2019 measurement date was used.

Actuarial Valuation Date

June 30, 2019 with no adjustments to get to the June 30, 2019 measurement date. Liabilities as of July 1, 2018 are based on an actuarial valuation date of June 30, 2017 projected to July 1, 2018 on a "no loss / no gain" basis.

Discount Rate

3.87% as of July 1, 2018 and 3.51% as of June 30, 2019; refer to the Discussion of Discount Rates section for more information on selection of the discount rate.

Payroll Growth

The payroll growth assumption for General and Sheriffs/Deputies and Protection Occupation employees are based on the IPERS valuation as of June 30, 2019. The rates below include general wage inflation (2.60% general inflation and 0.65% real wage inflation) and merit / productivity increases.

| Years of Service | General (State) | Sheriffs/Deputies and Protection Occupation |
|------------------|-----------------|---|
| 1 | 14.25% | 16.25% |
| 5 | 7.75% | 5.75% |
| 10 | 5.50% | 4.55% |
| 15 | 4.45% | 4.05% |
| 20 | 3.85% | 3.75% |
| 25 | 3.60% | 3.75% |
| 30 | 3.35% | 3.25% |
| 35+ | 3.25% | 3.25% |

Inflation Rate

The tables used in the payroll growth rate assumption include a general inflation rate of 2.60%.

Actuarial Methods and Assumptions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Cost Method

Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where:

- Service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant's benefit at retirement; and
- Annual Service Cost is a constant percentage of the participant's salary that is assumed to increase according to the Payroll Growth.

Census Data

Census information was provided by the County in October 2019. We have reviewed it for reasonableness and no material modifications were made to the census data.

Experience Study

Best actuarial practices call for a periodic assumption review and Nyhart recommends the County to complete an actuarial assumption review (also referred to as an experience study).

Health Care Coverage Election Rate

Active employees with current coverage: 25%
Active employees with no coverage: 0%

Inactive employees with current coverage: 100%
Inactive employees with no coverage: 0%

Spousal Coverage

Spousal coverage for current retirees is based on actual data.

Husbands are assumed to be three years older than wives.

Employer Funding Policy

Pay-as-you-go cash basis

Mortality

General: Pub-2010 General Headcount-weighted Mortality Table fully generational using scale MP-2019
Special Services: Pub-2010 Public Safety Headcount-weighted Mortality Table fully generational using scale MP-2019
Surviving Spouses: Pub-2010 Continuing Survivor Mortality Table fully generational using scale MP-2019

Actuarial Methods and Assumptions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Health Care Trend Rates

| FYE | Medical/Rx | FYE | Medical/Rx |
|------|------------|-------|------------|
| 2020 | 8.0% | 2025 | 5.5% |
| 2021 | 7.5% | 2026 | 5.0% |
| 2022 | 7.0% | 2027 | 4.5% |
| 2023 | 6.5% | 2028+ | 4.5% |
| 2024 | 6.0% | | |

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

Retiree Contributions

Retiree contributions are assumed to increase according to health care trend rates.

Retirement Rate

These sample retirement rates mirror those used in the IPERS Actuarial Valuation for fiscal year ending June 30, 2019.

| Age | General | | | | Special Services | |
|-----|------------------|------|------|------|------------------|------------|
| | Years of Service | | | | Sheriff | Protection |
| | 1 | 20 | 30 | 33+ | All Years | |
| 50 | 0% | 0% | 0% | 0% | 17% | 0% |
| 55 | 5% | 5% | 5% | 20% | 15% | 25% |
| 60 | 5% | 5% | 15% | 15% | 15% | 10% |
| 65 | 30% | 30% | 30% | 30% | 100% | 100% |
| 70+ | 100% | 100% | 100% | 100% | 100% | 100% |

Disability

None assumed

Actuarial Methods and Assumptions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Turnover Rate

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health coverage. The rates represent the probability of termination in the next 12 months. These sample termination rates mirror those used in the IPERS Actuarial Valuation for fiscal year ending June 30, 2019.

| YOS | General | Sheriffs/Deputies | Other Protection |
|-----|---------|-------------------|------------------|
| 1 | 11.0% | 4.0% | 10.0% |
| 5 | 4.8% | 1.0% | 6.5% |
| 10 | 2.3% | 1.0% | 3.5% |
| 15 | 1.6% | 1.0% | 2.2% |
| 20 | 1.1% | 1.0% | 1.5% |
| 25 | 0.8% | 1.0% | 1.0% |
| 30+ | 0.8% | 1.0% | 1.0% |

Per Capita Costs

Annual per capita costs were calculated based on the 2018/19 premium rates, actuarially increased using health index factors and current enrollment. The costs are assumed to increase with health care trend rates. Annual per capita costs are as shown below:

| Age | Plan 1 | Plan 2 |
|---------|-----------|-----------|
| <55 | \$ 13,200 | \$ 12,400 |
| 55 - 59 | \$ 16,400 | \$ 15,400 |
| 60 - 64 | \$ 21,200 | \$ 19,900 |

The per capita costs represent the cost of coverage for a retiree-only population.

Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

Actuarial Methods and Assumptions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Explicit Subsidy

The difference between (a) the premium rate and (b) the retiree contribution. Below is an example of the monthly explicit subsidies for a retiree and spouse who has retired with 25 years of service, is in the first year of retirement, and is enrolled in Plan 1.

| | Premium Rate | Retiree Contribution | Explicit Subsidy |
|---------|---------------------|-----------------------------|-------------------------|
| | A | B | C = A - B |
| Retiree | \$ 888.08 | \$ 0.00 | \$ 888.08 |
| Spouse | \$ 1,309.62 | \$ 1,309.62 | \$ 0.00 |

Implicit Subsidy

The difference between (a) the per capita cost and (b) the premium rate. Below is an example of the monthly implicit subsidies for a retiree age 62 with spouse of the same age enrolled in Plan 1.

| | Per Capita Cost | Premium Rate | Implicit Subsidy |
|---------|------------------------|---------------------|-------------------------|
| | A | B | C = A - B |
| Retiree | \$ 1,766.67 | \$ 888.08 | \$ 878.59 |
| Spouse | \$ 1,766.67 | \$ 1,309.62 | \$ 457.05 |

All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

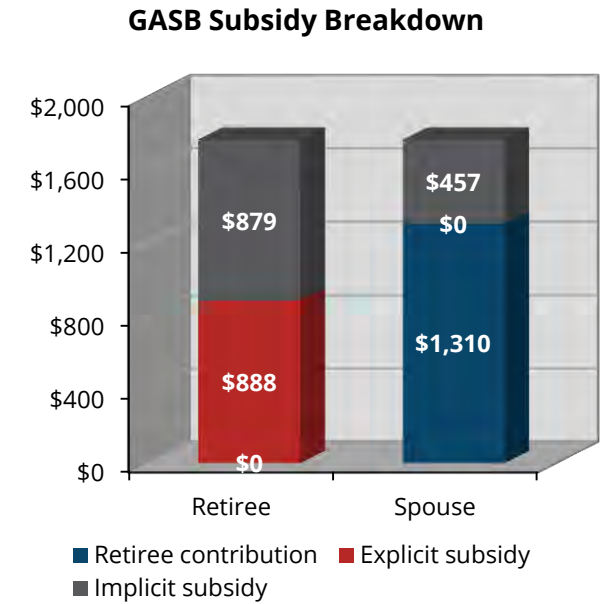
Actuarial Methods and Assumptions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

GASB Subsidy Breakdown

Below is a breakdown of the GASB 75 monthly total cost for a retiree age 62 and spouse of the same age who has retired with 25 years of service, is in the first year of retirement, and is enrolled in Plan 1.

| | Retiree | Spouse |
|----------------------|-------------|-------------|
| Retiree contribution | \$ 0.00 | \$ 1,309.62 |
| Explicit subsidy | \$ 888.08 | \$ 0.00 |
| Implicit subsidy | \$ 878.59 | \$ 457.05 |
| Total monthly cost | \$ 1,766.67 | \$ 1,766.67 |



APPENDIX

Appendix

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Comparison of Participant Demographic Information

The active participants' number below may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

| | As of June 30, 2017 | As of June 30, 2019 |
|-----------------------|---------------------|---------------------|
| Active Participants | 242 | 257 |
| Retired Participants | 11 | 8 |
| Averages for Active | | |
| Age | 42.0 | 43.1 |
| Service | 9.2 | 10.1 |
| Averages for Inactive | | |
| Age | 59.5 | 62.2 |

Appendix

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

Detailed Actuary's Notes

There have been no substantive plan provision changes since the last full valuation, which was for the fiscal year ending June 30, 2017.

The following assumptions have been updated:

1. Discount rate as of the Measurement Date has been updated to be based on a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale) tax-exempt, high quality 20-year municipal bonds. The prior valuation used a discount rate of 3.87%. The current full valuation uses a discount rate of 3.51%. This change has caused an increase in liabilities for the County.

The discount rate will be updated annually to reflect market conditions as of the Measurement Date.

2. We have updated the mortality tables from RPH-2014 Adjusted to 2006 Total Dataset Fully Generational using scale MP-2016 to the following:
General: Pub-2010 General Headcount-weighted Mortality Table fully generational using scale MP-2019
Special Services: Pub-2010 Public Safety Headcount-weighted Mortality Table fully generational using scale MP-2019
Surviving Spouses: Pub-2010 Continuing Survivor Mortality Table fully generational using scale MP-2019
This change caused a slight increase in liabilities.
3. The termination rate, retirement rate, and salary scale assumptions have been updated to the most recent IPERS tables as of June 30, 2019. Each of these changes caused a slight increase in liabilities.
4. Health care trend rates have been updated to an initial rate of 8.0% decreasing by 0.5% annually to an ultimate rate of 4.5% as shown below. This change caused a slight decrease in liabilities.

| FYE | Medical/Rx | FYE | Medical/Rx |
|------|------------|-------|------------|
| 2020 | 8.0% | 2025 | 5.5% |
| 2021 | 7.5% | 2026 | 5.0% |
| 2022 | 7.0% | 2027 | 4.5% |
| 2023 | 6.5% | 2028+ | 4.5% |
| 2024 | 6.0% | | |

GLOSSARY

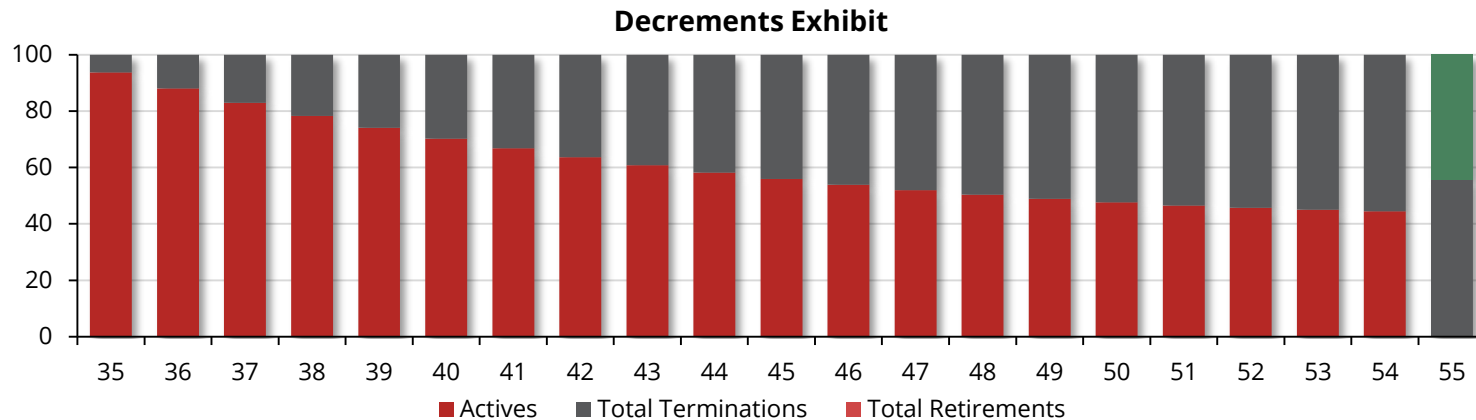
Glossary – Decrements Exhibit

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. Starting with 100 employees at age 35, the illustrated actuarial assumptions show that 44.43 employees out of the original 100 are expected to retire and could elect retiree health benefits at age 55.

| Age | # Remaining Employees | # of Terminations per Year ¹ | # of Retirements per Year | Total Decrements |
|-----|-----------------------|---|---------------------------|------------------|
| 35 | 100.000 | 6.276 | 0.000 | 6.276 |
| 36 | 93.724 | 5.677 | 0.000 | 5.677 |
| 37 | 88.047 | 5.136 | 0.000 | 5.136 |
| 38 | 82.911 | 4.648 | 0.000 | 4.648 |
| 39 | 78.262 | 4.209 | 0.000 | 4.209 |
| 40 | 74.053 | 3.814 | 0.000 | 3.814 |
| 41 | 70.239 | 3.456 | 0.000 | 3.456 |
| 42 | 66.783 | 3.131 | 0.000 | 3.131 |
| 43 | 63.652 | 2.835 | 0.000 | 2.835 |
| 44 | 60.817 | 2.564 | 0.000 | 2.564 |
| 45 | 58.253 | 2.316 | 0.000 | 2.316 |

| Age | # Remaining Employees | # of Terminations per Year | # of Retirements per Year | Total Decrements |
|-----|-----------------------|----------------------------|---------------------------|------------------|
| 46 | 55.938 | 2.085 | 0.000 | 2.085 |
| 47 | 53.853 | 1.866 | 0.000 | 1.866 |
| 48 | 51.987 | 1.656 | 0.000 | 1.656 |
| 49 | 50.331 | 1.452 | 0.000 | 1.452 |
| 50 | 48.880 | 1.253 | 0.000 | 1.253 |
| 51 | 47.627 | 1.060 | 0.000 | 1.060 |
| 52 | 46.567 | 0.877 | 0.000 | 0.877 |
| 53 | 45.690 | 0.707 | 0.000 | 0.707 |
| 54 | 44.983 | 0.553 | 0.000 | 0.553 |
| 55 | 44.430 | 0.000 | 44.430 | 44.430 |



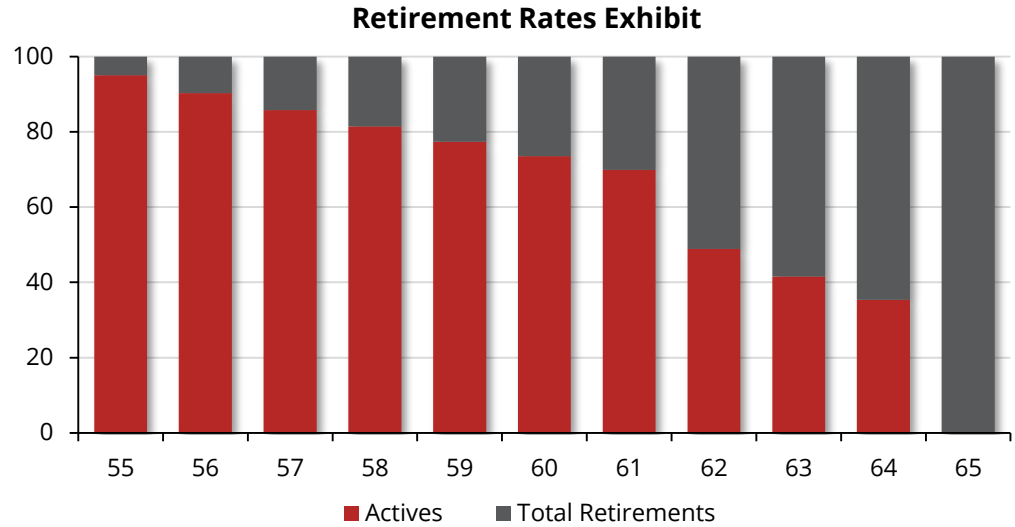
¹ The above rates are illustrative rates and are not used in our GASB calculations.

Glossary – Retirement Rates Exhibit

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. The illustrated retirement rates show the number of employees who are assumed to retire annually based on 100 employees age 55 who are eligible for retiree health care coverage. The average age at retirement is 62.0.

| Age | Active Employees BOY | Annual Retirement Rates* | # Retirements per Year | Active Employees EOY |
|-----|----------------------|--------------------------|------------------------|----------------------|
| 55 | 100.000 | 5.0% | 5.000 | 95.000 |
| 56 | 95.000 | 5.0% | 4.750 | 90.250 |
| 57 | 90.250 | 5.0% | 4.513 | 85.738 |
| 58 | 85.738 | 5.0% | 4.287 | 81.451 |
| 59 | 81.451 | 5.0% | 4.073 | 77.378 |
| 60 | 77.378 | 5.0% | 3.869 | 73.509 |
| 61 | 73.509 | 5.0% | 3.675 | 69.834 |
| 62 | 69.834 | 30.0% | 20.950 | 48.884 |
| 63 | 48.884 | 15.0% | 7.333 | 41.551 |
| 64 | 41.551 | 15.0% | 6.233 | 35.318 |
| 65 | 35.318 | 100.0% | 35.318 | 0.000 |



* The above rates are illustrative rates and are not used in our GASB calculations.

Glossary – Definitions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

GASB 75 defines several unique terms not commonly employed in the funding of pension and retiree health plans. The definitions of the terms used in the GASB actuarial valuations are noted below.

1. **Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting health care costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided health care benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
2. **Actuarial Cost Method** – A procedure for determining the Actuarial Present Value of Future Benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Service Cost and a Total OPEB Liability.
3. **Actuarially Determined Contribution** - A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in accordance with the parameters and in conformity with Actuarial Standards of Practice.
4. **Actuarial Present Value** – The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
 - a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.);
 - b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned; and
 - c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.
5. **Deferred Outflow / (Inflow) of Resources** – represents the following items that have not been recognized in the OPEB Expense:
 - a. Differences between expected and actual experience of the OPEB plan
 - b. Changes in assumptions
 - c. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)
6. **Explicit Subsidy** – The difference between (a) the amounts required to be contributed by the retirees based on the premium rates and (b) actual cash contribution made by the employer.
7. **Funded Ratio** – The actuarial value of assets expressed as a percentage of the Total OPEB Liability.

Glossary – Definitions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

8. **Healthcare Cost Trend Rate** – The rate of change in the per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.
9. **Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group (which, because of the effect of age on claim costs, generally will be higher than the blended premium rates for all group members) and (b) the amounts required to be contributed by the retirees.
10. **OPEB** – Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided. OPEB does not include termination benefits or termination payments for sick leave.
11. **OPEB Expense** – Changes in the Net OPEB Liability in the current reporting period, which includes Service Cost, interest cost, changes of benefit terms, expected earnings on OPEB Plan investments, reduction of active employees' contributions, OPEB plan administrative expenses, and current period recognition of Deferred Outflows / (Inflows) of Resources.
12. **Pay-as-you-go** – A method of financing a benefit plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.
13. **Per Capita Costs** – The current cost of providing postretirement health care benefits for one year at each age from the youngest age to the oldest age at which plan participants are expected to receive benefits under the plan.
14. **Present Value of Future Benefits** – Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.
15. **Real Rate of Return** – the rate of return on an investment after adjustment to eliminate inflation.

Glossary – Definitions

Story County GASB 75 Valuation for Fiscal Year Ending June 30, 2019

16. **Select and Ultimate Rates** – Actuarial assumptions that contemplate different rates for successive years. Instead of a single assumed rate with respect to, for example, the investment return assumption, the actuary may apply different rates for the early years of a projection and a single rate for all subsequent years. For example, if an actuary applies an assumed investment return of 8% for year 20W0, then 7.5% for 20W1, and 7% for 20W2 and thereafter, then 8% and 7.5% select rates, and 7% is the ultimate rate.
17. **Service Cost** – The portion of the Actuarial Present Value of projected benefit payments that are attributed to a valuation year by the Actuarial Cost Method.
18. **Substantive Plan** – The terms of an OPEB plan as understood by the employer(s) and plan members.
19. **Total OPEB Liability** – That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Benefits which is attributed to past periods of employee service (or not provided for by the future Service Costs).