



North Carolina Committee on Actuarial
Valuation of Retired Employees' Health Benefits

Review of Assumptions for December 31, 2022 OPEB Valuation

May 31, 2023 / Daniel J. Rhodes, FSA, MAAA and Kenneth C. Vieira, FSA, FCA, MAAA

OPEB Actuarial Valuation Assumptions for the December 31, 2022 Valuation

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Valuation Purpose

GASB Statements 74 and 75

- Measure State obligations to provide other postemployment benefits (OPEB)
- Provide information for the Plan Audit (GASB 74)
- Determine the Actuarially Determined Contribution (ADEC)
- Annual OPEB Expense for fiscal 2024, and fiscal 2024 disclosure information (GASB 75)
- Provide exhibits useful for preparing required financial statement recognition and disclosure items

Dates for this valuation

- Valuation Date is December 31, 2022
- Measurement Date is June 30, 2023
- GASB 74 Reporting Date is June 30, 2023
- GASB 75 Reporting Date is June 30, 2024

Deliverables for this valuation

- 2023 GASB 74 report (late August)
- 2024 GASB 75 report, with allocations (January/February)
- Auditor requests (as needed)

Accounting and Funding Methodology

GASB 75 Budgeting Methods for Expense

- Mandated by GASB 75
- Actuarial cost method — Entry Age Level Percent of Pay
- Asset valuation method — market value
- Recognition of Changes in Net OPEB Liability
 - Plan changes are recognized immediately
 - Asset gains and losses are recognized over 5 years
 - Other changes are over 5 years (Total Future Service/All Participants)
 - Period will slowly move down over time, due to plan being closed to new actives

Funding Assumptions and Methods for the Actuarially Determined Contribution (ADEC)

- Current funding policy is essentially a pay-as-you-go process
 - Occasional ad hoc payments made since FY 2020
- The ADEC is not required, but is a measure of how large the contribution would be if the Plan were to be pre-funded
- The State can periodically reset the method for calculating the ADEC
- Demographic assumptions are generally the same as for GASB, but the ADEC can be based on a different cost method and the discount rate can differ
- Decisions about the ADEC are after the assumptions section

Assumptions/Methods set by the State Periodically

- Relationship between Valuation Date, Measurement Date and Reporting Date
- Demographic and Certain Economic Assumptions
 - Should be consistent with the pension plan valuations
 - Update in OPEB valuation when changes are adopted for pension valuations
 - Typically reset every five years in a study by the pension actuary, and approved by the State for use
 - Pension actuary presented results of new experience study in December 2020
 - Results were used in December 31, 2020 pension valuations
 - No updates expected until next experience study (2025)
- Determination of Basis for Allocation of Costs to Agencies
- Funding Policy for the Actuarially Determined Contribution
 - Actuarial Cost Method
 - Discount Rate (Long-term Rate of Return or Discount Rate for GASB 75)
 - Amortization Period (Years, Level \$ or Percent of Pay, and Open/Closed)

Pension Economic Assumptions set by the State Periodically

	Descriptor	December 31, 2021 Assumption	December 31, 2022 Assumption	Comments
Inflation	A building block component for several items	2.50%	No change	Same as pension assumption
Long-Term Rate of Return on Plan Assets	Investment return Used for OPEB Expense	6.50%	No change	Same as pension assumption
Assumed Payroll Growth	General wage increases Used for the ADEC	3.25%	No change	Same as pension assumption
Salary Growth	The salary growth by individual, equal to merit increases plus general wage growth Used for actuarial cost method (Entry Age Normal Level Percentage of Pay)	Teachers: 7.30% grading down to 3.25% Other Education: 7.50% grading down to 3.25% Law Enforcement: 8.05% grading down to 3.25% General Employees: 6.25% grading down to 3.25%	No change	Same as pension assumption

Pension Demographic Assumptions set by the State Periodically

	Descriptor	December 31, 2021 Assumption	December 31, 2022 Assumption	Comments
Pre-retirement mortality	Probability of death while active	Use Pub-2010 tables, based on public plan experience, with adjustments Separate tables for Law Enforcement and General (including Teachers)	No change	Same as pension assumption
Post-retirement mortality	Probability of post-employment death	Use Pub-2010 tables, based on public plan experience, with adjustments Separate tables for Law Enforcement, Teachers, and General Separate tables for contingent annuitants	No change	Same as pension assumption
Mortality improvement	Scale applied to tables to reflect future mortality improvement	MP-2019 scale	No change	Same as pension assumption

Pension Demographic Assumptions set by the State Periodically

	Descriptor	December 31, 2021 Assumption	December 31, 2022 Assumption	Comments
Turnover	Probability of terminating service prior to retirement eligibility each year prior to retirement eligibility	Based on age, service, gender, and employment classification	No change	Same as pension assumption
Disability	Probability of becoming disabled prior to retirement eligibility each year prior to retirement eligibility	Based on age, service, gender, and employment classification	No change	Same as pension assumption
Retirement	Probability of retiring each year after meeting the age and service eligibility requirements	Based on age, service, gender, and employment classification	No change	Same as pension assumption
Spouse age difference	Actual data is used for retirees, but active employees are valued based on assumption at retirement	Husbands are assumed to be three years older than their wives	No change	Same as pension assumption

Assumptions set by the Health Actuary Annually

	Descriptor	December 31, 2021 Assumption	December 31, 2022 Assumption	Comments
Substantive Plan	Plan documents, SPDs, Notices, Ordinances, Past Practices and Public Law that describe the benefits due and that are expected to be due to participants	Detailed in the valuation report	Same process as last year	Reviewed by the State
Plan Changes	Change in plan terms must be recognized immediately in OPEB expense under GASB 75	Plan changes as of January 1, 2023 known at this time (no material impact expected on claims costs)	No plan changes as of January 1, 2024 known at this time	
Claims Cost Rates	Derivation of the average expected rates for each coverage	Separate rates for Non-Medicare (70/30, 80/20) and Medicare (70/30, MA Base, MA Enhanced)	Being developed in conjunction with Q1 Financial Projections	
Medicare Advantage	Fully insured rates guaranteed for five years effective January 1, 2021	Incorporate rate guarantee, and projected premiums in 2026 and beyond	Review in process	Analyzing potential impact of Inflation Reduction Act (IRA) on MA-PD rates

Assumptions set by the Health Actuary Annually

	Descriptor	December 31, 2021 Assumption	December 31, 2022 Assumption	Comments
Short Term Health Trend	The expected increases in health care costs	Separate trends for Medical, Rx, MA Plans, Retiree Contributions and Admin	Medical: 6.0% Pharmacy: Claims: 10.0% Rebates: 7.0%	Year 1 trends consistent with Q1 financial projections, with step down over time to ultimate trend rates
Participation Rate	The assumed percentage of active employees that retire and elect to be covered under the Plan	100% for employees, 10% for spouses	No change	Active employees hired after December 31, 2020 not eligible for OPEB
Migration Assumption	The assumed movement of participants between plans	See next slide	See next slide	
Tobacco Attestation	Different retiree contributions apply for those in 80/20 Plan based on completing attestation of tobacco use	98.5% of participants in 80/20 Plan assumed to complete attestation	99.3% of participants in 80/20 Plan assumed to complete attestation	Based on Q1 2023 monthly average
Administrative Expense Rates	Separate from the expenses included in the premiums, applies to self-funded plans	Per participant expenses (retiree and spouses) calculated	Baseline trend of 5.0% in FY 2022 then 3.0%	Reflects Aetna fees for self-funded plans beginning in 2025
Employer and Employee Contributions	Applies to participants who contribute towards OPEB	Consistent with Q1 2022 Financial Projections	Consistent with Q1 2023 Financial Projections	Based on known legislative actions and anticipated future rate changes

Assumptions set by the Health Actuary Annually

Migration Assumption

2022 Valuation

	2022	2023	2024	2025+
Non-Medicare Retiree				
80/20 Plan	43.8%	43.3%	42.8%	42.3%
70/30 Plan	56.2%	56.7%	57.2%	57.7%
Medicare Retiree				
MA Base	73.4%	72.9%	75.0%	75.0%
MA Enhanced	8.4%	8.3%	10.0%	10.0%
70/30 Plan	18.3%	18.8%	15.0%	15.0%

2023 Valuation (from Q1 2023 projections)

	2023	2024	2025	2026	2027+
Non-Medicare Retiree					
80/20 Plan	42.4%	41.9%	41.4%	40.9%	40.4%
70/30 Plan	57.6%	58.1%	58.6%	59.1%	59.6%
Medicare Retiree					
MA Base	77.0%	75.0%	75.0%	75.0%	75.0%
MA Enhanced	8.5%	10.0%	10.0%	10.0%	10.0%
70/30 Plan	14.5%	15.0%	15.0%	15.0%	15.0%

Assumptions set by the Health Actuary Periodically

	Descriptor	December 31, 2021 Assumption	December 31, 2022 Assumption	Comments
Ultimate Health Trend	<p>The final entry in the Health Trend that is projected for 80+ years</p> <p>This is the expectation for US medical spending in general. Components:</p> <ul style="list-style-type: none"> • Inflation • Historic measures (excess of health care increases over CPI) • Limiting factor that medical expenses will flatten out as a percentage of GDP 	5.00%	No change	
Medicare Eligibility	Some hires prior to 1988 were not required to be covered under Medicare, resulting in larger over age 65 claims	100% eligible	No change	
Morbidity	A required process of allocating average claims to each age and gender	Prior Segal Standard Table	Updated Segal Standard Table	Segal has updated standard morbidity table based on review of claims experience in data warehouse

GASB 74/75 Assumptions/Methods for Accounting

	Descriptor	December 31, 2021 Assumption	December 31, 2022 Assumption	Comments
Actuarial Cost Method	Basis for assigning costs accruals to active employees	Entry Age Normal Level Percentage of Pay	No Change	No choice, prescribed by GASB 74/75
Discount Rate	The rate used to discount future projected benefit payments to the valuation date 20-year, general obligation, municipal bond index rate as of the Measurement Date, unless pre-funding, in which case that same rate is blended with the long-term rate of return	2.16% as of June 30, 2021, and 3.54% as of June 30, 2022	3.54% as of June 30, 2022, and market rate as of June 30, 2023 (as required by GASB)	No choice (for unfunded plans), prescribed by GASB 74/75 This assumption has significant impact on the liability calculation - as the rates move downward, the liability will increase See next slide
Expense Methodology	The development of the OPEB Cost from the benefit liabilities and assets	GASB 75 Basis	No Change	No choice, prescribed by GASB 75
Allocation of Expense to Contributing Employers (Agencies)	The basis the OPEB expense is allocated to contributing divisions.	Based on the Present Value of Future Salaries	No Change	Consistent with the pension plans methodology. The Cost Method is a level percent of salary cost method, which led to this basis.

Discount Rate and Prefunding

- As noted on prior slide, GASB mandates use of a municipal bond index rate for calculating the Net OPEB Liability of an unfunded (“pay-as-you-go”) plan
- Traditionally, the State’s OPEB plan has been essentially pay-as-you-go
 - General Assembly sets appropriation for each year to be slightly higher than expected expenses
- Since FY 2020, additional assets have been transferred to RHBTF
- After last year’s valuation, Segal completed a study with SHP to look at the impact of pre-funding on the discount rate
- Segal calculated the Net OPEB Liability assuming a fully funded plan
 - Analysis used 6.5% for the discount rate, which is the assumed rate of return on plan assets used for the retirement system valuations
 - Also included a “blended” rate based on current and projected funding levels
- Segal understands that the Committee still considers the plan “pay-as-you-go”, and will keep the same methodology for selecting the discount rate as before (GO-Bond rate) for GASB disclosures
- Segal was asked to include supplemental material in an appendix to the valuation report this year
 - Net OPEB Liability as of the measurement date using a fully funded rate, and other discount rates as requested (for sensitivity analysis)
 - Actuarially determined contribution in order to fully fund the plan over 20 years
 - Additional information on the plan’s assets

Assumptions/Methods for Funding

Generally, the Actuarially Determined Contribution is the annual accrual (Normal Cost), plus a recognition of the unfunded liability, plus an adjustment for timing.

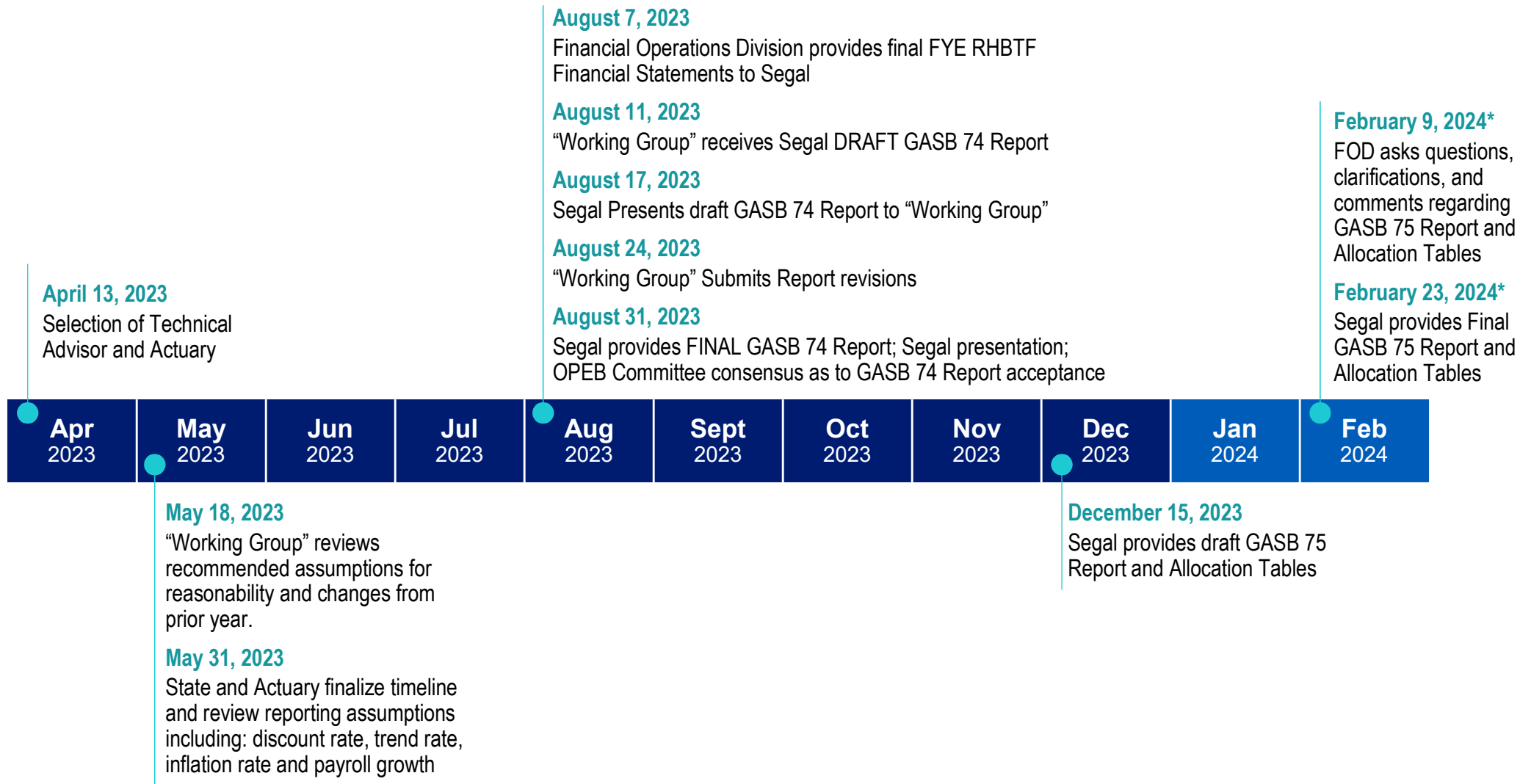
	Descriptor	December 31, 2021 Assumption	December 31, 2022 Assumption	Comments
Actuarial Cost Method	Basis for assigning costs accruals to active employees	Entry Age Level Percent of Payroll	Entry Age Level Percent of Payroll	Could consider other cost methods if plan were actually prefunded
Discount Rate	The rate used to discount future projected benefit payments to the valuation date	GASB 74/75 discount rate as of fiscal year end	GASB 74/75 discount rate as of fiscal year end	Could consider using long-term return assumption if plan were actually prefunded
Amortization Methodology	Method for recognizing the unfunded liability	30-year, open, level percent of pay	30-year, open, level percent of pay	Could consider a closed funding period if plan were actually prefunded
Projecting to Future Years	ADEC is not calculated on a projected basis since there is no funding policy in place	Calculated the ADEC for fiscal 2022	Calculated the ADEC for fiscal 2023	

Other Items and Committee Concerns

- Questions or concerns from previous valuations of which Segal should be aware
- Other State changes or directions that need to be reflected in this valuation



Proposed 2023 Process and High Level Timeline



* FOD is simultaneously verifying the GASB 75 Report and Allocation Tables as well as other Reports (i.e., DIPNC, TSERS, LGERS, etc) for the ACFR from December to February. It could be possible that FOD provides feedback to the actuary prior to 2/9/2024 where FOD would expect a final GASB Report and Allocation Tables within 2 weeks of the final comments.

Thank You

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