

MacLeod Watts

November 18, 2020

Chief Scott Baker
Fire Chief
Tahoe Douglas Fire Protection District
PO Box 919
Zephyr Cove, NV 89448

Re: December 31, 2019 Valuation and Development of Actuarially Determined Contributions
GASB 75 Actuarial Report for the Fiscal Year Ending June 30, 2020
For the Tahoe Douglas Fire Protection District

Dear Chief Baker:

We are pleased to enclose our report providing actuarial information relating to the other post-employment benefit (OPEB) liabilities for the Tahoe Douglas Fire Protection District **relating to employees and retirees covered by the District Retiree Healthcare Plan** (District Plan). The report's text describes our analysis and assumptions in detail. Please note that the OPEB liability relating to District retirees covered by PEBP is provided in a separate report. *Revisions in this report reflect (a) liability changes related to updated to some employee hire dates and (b) updates to trust assets.*

The primary purposes of this report are to:

1. Summarize the results of our remeasurement of OPEB plan liabilities as of December 31, 2019,
2. Develop Actuarially Determined Contributions for fiscal years ending June 30, 2020, 2021 and 2022, and
3. Provide information required by GASB 75 ("Accounting and Financial Reporting for Postemployment Benefits Other Than Pension") to be reported in the District's financial statements for the fiscal year ending June 30, 2020. These results were prepared assuming the District will continue contributing 100% or more of the Actuarially Determined Contributions each year. If this is not correct, please let us know as these accounting results would change.

This report reflects the employee data and details on plan benefits provided by the District for this valuation. As with any analysis, the soundness of the report is dependent on the inputs. Please review our summary of this information shown in Supporting Information Sections 1 and 2 to be comfortable that we have captured this correctly. In addition, please note that this report reflects adjustments to the Total OPEB Liability and deferred contributions reported for the prior period.

We appreciate the opportunity to work on this analysis and acknowledge the efforts of the District employees who provided valuable time and information to enable us to perform this valuation. Please let us know if we can be of further assistance.

Sincerely,



Catherine L. MacLeod, FSA, FCA, MAAA
Principal and Consulting Actuary



Tahoe Douglas Fire Protection District
Retiree Health Care Plan

Actuarial Valuation of Other
Post-Employment Benefit Programs
As of December 31, 2019

& GASB 75 Report for the Fiscal Year Ending
June 30, 2020

Revised November 2020

MacLeod Watts

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A. Executive Summary

This report presents the results of the December 31, 2019 actuarial valuation of the Tahoe Douglas Fire Protection District Retiree Healthcare Plan (District RHP). The purposes of this valuation are to: 1) summarize the results of the valuation; 2) develop Actuarially Determined Contribution (ADC) levels for prefunding plan benefits; and 3) assess the OPEB liabilities and provide disclosure information as required by Statements No. 74 and 75 of the Governmental Accounting Standards Board (GASB 74/75) for the District's plan year ended December 31, 2019 and fiscal year ending June 30, 2020. A separate GASB 75 report has been prepared for the District's PEBP OPEB liability.

Important background information regarding the valuation process can be found in Addendum 1. We recommend users of the report read this information to familiarize themselves with the process and context of actuarial valuations, including the requirements of GASB 75. The pages following this executive summary present various exhibits and other relevant information appropriate for financial reporting and plan funding.

Absent material changes to this program, the results of this December 31, 2019 valuation will also be applied to prepare the GASB 74 reporting for the District's trust plan year ending December 31, 2020 and GASB 75 reporting for the District's fiscal year ending June 30, 2021. If there are any significant changes in the employee population, plan benefits or eligibility, or to the funding policy, an earlier valuation might be required or appropriate.

OPEB Obligations of District

The District provides continuation of medical, dental and vision coverage to its retiring employees under the District Plan as well as HRA contributions instead of medical coverage for retirees after age 65. These benefits create one or more of the following types of OPEB liabilities:

- **Explicit subsidy liabilities:** An "explicit subsidy" exists when the employer contributes directly toward the cost of retiree healthcare.¹ In this program, the District pays a portion of retiree medical, dental and vision premiums for qualifying retirees. These benefits are described in Section 2.
- **Implicit subsidy liabilities:** An "implicit subsidy" exists when the premiums charged for retiree coverage are lower than the expected retiree claims for that coverage. In this program, the medical insurance claims experience is pooled for active employees and pre-Medicare retirees for determining premium rates. Retirees may not continue medical coverage after age 65.

As is the nature of group premium rate structures, at some ages, retirees may be expected to experience higher claims than the premiums they pay, where at other ages, the reverse may be true. For the medical insurance plans offered by the District, we determine the implicit rate subsidy as the projected difference between (a) expected retiree claim costs by age and (b) premiums charged for retiree coverage on District's plans. For more information on this process for medical coverage, see Section 3 and Addendum 2: MacLeod Watts Age Rating Methodology.

We believe no implicit liability exists with respect to dental and vision coverage provided to retirees, or that it is insignificant.

¹ A liability for potential future excise tax liability for "high cost" retiree coverage was included in the prior valuation. However, this provision of the Affordable Care Act was repealed in December 2019, so this liability was eliminated.



Executive Summary

(Continued)

OPEB Funding Policy

The funding policy for the District RHP affects the calculation of GASB 75 liabilities by impacting the discount rate that is used to develop the plan liability and expense. “Prefunding” is the term used when an agency consistently contributes an amount based on an actuarially determined contribution (ADC) each year. GASB 75 allows prefunded plans to use a discount rate that reflects the expected earnings on trust assets. Pay-as-you-go, or “PAYGO”, is the term used when an agency only contributes the required retiree benefits when due. When an agency finances retiree benefits on a pay-as-you-go basis, GASB 75 requires the use of a discount rate equal to a 20-year high grade municipal bond rate.

District has been and continues to prefund this liability, contributing 100% or more of the Actuarially Determined Contributions each year for the District Retiree Healthcare Plan and Trust. With District’s approval, the assumed trust rate and discount rate applied for accounting purposes in this report is 6.7%, reflecting District’s expectations as of the measurement date. For more information, see Expected Return on Trust Assets on page 11.

Actuarial Assumptions

The actuarial “demographic” assumptions (i.e. rates of retirement, death, disability or other termination of employment) used in this report were chosen, for the most part, to be the same as the actuarial demographic assumptions used for the most recent valuation of the retirement plan(s) covering District employees. Other assumptions, such as age-related healthcare claims, healthcare trend, retiree participation rates and spouse coverage, were selected based on demonstrated plan experience and/or our best estimate of expected future experience. All these assumptions, and more, impact expected future benefits. Please note that this valuation has been prepared on a closed group basis. This means that only employees and retirees present as of the valuation date are considered. We do not consider replacement employees for those we project to leave the current population of plan participants until the valuation date following their employment.

We emphasize that this actuarial valuation provides a projection of future results based on many assumptions. Actual results are likely to vary to some extent and we will continue to monitor these assumptions in future valuations. See Section 3 for a description of assumptions used in this valuation.

Important Dates Used in the Valuation

GASB 75 allows reporting liabilities as of any fiscal year end based on: (1) a *valuation date* no more than 30 months plus 1 day prior to the close of the fiscal year end; and (2) a *measurement date* up to one year prior to the close of the fiscal year. The following dates were used for this report:

Valuation Date	December 31, 2019
Fiscal Year End	June 30, 2020
Measurement Date	December 31, 2019
Measurement Period	December 31, 2018 to December 31, 2019



Executive Summary

(Concluded)

Significant Results and Differences from the Prior Valuation

No benefit changes were reported to MacLeod Watts relative to those in place at the time the December 31, 2017 valuation was prepared. We reviewed and updated certain assumptions used to project the OPEB liability. Differences between actual and expected results (referred to as “plan experience”) since December 2017 were also reflected. Overall, the Total OPEB Liability on the current measurement date is significantly lower than that reported one year ago.

Section C. Basic Valuation Results as of December 31, 2019 provides additional information on the impact of the new assumptions and plan experience. See *Recognition Period for Deferred Resources* on page 13 for details on how these changes are recognized.

Impact on Statement of Net Position and OPEB Expense for Fiscal 2020

The plan’s impact to Net Position will be the sum of difference between assets and liabilities as of the measurement date plus the unrecognized net outflows and inflows of resources. Different recognition periods apply to deferred resources depending on their origin. The plan’s impact on Net Position on the measurement date can be summarized as follows.

Items	For Reporting At Fiscal Year Ending June 30, 2020
Total OPEB Liability	\$ 11,253,416
Fiduciary Net Position	12,485,013
Net OPEB Liability (Asset)	(1,231,597)
Deferred (Outflows) of Resources	(1,154,652)
Deferred Inflows of Resources	1,490,499
Impact on Statement of Net Position	<u>\$ (895,750)</u>
 OPEB Expense, FYE 6/30/2020	 <u><u>\$ 84,038</u></u>

Important Notices

This report is intended to be used only to present the actuarial information relating to other postemployment benefits for District’s financial statements. The results of this report may not be appropriate for other purposes, where other assumptions, methodology and/or actuarial standards of practice may be required or more suitable. We note that various issues in this report may involve legal analysis of applicable law or regulations. District should consult counsel on these matters; MacLeod Watts does not practice law and does not intend anything in this report to constitute legal advice. In addition, we recommend District consult with their internal accounting staff or external auditor or accounting firm about the accounting treatment of OPEB liabilities.



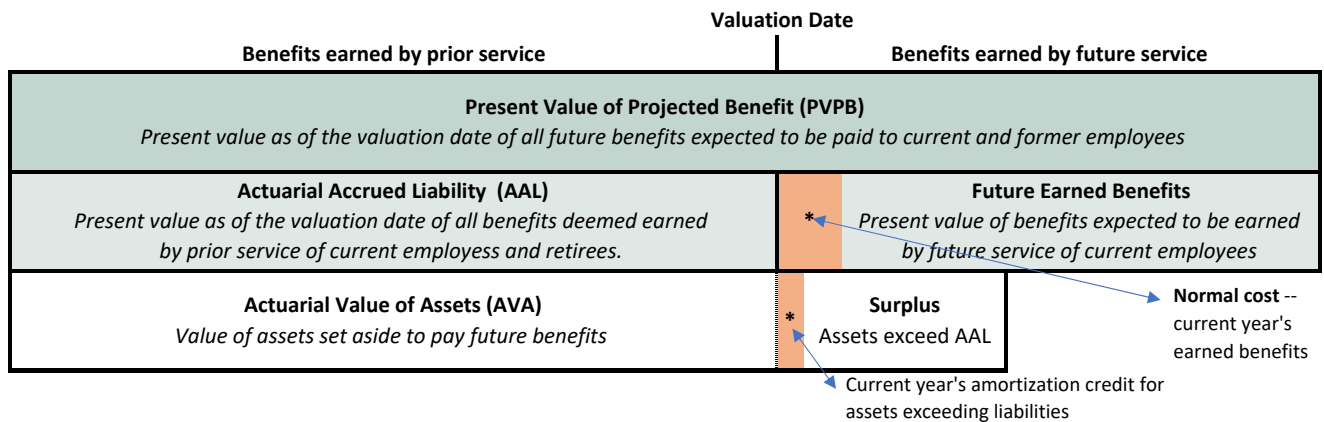
B. Valuation Process

The December 31, 2019 District RHP valuation has been based on employee census data and benefits initially submitted to us by District in February 2020 and clarified in various related communications. A summary of the employee data is provided in Supporting Information, Section 1 and a summary of the benefits provided under the Plan is provided in Section 2. While individual employee records have been reviewed to verify that they are reasonable in various respects, the data has not been audited and we have otherwise relied on District as to its accuracy. The valuation described below has been performed in accordance with the actuarial methods and assumptions described in Section 3 and is consistent with our understanding of Actuarial Standards of Practice.

Projecting Plan Benefits and Liabilities

In projecting benefit values and liabilities, we first determine an expected premium or benefit stream over each current retiree's or active employee's future retirement. Benefits may include both direct employer payments (explicit subsidies) and any implicit subsidies arising when retiree premiums are expected to be partially subsidized by premiums paid for active employees. The projected benefit streams reflect assumed trends in the cost of those benefits and assumptions as to the expected dates when benefits will end. We also apply important assumptions regarding the probability that each employee will remain in service to receive benefits, if so, when they will begin, and the likelihood the employee will elect coverage for themselves and their dependents.

We then calculate a present value of these future benefit streams by discounting the value of each future expected employer payment, multiplied by the probability of payment, back to the valuation date using the discount rate (see Section D). This present value is called the **Present Value of Projected Benefits (PVPB)** and represents the current value of all expected future plan payments to current retirees and current active employees. Note that this long-term projection does not anticipate entry of future employees.



The next step in the valuation process splits the Present Value of Projected Benefits into 1) the value of benefits already earned by *prior service* of current employees and retirees and 2) the value of benefits expected to be earned by *future service* of current employees. Actuaries employ an "attribution method" to divide the PVPB into prior service liabilities and future service liabilities. For this valuation we used the **Entry Age Normal** attribution method. This is the most common method used by public agencies for plan funding and is the only attribution method allowed for financial reporting under GASB 75.



Valuation Process

(Concluded)

We call the value of benefits deemed earned by prior service the **Actuarial Accrued Liability (AAL)**. Benefits deemed earned by service of active employees in a single year is called the **Normal Cost** of benefits. The present value of all future normal costs (PVFNC) plus the Actuarial Accrued Liability will equal the Present Value of Projected Benefits (i.e. $PVPB = AAL + PVFNC$).

Incorporating Plan Assets

Funds set aside for future benefits may be considered contributions to an OPEB plan only if the account established for holding the accumulated assets are separate from and independent of the control of the employer and legally protected from its creditors. Furthermore, the sole purpose of the account should be to provide benefits and/or pay expenses of the plan. These conditions generally require the establishment of a legal trust, such as District RHP trust account.

District has and continues to make regular contributions to the trust in order to prefund plan benefits. Trust contributions and earnings accumulate so that the trust can make benefit payments to retirees (or reimburse District for making those payments directly). The difference between the value of trust assets (i.e. the Market Value of Assets), or a smoothed asset value (i.e. the Actuarial Value of Assets), and the Actuarial Accrued Liability yields the **Unfunded Actuarial Accrued Liability (UAAL)**. The UAAL represents the past service portion of the present value of benefits which remains unfunded as of the valuation date. A plan is generally considered “fully funded” when the UAAL is zero, i.e., when the accumulated prior service costs and plan assets are in equilibrium.

The UAAL is currently in a surplus position because current assets exceed the liability for benefits earned by prior service. The surplus portion of the assets is also projected to cover all of future benefit costs, i.e., future normal costs, of the current active employees. Actuarial standards of practice recommend that any such surplus be recognized gradually, not immediately, in future years. Section E. provides additional discussion.

Variation in Future Results

Please note that projections of future benefits over such long periods (frequently 60 or more years) which are dependent on numerous assumptions regarding future economic and demographic variables are subject to revision as future events unfold. While we believe that the assumptions and methods used in this valuation are reasonable for the purposes of this report, the costs to District reflected in this report may change in the future, perhaps materially. Demonstrating the range of potential future plan costs was beyond the scope of our assignment.

Terminology

Certain actuarial terms and GASB 75 terms may be used interchangeably. Some are compared below.

Actuarial Funding Terminology

Present Value of Projected Benefits (PVPB)
Actuarially Accrued Liability (AAL)
Market Value of Assets
Unfunded Actuarially Accrued Liability (UAAL)
Normal Cost

GASB 75 Terminology

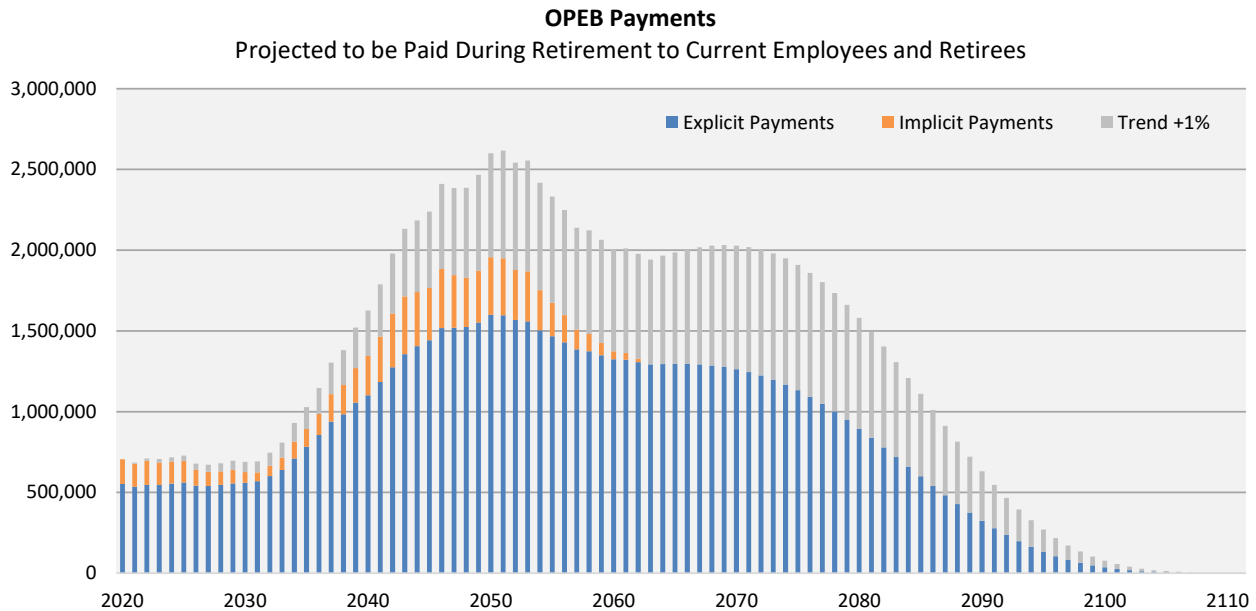
N/A; typically not reported for accounting purposes
Total OPEB Liability (TOL)
Fiduciary Net Position
Net OPEB Liability
Service Cost



C. Discussion of December 31, 2019 Valuation Results

This section presents the results of our recalculation of the OPEB liability using the updated employee data, plan provisions and asset information provided to us for the December 31, 2019 valuation. We described the general process for projecting these future benefits to be paid to retirees and current employees in Section B. The actuarial assumptions and methods applied to prepare these projections are summarized in Supporting Information, Section 3.

Projected annual benefit payments by calendar year (plan year) are shown in the graph below.



The benefits starting at \$811,181 in the current year are expected to increase to almost \$2 million in year 2050 before gradually decreasing after that point. The projections (in gray) reflect increases in benefit levels if healthcare trend is 1% higher.

Explicit subsidy payments are shown in blue and refer to amounts that District contributes directly toward retiree premiums or to a Retiree Health Savings Account at the time of retirement. Implicit subsidy benefits are shown in orange and refer to the difference between projected retiree medical and life insurance claims minus the projected premiums expected to be paid for medical and life insurance coverage.

These projections do not include any benefits expected to be paid on behalf of current active employees *prior to* retirement, nor do they include any benefits for potential *future employees* (i.e., those who might be hired in future years). We include a chart with the projected dollar amounts of benefits for the next 15 years in the Accounting section of this report on page 20.

Liability results are presented beginning on the following page.



Discussion of December 31, 2019 Valuation Results
(continued)

This chart compares the results measured as of December 31, 2018, based on the December 31, 2017 valuation, with the results measured as of December 31, 2019, based on the December 31, 2019 actuarial valuation using the 6.7% discount rate applied for financial reporting purposes.

Valuation Date	12/31/2017			12/31/2019		
Fiscal Year Ending	6/30/2019			6/30/2020		
Measurement Date	12/31/2018			12/31/2019		
	Explicit	Implicit	Total	Explicit	Implicit	Total
Subsidy						
Discount rate	7.50%	7.50%	7.50%	6.70%	6.70%	6.70%
Number of Covered Employees						
Actives	50			56		
Retirees	44			46		
Total Participants	94			102		
Actuarial Present Value of Projected Benefits						
Actives	\$ 5,217,356	\$ 1,701,141	\$ 6,918,497	\$ 5,582,606	\$ 1,373,273	\$ 6,955,879
Retirees	5,446,365	942,574	6,388,939	6,764,045	861,781	7,625,826
Total APVPB	10,663,721	2,643,715	13,307,436	12,346,651	2,235,054	14,581,705
Total OPEB Liability (TOL)						
Actives	3,089,107	945,087	4,034,194	2,921,883	705,707	3,627,590
Retirees	5,446,365	942,574	6,388,939	6,764,045	861,781	7,625,826
TOL	8,535,472	1,887,661	10,423,133	9,685,928	1,567,488	11,253,416
Fiduciary Net Position			10,212,737			12,485,013
Net OPEB Liability			210,396			(1,231,597)
Service Cost						
For the period following the measurement date	206,699	71,068	277,767	237,485	59,471	296,956

Please note that the Total OPEB Liability (TOL) as of 12/31/2018 shown above was revised from \$12,884,755 shown in the FYE 2019 GASB 75 report. The change in the Total OPEB Liability, Fiduciary Net Position and Net OPEB Liability are discussed on the following page.



Discussion of December 31, 2019 Valuation Results

(Concluded)

Change in plan assets: Assets reported increased from \$10,212,737² as of December 31, 2018 to \$12,485,013 on December 31, 2019. Earnings on trust assets were \$1,497,688 higher than expected.

Change in TOL: The TOL as of 12/31/2019 increased by \$830,283 from the TOL developed as of 12/31/2018. We expected an increase of \$238,734 from normal plan operation and the passage of time. Unexpected changes of \$591,549 added to the increase in the TOL. Unexpected changes include:

- *Benefit changes:* No benefit changes were reported since the prior report was prepared.
- *Plan experience* includes differences between what was assumed and what actually occurred between valuation dates. Plan experience was favorable, reducing the TOL by \$630,053.
- *Changes in actuarial assumptions or methodology:* Changes made are shown below; these assumption changes collectively increased the TOL by an additional \$1,221,602. The majority of the increase in the TOL was from the change in discount rate/assumed trust rate of return. For more on the assumption changes, see the last page of Supporting Information, Section 3.

This chart reconciles the TOL measured as of 12/31/2018 to the TOL measured on 12/31/2019.

Reported Total OPEB Liability at June 30, 2019 Measurement Date December 31, 2018	\$ 10,423,133
<i>Expected Changes:</i>	
Service Cost	277,767
Benefit Payments	(811,181)
Interest Cost	772,148
Total Expected Change	238,734
Expected Total OPEB Liability at June 30, 2020 Measurement Date December 31, 2019	\$ 10,661,867
<i>Unexpected Changes:</i>	
<i>Plan experience different than assumed</i>	(630,053)
<i>Assumption changes</i>	
Updated to salary increase assumption	131,838
Change in dental and vision trend assumption	(20,848)
Change in healthcare trend model	(176,101)
Decrease in discount rate (assumed trust return)	1,053,681
Change in demographic and economic assumptions and mortality improvement scale	234,333
Elimination of excise tax liability	(1,301)
Total Unexpected Change	591,549
Actual Total OPEB Liability at June 30, 2020 Measurement Date December 31, 2019	\$ 11,253,416

² Total plan assets as of 12/31/2018 were adjusted from a previously reported amount of \$10,214,234.



D. Accounting Information (GASB 75)

The following exhibits are designed to satisfy the reporting and disclosure requirements of GASB 75 for the fiscal year end June 30, 2020. District is classified for GASB 75 purposes as a single employer.

Components of Net Position and Expense

The exhibit below shows the development of Net Position and Expense as of the Measurement Date.

Plan Summary Information for FYE June 30, 2020 <i>Measurement Date is December 31, 2019</i>	Tahoe Douglas FPD
Items Impacting Net Position:	
Total OPEB Liability	\$ 11,253,416
Fiduciary Net Position	12,485,013
Net OPEB Liability (Asset)	<u>(1,231,597)</u>
<i>Deferred (Outflows) Inflows of Resources Due to:</i>	
Assumption Changes	(1,078,390)
Plan Experience	556,190
Investment Experience	934,309
Deferred Contributions	<u>(76,262)</u>
Net Deferred (Outflows) Inflows of Resources	335,847
Impact on Statement of Net Position, FYE 6/30/2020	<u>\$ (895,750)</u>
Items Impacting OPEB Expense:	
Service Cost	\$ 277,767
Cost of Plan Changes	-
Interest Cost	772,148
Expected Earnings on Assets	(766,267)
Admin/Operating Expenses	32,246
Retiree premium co-pay into trust	(23,500)
Retiree premium co-pay from trust to insurers	23,500
<i>Recognized Deferred Resource items:</i>	
Assumption Changes	143,212
Plan Experience	(73,863)
Investment Experience	<u>(301,205)</u>
OPEB Expense, FYE 6/30/2020	<u>\$ 84,038</u>



Accounting Information

(Continued)

Change in Net Position During the Fiscal Year

The exhibit below shows the year-to-year changes in the components of Net Position.

For Reporting at Fiscal Year End <i>Measurement Date</i>	6/30/2019 <i>12/31/2018</i>	6/30/2020 <i>12/31/2019</i>	Change During Period
Total OPEB Liability	\$ 10,423,133	\$ 11,253,416	\$ 830,283
Fiduciary Net Position	10,212,737	12,485,013	2,272,276
Net OPEB Liability (Asset)	210,396	(1,231,597)	(1,441,993)
<i>Deferred Resource (Outflows) Inflows Due to:</i>			
Assumption Changes	-	(1,078,390)	(1,078,390)
Plan Experience	-	556,190	556,190
Investment Experience	(262,174)	934,309	1,196,483
Deferred Contributions	(425,799)	(76,262)	349,537
Net Deferred (Outflows) Inflows	(687,973)	335,847	1,023,820
Impact on Statement of Net Position	\$ (477,577)	\$ (895,750)	\$ (418,173)

Change in Net Position During the Fiscal Year

Impact on Statement of Net Position, FYE 6/30/2019	\$ (477,577)
OPEB Expense (Income)	84,038
Employer Contributions During Fiscal Year	(502,211)
Impact on Statement of Net Position, FYE 6/30/2020	<u>\$ (895,750)</u>

OPEB Expense

Employer Contributions During Fiscal Year	\$ 502,211
Deterioration (Improvement) in Net Position	(418,173)
OPEB Expense (Income), FYE 6/30/2020	<u>\$ 84,038</u>



Accounting Information

(Continued)

Change in Fiduciary Net Position During the Measurement Period

	RBIF	Wells Fargo	Total
12/31/2018 Account Statement Balances	10,121,212	152,079	10,273,292
Net Accrued/prepaid adjustments	-	(59,058)	(59,058)
Change to net accrued/prepaid adjustments	-	(1,496)	(1,496)
Adjusted 12/31/2018 Balance	10,121,212	91,525	10,212,737
Contributions - District	-	642,651	642,651
Retiree health co-payments in	-	23,500	23,500
Implicit subsidy contribution in	-	209,097	209,097
Payments to Insurers (<i>excludes retiree co-pay s</i>)	-	(409,287)	(409,287)
Reimbursement to District for 2019 HSA & premiums paid	-	(114,751)	(114,751)
Payments to HRA	-	(78,046)	(78,046)
Retiree health co-payments out to insurers	-	(23,500)	(23,500)
Implicit subsidy benefits out	-	(209,097)	(209,097)
Administrative/Operating fees (incl audit)	-	(32,246)	(32,246)
Investment income (net of related fees)	2,263,954	-	2,263,954
Total changes	2,263,954	8,321	2,272,275
12/31/2019 Account Statement Balances	12,385,167	138,672	12,523,839
Net Accrued/prepaid adjustments	-	(38,826)	(38,826)
Adjusted 12/31/2019 Balance	12,385,167	99,846	12,485,013

The accrued transactions as of 12/31/2019 in the trust checking account reported by the District are:

Reimbursement to TDFPD for CY 2018 Retiree Benefit payments	(27,690.85)
To NBS for Dec 2019 fee	(75.60)
To NBS for Dec 2019 HRA benefit payments	(5,960.97)
To Standard for Dec 2019 dental premiums	(3,168.08)
To Eide Bailly for 2019 professional services	(1,570.00)
To OPTUM for 4th Qtr 2019 fees	(360.25)
Total accruals 12/31/2019	(38,825.75)



Accounting Information

(Continued)

Expected Long-term Return on Trust Assets

The District established and maintains a single employer irrevocable OPEB trust through the Retirement Benefits Investment Fund (RBIF). RBIF publishes Investment Objective & Policies and issues publicly available financial statements. Note 3 (Investment Policy) of the June 30, 2019 RBIF audited financial statements stated that the long term trust return assumption is 7.5%. This Note 3 also states:

The System's policies which determine the investment portfolio target asset allocation are established by the Board. The asset allocation is reviewed annually and is designed to meet the future risk and return needs of the System.

The following was the Board adopted policy target asset allocation as of June 30, 2019:

Asset Class	Target Allocation	Long-Term Geometric Expected Real Rate of Return*
U.S. stocks	42%	5.50%
International stocks	18%	5.50%
U.S. bonds	28%	0.75%
Private markets	12%	6.65%

* As of June 30, 2019, PERS' long term inflation assumption was 2.75%.

The long term inflation assumption used in this valuation was 2.5%, which is 0.25% lower than the PERS assumption imbedded in the RBIF long term return assumption. The District is less optimistic about the future expected returns and approved a 0.55% margin for adverse investment returns. Accordingly, with the District's approval, the assumed long term trust return applied in this valuation is 6.7%.



Accounting Information

(Continued)

Recognition Period for Deferred Resources

Liability changes due to plan experience which differs from what was assumed in the prior measurement period and/or from assumption changes during the period are recognized over the plan's Expected Average Remaining Service Life ("EARSL"). The EARSL of 8.53 years is the period used to recognize such changes in the OPEB Liability arising during the current measurement period.

Changes in the Fiduciary Net Position due to investment performance different from the assumed earnings rate are always recognized over 5 years.

Liability differences due to benefit changes occurring during the period are recognized immediately.

Deferred Resources as of Fiscal Year End and Expected Future Recognition

The exhibit below shows deferred resources as of the fiscal year end June 30, 2020.

Tahoe Douglas FPD	Deferred Outflows of Resources	Deferred Inflows of Resources
Changes of Assumptions	\$ 1,078,390	\$ -
Differences Between Expected and Actual Experience	-	556,190
Net Difference Between Projected and Actual Earnings on Investments	-	934,309
Deferred Contributions	76,262	-
Total	\$ 1,154,652	\$ 1,490,499

District will recognize the Deferred Contributions in the next fiscal year. In addition, future recognition of these deferred resources is shown below.

For the Fiscal Year Ending June 30	Recognized Net Deferred Outflows (Inflows) of Resources
2021	\$ (231,856)
2022	(231,855)
2023	36,985
2024	(230,187)
2025	69,349
Thereafter	175,455



Accounting Information

(Continued)

Sensitivity of Liabilities to Changes in the Discount Rate and Healthcare Cost Trend Rate

The discount rate used for the fiscal year end 2020 is 6.7%. Healthcare Cost Trend Rate was assumed to start at 5.4% (increase effective January 1, 2021) and grade down to 4% for years 2076 and later. The impact of a 1% increase or decrease in these assumptions is shown in the chart below.

Sensitivity to:			
Change in Discount Rate	Current - 1% 5.70%	Current 6.70%	Current + 1% 7.70%
Total OPEB Liability	12,845,157	11,253,416	9,961,840
Increase (Decrease)	1,591,741		(1,291,576)
% Increase (Decrease)	14.1%		-11.5%
Net OPEB Liability (Asset)	360,144	(1,231,597)	(2,523,173)
Increase (Decrease)	1,591,741		(1,291,576)
% Increase (Decrease)	129.2%		-104.9%
Change in Healthcare Cost Trend Rate	Current Trend - 1%	Current Trend	Current Trend + 1%
Total OPEB Liability	9,855,849	11,253,416	13,009,192
Increase (Decrease)	(1,397,567)		1,755,776
% Increase (Decrease)	-12.4%		15.6%
Net OPEB Liability (Asset)	(2,629,164)	(1,231,597)	524,179
Increase (Decrease)	(1,397,567)		1,755,776
% Increase (Decrease)	-113.5%		142.6%



Accounting Information

(Continued)

Schedule of Changes in District's Net OPEB Liability and Related Ratios

GASB 75 requires presentation of the 10-year history of changes in the Net OPEB Liability. Only results for years since GASB 75 was implemented (fiscal years 2018, 2019 and 2020) are shown in the table.

Fiscal Year Ending	2020	2019	2018
Measurement Date	12/31/2019	12/31/2018	12/31/2017
Discount Rate on Measurement Date	6.70%	7.50%	7.50%
Total OPEB liability			
Service Cost	\$ 277,767	\$ 267,084	\$ 256,812
Interest	772,148	753,894	736,660
Changes of benefit terms	-	-	-
Differences between expected and actual experience	(630,053)	-	-
Changes of assumptions	1,221,602	-	-
Benefit payments	(811,181)	(765,360)	(782,565)
Net change in total OPEB liability	830,283	255,618	210,907
Total OPEB liability - beginning	10,423,133	10,167,515	9,956,608
Total OPEB liability - ending (a)	<u>\$ 11,253,416</u>	<u>\$ 10,423,133</u>	<u>\$ 10,167,515</u>
Plan fiduciary net position			
Contributions - employer	\$ 851,748	\$ 825,845	\$ 1,304,783
Net investment income	2,263,955	(514,662)	1,987,307
Benefit payments	(811,181)	(765,360)	(782,565)
Retiree premium co-pay into trust	23,500	23,811	-
Retiree premium co-pay from trust to insurers	(23,500)	(23,811)	-
Admin/Operating Expenses	(32,246)	(26,859)	(16,445)
Net change in plan fiduciary net position	2,272,276	(481,036)	2,493,080
Plan fiduciary net position - beginning	10,212,737	10,693,773	8,200,693
Plan fiduciary net position - ending (b)	<u>\$ 12,485,013</u>	<u>\$ 10,212,737</u>	<u>\$ 10,693,773</u>
Net OPEB liability - ending (a) - (b)	<u>\$ (1,231,597)</u>	<u>\$ 210,396</u>	<u>\$ (526,258)</u>
Covered-employee payroll	\$ 4,235,995	\$ 3,867,910	\$ 4,118,877
Net OPEB liability as a % of covered-employee payroll	-29.07%	5.44%	-12.78%



Accounting Information

(Continued)

Schedule of Contributions

Since establishing the OPEB trust, District has consistently contributed 100% or more of the Actuarially Determined Contribution (ADC) for the District RHP each year and confirmed its intention to continue doing so. This chart shows the contributions for the years since GASB 75 was implemented.

Fiscal Year Ending	2020	2019	2018
Actuarially Determined Contribution	\$ 239,197	\$ 450,350	\$ 432,127
Contributions relative to the actuarially determined contribution	502,211	950,635	775,697
Contribution deficiency (excess)	\$ (263,014)	\$ (500,285)	\$ (343,570)
Covered employee payroll	\$ 4,669,347	\$ 3,967,157	\$ 4,118,877
Contributions as a percentage of covered employee payroll	10.76%	23.96%	18.83%

Notes to Schedule

Valuation Date	12/31/2019	12/31/2017	12/31/2017
Actuarial cost method	Entry Age Normal Level % of pay	Entry Age Normal Level % of pay	Entry Age Normal Level % of pay
Amortization method	Level % of Pay 30 yr open (surplus)	Level % of Pay 30 yr closed	Level % of Pay 30 yr closed
Amortization period	30 years	21 years remain	22 years remain
Asset valuation method	Market Value	Market Value	Market Value
Inflation	2.50%	2.75%	2.75%
Healthcare cost trend rates	5.4% in 2021, fluctuating down to 4.0% in 2076	6.25% in 2019, step down 0.25% per year to 5% in 2024	6.25% in 2019, step down 0.25% per year to 5% in 2024
Salary increases	3.00%	4.00%	4.00%
Investment rate of return	6.70%	7.50%	7.50%
Retirement age	From 45 to 75 (Regular) and 40 to 70 (Safety)	From 45 to 75 (Regular) and 40 to 70 (Safety)	From 45 to 75 (Regular) and 40 to 70 (Safety)
Mortality	2019 Nevada PERS Experience Study	2016 Nevada PERS Experience Study	2016 Nevada PERS Experience Study
Mortality Improvement	MacLeod Watts Scale 2020	MacLeod Watts Scale 2017	MacLeod Watts Scale 2017



Accounting Information
(Continued)

Detail of Changes to Net Position

The chart below details changes to all components of Net Position.

Tahoe Douglas FPD	Total OPEB Liability (a)	Fiduciary Net Position (b)	Net OPEB Liability (c) = (a) - (b)	(d) Deferred Outflows (Inflows) Due to:				Impact on Statement of Net Position (e) = (c) - (d)
				Assumption Changes	Plan Experience	Investment Experience	Deferred Contributions	
Balance at Fiscal Year Ending 6/30/2019 <i>Measurement Date 12/31/2018</i>	\$ 10,423,133	\$ 10,212,737	\$ 210,396	\$ -	\$ -	\$ 262,174	\$ 425,799	\$ (477,577)
Changes During the Period:								
Service Cost	277,767		277,767					277,767
Interest Cost	772,148		772,148					772,148
Expected Investment Income		766,267	(766,267)					(766,267)
Employer Contributions		851,748	(851,748)					(851,748)
Changes of Benefit Terms	-		-					-
Admin/Operating Expenses		(32,246)	32,246					32,246
Retiree premium co-pay into trust		23,500	(23,500)					(23,500)
Retiree premium co-pay from trust to insurers		(23,500)	23,500					23,500
Benefit Payments	(811,181)	(811,181)	-					-
Assumption Changes	1,221,602		1,221,602	1,221,602				-
Plan Experience	(630,053)		(630,053)		(630,053)			-
Investment Experience		1,497,688	(1,497,688)			(1,497,688)		-
Recognized Deferred Resources				(143,212)	73,863	301,205	(851,748)	619,892
Employer Contributions in Fiscal Year							502,211	(502,211)
Net Changes in Fiscal Year 2019-2020	830,283	2,272,276	(1,441,993)	1,078,390	(556,190)	(1,196,483)	(349,537)	(418,173)
Balance at Fiscal Year Ending 6/30/2020 <i>Measurement Date 12/31/2019</i>	\$ 11,253,416	\$ 12,485,013	\$ (1,231,597)	\$ 1,078,390	\$ (556,190)	\$ (934,309)	\$ 76,262	\$ (895,750)



Accounting Information
(Continued)

Schedule of Deferred Outflows and Inflows of Resources

A listing of all deferred resource bases used to develop the Net Position and OPEB Expense is shown below. Deferred Contributions are not shown.

Measurement Date: December 31, 2019

Deferred Resource					Balance as of Dec 31, 2019	Recognition of Deferred Outflow or Deferred (Inflow) in Measurement Period:						
Date Created	Cause	Initial Amount	Period (Yrs)	Annual Recognition		2019 (FYE 2020)	2020 (FYE 2021)	2021 (FYE 2022)	2022 (FYE 2023)	2023 (FYE 2024)	2024 (FYE 2025)	Thereafter
Investment Earnings												
12/31/2017	Greater than Expected	\$ (1,344,194)	5.00	\$ (268,839)	\$ (537,677)	\$ (268,839)	\$ (268,839)	\$ (268,838)	\$ -	\$ -	\$ -	\$ -
Investment Earnings												
12/31/2018	Less than Expected	1,335,862	5.00	267,172	801,518	267,172	267,172	267,172	267,174	-	-	-
Gain Due To												
12/31/2019	Plan Experience	(630,053)	8.53	(73,863)	(556,190)	(73,863)	(73,863)	(73,863)	(73,863)	(73,863)	(73,863)	(186,875)
Loss Due To												
12/31/2019	Assumption Changes	1,221,602	8.53	143,212	1,078,390	143,212	143,212	143,212	143,212	143,212	143,212	362,330
Investment Earnings												
12/31/2019	Greater than Expected	(1,497,688)	5.00	(299,538)	(1,198,150)	(299,538)	(299,538)	(299,538)	(299,538)	(299,536)	-	-



Accounting Information

(Continued)

District Contributions to the Plan

District contributions to this plan occur as benefits are paid to retirees and/or to the OPEB trust. Benefit payments may occur in the form of direct payments for premiums and taxes (“explicit subsidies”) and/or indirect payments to retirees in the form of higher premiums for active employees (“implicit subsidies”). Note that the implicit subsidy contribution does not represent cash payments to retirees, but reclassification of a portion of active healthcare cost to be treated as a retiree healthcare expense.

Contributions paid by District during the prior and the current measurement period are shown below.

Benefit Payments During the Measurement Period, Jan 1, 2019 thru Dec 31, 2019	Tahoe Douglas FPD
Benefits Paid by Trust	\$ 602,084
Benefits Paid by Employer (not reimbursed by trust)	-
Implicit benefit payments	209,097
Total Benefit Payments During the Measurement Period	\$ 811,181

Employer Contributions During the Measurement Period, Jan 1, 2019 thru Dec 31, 2019	Tahoe Douglas FPD
Employer Contributions to the Trust	\$ 642,651
Employer Contributions in the Form of Direct Benefit Payments (not reimbursed by trust)	-
Implicit contributions	209,097
Total Employer Contributions During the Measurement Period	\$ 851,748

District contributions made in the year following the measurement period but prior to the end of the fiscal year are shown below.

Employer Contributions During the Fiscal Year, Jul 1, 2019 thru Jun 30, 2020	Tahoe Douglas FPD
Employer Contributions to the Trust	\$ 321,250
Employer Contributions in the Form of Direct Benefit Payments (not reimbursed by trust)	-
Implicit contributions	180,961
Total Employer Contributions During the Fiscal Year	\$ 502,211



Accounting Information

(Continued)

Projected Benefit Payments (15-year projection)

The following is an estimate of other post-employment benefits to be paid on behalf of current retirees and current employees expected to retire from District. Expected annual benefits have been projected on the basis of the actuarial assumptions outlined in Section 3.

These projections do not include any benefits expected to be paid on behalf of current active employees *prior to* retirement, nor do they include any benefits for potential *future employees* (i.e., those who might be hired in future years).

Projected Annual Benefit Payments							
Calendar (Plan) Year Ending Dec 31	Explicit Subsidy			Implicit Subsidy			Total
	Current Retirees	Future Retirees	Total	Current Retirees	Future Retirees	Total	
2019	\$ 602,084	\$ -	\$ 602,084	\$ 209,097	\$ -	\$ 209,097	\$ 811,181
2020	543,889	7,853	551,742	151,319	1,506	152,825	704,567
2021	515,871	19,306	535,177	138,485	3,768	142,253	677,430
2022	518,306	28,531	546,837	142,947	6,384	149,331	696,168
2023	509,761	38,102	547,863	128,724	9,498	138,222	686,085
2024	508,273	46,660	554,933	123,065	13,045	136,110	691,043
2025	510,659	50,581	561,240	121,351	11,331	132,682	693,922
2026	484,047	57,708	541,755	85,235	14,830	100,065	641,820
2027	477,032	63,882	540,914	69,224	18,604	87,828	628,742
2028	479,874	66,721	546,595	64,877	18,576	83,453	630,048
2029	481,758	74,689	556,447	58,296	24,832	83,128	639,575
2030	468,672	90,600	559,272	35,139	32,546	67,685	626,957
2031	452,813	116,977	569,790	7,399	47,169	54,568	624,358
2032	455,778	146,271	602,049	-	63,228	63,228	665,277
2033	465,012	172,730	637,742	-	77,502	77,502	715,244

The amounts shown in the Explicit Subsidy table reflect the expected payment by District toward retiree medical, dental and life insurance premiums in each of the years shown. The amounts are shown separately, and in total, for those retired on the valuation date ("current retirees") and those expected to retire after the valuation date ("future retirees").

The amounts shown in the Implicit Subsidy table reflect the expected excess of retiree medical, prescription drug and life insurance claims over the premiums expected to be charged during the year for retirees' coverage. These amounts are also shown separately and in total for those currently retired on the valuation date and for those expected to retire in the future.



Accounting Information

(Concluded)

Sample Journal Entries

Beginning Account Balances

As of the fiscal year beginning 7/1/2019

	Debit	Credit
Net OPEB Liability		210,396
Deferred Resource -- Assumption Changes	-	
Deferred Resource -- Plan experience	-	
Deferred Resource -- Investment Experience	262,174	
Deferred Resource -- Contributions	425,799	
Net Position		477,577

* The entries above assume nothing is on the books at the beginning of the year. So to the extent that values already exist in, for example, the Net OPEB Liability account, then only the difference should be adjusted. The entries above represent the values assumed to exist at the start of the fiscal year.

Journal entry to recharacterize retiree benefit payments not reimbursed by a trust, and record cash contributions to the trust during the fiscal year

	Debit	Credit
OPEB Expense	-	
Premium Expense		-
OPEB Expense	321,250	
Cash		321,250

* This entry assumes a prior journal entry was made to record the payment for retiree premiums. This entry assumes the prior entry debited an account called "Premium Expense" and credited Cash. This entry reverses the prior debit to "Premium Expense" and recharacterizes that entry as an "OPEB Expense". Also, the entry for cash contributions to the trust is shown.

Journal entries to record implicit subsidies during the fiscal year

	Debit	Credit
OPEB Expense	180,961	
Premium Expense		180,961

* This entry assumes that premiums for active employees were recorded to an account called "Premium Expense". This entry reverses the portion of premium payments that represent implicit subsidies and assigns that value to OPEB Expense.

Journal entries to record other account activity during the fiscal year

	Debit	Credit
Net OPEB Liability	1,441,993	
Deferred Resource -- Assumption Changes	1,078,390	
Deferred Resource -- Plan experience		556,190
Deferred Resource -- Investment Experience		1,196,483
Deferred Resource -- Contributions		349,537
OPEB Expense		418,173



E. Funding Information

The employer's OPEB funding policy and level of contributions to an irrevocable OPEB trust directly affects the discount rate which is used to calculate the OPEB liability to be reported in the employer's financial statements. Prefunding (setting aside funds to accumulate in an irrevocable OPEB trust) has certain advantages, one of which is the ability to (potentially) use a higher discount rate in the determination of liabilities for GASB 75 reporting purposes. Prefunding also improves the security of benefits for current and potential future recipients and contributes to intergenerational taxpayer equity by better matching the cost of the benefits to the service years in which they are "earned" and which correspond to years in which taxpayers benefit from those services.

Paying Down the UAAL

Once an entity decides to prefund, a decision must be made about how to pay for benefits related to accumulated prior service that have not yet been funded (the UAAL³). This is most often, though not always, handled through structured amortization payments. The period and method chosen for amortizing this unfunded liability can significantly affect the Actuarially Determined Contribution (ADC) or another basis selected for funding the OPEB program.

Much like paying off a mortgage, when the AAL exceeds plan assets, choosing a longer amortization period to pay off the UAAL means smaller payments, but the payments will be required for more years; plan investments will have less time to work toward helping reduce required contribution levels. The employer might also choose to apply a shorter period when the UAAL only when it is positive, i.e., when trust assets are lower than the AAL, but opt for a longer period or to exclude amortization of a negative UAAL, when assets exceed the AAL.

There are several ways the amortization payment can be determined. The most common methods are calculating the amortization payment as a level dollar amount or as a level percentage of payroll. The entire UAAL may be amortized as one single component or may be broken into multiple components reflecting the timing and source of each change, such as those arising from assumption changes, benefit changes and/or liability or investment experience.

The amortization period(s) should not exceed the number of years which would allow current trust assets plus future contributions and earnings to be sufficient to pay all future benefits and trust expenses each year. Prefunding of OPEB is optional and contributions at any level are permitted. However, if trust sufficiency is not expected, a discount rate other than the assumed trust return will likely be required for accounting purposes.

Funding and Prefunding of the Implicit Subsidy

An implicit subsidy liability is created when retiree medical claims are expected to exceed the premiums charged for retiree coverage. Recognition of the estimated implicit subsidy each year is handled by an accounting entry, reducing the amount paid for active employees and shifting that amount to be treated as a retiree healthcare expense/contribution (see Sample Journal Entries). The implicit subsidy is a true benefit to the retiree but can be difficult to see when medical premiums are set as a flat rate for both actives and pre-Medicare retirees. This might lead some employers to believe the benefit is not real or is merely an accounting construct, and thus to forgo prefunding of retiree implicit benefits.

³ We use actuarial, rather than accounting, terminology to describe the components used to develop the ADCs.



OPEB Funding Information

(Continued)

Consider what would happen if the retiree premiums were based only on expected retiree claims experience. Almost certainly, retiree premiums would increase while premiums for active employees would go down if the active premiums no longer had to help support the higher retiree claims. *Who would pay the increases in retiree premiums?* Current plan documents and bargaining agreements would have to be consulted. Depending on circumstances, the increase in retiree premiums might remain the responsibility of the employer, pass entirely to the retirees, or some blending of the two. The answer would determine whether separate retiree-only premium rates would result in a higher or lower employer OPEB liability. In the current premium structure, with blended active and retiree premiums, the employer is clearly, though indirectly, paying the implicit retiree cost.

The prefunding decision is complex. OPEB materiality, budgetary concerns, desire to use the full trust rate in developing the liability for GASB 75, and other factors must be weighed by each employer. Since prefunding OPEB benefits is not required, each employer's OPEB prefunding strategy will depend on how they balance these competing perspectives.

Development of the Actuarially Determined Contributions

District has approved development of ADCs based on the following two components, which are then adjusted with interest to each fiscal year end:

- The amounts attributed to service performed in the current fiscal year (the normal cost) and
- Amortization of the unfunded actuarial accrued liability (UAAL) over an open 30 year period.⁴ Amortization payments are determined using level percent of pay.

Actuarially Determined Contributions, developed as described above, are shown in the exhibit on the next page for District's fiscal years ending June 30, 2020, 2021 and 2022. These ADCs incorporate both explicit (cash benefit) and implicit subsidy benefit liabilities. Contributions credited toward meeting the ADC will be comprised of: (1) each year's implicit subsidy payment; and (2) District's contributions to the OPEB trust.

ADCs determined on this basis should provide for trust sufficiency, based on the current plan provisions and census data, *provided all assumptions are exactly realized and if District contributes 100% or more of the ADC each year.* When an agency commits to funding the trust at or above the ADC, GASB 75 allows use of the expected long term trust return to be used as the discount rate in determining the plan liability. Trust sufficiency cannot be guaranteed to a certainty, however, because of the non-trivial risk that the assumptions used to project future benefit liabilities may not be realized.

⁴ As per the Actuarial Funding Policies and Practices for Public Pension Plans White Paper published by the Conference of Consulting Actuaries Public Plans Community, published October 2014, when funding levels of a plan go into a surplus position, i.e., assets are greater than actuarial accrued liability, it is recommended that the amortization period be reset to a rolling 30 year period.



OPEB Funding Information

(Concluded)

We develop the Actuarially Determined Contributions (ADCs) for fiscal years ending June 30, 2020, June 30, 2021 and June 30, 2022 from the results of this valuation.

Valuation date	12/31/2019		
Subsidy	Total	Total	Total
For fiscal year ending	6/30/2020	6/30/2021	6/30/2022
Expected long-term return on assets	6.70%	6.70%	6.70%
Discount rate	6.70%	6.70%	6.70%
Number of Covered Employees			
Actives	56	56	56
Retirees	46	46	46
Total Participants	102	102	102
Actuarial Present Value of Projected Benefits			
Actives	\$ 6,955,879	\$ 7,421,923	\$ 7,909,519
Retirees	7,625,826	8,136,756	7,963,422
Total APVPB	14,581,705	15,558,679	15,872,941
Actuarial Accrued Liability (AAL)			
Actives	3,627,590	4,187,491	4,784,738
Retirees	7,625,826	8,136,756	7,963,422
Total AAL	11,253,416	12,324,247	12,748,160
Actuarial Value of Assets	12,485,013	13,653,521	14,091,321
Unfunded AAL (UAAL)	(1,231,597)	(1,329,274)	(1,343,161)
UAAL Amortization method	Level % of Pay	Level % of Pay	Level % of Pay
Remaining amortization period (years)	30	30	30
Amortization Factor	18.8345	18.8345	18.8345
Actuarially Determined Contribution (ADC)			
Normal Cost	\$ 296,956	\$ 305,865	\$ 315,041
Amortization of UAAL	(65,391)	(70,576)	(71,314)
Interest to fiscal year end	7,632	7,754	8,032
Total ADC	239,197	243,043	251,759

In the chart below, we show the actual contributions made for fiscal year 19/20. Contributions expected to be applied toward meeting the ADCs for fiscal years 20/21 and 21/22 are also shown. We assumed that all (explicit) retiree benefits will be paid from or reimbursed by the trust.

Funding of the ADC

1 Implicit subsidy contribution	\$ 180,961	\$ 148,068	\$ 146,881
2 District trust contributions needed to meet ADC *	321,250	94,975	104,878
Total Expected Employer Contributions (1+2+3)	\$ 502,211	\$ 243,043	\$ 251,759



F. Certification

The primary purposes of this report are: (1) to provide actuarial information of the other postemployment benefits (OPEB) provided by the Tahoe Douglas Fire Protection District (the District) Retiree Healthcare Plan in compliance with Statement 75 of the Governmental Accounting Standards Board (GASB 75); and (2) to provide Actuarially Determined Contributions for prefunding of this program in conformity with District's OPEB funding policy. District is not required to contribute the ADC shown in this report and we make no representation that it will, in fact, fund the OPEB trust at any particular level.

In preparing this report we relied without audit on information provided by District. This information includes, but is not limited to, plan provisions, census data, and financial information. We performed a limited review of this data and found the information to be reasonably consistent. The accuracy of this report is dependent on this information and if any of the information we relied on is incomplete or inaccurate, then the results reported herein will be different from any report relying on more accurate information.

We consider the actuarial assumptions and methods used in this report to be individually reasonable under the requirements imposed by GASB 75 and taking into consideration reasonable expectations of plan experience. The results provide an estimate of the plan's financial condition at one point in time. Future actuarial results may be significantly different due to a variety of reasons including, but not limited to, demographic and economic assumptions differing from future plan experience, changes in plan provisions, changes in applicable law, or changes in the value of plan benefits relative to other alternatives available to plan members.

Alternative assumptions may also be reasonable; however, demonstrating the range of potential plan results based on alternative assumptions was beyond the scope of our assignment except to the limited extent required by GASB 75 and in accordance with District's stated OPEB funding policy. Results for accounting purposes may be materially different than results obtained for other purposes such as plan termination, liability settlement, or underlying economic value of the promises made by the plan.

This report is prepared solely for the use and benefit of District and may not be provided to third parties without prior written consent of MacLeod Watts. Exceptions are: District may provide copies of this report to their professional accounting and legal advisors who are subject to a duty of confidentiality, and District may provide this work to any party if required by law or court order. No part of this report should be used as the basis for any representations or warranties in any contract or agreement without the written consent of MacLeod Watts.

The undersigned actuary is unaware of any relationship that might impair the objectivity of this work. Nothing within this report is intended to be a substitute for qualified legal or accounting counsel. The actuary is a member of the American Academy of Actuaries and meets the qualification standards for rendering this opinion.

November 18, 2020



Catherine L. MacLeod, FSA, FCA, EA, MAAA



J. Kevin Watts, FSA, FCA, MAAA



G. Supporting Information

Section 1 - Summary of Employee Data

Active employees: The District reported 56 active members in the data provided to us for the December 2019 valuation. All 56 active employees were enrolled in a healthcare plan offered by the District on the valuation date.

Distribution of Benefits-Eligible Active Employees								
Current Age	Years of Service						Total	Percent
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 & Up		
Under 25	2						2	4%
25 to 29	3	1	1				5	9%
30 to 34	1	3	9	1			14	25%
35 to 39	2		4	2	1		9	16%
40 to 44		1	6	3	4		14	25%
45 to 49			2		1	1	4	7%
50 to 54			1			5	6	11%
55 to 59						2	2	4%
60 to 64							0	0%
65 to 69							0	0%
70 & Up							0	0%
Total	8	5	23	6	6	8	56	100%
Percent	14%	9%	41%	11%	11%	14%	100%	

Valuation	December 2017	December 2019
Average Attained Age for Actives	39.5	38.9
Average Years of Service	10.3	10.3

Retirees: The District reported 46 retirees participating in the District's Retiree Healthcare Plan and receiving benefits on the valuation date. Information on these individuals is summarized in the chart below.

Retirees by Age				
Current Age	Misc	Fire	Total	Percent
Below 50	0	0	0	0%
50 to 54	0	0	0	0%
55 to 59	1	9	4	40%
60 to 64	0	18	5	50%
65 to 69	0	11	1	10%
70 to 74	0	6	0	0%
75 to 79	0	1	0	0%
80 & up	0	0	0	0%
Total	1	45	10	100%
Average Age:				
On 12/31/2019	56.4	64.8	64.6	
At retirement	56.2	54.8	54.8	



Supporting Information

(Continued)

Summary of Employee Data (Concluded)

Reconciliation of plan members: The charts below reconcile the number of actives and retirees included in the December 31, 2017 valuation with those included in the December 31, 2019 valuation.

Reconciliation of District Plan Members Between Valuation Dates			
Status	Covered Actives	Covered Retirees	Total
Number reported as of December 31, 2017	50	44	94
New employees & Rehires	10	(2)	8
Separated employees	(3)		(3)
New retiree, elected coverage	(4)	4	0
Previously ineligible, now eligible	3		
Number reported as of December 31, 2019	56	46	102

Overall, the number of plan members has increased from 94 to 102. The number of active employees has increased by 6, from 50 to 56, over the past two years, representing a 12% increase. The number of retirees increased from 44 to 46, a 5% increase.

Summary of Plan Member Counts: GASB 75 requires the employer to report specific plan member counts. The chart below shows these counts as of the December 31, 2019 valuation date.

Summary of Plan Member Counts	
Number of active plan members	56
Number of inactive plan members currently receiving benefits	46
Number of inactive plan members entitled to but not receiving benefits	0



Supporting Information

(Continued)

Section 2 - Summary of Retiree Benefit Provisions

OPEB provided: Employees who retire from the District are eligible to continue their coverage under the medical (including vision) and dental plans offered by the District to its active employees or, if they retired prior to September 1, 2008, could elect to participate in the Public Employees' Benefit Plan (PEBP).

Access to District plan coverage and benefits paid: Retirees and their spouses under age 65 may elect to continue their medical, dental, vision coverage under the programs made available to the District's active employees. The District currently contributes toward the cost of retiree healthcare coverage as follows:

- Employees hired prior to June 1, 2003 retiring from the District after June 30, 1999 at age 50 or older with at least 15 years of service who elect to remain in the District's plans receive a percentage of the employee and spouse premiums paid by the District for their lifetimes. The percentage is based on the following service schedule:

Years of District Service	% of Employee Premium Paid	% of Spouse Premium Paid
Less than 15	0%	0%
15	50%	50%
16	60%	60%
17	70%	70%
18	80%	80%
19	90%	90%
20 or more	100%	100%

- Employees hired on or after June 1, 2003 and retiring from the District at age 55 or older with at least 20 years of service who elect to remain in the District's plans receive a percentage of the employee and spouse premiums paid by the District until they become eligible for Medicare benefits after which the District contribution ceases. The percentage is based on the following service schedule:

Years of District Service	% of Employee Premium Paid	% of Spouse Premium Paid
Less than 20	0%	0%
20	100%	0%
21	100%	20%
22	100%	40%
23	100%	60%
24	100%	80%
25 or More	100%	100%

If an employee completes the minimum service requirement (as determined based on his or her employment date) but terminates employment with the District prior to reaching the minimum required age, the employee *may* remain qualified for future postemployment healthcare benefits from the District. If, after leaving District employment, the employee retains District coverage and pays the entire premium, once the employee reaches the minimum required benefit age, the District will provide the postemployment healthcare benefits to which the employee would have been entitled had he or she terminated employment after meeting the minimum age requirement.



Supporting Information

(Continued)

Summary of Retiree Benefit Provisions

(Continued)

Retirees are no longer permitted to remain on the District's plans after age 65.

- Upon eligibility for Medicare, the District's monthly allowance (HRA) toward health insurance for a retired employee is equal to \$285 multiplied by his or her vested percentage (see tables above). Eligible spouses also receive a monthly health insurance allowance equal to \$285 multiplied by their applicable vested percentage (the percentage may be different from the retiree).
- The District will also pay the same vested percentage of Medicare Part A premiums for retired employees and their spouses who are not Part A Medicare premium qualified. The premium is \$458 in 2020.

The plans currently available to employees before Medicare eligibility include a low-deductible PPO and two high-deductible PPO plans. In addition to the applicable percent of premium (described above based on the employee's employment date and retirement date), the District also makes contributions to a Health Savings Account (HSA) for pre-65 retirees who elect a high deductible PPO. The amount of the District's subsidy to the HSA is the applicable *vested percent* of the applicable amount shown below:

Plan	80/20 HDHP
Retiree Only	\$ 159.01
Retiree & Spouse	316.59



Supporting Information

(Continued)

Section 3 - Actuarial Methods and Assumptions

The ultimate real cost of an employee benefit plan is the value of all benefits and other expenses of the plan over its lifetime. These payments depend only on the terms of the plan and the administrative arrangements adopted. The actuarial assumptions are used to estimate the cost of these benefits; the funding method spreads the expected costs on a level basis over the life of the plan.

Fiscal Year End	June 30, 2020
GASB 74/75 Measurement Date	December 31, 2019
Valuation Date	December 31, 2019
Funding Method	Entry Age Normal Cost, level percent of pay ⁵
Asset Valuation Method	Market value of assets
Long Term Return on Assets	6.7% as of December 31, 2019 & 7.5% as of December 31, 2018 net of plan investment expenses
Discount Rate	6.7% as of December 31, 2019 & 7.5% as of December 31, 2018
Participants Valued	Only current active employees and retired participants and covered spouses are valued. No future entrants are considered.
Salary Increase	3.0% per year; since benefits do not depend on salary, this is used to allocate the cost of benefits between service years
General Inflation Rate	2.5% per year

The demographic actuarial assumptions used in this valuation are based on the most recently published report of the Nevada Public Employees Retirement System, dated June 30, 2019 which covers the employees included in this valuation except for a different basis used to project future mortality improvements.

Mortality: The rates described below were described in the June 30, 2019 actuarial valuation of the Nevada PERS program as being reasonably representative of mortality experience as of that measurement date.

Non-disabled life rates for Regular & Safety employees:

Males and Females: Headcount-Weighted RP-2014 Healthy Annuitant Table

Pre-retirement life rates for Regular & Safety employees:

Males & Females: Headcount-Weighted RP-2014 Employee Table

⁵ The level percent of pay aspect of the funding method refers to how the normal cost is determined. Use of level percent of pay cost allocations in the funding method is separate from and has no effect on a decision regarding use of a level percent of pay or level dollar basis for determining amortization payments.



Supporting Information

(Continued)

Section 3 - Actuarial Methods and Assumptions

Mortality Improvement

In the June 30, 2019 Nevada PERS Valuation, the mortality rates described above were stated to “reasonably reflect the projected mortality experience of the Plan as of the measurement date.” We then adjusted these rates to anticipate future mortality improvement by applying MacLeod Watts Scale 2020 on a generational basis from 2018 forward (see Addendum 2 for additional details).

Termination Rates

Years of Service	Regular Employees	Safety Employees	Years of Service	Regular Employees	Safety Employees
0	16.00%	15.00%	11	3.00%	1.30%
1	12.50%	8.00%	12	2.75%	1.00%
2	10.25%	7.50%	13	2.50%	0.90%
3	8.00%	6.00%	14	2.25%	0.80%
4	7.50%	5.00%	15	2.00%	0.70%
5	6.00%	3.75%	16	2.00%	0.60%
6	5.25%	3.50%	17	1.75%	0.50%
7	4.25%	2.50%	18	1.75%	0.50%
8	4.00%	2.25%	19	1.75%	0.50%
9	3.75%	1.90%	20 & Over	1.75%	0.45%
10	3.25%	1.50%			

Retirement Rates

Regular Employees Hired before July 1, 2015						
Age	Years of Service					
	5-9	10-19	20-24	25-29	30-32	33 or more
45-49	0%	0%	0.75%	6.5%	16%	16%
50-54	0.5%	1.5%	1.5%	8.5%	18%	18%
55-59	1.5%	3.5%	5%	12%	20%	20%
60-61	6.5%	11%	17%	22%	22%	22%
62-64	9%	13%	17%	22%	22%	22%
65-69	20%	20%	22%	25%	25%	25%
70-74	30%	30%	40%	40%	40%	40%
75 & Over	100%	100%	100%	100%	100%	100%

Retirement rates for those hired on or after July 1, 2015 are the same as above except as follows:

Regular Employees Hired on/after July 1, 2015		
Age	Years of Service	
	30-32	33+
45-49	6.50%	16%
50-54	8.50%	18%



Supporting Information

(Continued)

Section 3 - Actuarial Methods and Assumptions

Retirement

Rates

Age	Police/Fire Employees				
	Years of Service				
	5-9	10-19	20-24	25-29	30 or more
40-44	0%	0.5%	3.5%	0%	0%
45-49	0%	1%	6.5%	18%	18%
50-54	1.5%	4.5%	13%	20%	24%
55-59	3.5%	10%	20%	25%	28%
60-64	9%	18%	25%	35%	35%
65-69	50%	50%	60%	60%	60%
70 & Over	100%	100%	100%	100%	100%

Medicare Eligibility

All individuals are assumed to be eligible for Medicare Parts A and B at age 65.

Healthcare Trend

Medical plan premiums and claims costs by age are assumed to increase once each year. Increases over the prior year’s levels are assumed to be effective on the dates shown below:

Effective December 31	Premium Increase	Effective December 31	Premium Increase
2021	5.40%	2067	4.70%
2022	5.30%	2068	4.60%
2023-26	5.20%	2069	4.50%
2027-46	5.30%	2070-71	4.40%
2047	5.20%	2072	4.30%
2048-49	5.10%	2073-74	4.20%
2050-53	5.00%	2075	4.10%
2054-59	4.90%	2076 & later	4.00%
2060-66	4.80%		

The healthcare trend above was developed using the Getzen Model 2019_b published by the Society of Actuaries using the following settings: short term rates from 2020-2022 6.5%, 6%, 5.5%; CPI 2.5%; Real GDP Growth 1.5%; Excess Medical Growth 1.2%; Expected Health Share of GDP in 2028 20.5%; Resistance Point 25%; Year after which medical growth is limited to growth in GDP 2075.

Dental premiums were assumed to increase 3.5% per year and vision premiums were assumed to increase 2.5% per year.

Other Employer Cost-Sharing
in the District plan

The District’s HRA contribution for retirees covered by Medicare (HRA contribution) is assumed to increase by 5% annually.



Supporting Information
 (Continued)

Section 3 - Actuarial Methods and Assumptions

Participation Rate

Active employees: (a) 100% who qualify for a subsidy in retirement assumed to elect coverage in retirement; employees with high-deductible PPO coverage are assumed to elect 80/20 HDHP PPO coverage in retirement. (b) Those who do not qualify for a subsidy are assumed *not* to elect coverage. (c) Those who separate from the District after meeting the minimum service requirement but prior to the minimum retirement age and who will be eligible for a District subsidy upon reaching the minimum age if they pay their own premiums until such age are assumed to elect the District healthcare coverage at the following rates:

Years Before Subsidy Starts	5	4	3	2	1
% Assumed to elect to continue District health coverage until minimum benefit age	5%	10%	20%	40%	80%

Current retirees: All are assumed to retain their existing election until death.

Spouse Coverage

Active employees: 90% of those assumed to elect coverage in retirement are assumed to be married participants eligible for coverage or HRA contributions for their spouse until their death. Male employees are assumed to be 3 years older than their wives, and female employees are assumed to be 3 years younger than their husbands.

Retired employees: Existing elections for spouse coverage are assumed to continue until age 65 and HRA contributions are assumed to apply until the spouse's death. Actual spouse information is used where available; otherwise the assumptions for spouses of active employees are applied.

Development of Age-related Medical Premiums

Actual premium rates for retirees and their spouses were adjusted to an age-related basis by applying medical claim cost factors developed from the data presented in the report, "Health Care Costs – From Birth to Death", sponsored by the Society of Actuaries. A description of the use of claims cost curves can be found in MacLeod Watts's Age Rating Methodology provided in Addendum 2 to this report.

Actual premium rates for pre-Medicare retirees and their spouses were adjusted to an age-related basis by applying the medical claim cost factors to monthly baseline premium costs.



Supporting Information

(Concluded)

Section 3 - Actuarial Methods and Assumptions

Representative claims costs are shown in the chart below.

Expected Monthly Claims by Medical Plan for Selected Ages								
Medical Plan	Male				Female			
	48	53	58	63	48	53	58	63
HSA	\$ 410	\$ 542	\$ 690	\$ 856	\$ 531	\$ 626	\$ 707	\$ 831
PPO	306	404	514	638	396	466	527	619

Changes reflected during the current Measurement Period

Assumed trust return and discount rate	The assumed trust rate of return and discount rate was decreased from 7.5% to 6.7% reflecting a change in the District's expectation of the long-term asset returns.
Demographic assumptions	Assumed rates of retirement, termination and mortality were updated to be consistent with those used in the June 2019 PERS retirement plan valuation covering District employees.
Mortality Improvement	The mortality improvement scale was updated to MacLeod Watts Scale 2020 from MacLeod Watts Scale 2017.
General Inflation	The assumed general inflation rate was decreased from 2.75% to 2.5%
Salary Increase	The assumed salary increase rate was decreased from 4% to 3%.
Medical Trend	Future increases in medical coverage claims and premiums were changed to use the Getzen healthcare trend model sponsored by the Society of Actuaries. For specific rates by year, see page 31.
Dental/Vision Trend	The assumed dental and vision trends were decreased from 4.5% per year to 3.5% and 2.5% per year, respectively.
Excise tax on high cost coverage	We excluded the excise tax from the valuation results due to the December 2019 repeal of this tax.



Addendum 1: Important Background Information

General Types of Other Post-Employment Benefits (OPEB)

Post-employment benefits other than pensions (OPEB) comprise a part of compensation that employers offer for services received. The most common OPEB are medical, prescription drug, dental, vision, and/or life insurance coverage. Other OPEB may include outside group legal, long-term care, or disability benefits outside of a pension plan. OPEB does not generally include COBRA, vacation, sick leave (unless converted to defined benefit OPEB), or other direct retiree payments.

A direct employer payment toward the cost of OPEB benefits is referred to as an “explicit subsidy”. In addition, if claims experience of employees and retirees are pooled when determining premiums, retiree premiums are based on a pool of members which, on average, are younger and healthier. For certain types of coverage such as medical insurance, this results in an “implicit subsidy” of retiree premiums by active employee premiums since the retiree premiums are lower than they would have been if retirees were insured separately. GASB 75 and Actuarial Standards of Practice generally require that an implicit subsidy of retiree premium rates be valued as an OPEB liability.

Expected retiree claims		
Premium charged for retiree coverage		<i>Covered by higher active premiums</i>
Retiree portion of premium	Agency portion of premium Explicit subsidy	Implicit subsidy

This chart shows the sources of funds needed to cover expected claims for retirees. The portion of the premium paid by the Agency does not impact the amount of the implicit subsidy.

Valuation Process

The valuation was based on employee census data and benefits provided by District. A summary of the employee data is provided in Section 1 and a summary of the benefits provided under the Plan is provided in Section 2. While individual employee records have been reviewed to verify that they are reasonable in various respects, the data has not been audited and we have otherwise relied on District as to its accuracy. The valuation was also based on the actuarial methods and assumptions described in Section 3.

In developing the projected benefit values and liabilities, we first determine an expected premium or benefit stream over the employee’s future retirement. Benefits may include both direct employer payments (explicit subsidies) and/or an implicit subsidy, arising when retiree premiums are expected to be subsidized by active employee premiums. The projected benefit streams reflect assumed trends in the cost of those benefits and assumptions as to the expected date(s) when benefits will end. We then apply assumptions regarding:

- The probability that each individual employee will or will not continue in service to receive benefits.
- The probability of when such retirement will occur for each retiree, based on current age, service and employee type; and
- The likelihood that future retirees will or will not elect retiree coverage (and benefits) for themselves and/or their dependents.



Important Background Information

(Continued)

We then calculate a present value of these benefits by discounting the value of each future expected benefit payment, multiplied by the assumed expectation that it will be paid, back to the valuation date using the discount rate. These benefit projections and liabilities have a very long time horizon. The final payments for currently active employees may not be made for many decades.

The resulting present value for each employee is allocated as a level percent of payroll each year over the employee's career using the entry age normal cost method and the amounts for each individual are then summed to get the results for the entire plan. This creates a cost expected to increase each year as payroll increases. Amounts attributed to prior fiscal years form the "Total OPEB Liability". The OPEB cost allocated for active employees in the current year is referred to as "Service Cost".

Where contributions have been made to an irrevocable OPEB trust, the accumulated value of trust assets ("Fiduciary Net Position") is applied to offset the "Total OPEB Liability", resulting in the "Net OPEB Liability". If a plan is not being funded, then the Net OPEB Liability is equal to the Total OPEB Liability.

It is important to remember that an actuarial valuation is, by its nature, a projection of one possible future outcome based on many assumptions. To the extent that actual experience is not what we assumed, future results will differ. Some possible sources of future differences may include:

- A significant change in the number of covered or eligible plan members
- A significant increase or decrease in the future premium rates
- A change in the subsidy provided by the Agency toward retiree premiums
- Longer life expectancies of retirees
- Significant changes in expected retiree healthcare claims by age, relative to healthcare claims for active employees and their dependents
- Higher or lower returns on plan assets or contribution levels other than were assumed and/or
- Changes in the discount rate used to value the OPEB liability



Important Background Information

(Continued)

Requirements of GASB 75

The Governmental Accounting Standards Board (GASB) issued GASB Statement No. 75, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. This Statement establishes standards for the measurement, recognition, and disclosure of OPEB expense and related liabilities (assets), note disclosures, and, required supplementary information (RSI) in the financial reports of state and local governmental employers.

Important Dates

GASB 75 requires that the information used for financial reporting falls within prescribed timeframes. Actuarial valuations of the total OPEB liability are generally required at least every two years. If a valuation is not performed as of the Measurement Date, then liabilities are required to be based on roll forward procedures from a prior valuation performed no more than 30 months and 1 day prior to the most recent year-end. In addition, the net OPEB liability is required to be measured as of a date no earlier than the end of the prior fiscal year (the “Measurement Date”).

Recognition of Plan Changes and Gains and Losses

Under GASB 75, gains and losses related to changes in Total OPEB Liability and Fiduciary Net Position are recognized in OPEB expense systematically over time.

- *Timing of recognition:* Changes in the Total OPEB Liability relating to changes in plan benefits are recognized immediately (fully expensed) in the year in which the change occurs. Gains and Losses are amortized, with the applicable period based on the type of gain or loss. The first amortized amounts are recognized in OPEB expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to OPEB and are to be recognized in future OPEB expense.
- *Deferred recognition periods:* These periods differ depending on the source of the gain or loss.

Difference between projected and actual trust earnings:	5 year straight-line recognition
All other amounts:	Straight-line recognition over the expected average remaining service lifetime (EARSL) of all members that are provided with benefits, determined as of the beginning of the Measurement Period. In determining the EARSL, all active, retired and inactive (vested) members are counted, with the latter two groups having 0 remaining service years.



Important Background Information

(Continued)

Implicit Subsidy Plan Contributions

An implicit subsidy liability is created when expected retiree claims exceed the premiums charged for retiree coverage. This typically occurs when the same premium rates are charged for active and retired members prior to coverage under Medicare. In practical terms, when premiums for active employees each year exceed active employee claims, their premiums include an amount expected to be transferred to cover a portion of the retirees' claims not covered by the premiums charged for retiree coverage. This transfer represents the current year's implicit subsidy. GASB 75 allows for recognition of payments to an irrevocable trust *or directly to the insurer* as an employer's contribution. Therefore, each year's implicit subsidy is a contribution toward the payment of retiree benefits.

The following hypothetical example illustrates this treatment:

Hypothetical Illustration of Implicit Subsidy Recognition	For Active Employees	For Retired Employees
<i>Prior to Implicit Subsidy Adjustment</i>		
Premiums Paid by Agency During Fiscal Year	\$ 411,000	\$ 48,000
Accounting Treatment	Compensation Cost for Active Employees	Contribution to Plan & Benefits Paid from Plan
<i>After Implicit Subsidy Adjustment</i>		
Premiums Paid by Agency During Fiscal Year	\$ 411,000	\$ 48,000
Implicit Subsidy Adjustment	(23,000)	23,000
Accounting Cost of Premiums Paid	\$ 388,000	\$ 71,000
Accounting Treatment Impact	Reduces Compensation Cost for Active Employees	Increases Contributions to Plan & Benefits Paid from Plan

In this example, while total contributions paid toward active and retired employee healthcare premiums is the same, by shifting the recognition of the current year's implicit subsidy from actives to retirees, this amount is recognized as an OPEB contribution and at the same time reduces premium expense for active employees.

Discount Rate

When the financing of OPEB liabilities is on a pay-as-you-go basis, GASB 75 requires that the discount rate used for valuing liabilities be based on the yield or index rate 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). When a plan sponsor makes regular, sufficient contributions to a trust in order to prefund the OPEB liabilities, GASB 75 allows use of a rate up to the expected rate of return of the trust. Therefore, prefunding has an advantage of potentially being able to report overall lower liabilities due to future expected benefits being discounted at a higher rate.



Important Background Information

(Continued)

Actuarial Funding Method and Assumptions

The “ultimate real cost” of an employee benefit plan is the value of all benefits and other expenses of the plan over its lifetime. These expenditures are dependent only on the terms of the plan and the administrative arrangements adopted, and as such are not affected by the actuarial funding method.

The actuarial funding method attempts to spread recognition of these expected costs on a level basis over the life of the plan, and as such sets the “incidence of cost”. GASB 75 specifically requires that the actuarial present value of projected benefit payments be attributed to periods of employee service using the Entry Age Actuarial Cost Method, with each period’s service cost determined as a level percentage of pay.

The results of this report may not be appropriate for other purposes, where other assumptions, methodology and/or actuarial standards of practice may be required or more suitable.



Addendum 2: MacLeod Watts Age Rating Methodology

Both accounting standards (e.g. GASB 75) and actuarial standards (e.g. ASOP 6) require that expected retiree claims, not just premiums paid, be reflected in most situations where an actuary is calculating retiree healthcare liabilities. Unfortunately, the actuary is often required to perform these calculations without any underlying claims information. In most situations, the information is not available, but even when available, the information may not be credible due to the size of the group being considered.

Actuaries have developed methodologies to approximate healthcare claims from the premiums being paid by the plan sponsor. Any methodology requires adopting certain assumptions and using general studies of healthcare costs as substitutes when there is a lack of credible claims information for the specific plan being reviewed.

Premiums paid by sponsors are often uniform for all employee and retiree ages and genders, with a drop in premiums for those participants who are Medicare-eligible. While the total premiums are expected to pay for the total claims for the insured group, on average, the premiums charged would not be sufficient to pay for the claims of older insureds and would be expected to exceed the expected claims of younger insureds. An age-rating methodology takes the typically uniform premiums paid by plan sponsors and spreads the total premium dollars to each age and gender intended to better approximate what the insurer might be expecting in actual claims costs at each age and gender.

The process of translating premiums into expected claims by age and gender generally follows the steps below.

1. *Obtain or Develop Relative Medical Claims Costs by Age, Gender, or other categories that are deemed significant.* For example, a claims cost curve might show that, if a 50 year old male has \$1 in claims, then on average a 50 year old female has claims of \$1.25, a 30 year male has claims of \$0.40, and an 8 year old female has claims of \$0.20. The claims cost curve provides such relative costs for each age, gender, or any other significant factor the curve might have been developed to reflect. Section 3 provides the source of information used to develop such a curve and shows sample relative claims costs developed for the plan under consideration.
2. *Obtain a census of participants, their chosen medical coverage, and the premium charged for their coverage.* An attempt is made to find the group of participants that the insurer considered in setting the premiums they charge for coverage. That group includes the participant and any covered spouses and children. When information about dependents is unavailable, assumptions must be made about spouse age and the number and age of children represented in the population. These assumptions are provided in Section 3.
3. *Spread the total premium paid by the group to each covered participant or dependent based on expected claims.* The medical claims cost curve is used to spread the total premium dollars paid by the group to each participant reflecting their age, gender, or other relevant category. After this step, the actuary has a schedule of expected claims costs for each age and gender for the current premium year. It is these claims costs that are projected into the future by medical cost inflation assumptions when valuing expected future retiree claims.

The methodology described above is dependent on the data and methodologies used in whatever study might be used to develop claims cost curves for any given plan sponsor. These methodologies and assumptions can be found in the referenced paper cited as a source in the valuation report.



Addendum 3: MacLeod Watts Mortality Projection Methodology

Actuarial standards of practice (e.g., ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations, and ASOP 6, Measuring Retiree Group Benefits Obligations) indicate that the actuary should reflect the effect of mortality improvement (i.e., longer life expectancies in the future), both before and after the measurement date. The development of credible mortality improvement rates requires the analysis of large quantities of data over long periods of time. Because it would be extremely difficult for an individual actuary or firm to acquire and process such extensive amounts of data, actuaries typically rely on large studies published periodically by organizations such as the Society of Actuaries or Social Security Administration.

As noted in a recent actuarial study on mortality improvement, key principles in developing a credible mortality improvement model would include the following:

- (1) Short-term mortality improvement rates should be based on recent experience.
- (2) Long-term mortality improvement rates should be based on expert opinion.
- (3) Short-term mortality improvement rates should blend smoothly into the assumed long-term rates over an appropriate transition period.

The **MacLeod Watts Scale 2020** was developed from a blending of data and methodologies found in two published sources: (1) the Society of Actuaries Mortality Improvement Scale MP-2019 Report, published in October 2019 and (2) the demographic assumptions used in the 2019 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, published April 2019.

MacLeod Watts Scale 2020 is a two-dimensional mortality improvement scale reflecting both age and year of mortality improvement. The underlying base scale is Scale MP-2019 which has two segments – (1) historical improvement rates for the period 1951-2015 and (2) an estimate of future mortality improvement for years 2016-2018 using the Scale MP-2019 methodology but utilizing the assumptions obtained from Scale MP-2015. The MacLeod Watts scale then transitions from the 2018 improvement rate to the Social Security Administration (SSA) Intermediate Scale linearly over the 10-year period 2019-2028. After this transition period, the MacLeod Watts Scale uses the constant mortality improvement rate from the SSA Intermediate Scale from 2028-2042. The SSA's Intermediate Scale has a final step down in 2043 which is reflected in the MacLeod Watts scale for years 2043 and thereafter. Over the ages 95 to 115, the SSA improvement rate is graded to zero.

Scale MP-2019 can be found at the SOA website and the projection scales used in the 2019 Social Security Administrations Trustees Report at the Social Security Administration website.



Glossary

Actuarial Funding Method – A procedure which calculates the actuarial present value of plan benefits and expenses, and allocates these expenses to time periods, typically as a normal cost and an actuarial accrued liability

Actuarial Present Value of Projected Benefits (APVPB) – The amount presently required to fund all projected plan benefits in the future. This value is determined by discounting the future payments by an appropriate interest rate and the probability of nonpayment.

Deferred Contributions – When an employer makes contributions after the measurement date and prior to the fiscal year end, recognition of these contributions is deferred to a subsequent accounting period by creating a deferred resource. We refer to these contributions as Deferred Contributions.

Defined Benefit (DB) – A pension or OPEB plan which defines the monthly income or other benefit which the plan member receives at or after separation from employment

Defined Contribution (DC) – A pension or OPEB plan which establishes an individual account for each member and specifies how contributions to each active member’s account are determined and the terms of distribution of the account after separation from employment

Discount Rate - Interest rate used to discount future potential benefit payments to the valuation date. Under GASB 75, if a plan is prefunded, then the discount rate is equal to the expected trust return. If a plan is not prefunded (pay-as-you-go), then the rate of return is based on a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Expected Average Remaining Service Lifetime (EARSL) – Average of the expected remaining service lives of all employees that are provided with benefits through the OPEB plan (active employees and inactive employees), beginning in the current period

Entry Age Actuarial Cost Method – An actuarial funding method where, for each individual, the actuarial present value of benefits is levelly spread over the individual’s projected earnings or service from entry age to the last age at which benefits can be paid

Excise Tax – The Affordable Care Act created an excise tax on the value of employer sponsored coverage which exceeds certain thresholds (“Cadillac Plans”). This tax was repealed in December 2019.

Explicit Subsidy – The projected dollar value of future retiree healthcare costs expected to be paid directly by the Employer, e.g., the Employer’s payment of all or a portion of the monthly retiree premium billed by the insurer for the retiree’s coverage

Fiduciary Net Position – The value of trust assets used to offset the Total OPEB Liability to determine the Net OPEB Liability.

Government Accounting Standards Board (GASB) – A private, not-for-profit organization which develops generally accepted accounting principles (GAAP) for U.S. state and local governments; like FASB, it is part of the Financial Accounting Foundation (FAF), which funds each organization and selects the members of each board

Health Care Trend – The assumed rate(s) of increase in future dollar values of premiums or healthcare claims, attributable to increases in the cost of healthcare; contributing factors include medical inflation, frequency or extent of utilization of services and technological developments.



Glossary

(Continued)

Implicit Subsidy – The projected difference between future retiree claims and the premiums to be charged for retiree coverage; this difference results when the claims experience of active and retired employees are pooled together and a ‘blended’ group premium rate is charged for both actives and retirees; a portion of the active employee premiums subsidizes the retiree premiums.

Net OPEB Liability (NOL) – The liability to employees for benefits provided through a defined benefit OPEB. Only assets administered through a trust that meet certain criteria may be used to reduce the Total OPEB Liability.

Net Position – The Impact on Statement of Net Position is the Net OPEB Liability adjusted for deferred resource items

Nevada PERS – Many state governments maintain a public employee retirement system; Nevada PERS is the Nevada program, covering all eligible state government employees as well as other employees of other governments within Nevada who have elected to join the system

OPEB Expense – The OPEB expense reported in the Agency’s financial statement. OPEB expense is the annual cost of the plan recognized in the financial statements.

Other Post-Employment Benefits (OPEB) – Post-employment benefits other than pension benefits, most commonly healthcare benefits but also including life insurance if provided separately from a pension plan

Pay-As-You-Go (PAYGO) – Contributions to the plan are made at about the same time and in about the same amount as benefit payments and expenses coming due

Plan Assets – The value of cash and investments considered as ‘belonging’ to the plan and permitted to be used to offset the AAL for valuation purposes. To be considered a plan asset, GASB 75 requires (a) contributions to the OPEB plan be irrevocable, (b) OPEB assets to dedicated to providing OPEB benefit to plan members in accordance with the benefit terms of the plan, and (c) plan assets be legally protected from creditors, the OPEB plan administrator and the plan members.

Select and Ultimate – Actuarial assumptions which contemplate rates which differ by year initially (the select period) and then stabilize at a constant long-term rate (the ultimate rate)

Service Cost – Total dollar value of benefits expected to be earned by plan members in the current year, as assigned by the actuarial funding method; also called normal cost

Total OPEB Liability (TOL) – Total dollars required to fund all plan benefits attributable to service rendered as of the valuation date for current plan members and vested prior plan members; a subset of “Actuarial Present Value”

Vesting – As defined by the plan, requirements which when met make a plan benefit nonforfeitable on separation of service before retirement eligibility

