MARINWOOD COMMUNITY SERVICES DISTRICT

Actuarial Valuation of

Postemployment Medical Benefits

Valuation Date: July 1, 2015

NICOLAY CONSULTING

NICOLAY CONSULTING GROUP

PENSION CONSULTANTS AND ACTUARIES

530 BUSH STREET, SUITE 500
SAN FRANCISCO, CALIFORNIA 94108-3633
TEL: 415-512-5300
FAX: 415-512-5314

October 29, 2015

Mr. Eric Dreikosen
District Manager
Marinwood Community Services District
775 Miller Creek Road
San Rafael, California 94903

Dear Mr. Dreikosen:

Re: Actuarial Valuation of Postemployment Medical Benefits

The Marinwood Community Services District has retained Nicolay Consulting Group to complete this valuation of the Marinwood Community Services District postemployment medical program as of July 1, 2015.

The purpose of this valuation is to determine the value of the expected postretirement benefits for current and future retirees and the Actuarial Accrued Liability and Annual Required Contribution recognized under Government Accounting Standards Board Statement No. 45 (GASB 45) requirements for the fiscal years ending June 30, 2016 and 2017. The amounts reported herein are not necessarily appropriate for use for a different fiscal year without adjustment.

In preparing this report we relied on employee data and plan information provided by the District. The results of the valuation are dependent on the accuracy of the data and other information provided. These data are not audited by Nicolay Consulting Group, although they were reviewed for reasonableness. Calculations presented in this valuation do not reflect any other postemployment benefits than those described in this report.

The financial projections presented in this report are intended for internal use in evaluating the potential cost of the retiree medical program and for the plan sponsor's financial statements. Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. No one may make any representations or warranties based on any statements or conclusions contained in this report without the written consent of Nicolay Consulting Group.

On the basis of the data provided, this report has been prepared in accordance with generally accepted actuarial principles and methods. The assumptions for termination, retirement, mortality and health care claims morbidity rates are those used in the most recent California PERS Public Agency retirement plan valuations.

NICOLAY CONSULTING

Mortality improvement was reflected based on the most recent tables published by the Society of Actuaries. Morbidity rates for age-adjusting claims rates are based on the most recent tables published by CalPERS. Certain other assumptions were selected specifically for this valuation, and in many cases, including assumed health care trend, reflect changes from that used in the prior valuation. For all other assumptions, we believe they are reasonable for the measurement of the obligation involved. It should be recognized, however, that there can be significant differences between actual experience and the assumptions. Moreover, other sets of reasonable assumptions can yield materially lesser or greater results.

GASB stipulates that if the plan is not prefunded, the discount rate should be the rate of interest Based on the understanding that the District does not plan to prefund benefits. The discount rate is assumed to be 4%. This is an estimate of the long term average return that the District expects to earn on its general funds. Any changes in funding policy may result in changes to the discount rate assumption.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. Because of limited scope, we have not performed analysis of the potential range of such future differences.

Based on the foregoing, the cost results and actuarial exhibits presented in this report were determined on a consistent and objective basis in accordance with applicable Actuarial Standards of Practice and generally accepted actuarial procedures. We believe they fully and fairly disclose the actuarial position of the Plan based on the plan provisions, employee and plan cost data submitted.

The passage of healthcare reform in March 2010 ushered in a number of changes that might be expected to impact postretirement medical plans over time. We considered the possible effects of these changes for the District and summarized the results in this report.

NICOLAY CONSULTING

This report represents a statement of actuarial opinion by the undersigned actuaries, who are members of the American Academy of Actuaries (AAA) and are qualified to issue that opinion. Questions about the report should be directed to Doug Tokerud or Gary Cline at (415) 512-5300 x220 or x231, respectively.

Sincerely,

By: Douglas R Tokerud
Douglas R. Tokerud, F.S.A., M.A.A.A.

By: Gary E. Cline
Gary E. Cline, A.S.A., M.A.A.A.

MARINWOOD COMMUNITY SERVICES DISTRICT

Actuarial Valuation of

Postemployment Medical Benefits

Valuation Date: July 1, 2015

Table of Contents

SECTION	TITLE	PAGE
SECTION I	Summary of Valuation Results	1
SECTION II	Development of Annual Required Contribution (ARC) and GASB 45 Disclosures	3
SECTION III	Plan Description and Demographic Summary	7
SECTION IV	Actuarial Method and Assumptions	9
SECTION V	Glossary	20

NICOLAY CONSULTING

SECTION I
Summary of Valuation Results

Table 1-1
Summary of Valuation Results

	7/1/2015	7/1/2012
Present Value of Future Benefits		
Active	$6,552,451	$5,706,142
Retiree	$2,575,502	$1,455,296
Total	$9,127,953	$7,161,438
Actuarial Accrued Liability		
Active	$3,902,255	$3,281,139
Retiree	$2,575,502	$1,455,296
Total	$6,477,757	$4,736,435
Actuarial Value of Assets	$0	$0
Unfunded Actuarial Accrued Liability	**$6,477,757**	**$4,736,435**
Expected Employer Share of Current Year Plan Cost (Pay-As-You-Go)	**$153,530**	**$89,619**
Annual OPEB Cost	**$504,597***	**$397,228**
Number of Plan Participants		
Retirees & Surviving Spouses	12	9
Actives	20	22
Total	32	31
Discount rate	**4.00%**	**4.00%**
Assumed Increase in Per-Capita Claim Costs		
Initial Rate		
Pre-65	8.00%	7.30%
Post-65	5.50%	7.30%
Ultimate Rate	5.00%	5.50%
Year Ultimate Rate Reached	2029	2022

*Compares to $490,600 projected for FY 2015/16 in Table 2-4 of our 2012 report.

The Actuarial Accrued Liability (AAL) has increased $1,741,322 from $4,736,435 as of July 1, 2012 to $6,477,757 as of July 1, 2015. A breakdown of the sources of this change in liability is shown in Table 1-2.

Table 1-2
Estimated Sources of Liability Change (millions)

	Amount	Percent
Benefits Earned and Interest	0.946	20%
Health Care Trend Rate changes	0.142	3%
Recognition of an Age-Related Implicit Subsidy	1.236	26%
2013, 2014, and 2015 Claims Costs	(0.326)	(7%)
Other Assumption Changes and Demographic Experience	(0.257)	(6%)
Total Liability Change	**1.741**	36%

Since healthcare costs generally increase with age and premiums do not, there exists an implicit subsidy imbedded within the premium. An implicit subsidy is the difference between the total premiums of its participants and their actual age-graded medical costs.
Effective with measurement dates on or after March 31, 2015, Actuarial Standard of Practice No.6 (ASOP 6) requires actuarial valuations to reflect the impact of aging on claims. We have revised our assumptions in this valuation to reflect this change and determined there to be an implicit subsidy of approximately $1.2 million. This subsidy is positive (an increase in the liability), which reflects the fact that CalPERS premiums are lower than the true cost of coverage (i.e., the younger aggregate population of participants in CalPERS plans is subsidizing the older District participants).

Initial trend rates in the in the July 1, 2012 valuation were a blend of the pre- and post-65 trend rates. For the July 1, 2015 valuation we adopted stand-alone initial pre- and post-65 trend rates. The initial pre-65 trend rates increased from 7.3% to 8.0% and the initial post-65 trend rates decreased from 7.3% to 5.5% as a result of this change. The ultimate trend rate decreased from 5.5% in 2012 to 5.0% in 2015 for both pre and post 65.

"Other Assumption Changes" refers to updates in the termination, retirement, and mortality rates to reflect most recent tables published by CalPERS (and, in the case of projected mortality improvement, the Society of Actuaries). "Other Demographic Experience" refers to actual demographic experience (e.g., termination, retirement, death, disability, marriage, plan participation, etc.) being different than assumed.

SECTION II

Development of ARC and GASB 45 Disclosures

Table 2-1 presents the Present Value of Future Benefits (i.e., liability based on all future service) and the Actuarial Accrued Liability (i.e., liability based on past service only) broken down by participant status and benefit type.

The implicit subsidy is the obligation associated with the difference between premiums and the assumed true per capita healthcare costs for District participants.

Table 2-1

Present Value of Future Postemployment Medical Benefits
As of July 1, 2015
Entry Age Normal Actuarial Cost Method
Discount Rate: 4.0%

	Marinwood CSD Contribution	Implicit Subsidy	Total
Present Value of Future Benefits			
Active	$5,195,339	$1,357,112	$6,552,451
Retiree	$2,132,951	$442,551	$2,575,502
Total	$7,328,290	$1,799,663	$9,127,953
Actuarial Accrued Liability (AAL)			
Active	$3,109,195	$793,060	$3,902,255
Retiree	$2,132,951	$442,551	$2,575,502
Total	$5,242,146	$1,235,611	$6,477,757

This valuation was completed using the Entry Age Normal Actuarial Cost method and assumes a closed 30-year amortization (started in 2009) of the Unfunded Actuarial Accrued Liability using the level percentage of payroll amortization method.

Projected Health Benefit Costs

Table 2-2 contains a ten-year projection of the District pay-as-you-go cost to provide postemployment medical benefits.

Table 2-2

Projected Future Annual pay-as-you-go Cost

	District Premiums	Implicit Subsidy	Total
2015/16	112,825	40,705	$153,530
2016/17	124,710	48,201	$172,911
2017/18	139,448	54,228	$193,676
2018/19	140,964	43,291	$184,255
2019/20	148,944	38,775	$187,719
2020/21	165,439	46,251	$211,690
2021/22	168,768	40,817	$209,585
2022/23	186,363	51,896	$238,259
2023/24	192,688	46,595	$239,283
2024/25	210,171	57,755	$267,926

Health Benefit Costs Under GASB 45

The Annual Required Contribution (ARC) consists of the Normal Cost plus the current period amortization of the Unfunded Actuarial Accrued Liability.

Normal Cost is the portion of the actuarial present value of future benefits that is allocated to a particular year. Another interpretation is that the Normal Cost is the present value of future benefits that are "earned" by employees for service rendered during the current year. This valuation is based on the Entry Age Normal actuarial cost method and an attribution period that runs from date of hire until the expected retirement date.

Employers are allowed to amortize the Unfunded Actuarial Accrued Liability (UAAL) over a period not to exceed 30 years. The following Tables are based on amortization of the UAAL over a closed 30-year period using the level percentage of payroll amortization method. The District adopted GASB 45 in the 2009/10 fiscal year. The remaining amortization period is 24 years.

Table 2-3

Fiscal Year 2015/16 OPEB Annual Required Contribution

	2015	2012
Discount rate	4.0%	4.0%
Actuarial Accrued Liability	$6,477,757	$4,736,435
Actuarial Value of Assets	$ 0	$ 0
Unfunded Actuarial Accrued Liability	$6,477,757	$4,736,435
Remaining Amortization Period	24 years	27 years
Level percent of pay Amortization Factor (based on a 4.0% discount rate and a 3.25% annual increase in payroll)	21.261	23.668
Annual Level Percentage of Pay Amort. of Unfunded AAL	$304,684	$200,122
Normal Cost (based on the Entry Age Normal Method)	$214,085	$199,405
Annual Required Contribution	$518,769	$399,527
Interest on Net OPEB Obligation	$80,577	$40,836
Adjustment to ARC	$94,750	$43,135
Annual OPEB Cost	$504,597	$397,228

Table 2-4 presents a two-year projection under the assumption **that the District continues pay-as-you-go funding during the 2-year period,** the discount rate remains 4.0% and the Normal Cost component of the ARC increases by 5.0% per year throughout the three year period.

Table 2-4

Marinwood CSD

Two-year Projection of Annual OPEB Cost and Net OPEB Obligation
Based on a 4.0% discount rate the Entry Age Normal Actuarial Cost Method and assuming pay-as-you-go funding

	2015/16	2016/17
Actuarial Accrued Liability (AAL)	$6,477,757	$6,794,382
Actuarial Value of Assets at beginning of year	$0	$0
Unfunded Actuarial Accrued Liability (UAAL)	$6,477,757	$6,794,382
Remaining Amortization Period	24	23
Normal Cost	$214,085	$224,789
Amortization of UAAL	$304,684	$332,301
Annual Required Contribution (ARC)	$518,769	$557,090
Annual Required Contribution (ARC)	$518,769	$557,090
Interest on net OPEB Obligation	$80,577	$94,620
Adjustment to ARC	($94,750)	($115,692)
Annual OPEB Cost	$504,597	$536,017
Pay-as-you-go Cost	($153,530)	($172,911)
Increase in net OPEB Obligation	$351,067	$363,106
Net OPEB Obligation - Beginning of Year	$2,014,432	$2,365,499
Net OPEB Obligation - End of Year	$2,365,499	$2,728,605
Projected pay-as-you-go Cost	$153,530	$172,911

A substantial change in GASB accounting rules has just been published which is scheduled to become effective for Fiscal Year 2017/18 and beyond. We have not attempted to quantify the change in actuarial liabilities that may result.

The Net OPEB Oblgation of $2,014,432 as of July 1, 2015 is based on estimated pay-go funding contributions of $89,619, $93,653, and $104,641 for fiscal years ending in 2013, 2014, and 2015, respectively.

SECTION III

Plan Description and Demographic Summary

Eligibility Requirements and Plan Description

District employees who retire at age 50 or older with 5 or more years of service are eligible for lifetime medical benefits. Benefits are also provided to spouses and surviving spouses of eligible retirees and dependent children of participating retirees. Retirees may enroll in any available CalPERS medical plan. There are no dental, vision or other similar benefits for retirees.

The District contributes up to 90% of the CalPERS Bay Area "pre-age 65" Kaiser premium rates for the applicable family status, and 80% for fire employees. Retirees pay any premiums exceeding that limit.

Benefits are provided to employees who retire due to disability. Benefits are not provided to employees who terminate prior to eligibility for retirement. Retirees that waive coverage will not be eligible to re-enroll into the plan at any time in the future.

A surviving spouse of an employee who has met the minimum age and service eligibility requirements may participate in the plan if they have not remarried. Dependent children must be enrolled at the date of retirement to be eligible for plan benefits.

The District participates in the CalPERS medical program. The 2015 and 2016 calendar year retiree premium rates are shown in Table 3-1.

Table 3-1

Monthly CalPERS Bay Area Retiree Premium Rates

Pre-Medicare Rates

	2015			2016		
Plan	EE	Couple	Family	EE	Couple	Family
Blue Shield Net Value	$870.60	$1,741.20	$2,263.56	$1,033.86	$2,067.72	$2,688.04
Kaiser	$714.45	$1,428.90	$1,857.57	$746.47	$1,492.94	$1,940.82
PERS Choice	$700.84	$1,401.68	$1,822.18	$798.36	$1,596.72	$2,075.74
PERSCare	$775.08	$1,550.16	$2,015.21	$889.27	$1,778.54	$2,312.10

Post-Medicare Rates

	2015			2016		
Plan	EE	Couple	Family	EE	Couple	Family
Kaiser out-of-state	$390.47	$780.94	$1,171.41	$297.23	$594.46	$891.69
Kaiser	$295.51	$591.02	$886.53	$297.23	$594.46	$891.69
Kaiser So. Cal.	$295.51	$591.02	$886.53	$297.23	$594.46	$891.69
PERSChoice out-of-state	$339.47	$678.94	$1,018.41	$366.38	$732.76	$1,099.14

Demographic Data

Tables 3-2 and 3-3 contain summaries of the demographic information provided by the District. These employees and retirees were included in the valuation.

Table 3-2

Full-Time Active Employees Age and Service Table

as of July 1, 2015

	Years of Service						
Age	**<5**	**5-9**	**10-14**	**15-19**	**20-24**	**25+**	**Total**
Under 25	0	0	0	0	0	0	**0**
25 - 29	2	0	0	0	0	0	**2**
30 - 34	1	2	0	0	0	0	**3**
35 - 39	0	1	3	1	0	0	**5**
40 - 44	1	0	2	0	0	0	**3**
45 - 49	0	0	0	0	3	1	**4**
50 - 54	0	0	0	0	0	0	**0**
55 - 59	0	0	0	1	0	1	**2**
60 - 64	0	0	0	0	0	1	**1**
65 - 69	0	0	0	0	0	0	**0**
70 and Older	0	0	0	0	0	0	**0**
Total	**4**	**3**	**5**	**2**	**3**	**3**	**20***

* Includes 11 Fire employees and 9 non-Fire employees

Table 3-3

Participating Retirees Age Table

as of July 1, 2015

Age	**Fire**	**Non-Fire**	**Total**
Younger than 50	0	0	**0**
50-54	1	0	**1**
55-59	0	1	**1**
60-64	2	1	**3**
65-69	1	2	**3**
70-74	0	0	**0**
75-79	1	0	**1**
80+	0	3	**3**
Total	**5**	**7**	**12**

SECTION IV
Actuarial Method and Assumptions

In order to project the District's liabilities into the future, a number of economic, demographic, and baseline cost assumptions are necessary. For this valuation, we have used assumptions consistent with those specified in the 2014 "OPEB Assumption Model" released by the CalPERS Health Benefits Committee.

Actuarial Cost Method

The valuation was performed using the Entry Age Normal Cost Method. An Actuarial Cost Method is a procedure for allocating the actuarial present value of benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability. The Entry Age Normal cost method allocates the present value of future benefits on a level basis over the earnings or service (in this case earnings) of each employee individual between the hire date and assumed retirement age. The portion of the present value of future benefits allocated to a valuation year is called the Normal Cost. The portion allocated to all prior years is called the Actuarial Accrued Liability.

Valuation Date

The valuation date is July 1, 2015. This date is the starting point from which current health premium costs are projected to increase according to the assumed annual rates of health care cost trend. The District census is projected from the valuation date to the date of the final benefit payment for each employee and retiree on the census. After calculating future costs for the projected retiree and dependent population, all liabilities are discounted back to the valuation date to obtain the present value of future costs.

Amortization Methodology

GASB 45 allows amortization of the Unfunded Actuarial Accrued Liability based on a level dollar approach or as a level percentage of covered payroll. The maximum amortization period is 30 years.

This valuation is based on a closed, 30-year amortization of the Unfunded Actuarial Accrued Liability as a level percentage of payroll; increasing each year as earnings increase. 6 years of amortization have occurred; 24 years remain.

Actuarial Value Assets

We understand that the District has not pre-funded any portion of this obligation.

Economic Assumptions

Discount Rate

A discount rate is required to calculate the present value of future benefit payments which are used to determine financial statement expense. This valuation is based on a 4.0% discount rate. We have assumed that the District will continue to contribute on a pay-as-you-go basis.

Health Care Trend

The rate of increase in per capita health care costs is commonly referred to as the *health care trend* rate. We used the annual trend rates shown in Table 4-1, which have been updated since the prior valuation. These rates represent our best estimate of the future annual rates of increase in the medical premium rates paid by the District.

Table 4-1

Annual Health Care Cost Trend Rate Assumption

Year Beginning	Increase in CalPERS Regional Premium Rates Pre-65	Post-65
January 1, 2017	8.00%	5.50%
January 1, 2018	7.75%	5.25%
January 1, 2019	7.50%	5.00%
January 1, 2020	7.25%	5.00%
January 1, 2021	7.00%	5.00%
January 1, 2022	6.75%	5.00%
January 1, 2023	6.50%	5.00%
January 1, 2024	6.25%	5.00%
January 1, 2025	6.00%	5.00%
January 1, 2026	5.75%	5.00%
January 1, 2027	5.50%	5.00%
January 1, 2028	5.25%	5.00%
January 1, 2029 and later	5.00%	5.00%

The initial trend rate assumption represents an estimate of short term cost increases based on recent health care marketplace experience, and taking into consideration the cost characteristics of plans available to District retirees. Annual increases in national health expenditures have exceeded the general growth in GDP for many years. However, there are practical limitations to how long these trends can continue. It is unrealistic to assume that health care expenditures will be allowed to consume the majority of the economy. Therefore, over the long term we expect that health care costs will be constrained by the public's ability and willingness to pay the higher cost of health care coverage. This assumption implies that the ultimate trend rate should be related to the expected long-term growth in the economy.

Therefore, we assume the ultimate rate to be comprised of real growth in per capita GDP, long-term growth attributable to technology innovations, and the assumed long-term inflation rate. The initial trend is assumed to decrease ratably to this ultimate rate over time.

Payroll Increases

In this valuation we assumed a 3.25% annual rate of increase in payroll. This rate is a component of the Entry Age Normal Actuarial Cost Method and is used in the calculation of the amortization component of the Annual Required Contribution and in calculation of the Normal Cost.

Per Capita Health Plan Costs

Due to the small size of the retiree population, the per capita claims were developed using the age adjusted premiums for the current CalPERS population. These premiums are assumed to include administrative costs. The premiums for CalPERS are based on community-rated claims experience by region for all CalPERS member agencies.

Administrative Expenses

We did not include any internal administrative expenses in this valuation, as it has been assumed that expenses are included as part of the health premium.

Age-Adjusted Costs

The gender distinct age morbidity factors for pre- and post-Medicare morbidity were developed by CalPERS based on 2013 data. CalPERS developed these tables for use in complying with ASOP 6. Table 4-2 illustrates the age-graded premiums based on the premiums and the male and female morbidity factors that were provided by CalPERS for HMO and PPO plans.

Table 4-2

Age-Adjusted Costs at Selected Ages

Age	Male	Female
20	$2,456	$4,279
25	$2,635	$6,278
30	$3,169	$7,105
35	$4,097	$7,185
40	$5,135	$7,676
45	$7,341	$8,849
50	$9,509	$10,345
55	$12,958	$11,739
60	$15,249	$12,576
65	$3,072	$2,865
70	$3,542	$3,269
75	$3,799	$3,980
80	$4,086	$4,293
85	$4,066	$4,397

Demographic Assumptions

In estimating this obligation, a number of demographic assumptions are needed. The retirement, mortality and termination rates used in this valuation were used in the 2013 California PERS pension valuations.

Withdrawal

We used withdrawal rates that match those used in the 2013 California PERS Public Agency retirement plan valuations. Sample rates for Miscellaneous employees are shown in table 4-3a (e.g., an employee hired at age 30 with 5 years of service is assumed to have a 7.11% probability of leaving District employment in the current year).

Table 4-3a
Public Agency Miscellaneous Employees Withdrawal Rates

	Entry Age						
Service	20	25	30	35	40	45	50
0	0.17420	0.16740	0.16060	0.15370	0.14680	0.14000	0.13320
1	0.15450	0.14770	0.14090	0.13390	0.12710	0.12030	0.11350
2	0.13480	0.12800	0.12120	0.11420	0.10740	0.10060	0.09380
3	0.11510	0.10830	0.10150	0.09450	0.08770	0.08090	0.07410
4	0.09540	0.08860	0.08180	0.07480	0.06800	0.06120	0.05430
5	0.08680	0.07900	0.07110	0.06320	0.05540	0.01160	0.00970
6	0.08290	0.07510	0.06700	0.05920	0.05140	0.01030	0.00840
7	0.07900	0.07100	0.06310	0.05520	0.04710	0.00900	0.00720
8	0.07490	0.06700	0.05910	0.05100	0.04300	0.00770	0.00600
9	0.07100	0.06290	0.05480	0.04690	0.03890	0.00660	0.00490
10	0.06680	0.05870	0.05070	0.04270	0.00710	0.00550	0.00380
15	0.05030	0.04240	0.03470	0.00320	0.00230	0.00140	0.00040
20	0.03700	0.02900	0.00210	0.00130	0.00050	0.00010	0.00010
25	0.02290	0.00110	0.00050	0.00010	0.00010	0.00010	0.00010
30	0.00050	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010
35	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010

The rates in Table 4-3b match rates used in the most recent California PERS Fire 3% @50 retirement plan valuation. Selected rates are shown below.

Table 4-3b
Annual Withdrawal Rates for Firefighters

	Age						
Service	**20**	**25**	**30**	**35**	**40**	**45**	**50**
0	0.071	0.071	0.071	0.071	0.071	0.071	0.071
1	0.0554	0.0554	0.0554	0.0554	0.0554	0.0554	0.0554
2	0.0398	0.0398	0.0398	0.0398	0.0398	0.0398	0.0398
3	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242	0.0242
4	0.0218	0.0218	0.0218	0.0218	0.0218	0.0218	0.0218
5	0.0191	0.0191	0.0191	0.0191	0.0191	0.0191	0.0029
6		0.0167	0.0167	0.0167	0.0167	0.0167	0.0024
7		0.0143	0.0143	0.0143	0.0143	0.0143	0.002
8		0.0119	0.0119	0.0119	0.0119	0.0119	0.0016
9		0.0094	0.0094	0.0094	0.0094	0.0094	0.0012
10		0.007	0.007	0.007	0.007	0.007	0.0009
15			0.0064	0.0064	0.0064	0.0064	0.0006
20				0.0058	0.0058	0.0058	0.0005
25					0.005	0.005	0.0003
30						0.0048	0.0003
35							0.0003

For the July 1, 2012 valuation, the 2010 California PERS rates for were used.

Disability

Sample disability rates for Fire employees are shown in Table 4-4. These rates match those used in the most recent California PERS pension valuations.

Because of the low incidence of disability retirements for non-fire employees we did not value disability retirement for non-firefighters.

Table 4-4
Annual Rates of Disability

Age	**Fire Employees**
25	0.035%
30	0.084%
35	0.168%
40	0.310%
45	0.550%
50	2.822%
55	4.188%

Retirement Rates

We used the retirement rates that match those used in the most recent California PERS retirement plan valuations.

Table 4-5a illustrates the rates used for miscellaneous employees participating in the CalPERS 2%@60 pension plan (employees hired prior to January 1, 2013) and Table 4-5b illustrates the rates used for miscellaneous employees participating in the CalPERS 2%@62 pension plan (employees hired on or after January 1, 2013). Selected rates are shown below.

Table 4-5a

Annual Rates of Retirement

CalPERS 2%@60 Public Agency Miscellaneous

	Years of Service						
Age	5	10	15	20	25	30	35
50	0.0100	0.0130	0.0150	0.0180	0.0190	0.0210	0.0230
51	0.0090	0.0110	0.0140	0.0160	0.0170	0.0190	0.0210
52	0.0110	0.0140	0.0170	0.0200	0.0220	0.0240	0.0260
53	0.0100	0.0120	0.0150	0.0170	0.0200	0.0210	0.0220
54	0.0150	0.0190	0.0230	0.0250	0.0290	0.0310	0.0340
55	0.0220	0.0290	0.0350	0.0400	0.0450	0.0490	0.0540
56	0.0180	0.0240	0.0280	0.0330	0.0360	0.0400	0.0440
57	0.0240	0.0320	0.0380	0.0430	0.0490	0.0530	0.0580
58	0.0270	0.0360	0.0430	0.0490	0.0550	0.0610	0.0670
59	0.0330	0.0440	0.0540	0.0610	0.0680	0.0760	0.0830
60	0.0560	0.0770	0.0920	0.1050	0.1170	0.1300	0.1420
61	0.0710	0.0970	0.1180	0.1340	0.1490	0.1660	0.1820
62	0.1170	0.1640	0.1980	0.2240	0.2500	0.2800	0.3070
63	0.1220	0.1710	0.2070	0.2340	0.2610	0.2920	0.3210
64	0.1140	0.1590	0.1930	0.2180	0.2440	0.2710	0.2980
65	0.1500	0.2090	0.2550	0.2870	0.3210	0.3580	0.3930
66	0.1140	0.1580	0.1920	0.2170	0.2430	0.2700	0.2970
67	0.1410	0.1960	0.2380	0.2700	0.3010	0.3370	0.3690
68	0.1030	0.1430	0.1740	0.1960	0.2190	0.2450	0.2680
69	0.1090	0.1530	0.1850	0.2090	0.2340	0.2610	0.2860
70	0.1170	0.1620	0.1970	0.2220	0.2480	0.2770	0.3040
71	0.0980	0.1370	0.1650	0.1880	0.2090	0.2330	0.2560
72	0.1080	0.1500	0.1820	0.2060	0.2290	0.2550	0.2810
73	0.0820	0.1150	0.1380	0.1570	0.1750	0.1950	0.2140
74	0.0930	0.1290	0.1560	0.1770	0.1970	0.2190	0.2410
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

For the July 1, 2012 valuation, the 2010 California PERS Miscellaneous 2% at 60 rates were used.

Table 4-5b

Annual Rates of Retirement

CalPERS 2%@62 Public Agency Miscellaneous

	Years of Service						
Age	**5**	**10**	**15**	**20**	**25**	**30**	**35**
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
51	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
52	0.0103	0.0132	0.0160	0.0188	0.0216	0.0244	0.0272
53	0.0131	0.0167	0.0202	0.0238	0.0273	0.0309	0.0345
54	0.0213	0.0272	0.0330	0.0388	0.0446	0.0504	0.0562
55	0.0440	0.0560	0.0680	0.0800	0.0920	0.1040	0.1160
56	0.0303	0.0385	0.0468	0.0550	0.0633	0.0715	0.0798
57	0.0363	0.0462	0.0561	0.0660	0.0759	0.0858	0.0957
58	0.0465	0.0592	0.0718	0.0845	0.0972	0.1099	0.1225
59	0.0578	0.0735	0.0893	0.1050	0.1208	0.1365	0.1523
60	0.0616	0.0784	0.0952	0.1120	0.1288	0.1456	0.1624
61	0.0619	0.0788	0.0956	0.1125	0.1294	0.1463	0.1631
62	0.0968	0.1232	0.1496	0.1760	0.2024	0.2288	0.2552
63	0.0888	0.1131	0.1373	0.1615	0.1857	0.2100	0.2342
64	0.0941	0.1197	0.1454	0.1710	0.1967	0.2223	0.2480
65	0.1287	0.1638	0.1989	0.2340	0.2691	0.3042	0.3393
66	0.1045	0.1330	0.1615	0.1900	0.2185	0.2470	0.2755
67	0.1045	0.1330	0.1615	0.1900	0.2185	0.2470	0.2755
68	0.1045	0.1330	0.1615	0.1900	0.2185	0.2470	0.2755
69	0.1045	0.1330	0.1615	0.1900	0.2185	0.2470	0.2755
70	0.1254	0.1596	0.1938	0.2280	0.2622	0.2964	0.3306
71	0.1254	0.1596	0.1938	0.2280	0.2622	0.2964	0.3306
72	0.1254	0.1596	0.1938	0.2280	0.2622	0.2964	0.3306
73	0.1254	0.1596	0.1938	0.2280	0.2622	0.2964	0.3306
74	0.1254	0.1596	0.1938	0.2280	0.2622	0.2964	0.3306
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

For Fire employees we used the retirement rates used in the most recent California PERS 3% @50 Firefighter retirement plan valuation. Sample rates are shown below.

Table 4-6a
Fire Safety Employees
CalPERS 3%@50 Annual Rates of Retirement

	Years of Service						
Age	**5**	**10**	**15**	**20**	**25**	**30**	**35**
50	0.0200	0.0200	0.0200	0.0400	0.1300	0.1920	0.2020
55	0.0430	0.0430	0.0430	0.0700	0.1740	0.2440	0.2570
60	0.0650	0.0650	0.0650	0.1020	0.2190	0.2980	0.3160
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

One employee is under the 3% @ 55 plan. Sample rates are shown below.

Table 4-6b
Fire Safety Employees
CalPERS 3%@55 Annual Rates of Retirement

	Years of Service						
Age	**5**	**10**	**15**	**20**	**25**	**30**	**35**
50	0.0010	0.0010	0.0010	0.0060	0.0160	0.0690	0.0690
55	0.0730	0.0730	0.0730	0.1090	0.1790	0.2590	0.2590
60	0.1050	0.1050	0.1050	0.1550	0.2510	0.3440	0.3440
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

All Fire safety employees hired on or after January 1, 2013, are covered under the 2.7% @ 57 plan. Sample rates are shown below.

Table 4-6c
Fire Safety Employees
CalPERS 2.7%@57 Annual Rates of Retirement

	Years of Service						
Age	**5**	**10**	**15**	**20**	**25**	**30**	**35**
50	0.0065	0.0065	0.0065	0.0065	0.0101	0.0151	0.0170
55	0.0825	0.0825	0.0825	0.0825	0.1269	0.1900	0.2143
60	0.1135	0.1135	0.1135	0.1135	0.1747	0.2615	0.2950
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Mortality

The mortality rates used in this valuation are those used in the most recent California PERS pension valuations. These rates provide a starting point for the projection of future mortality rates. The mortality rates for each future year were determined based on a generational mortality projection using Projection Scale MP-2014. This scale consists of a set of Annual Mortality improvement factors as a function of age and sex. The resulting projected mortality rates were applied to each employee and retiree.

Table 4-7

Sample Mortality Rates

(prior to the application of Projection Scale MP-2014)

	Non-Safety Employees		Safety Employees		Retired Employees	
Age	Male	Female	Male	Female	Male	Female
55	0.228%	0.138%	0.244%	0.154%	0.599%	0.416%
60	0.308%	0.182%	0.325%	0.199%	0.710%	0.436%
65	0.400%	0.257%	0.418%	0.275%	0.829%	0.588%
70	0.524%	0.367%	0.543%	0.386%	1.305%	0.993%
75					2.205%	1.722%
80					3.899%	2.902%
85					6.969%	5.243%
90					12.974%	9.887%

For the July 1, 2012 valuation, the 2010 California PERS mortality rates were used with a generational projection using Projection Scale AA.

Medicare Coverage

We assumed that all current and future retirees will be eligible for and enroll in Medicare or a Medicare Advantage plan when they reach age 65 or become disabled.

Health Plan Participation

We assumed 100% of future eligible retirees will elect to participate in the District's postemployment medical program, and that future retirees will have the same marital status as he or she has now and will elect to enroll a spouse. Female spouses are assumed to be 3 years younger than males. Furthermore, we assume that all participants reaching Medicare eligibility age will continue participation in the employer plan. Finally, we assume no migration between health plans both at the point of retirement and at upon attaining Medicare eligibility age.

We assumed that non-firefighters will not have dependent children when they retire. We also assumed that firefighters who currently are covering dependent children will also have a covered child at retirement, the child will be 35 years younger than the retiree and that dependent child coverage will end when the child reaches age 26.

Health Care Reform Considerations

Health care delivery is going through an evolution due to enactment of Health Care Reform. The Patient and Affordable Care Act (PPACA), was signed March 23, 2010, with further changes enacted by the Health Care and Education Affordability Reconciliation Act (HCEARA), singed March 30, 2010. This valuation uses various assumptions that may have been modified based on considerations under PPACA. This section discusses particular legislative changes that were reflected in our assumptions. We have not identified any other specific provision of PPACA that would be expected to have a significant impact on the measured obligation. As additional guidance on the Act continues to be issued, we'll continue to monitor impacts.

Individual Mandate

Under PPACA, individuals (whether actively employed or otherwise) must be covered by health insurance or else pay a penalty tax to the government. While it is not anticipated that the Act will result in universal coverage, it is expected to increase the overall portion of the population with coverage. We believe this will result in an increased demand on health care providers, resulting in higher trend for medical services for non-Medicare eligible retirees. (Medicare costs are constrained by Medicare payment mechanisms already in place, plus additional reforms added by PPACA and HCERA.) While we believe that the mandate may result in somewhat higher participation overall, this issue is moot since we assume 100% participation upon retirement.

Employer Mandate

Health Care Reform includes various provisions mandating employer coverage for active employees, with penalties for non-compliance. Those provisions do not directly apply to the postemployment coverage included in this valuation.

Medicare Advantage Plans

Effective January 1, 2011, the Law provides for reductions to the amounts that would be provided to Medicare Advantage plans starting in 2011. We considered the effect of these reductions in federal payments to Medicare Advantage plans when setting our trend assumption.

Expansion of Child Coverage to Age 26

Health Care Reform mandates that coverage be offered to any child, dependent or not, through age 26, consistent with coverage for any other dependent. We assume that this change has been reflected in current premium rates. While this plan covers dependents, we do not currently assume non-spouse dependent coverage other than for firefighters. We believe the impact this assumption has on the valuation is immaterial due to the lack of retirees that have had or are expected to have non-spouse dependents for any significant amount of time during retirement.

Elimination of Annual or Lifetime Maximums

Health Care Reform provides that annual or lifetime maximums have to be eliminated for all "essential services." We assume that current premium rates already reflect the elimination of any historic maximums.

Cadillac Tax (High Cost Plan Excise Tax)

The PPACA legislation added a new High-Cost Plan Excise Tax (also known as the "Cadillac Tax") starting in calendar year 2018. For valuation purposes, we assumed that the value of the tax will be passed back to the plan in higher premium rates.

- The tax is 40% of the excess of (a) the cost of coverage over (b) the limit. We modeled the cost of the tax by calculating (a) using the working rates projected with trend. We calculated (b) starting with the statutory limits ($10,200 single and $27,500 family), adjusted for the following:
    - Limits will increase from 2018 to 2019 by 4.25% (CPI plus 1%);
    - Limits will increase after 2019 by 3.25% (CPI); and
    - For retirees over age 55 and not on Medicare, the limit is increased by an additional dollar amount of $1,650 for single coverage and $3,450 for family coverage.
- Based on the above assumptions, we estimate that the tax will apply as early as 2018 for some of the District's pre-Medicare plans. In addition, we estimate that the tax will not apply to any of the post-Medicare plans.

Other Revenue Raisers

The Health Care Reform includes a variety of other revenue raisers that involve additional costs on providers (such as medical device manufacturers) and insurers. We considered these factors when developing the trend assumptions.

SECTION V
Glossary

- Accrual Accounting – A method of matching the cost of an employee's service, including long term obligations such as OPEB, to that employee's period of active service.

- Actuarial Accrued Liability (AAL) – The Actuarial Present Value of all postemployment benefits attributable to past service. Note: the AAL is sometimes referred to as the Past Service Liability.

- Actuarial Cost Method – A procedure for allocating the actuarial present value of benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

- Actuarial Present Value – The value of an amount or series of amounts payable or receivable at various times. Each such amount or series of amounts is:

  a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.)

  b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and

  c. discounted according to an assumed rate (or rates) of return to reflect the time value of money

- Actuarial Valuation – The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets and related Actuarial Present Values.

- Actuarial Value of Assets – The value of cash, investments and other property belonging to a plan. These are amounts that may be applied to fund the Actuarial Accrued Liability. Note: assets must be segregated and placed in a Trust in order to be considered OPEB assets

- Amortization Payment – That portion of the Annual OPEB cost which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

  In the year that Statement 45 becomes effective an employer is allowed to commence amortization of the Unfunded Actuarial Accrued Liability, over a period not to exceed 30 years.

- Annual Other Postemployment Benefit Cost (OPEB) cost - An accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan. The annual OPEB cost is the amount that must be calculated and reported as an expense.

  When an employer has no net OPEB obligation (e.g., in the year of implementation) the annual OPEB cost is equal to the Annual Required Contribution (ARC).

  In subsequent years the Annual OPEB cost will include:

  - the ARC (equal to the Normal Cost plus one year's amortization of the Unfunded Actuarial Accrued Liability);
  - one year's interest on the net OPEB obligation at the beginning of the year using the valuation discount rate; and
  - an adjustment to the ARC. This adjustment is intended to provide a reasonable approximation of that portion of the ARC that consists of interest associated with past contribution deficiencies. GASB Statement No. 45 specifies that this adjustment should be equal to an amortization of the discounted present value of the net OPEB obligation at the beginning of the year. The amortization should be calculated using the same amortization method and period used in determining the ARC for that year. If the net OPEB obligation is positive the adjustment should be deducted from the ARC.
  - Note: As long as the net OPEB obligation is zero, there will not be any interest charge or adjustment to the ARC. However, if an employer does not contribute the full amount of the ARC, a net OPEB obligation will emerge.

- Annual required contributions of the employer (ARC) - The employer's periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the parameters.

- Defined benefit OPEB plan - An OPEB plan having terms that specify the *benefits* to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors, such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).

- Defined contribution plan - A pension or OPEB plan having terms that (a) provide an individual account for each plan member and (b) specify how contributions to an active plan member's account are to be determined, rather than the income or other benefits the member or his beneficiaries are to receive at or after separation from employment. Those benefits will depend only on the amounts contributed to the

member's account, earnings on investments of those contributions, and forfeitures of contributions made for other members that may be allocated to the member's account. For example, an employer may contribute a specified amount to each active member's postemployment healthcare account each month. At or after separation from employment, the balance of the account may be used by the member or on the member's behalf for the purchase of health insurance or other healthcare benefits.

- Employer's contributions - Contributions made in relation to the annual required contributions of the employer (ARC). An employer has made a contribution in relation to the ARC if the employer has (a) made payments of benefits directly to or on behalf of a retiree or beneficiary, (b) made premium payments to an insurer, or (c) irrevocably transferred assets to a trust, or an equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator.

- Entry Age Normal Actuarial Cost Method – An actuarial cost method under which the Actuarial Present Value of the Projected Benefits of each individual included in the valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion allocated to prior years of service is called the Actuarial Accrued Liability.

- Healthcare cost trend rate - The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

- Investment return assumption (discount rate) - The rate used to adjust a series of future payments to reflect the time value of money.

- Net OPEB obligation - The cumulative difference since the effective date of GASB Statement 45 between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.

  Most employers will have no net OPEB obligation at the beginning of the year in which Statement 45 is implemented.

  If an employer contributes the annual OPEB cost to the plan each year, and there are no actuarial or investment gains or losses then the net OPEB Obligation will remain zero.

- Normal Cost - That portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Another interpretation is that the Normal Cost is the present value of future benefits that are "earned" by employees for service rendered during the current year.

- OPEB assets - The amount recognized by an employer for contributions to an OPEB plan greater than OPEB expenses.

- OPEB expense - The amount recognized by an employer in each accounting period for contributions to an OPEB plan on the accrual basis of accounting.

- Other postemployment benefits (OPEB) - Postemployment benefits other than pension benefits. Other postemployment benefits (OPEB) include postemployment healthcare benefits, regardless of the type of plan that provides them, and all postemployment benefits provided separately from a pension plan, except benefits defined as special termination benefits.

- Plan assets - Resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or in an equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employer(s) or plan administrator, for the payment of benefits in accordance with the terms of the plan.

- Present Value – See Actuarial Present Value.

- Present Value of Future Benefits – The Actuarial Present Value of all future benefit payouts. These are divided into the Present Value of Future Benefits attributable to past service (also known as the Actuarial Accrued Liability) and the Present Value of Future Benefits attributable to future service.

- Projected Unit Credit Cost Method – An actuarial cost method under which the projected benefits of each individual included in an Actuarial Valuation are separately calculated and allocated to each year of service by a consistent formula.

- Substantive plan - The terms of an OPEB plan as understood by the employer(s) and plan members.

- Unfunded Actuarial Accrued Liability (UAAL) – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

- Valuation date – The date as of which the Postemployment benefit obligation is determined.