



**CITY OF NOVATO  
RETIREE HEALTHCARE PLAN**

**January 1, 2010 GASB 45 Actuarial Valuation  
Final Results**

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*Prepared by* Bianca Lin, Assistant Vice President & Actuary  
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**Bartel Associates, LLC**

February 2, 2012

**AGENDA**

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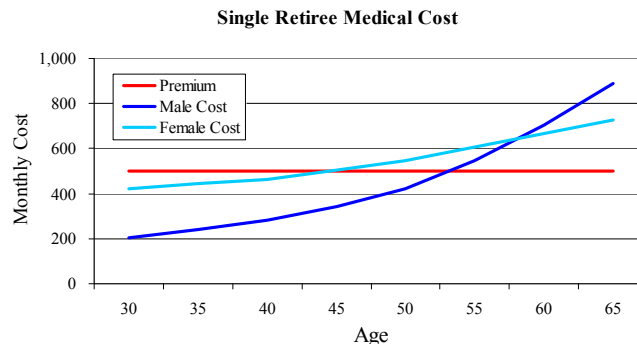
## BENEFIT SUMMARY

<ul style="list-style-type: none"> <li>■ Eligibility</li> </ul>	<ul style="list-style-type: none"> <li>• Retire directly from the City under CalPERS (age 50 and 5 years of CalPERS service or disability)</li> <li>• Part time employees not eligible</li> </ul>								
<ul style="list-style-type: none"> <li>■ Retiree Medical Benefit<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>• City contributes the PEMHCA minimum monthly amount:</li> </ul> <table style="margin-left: 40px;"> <tr> <td style="padding-right: 20px;">2010</td> <td>\$105.00</td> </tr> <tr> <td>2011</td> <td>108.00</td> </tr> <tr> <td>2012</td> <td>112.00</td> </tr> </table>	2010	\$105.00	2011	108.00	2012	112.00		
2010	\$105.00								
2011	108.00								
2012	112.00								
<ul style="list-style-type: none"> <li>■ Survivor Medical Benefit</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution continues to surviving spouse and dependents</li> </ul>								
<ul style="list-style-type: none"> <li>■ Dental, Vision, Life Insurance</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>								
<ul style="list-style-type: none"> <li>■ Pay-As-You-Go Costs</li> </ul>	<table style="margin-left: 40px;"> <thead> <tr> <th style="text-align: center;"><u>Year</u></th> <th style="text-align: center;"><u>Payment</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2010/11 (est.)</td> <td style="text-align: center;">\$62,600</td> </tr> <tr> <td style="text-align: center;">2009/10</td> <td style="text-align: center;">44,400</td> </tr> <tr> <td style="text-align: center;">2008/09</td> <td style="text-align: center;">47,400</td> </tr> </tbody> </table>	<u>Year</u>	<u>Payment</u>	2010/11 (est.)	\$62,600	2009/10	44,400	2008/09	47,400
<u>Year</u>	<u>Payment</u>								
2010/11 (est.)	\$62,600								
2009/10	44,400								
2008/09	47,400								

<sup>1</sup> City contributes monthly amounts of \$150 to Unit A and of \$100 to Unit B employees for post-retirement health benefits. Unit H employee contributes \$75 per month. Contribution is made to individual accounts and therefore not included in valuation.

## BENEFIT SUMMARY

- Implied Subsidy
  - Non-Medicare eligible retirees pay active medical rates instead of actual cost
  - Active employee premiums subsidize non-Medicare eligible retiree medical cost



- GASB 45 includes active “implied subsidy” with retiree cost
- Community rated plans not required to value implied subsidy
- PEMHCA is a community rated plan for most employers
- Valuation does not include implied subsidy

**DATA SUMMARY**

**Participant Statistics**  
**January 1, 2010**

	<b>Misc.</b>	<b>Safety</b>	<b>Total</b>
<b>■ Actives</b>			
• Count	151	58	209
• Average age	48.4	38.4	45.7
• Average City service	10.4	10.0	10.3
• Average CalPERS service	11.6	11.1	11.5
• Average pay	\$ 68,311	\$ 97,552	\$ 76,426
• Total payroll (000's) <sup>2</sup>	10,315	5,658	15,973
<b>■ Retirees</b>			
• Count	84	40	124
• Average age	67.7	59.7	65.1
• Average retirement age <sup>3</sup>	59.7	46.7	55.5

<sup>2</sup> 2009/10 reported payroll

<sup>3</sup> Excludes 2 surviving spouses

**DATA SUMMARY**

**Participant Statistics**<sup>4</sup>  
**January 1, 2008**

	<b>Misc.</b>	<b>Safety</b>	<b>Total</b>
<b>■ Actives</b>			
• Count	103	40	143
• Average age	45.8	38.1	43.6
• Average City service	8.2	8.2	8.2
• Average CalPERS service	n/a	n/a	n/a
• Average pay	n/a	n/a	n/a
• Total payroll (000's) <sup>5</sup>	11,622	5,398	17,020
<b>■ Retirees</b>			
• Count	14	25	39
• Average age	60.1	65.0	63.2
• Average retirement age	n/a	n/a	n/a

<sup>4</sup> Based on 1/1/08 valuation prepared by Steven Itelson. Data excludes waived participants. There were a total of 221 active employees.

<sup>5</sup> Unclear whether total payroll provided includes all members.

**ACTUARIAL ASSUMPTIONS HIGHLIGHTS**

<b>Assumption</b>	<b>January 1, 2008 Valuation</b>	<b>January 1, 2010 Valuation</b>
■ Valuation Date	<ul style="list-style-type: none"> <li>• January 1, 2008</li> <li>• 2008/09 &amp; 2009/10 ARCs</li> </ul>	<ul style="list-style-type: none"> <li>• January 1, 2010</li> <li>• 2010/11 and 2011/12 ARCs</li> </ul>
■ Discount Rate	<ul style="list-style-type: none"> <li>• 5.0% Not pre-funded, assets invested in general fund</li> </ul>	<ul style="list-style-type: none"> <li>• 4.50% Not pre-funded</li> <li>• 7.25% ARC pre-funded with CalPERS CERBT (for sensitivity analysis)</li> </ul>
■ Funding Policy	<ul style="list-style-type: none"> <li>• Pay as you go</li> </ul>	<ul style="list-style-type: none"> <li>• Pay as you go</li> </ul>
■ Mortality, Termination, Disability	<ul style="list-style-type: none"> <li>• CalPERS 1997-2002 Experience Study</li> <li>• Police Termination: 200% of CalPERS rates</li> </ul>	<ul style="list-style-type: none"> <li>• CalPERS 1997-2007 Experience Study</li> </ul>

**ACTUARIAL ASSUMPTIONS HIGHLIGHTS**

<b>Assumption</b>	<b>January 1, 2008 Valuation</b>	<b>January 1, 2010 Valuation</b>																								
■ Service Retirement	<ul style="list-style-type: none"> <li>• CalPERS 1997-2002 Experience Study</li> </ul>	<ul style="list-style-type: none"> <li>• CalPERS 1997-2007 Experience Study</li> </ul> <table border="0"> <tr> <td></td> <td align="center"><u>Level</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2%@55</td> <td align="center">≈ 59.4</td> </tr> <tr> <td>Safety</td> <td align="center">3%@55</td> <td align="center">≈ 56.0</td> </tr> <tr> <td></td> <td></td> <td align="center">(Police)</td> </tr> </table>		<u>Level</u>	<u>ERA</u>	Misc	2%@55	≈ 59.4	Safety	3%@55	≈ 56.0			(Police)												
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■ PEMHCA Minimum Increase	<table border="0"> <tr> <td></td> <td align="center"><u>Year</u></td> <td align="center"><u>Amount</u></td> </tr> <tr> <td></td> <td align="center">2008</td> <td align="center">\$97.00</td> </tr> <tr> <td></td> <td align="center">2009</td> <td align="center">101.00</td> </tr> <tr> <td></td> <td align="center">2010+</td> <td align="center">4.0%/yr</td> </tr> </table>		<u>Year</u>	<u>Amount</u>		2008	\$97.00		2009	101.00		2010+	4.0%/yr	<table border="0"> <tr> <td></td> <td align="center"><u>Year</u></td> <td align="center"><u>Amount</u></td> </tr> <tr> <td></td> <td align="center">2011</td> <td align="center">\$108.00</td> </tr> <tr> <td></td> <td align="center">2012</td> <td align="center">112.00</td> </tr> <tr> <td></td> <td align="center">2013+</td> <td align="center">4.5%/yr</td> </tr> </table>		<u>Year</u>	<u>Amount</u>		2011	\$108.00		2012	112.00		2013+	4.5%/yr
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## ACTUARIAL ASSUMPTIONS HIGHLIGHTS

Assumption	January 1, 2008 Valuation	January 1, 2010 Valuation
<ul style="list-style-type: none"> <li>■ Participation</li> </ul>	<ul style="list-style-type: none"> <li>• Actives:                             <ul style="list-style-type: none"> <li>➢ Currently covered: 75%</li> <li>➢ Currently waived: 0%</li> </ul> </li> <li>• Retirees:                             <ul style="list-style-type: none"> <li>➢ Currently covered: 100%</li> <li>➢ Currently waived: 0%</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Actives:                             <ul style="list-style-type: none"> <li>➢ Currently covered: 60%</li> <li>➢ Currently waived: 20%</li> </ul> </li> <li>• Retirees:                             <ul style="list-style-type: none"> <li>➢ Currently covered: 100%</li> <li>➢ Currently waived: 20% waived retirees elect coverage at 65</li> </ul> </li> </ul>

## ACTUARIAL METHODS

Method	January 1, 2008 Valuation	January 1, 2010 Valuation
<ul style="list-style-type: none"> <li>■ Cost Method</li> </ul>	<ul style="list-style-type: none"> <li>• Projected Unit Credit</li> </ul>	<ul style="list-style-type: none"> <li>• Entry Age Normal</li> </ul>
<ul style="list-style-type: none"> <li>■ Funding Policy</li> </ul>	<ul style="list-style-type: none"> <li>• Pay-As-You-Go</li> </ul>	<ul style="list-style-type: none"> <li>• Same</li> </ul>
<ul style="list-style-type: none"> <li>■ Plan Assets</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• Same</li> </ul>
<ul style="list-style-type: none"> <li>■ Amortization Method</li> </ul>	<ul style="list-style-type: none"> <li>• Level Percent of Payroll</li> </ul>	<ul style="list-style-type: none"> <li>• Same</li> </ul>
<ul style="list-style-type: none"> <li>■ Amortization Periods</li> </ul>	<ul style="list-style-type: none"> <li>• 30-Year Amortization of UAAL</li> </ul>	<ul style="list-style-type: none"> <li>• Initial UAAL – 30 year fixed (closed) period</li> <li>• 28-year fixed (closed) period fresh start starting 2010/11 ARC</li> </ul>

**RESULTS**

**Actuarial Obligations**

**4.50% Discount Rate**

(Amounts in 000's)

Actuarial Obligations	1/1/2008	1/1/2010	Proj 6/30/2010
■ <b>PVPB</b>			
• Actives	\$ n/a	\$ 2,695	
• Retirees	<u>898</u>	<u>1,547</u>	
• Total	n/a	4,242	
■ <b>AAL</b>			
• Actives	905	1,239	
• Retirees	<u>898</u>	<u>1,547</u>	
• Total	1,803	2,786	2,889
■ <b>Actuarial Assets</b>	<u>-</u>	<u>-</u>	<u>-</u>
■ <b>Unfunded AAL</b>	1,803	2,786	2,889
■ <b>Normal Cost</b>	117		152
■ <b>Pay-As-You-Go Cost</b>	51		63



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**RESULTS**

**Actuarial Gain/Loss Analysis**

**4.50% Discount Rate**

(Amounts in 000's)

	AAL	Assets	UAAL
■ Actual @ 1/1/2008	\$ 1,803	\$ -	\$ 1,803
■ Expected @ 6/30/2010	2,220	279	1,941
■ Method and assumption changes			
• Entry Age Normal	(233)		(233)
• New CalPERS assumptions	80		80
• Discount Rate 5% → 4.5%	162		162
• Participation at retirement	296		296
• PEMHCA Minimum trend rate	178		178
■ Experience (gains)/losses			
• PEMHCA minimum increased less than expected	(31)		(31)
• Contribution loss		(279)	279
• Demographic & other	<u>218</u>	<u>-</u>	<u>218</u>
■ Total changes	670	(279)	949
■ Projected @ 6/30/2010	2,890		2,890



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**RESULTS**

**Annual Required Contribution (ARC)**

**4.50% Discount Rate**

(Amounts in 000's)

Annual Required Contribution	1/1/2008 Valuation	1/1/2010 Valuation	
	2008/09	2010/11	2011/12
<b>■ ARC - \$</b>			
• Normal Cost	\$ 117	\$ 152	\$ 157
• UAAL Amortization	<u>74</u>	<u>126</u>	<u>140</u>
• ARC	191	278	297
<b>■ Projected Payroll</b>	17,616	15,730	14,138
<b>■ ARC - %</b>			
• Normal Cost	0.7%	1.0%	1.1%
• UAAL Amortization	<u>0.4%</u>	<u>0.8%</u>	<u>1.0%</u>
• ARC	1.1%	1.8%	2.1%

**RESULTS**

**Estimated Net OPEB Obligation (NOO)**

**4.50% Discount Rate**

(Amounts in 000's)

Estimated Net OPEB Obligation	CAFR 2008/09	CAFR 2009/10	Estimated 2010/11	Estimated 2011/12
<b>■ NOO at Beginning of Year</b>	\$ -	\$ 144	\$ 279	\$ 495
<b>■ Annual OPEB Cost (AOC)</b>				
• Annual Required Contribution	191	191	278	297
• Interest on NOO	-	-	13	22
• Amortization of NOO	<u>-</u>	<u>-</u>	<u>(12)</u>	<u>(22)</u>
• Annual OPEB Cost	191	191	278	297
<b>■ Contributions</b>				
• Benefit Payments	47	55	63	74
• Trust Pre-Funding	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
• Total Contribution	47	55	63	74
<b>■ NOO at End of Year</b>	144	279	495	718

**RESULTS**

**Amortization Bases**

**4.50% Discount Rate**

(Amounts in 000's)

	1/1/2008 Val	1/1/2010 Val	
	1/1/2008	6/30/2010	6/30/2011
■ <b>Outstanding Balance</b>			
• Initial UAAL	\$ 1,803	n/a	n/a
■ <b>28 year Fresh Start</b>	-	2,889	3,108



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**RESULTS**

**Amortization Payments**

**4.50% Discount Rate**

(Amounts in 000's)

	1/1/2008 Val	1/1/2010 Val	
	1/1/2008	6/30/2010	6/30/2011
■ <b>Amortization Payment</b>			
• Initial UAAL	\$ 74	n/a	n/a
■ <b>28 year Fresh Start</b>	-	126	140



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**RESULTS**

**Discount Rate Sensitivity**

(Amounts in 000's)

Discount Rate	4.50%	7.25%
■ PVPB on 1/1/2010	\$ 4,242	\$ 2,462
■ Funded Status on 1/1/2010		
• AAL	2,786	1,831
• Assets	—	—
• Unfunded AAL	2,786	1,831
■ 2010/11 ARC		
• Normal Cost	152	83
• UAAL Amortization <sup>6</sup>	<u>126</u>	<u>116</u>
• Total ARC	278	199
• ARC as % of payroll	1.8%	1.3%

<sup>6</sup> Unfunded AAL amortized over 28 years

**RESULTS**

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**RESULTS**

**No Pre-Funding (Pay-Go) Illustration**

**4.50% Discount Rate**

(Amounts in 000's)

FYE June 30,	Beginning of Year Net OPEB Obligation	ARC	Annual OPEB Cost (AOC)	Contribution			Payroll	ARC as % of Payroll	Contrib as % of Payroll
				Benefit Pmts	Pre- Funding	Total Contrib			
2011	\$ 279	\$ 278	\$ 279	\$ 63	\$ -	\$ 63	\$ 15,730	1.8%	0.4%
2012	495	297	297	71	-	71	14,138	2.1%	0.5%
2013	721	317	316	80	-	80	14,597	2.2%	0.5%
2014	957	339	336	89	-	89	15,072	2.2%	0.6%
2015	1,203	362	356	100	-	100	15,562	2.3%	0.6%
2016	1,460	388	378	110	-	110	16,067	2.4%	0.7%
2017	1,727	415	400	121	-	121	16,590	2.5%	0.7%
2018	2,006	445	423	133	-	133	17,129	2.6%	0.8%
2019	2,296	478	447	145	-	145	17,686	2.7%	0.8%
2020	2,598	514	472	157	-	157	18,260	2.8%	0.9%



**RESULTS**

**Pre-Funding (Full ARC Contribution) Illustration**

**7.25% Discount Rate**

(Amounts in 000's)

FYE June 30,	Beginning of Year Net OPEB Obligation	ARC	Annual OPEB Cost (AOC)	Contribution			Payroll	ARC as % of Payroll	Contrib as % of Payroll
				Benefit Pmts	Pre- Funding	Total Contrib			
2011	\$ 279	\$ 199	\$ 202	\$ 63	\$ -	\$ 63	\$ 15,730	1.3%	0.4%
2012	419	206	210	71	135	206	14,138	1.5%	1.5%
2013	423	212	216	80	132	212	14,597	1.5%	1.5%
2014	426	219	222	89	130	219	15,072	1.5%	1.5%
2015	430	226	229	100	126	226	15,562	1.5%	1.5%
2016	432	234	235	110	124	234	16,067	1.5%	1.5%
2017	434	241	242	121	120	241	16,590	1.5%	1.5%
2018	435	249	249	133	116	249	17,129	1.5%	1.5%
2019	434	257	256	145	112	257	17,686	1.5%	1.5%
2020	433	266	263	157	109	266	18,260	1.5%	1.5%



**RESULTS**

**Additional Pre-Funding (Full ARC Contribution) Illustration<sup>7</sup>**

**7.25% Discount Rate**

(Amounts in 000's)

FYE June 30,	Beginning of Year Net OPEB Obligation	ARC	Annual OPEB Cost (AOC)	Contribution			Payroll	ARC as % of Payroll	Contrib as % of Payroll
				Benefit Pmts	Pre- Funding	Total Contrib			
2011	\$ 279	\$ 199	\$ 202	\$ 63	\$ -	\$ 63	\$ 15,730	1.3%	0.4%
2012	419	206	210	71	1,000	1,071	14,138	1.5%	7.6%
2013	(443)	184	180	80	1,000	1,080	14,597	1.3%	7.4%
2014	(1,342)	132	122	89	43	132	15,072	0.9%	0.9%
2015	(1,352)	136	128	100	36	136	15,562	0.9%	0.9%
2016	(1,360)	140	135	110	30	140	16,067	0.9%	0.9%
2017	(1,365)	145	142	121	24	145	16,590	0.9%	0.9%
2018	(1,368)	150	150	133	17	150	17,129	0.9%	0.9%
2019	(1,367)	154	158	145	9	154	17,686	0.9%	0.9%
2020	(1,364)	159	167	157	2	159	18,260	0.9%	0.9%

<sup>7</sup> End of year trust contributions of \$1 million assumed for 2011/12 and 2012/13.



**RESULTS**

**Schedule of Funding Progress**

**4.50% Discount Rate**

(Amounts in 000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Entry Age Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as Percentage of Covered Payroll ((b-a)/c)
1/01/2008	\$ -	\$ 1,803	\$ 1,803	-	\$ 17,616	10.2%
1/01/2010	-	2,786	2,786	-	15,730	17.7%



**RESULTS**

**Actuarial Obligations by Group**

**January 1, 2010**

**4.50% Discount Rate**

(Amounts in 000's)

	Miscellaneous	Safety	Total
<b>■ PVPB</b>			
• Actives	\$ 1,737	\$ 958	\$ 2,695
• Retirees	<u>1,025</u>	<u>522</u>	<u>1,547</u>
• Total	2,762	1,480	4,242
<b>■ AAL</b>			
• Actives	864	375	1,239
• Retirees	<u>1,025</u>	<u>522</u>	<u>1,547</u>
• Total	1,889	897	2,786
<b>■ Actuarial Assets</b>	-	-	-
<b>■ Unfunded AAL</b>	1,889	897	2,786
<b>■ Normal Cost (2010/11)</b>	101	52	152
<b>■ Pay-As-You-Go Cost (2010/11)</b>	47	15	63



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**RESULTS**

**Annual Required Contribution (ARC) by Group**

**2010/11 & 2011/12 Fiscal Years**

**4.50% Discount Rate**

(Amounts in 000's)

	2010/11 ARC			2011/12 ARC		
	Misc	Safety	Total	Misc	Safety	Total
<b>■ ARC - \$</b>						
• Normal Cost	\$ 101	\$ 52	\$ 152	\$ 104	\$ 54	\$ 157
• UAAL Amort. <sup>8</sup>	<u>85</u>	<u>41</u>	<u>126</u>	<u>95</u>	<u>45</u>	<u>140</u>
• ARC	186	93	278	199	99	297
<b>■ Projected Payroll</b>	9,864	5,866	15,730	8,417	5,722	14,138
<b>■ ARC - %</b>						
• Normal Cost	1.0%	0.9%	1.0%	1.2%	0.9%	1.1%
• UAAL Amort.	<u>0.9%</u>	<u>0.7%</u>	<u>0.8%</u>	<u>1.1%</u>	<u>0.8%</u>	<u>1.0%</u>
• ARC	1.9%	1.6%	1.8%	2.4%	1.7%	2.1%

<sup>8</sup> Allocated in proportion to the AAL



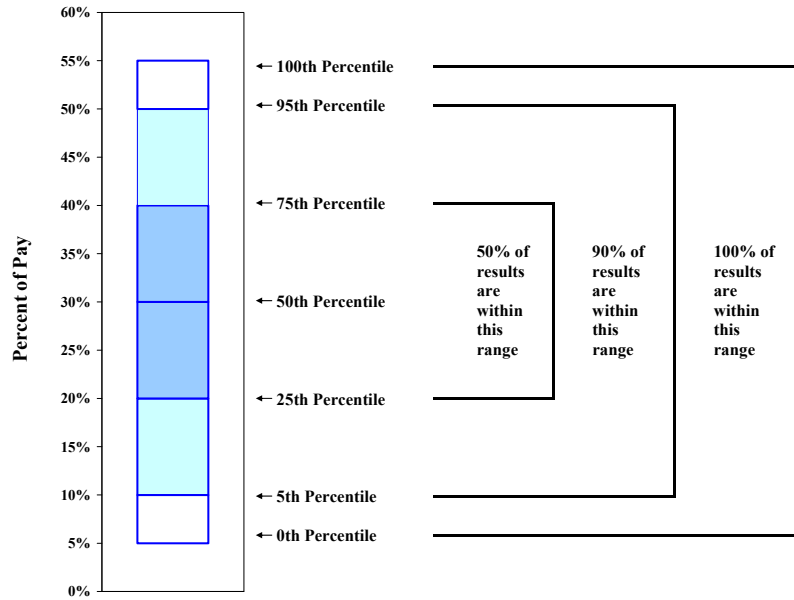
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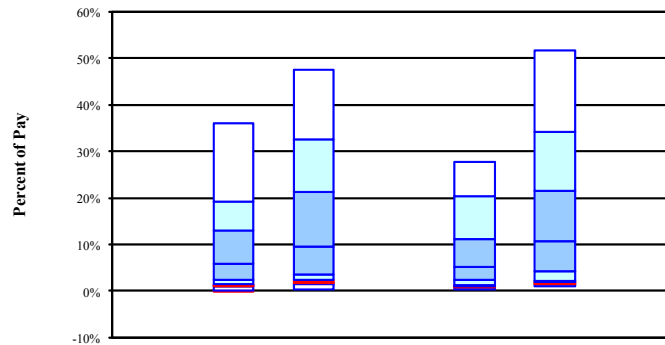
# BARTEL ASSOCIATES GASB 45 DATABASE

## GASB 45 Retiree Medical Benefits Comparison Sample Percentile Graph



# BARTEL ASSOCIATES GASB 45 DATABASE

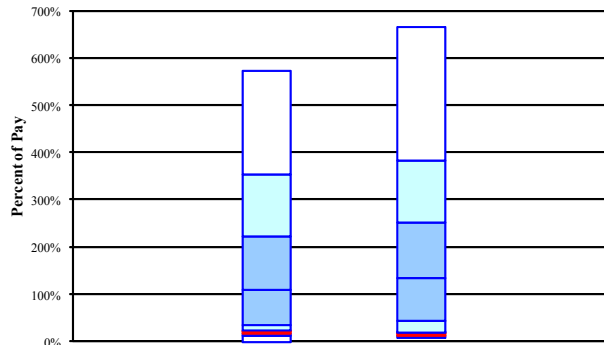
## GASB 45 Retiree Medical Benefits Comparison Normal Cost & Annual Required Contribution



	Miscellaneous		Safety	
	NC	ARC	NC	ARC
95th Percentile	19.0%	32.5%	20.3%	34.1%
75th Percentile	12.9%	21.3%	11.0%	21.5%
50th Percentile	5.6%	9.4%	5.1%	10.6%
25th Percentile	2.2%	3.5%	2.4%	4.1%
5th Percentile	0.8%	1.5%	1.1%	2.0%
Percent of Pay	1.0%	1.9%	0.9%	1.6%
Percentile	7%	8%	2%	2%

Discount Rate = 4.50%, Amortization Period = 28 Years

**GASB 45  
Retiree Medical Benefits Comparison  
Actuarial Accrued Liability**



	<u>Miscellaneous</u>	<u>Safety</u>
95th Percentile	352%	382%
75th Percentile	221%	251%
50th Percentile	109%	132%
25th Percentile	34%	42%
5th Percentile	12%	19%
Percent of Pay	19%	15%
Percentile	14%	2%

Discount Rate = 4.50%

**OTHER ISSUES**

- **GASB Pension Accounting**
  - Exposure Draft for pension accounting changes issued 7/8/2011:
    - Usually the last public document issued before issuing final statement
    - Similar views expected for OPEB
    - Comment deadline 9/30/11
    - Likely effective for 2013/14 fiscal year
  - Major issues:
    - Unfunded liability on balance sheet
    - Lower discount rate if funding less than ARC
    - Immediate recognition of:
      - Service & interest Cost
      - Benefit changes
      - Inactive gains/losses & assumption changes
    - Deferred recognition of:
      - Active gains/losses & assumption changes, over (future working lifetime) closed period
      - Asset gains/losses, over 5 years
  - Entry age normal cost method

## ACTUARIAL CERTIFICATION

This report presents the City of Novato Healthcare Plan ("Plan") January 1, 2010 actuarial valuation. The purpose of this valuation is to:

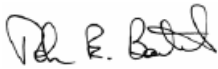
- Determine the Governmental Accounting Standards Board Statement Nos. 43 and 45 January 1, 2010 Benefit Obligations,
- Determine the Plan's January 1, 2010 Funded Status, and
- Calculate the 2010/11 and 2011/12 Annual Required Contributions.

The report provides information intended for reporting under GASB 43 and 45, but may not be appropriate for other purposes. Information provided in this report may be useful to the City for the Plan's financial management. Future valuations may differ significantly if the Plan's experience differs from our assumptions or if there are changes in Plan design, actuarial methods or actuarial assumptions. The project scope did not include an analysis of this potential variation.

The valuation is based on Plan provisions, asset information, and employee data provided by the City and summarized in this report. We reviewed the data for reasonableness but did not perform an audit. The valuation was prepared using generally accepted actuarial principles and practices and the actuarial methods and assumptions summarized in this report.

This report presents the results of our valuation in accordance with our understanding of GASB 43 and 45. The undersigned are members of the American Academy of Actuaries and meet Academy Qualification Standards to render the actuarial results and opinions in this report.

Respectfully submitted,



John E. Bartel, ASA, FCA, MAAA  
President  
Bartel Associates, LLC  
February 2, 2012



Bianca Lin, FSA, EA, MAAA  
Assistant Vice President and Actuary  
Bartel Associates, LLC  
February 2, 2012



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## EXHIBITS

<u>Topic</u>	<u>Page</u>
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Data Summary	E-5
Actuarial Assumptions	E-15
Definitions	E-19
GASB 45 Summary	E-21



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**PREMIUMS**

**2010 PEMHCA Monthly Premiums**  
**Bay Area**

Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Blue Shield	\$577.33	\$1,154.66	\$1,501.06	\$299.53	\$599.06	\$898.59
Blue Shield NetValue	500.35	1,000.70	1,300.91	299.53	599.06	898.59
Kaiser	532.56	1,065.12	1,384.66	298.36	596.72	895.08
PERS Choice	508.74	1,017.48	1,322.72	356.09	712.18	1,068.27
PERS Select	474.93	949.86	1,234.82	356.09	712.18	1,068.27
PERSCare	868.17	1,736.34	2,257.24	410.60	821.20	1,231.80
PORAC	484.00	906.00	1,151.00	363.00	723.00	1,157.00

**PREMIUMS**

**2011 PEMHCA Monthly Premiums**  
**Bay Area**

Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Blue Shield	\$675.51	\$1,351.02	\$1,756.33	\$337.88	\$675.76	\$1,013.64
Blue Shield NetValue	581.24	1,162.48	1,511.22	337.88	675.76	1,013.64
Kaiser	568.99	1,137.98	1,479.37	282.30	564.60	846.90
PERS Choice	563.40	1,126.80	1,464.84	375.88	751.76	1,127.64
PERS Select	492.68	985.36	1,280.97	375.88	751.76	1,127.64
PERSCare	893.95	1,787.90	2,324.27	433.66	867.32	1,300.98
PORAC	527.00	987.00	1,254.00	418.00	833.00	1,331.00



PREMIUMS

**2012 PEMHCA Monthly Premiums**  
**Bay Area**

Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Blue Shield	\$711.10	\$1,422.20	\$1,848.86	\$337.99	\$675.98	\$1,013.97
Blue Shield NetValue	611.59	1,223.18	1,590.13	337.99	675.98	1,013.97
Kaiser	610.44	1,220.88	1,587.14	277.81	555.62	833.43
PERS Choice	574.15	1,148.30	1,492.79	383.44	766.88	1,150.32
PERS Select	487.39	974.78	1,267.21	383.44	766.88	1,150.32
PERSCare	1,029.23	2,058.46	2,676.00	432.43	864.86	1,297.29
PORAC	556.00	1,041.00	1,323.00	418.00	833.00	1,331.00

PREMIUMS

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**DATA SUMMARY**

**Medical Plan Participation**  
**Non-waived participants**

Plan	Actives	Retirees		
		<65	>65	Total
Blue Shield	22%	11%	11%	11%
Kaiser	57%	56%	56%	56%
PERS Choice	17%	26%	11%	20%
PERSCare	0%	0%	22%	9%
PORAC	5%	7%	0%	4%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**DATA SUMMARY**

**Active Medical Plan Coverage**<sup>9</sup>

Medical Plan	Single	2-Party	Family	Waived	Total
Blue Shield	20	7	2	-	29
Kaiser	40	16	20	-	76
PERS Choice	12	7	3	-	22
PORAC	-	1	5	-	6
Waived	-	-	-	76	76
<b>Total</b>	<b>72</b>	<b>31</b>	<b>30</b>	<b>76</b>	<b>209</b>

<sup>9</sup> All plans except one (Sacramento region) in Bay Area region

**DATA SUMMARY**

**Retiree Medical Plan Coverage**  
Under Age 65

Medical Plan	Region	Single	2-Party	Family	Waived	Total
Blue Shield	Bay Area	3	-	-	-	3
Kaiser	Bay Area	6	6	2	-	14
	Sacramento	1	-	-	-	1
PERS Choice	Bay Area	2	2	-	-	4
	North	-	-	-	-	-
	Out of State	3	-	-	-	3
PERSCare	Bay Area	-	-	-	-	-
	Out of State	-	-	-	-	-
PORAC		-	2	-	-	2
Waived		-	-	-	42	42
<b>Total</b>		<b>15</b>	<b>10</b>	<b>2</b>	<b>42</b>	<b>69</b>

**DATA SUMMARY**

**Retiree Medical Plan Coverage**  
Over Age 65

Medical Plan	Region	Single	2-Party	Family	Waived	Total
Blue Shield	Bay Area	2	-	-	-	2
Kaiser	Bay Area	6	4	-	-	10
	Sacramento	-	-	-	-	-
PERS Choice	Bay Area	-	-	-	-	-
	North	-	1	-	-	1
	Out of State	-	1	-	-	1
PERSCare	Bay Area	-	1	-	-	1
	Out of State	3	-	-	-	3
PORAC		-	-	-	-	-
Waived		-	-	-	37	37
<b>Total</b>		<b>11</b>	<b>7</b>	<b>-</b>	<b>37</b>	<b>55</b>

**DATA SUMMARY**

**Actives by Age and Service**  
**Miscellaneous**

Age	City Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25	1	-	-	-	-	-	-	1
25-29	-	5	5	-	-	-	-	10
30-34	-	5	4	1	-	-	-	10
35-39	-	2	6	3	-	-	-	11
40-44	-	12	4	1	1	-	-	18
45-49	2	8	9	7	2	1	1	30
50-54	-	4	5	9	3	5	2	28
55-59	1	4	6	3	3	3	4	24
60-64	-	3	3	4	3	-	2	15
≥ 65	-	-	-	1	-	2	1	4
<b>Total</b>	<b>4</b>	<b>43</b>	<b>42</b>	<b>29</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>151</b>

**DATA SUMMARY**

**Actives by Age and Service**  
**Safety**

Age	City Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25	-	4	-	-	-	-	-	4
25-29	1	5	2	-	-	-	-	8
30-34	1	4	8	-	-	-	-	13
35-39	-	3	6	1	-	-	-	10
40-44	-	1	3	1	1	-	-	6
45-49	-	-	-	2	3	2	1	8
50-54	-	-	2	-	2	1	4	9
55-59	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-
≥ 65	-	-	-	-	-	-	-	-
<b>Total</b>	<b>2</b>	<b>17</b>	<b>21</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>5</b>	<b>58</b>

**DATA SUMMARY**

**Actives by Age and Service**

**Total**

Age	City Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25	1	4	-	-	-	-	-	5
25-29	1	10	7	-	-	-	-	18
30-34	1	9	12	1	-	-	-	23
35-39	-	5	12	4	-	-	-	21
40-44	-	13	7	2	2	-	-	24
45-49	2	8	9	9	5	3	2	38
50-54	-	4	7	9	5	6	6	37
55-59	1	4	6	3	3	3	4	24
60-64	-	3	3	4	3	-	2	15
≥ 65	-	-	-	1	-	2	1	4
<b>Total</b>	<b>6</b>	<b>60</b>	<b>63</b>	<b>33</b>	<b>18</b>	<b>14</b>	<b>15</b>	<b>209</b>



February 2, 2012

E-11



**DATA SUMMARY**

**Retiree Healthcare Coverage by Age Group**

**Miscellaneous**

Age	Single	2-Party	Family	Waived	Total
Under 50	-	-	-	1	1
50-54	-	-	-	5	5
55-59	7	3	-	6	16
60-64	5	3	1	7	16
65-69	6	3	-	11	20
70-74	3	-	-	4	7
75-79	-	1	-	3	4
80-84	1	-	-	8	9
Over 85	1	-	-	5	6
<b>Total</b>	<b>23</b>	<b>10</b>	<b>1</b>	<b>50</b>	<b>84</b>

Average Age	65.7	64.5	62.5	69.4	67.7
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February 2, 2012

E-12



**DATA SUMMARY**

**Retiree Healthcare Coverage by Age Group**

**Safety**

Age	Single	2-Party	Family	Waived	Total
Under 50	-	-	-	6	6
50-54	2	1	-	2	5
55-59	-	2	1	4	7
60-64	1	1	-	11	13
65-69	-	3	-	4	7
70-74	-	-	-	1	1
75-79	-	-	-	1	1
80-84	-	-	-	-	-
Over 85	-	-	-	-	-
Total	3	7	1	29	40

Average Age	55.4	62.6	59.3	59.4	59.7
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February 2, 2012

E-13



**DATA SUMMARY**

**Retiree Healthcare Coverage by Age Group**

**Total**

Age	Single	2-Party	Family	Waived	Total
Under 50	-	-	-	7	7
50-54	2	1	-	7	10
55-59	7	5	1	10	23
60-64	6	4	1	18	29
65-69	6	6	-	15	27
70-74	3	-	-	5	8
75-79	-	1	-	4	5
80-84	1	-	-	8	9
Over 85	1	-	-	5	6
Total	26	17	2	79	124

Average Age	64.5	63.7	60.9	65.7	65.1
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February 2, 2012

E-14



**ACTUARIAL ASSUMPTIONS**

<b>Assumption</b>	<b>January 1, 2008 Valuation</b>	<b>January 1, 2010 Valuation</b>
■ Valuation Date	<ul style="list-style-type: none"> <li>• January 1, 2008</li> <li>• 2008/09 &amp; 2009/10 ARCs</li> </ul>	<ul style="list-style-type: none"> <li>• January 1, 2010</li> <li>• 2010/11 and 2011/12 ARCs</li> </ul>
■ Discount Rate	<ul style="list-style-type: none"> <li>• 5.0% Not pre-funded, assets invested in general fund</li> </ul>	<ul style="list-style-type: none"> <li>• 4.50% Not pre-funded</li> <li>• 7.25% ARC pre-funded with CalPERS CERBT (for sensitivity analysis)</li> </ul>
■ Funding Policy	<ul style="list-style-type: none"> <li>• Pay as you go</li> </ul>	<ul style="list-style-type: none"> <li>• Pay as you go</li> </ul>
■ General Inflation	<ul style="list-style-type: none"> <li>• 3.25%</li> </ul>	<ul style="list-style-type: none"> <li>• 3.0%</li> </ul>
■ Aggregate Payroll Increases	<ul style="list-style-type: none"> <li>• 3.5%</li> </ul>	<ul style="list-style-type: none"> <li>• 3.25%</li> </ul>
■ Merit Pay Increases	<ul style="list-style-type: none"> <li>• CalPERS 1997-2002 Experience Study</li> </ul>	<ul style="list-style-type: none"> <li>• CalPERS 1997-2007 Experience Study</li> </ul>

**ACTUARIAL ASSUMPTIONS**

<b>Assumption</b>	<b>January 1, 2008 Valuation</b>	<b>January 1, 2010 Valuation</b>																
■ Future New Entrants	<ul style="list-style-type: none"> <li>• None – Closed Group</li> </ul>	<ul style="list-style-type: none"> <li>• Same</li> </ul>																
■ PEMHCA Minimum Increase	<table border="0"> <thead> <tr> <th><u>Year</u></th> <th><u>Amount</u></th> </tr> </thead> <tbody> <tr> <td>2008</td> <td>\$97.00</td> </tr> <tr> <td>2009</td> <td>101.00</td> </tr> <tr> <td>2010+</td> <td>4.0%/yr</td> </tr> </tbody> </table>	<u>Year</u>	<u>Amount</u>	2008	\$97.00	2009	101.00	2010+	4.0%/yr	<table border="0"> <thead> <tr> <th><u>Year</u></th> <th><u>Amount</u></th> </tr> </thead> <tbody> <tr> <td>2011</td> <td>\$108.00</td> </tr> <tr> <td>2012</td> <td>112.00</td> </tr> <tr> <td>2013+</td> <td>4.5%/yr</td> </tr> </tbody> </table>	<u>Year</u>	<u>Amount</u>	2011	\$108.00	2012	112.00	2013+	4.5%/yr
<u>Year</u>	<u>Amount</u>																	
2008	\$97.00																	
2009	101.00																	
2010+	4.0%/yr																	
<u>Year</u>	<u>Amount</u>																	
2011	\$108.00																	
2012	112.00																	
2013+	4.5%/yr																	
■ Mortality, Termination, Disability	<ul style="list-style-type: none"> <li>• CalPERS 1997-2002 Experience Study</li> <li>• Police Termination: 200% of CalPERS rates</li> </ul>	<ul style="list-style-type: none"> <li>• CalPERS 1997-2007 Experience Study</li> </ul>																

**ACTUARIAL ASSUMPTIONS**

<b>Assumption</b>	<b>January 1, 2008 Valuation</b>	<b>January 1, 2010 Valuation</b>												
<ul style="list-style-type: none"> <li>■ Service Retirement</li> </ul>	<ul style="list-style-type: none"> <li>• CalPERS 1997-2002 Experience Study</li> </ul>	<ul style="list-style-type: none"> <li>• CalPERS 1997-2007 Experience Study</li> </ul> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td align="center"><u>Level</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2%@55</td> <td align="center">≈ 59.4</td> </tr> <tr> <td>Safety</td> <td align="center">3%@55</td> <td align="center">≈ 56.8</td> </tr> <tr> <td></td> <td></td> <td align="center">(Police)</td> </tr> </table>		<u>Level</u>	<u>ERA</u>	Misc	2%@55	≈ 59.4	Safety	3%@55	≈ 56.8			(Police)
	<u>Level</u>	<u>ERA</u>												
Misc	2%@55	≈ 59.4												
Safety	3%@55	≈ 56.8												
		(Police)												
<ul style="list-style-type: none"> <li>■ CalPERS Service</li> </ul>	<ul style="list-style-type: none"> <li>• n/a</li> </ul>	<ul style="list-style-type: none"> <li>• Actual CalPERS Service</li> </ul>												
<ul style="list-style-type: none"> <li>■ Participation</li> </ul>	<ul style="list-style-type: none"> <li>• Actives:                             <ul style="list-style-type: none"> <li>➢ Currently covered: 75%</li> <li>➢ Currently waived: 0%</li> </ul> </li> <li>• Retirees:                             <ul style="list-style-type: none"> <li>➢ Currently covered: 100%</li> <li>➢ Currently waived: 0%</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Actives:                             <ul style="list-style-type: none"> <li>➢ Currently covered: 60%</li> <li>➢ Currently waived: 20%</li> </ul> </li> <li>• Retirees:                             <ul style="list-style-type: none"> <li>➢ Currently covered: 100%</li> <li>➢ Currently waived: 20% waived retirees elect coverage at 65</li> </ul> </li> </ul>												

**ACTUARIAL ASSUMPTIONS**

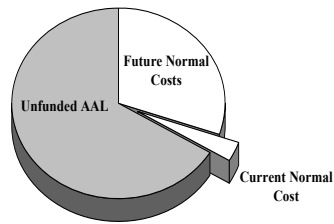
<b>Assumption</b>	<b>January 1, 2008 Valuation</b>	<b>January 1, 2010 Valuation</b>
<ul style="list-style-type: none"> <li>■ Marital Status at Retirement</li> </ul>	<ul style="list-style-type: none"> <li>• Currently Covered – Same as current election</li> <li>• Currently Waived – n/a</li> </ul>	<ul style="list-style-type: none"> <li>• Currently Covered – Same as current election</li> <li>• Currently Waived – 80% married</li> </ul>
<ul style="list-style-type: none"> <li>■ Spouse Age</li> </ul>	<ul style="list-style-type: none"> <li>• Current actives - Males 3 years older than females</li> <li>• Current retirees - Males 3 years older than females if spouse birth date not available</li> </ul>	<ul style="list-style-type: none"> <li>• Same</li> </ul>
<ul style="list-style-type: none"> <li>■ Surviving Spouse Participation</li> </ul>	<ul style="list-style-type: none"> <li>• 50%</li> </ul>	<ul style="list-style-type: none"> <li>• 100%</li> </ul>



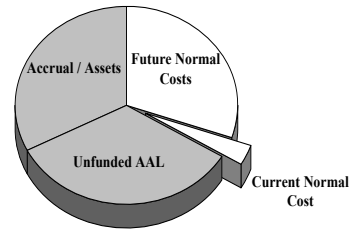
## DEFINITIONS

### Present Value of Projected Benefits (PVPB)

Without Assets



With Assets



#### ■ PVPB - Present Value of all Projected Benefits

- Discounted value, at measurement date (valuation date) of all future expected benefit payments.
- Expected benefit payments based on various actuarial assumptions

## DEFINITIONS

#### ■ AAL – Actuarial Accrued Liability / Actuarial Obligation

- Discounted value at measurement date (valuation date) of benefits “earned” through measurement date based on actuarial cost method
- Portion of PVPB “earned” at measurement

#### ■ NC - Normal Cost

- Value of benefits “earned” during current year
- Portion of PVPB allocated to current year

#### ■ Actuarial Cost Method

- Determines how benefits are “earned” or allocated to each year of service
- Has no effect on PVPB
- Has significant effect on Actuarial Obligations and Normal Cost

#### ■ Pay-As-You-Go Cost (PayGo)

- Cash Subsidy – Actual cash benefit payments to retirees
- Implied Subsidy – Difference between cost of retiree benefits and retiree premiums
- PayGo is the expected retiree benefit payments for the year while Normal Cost is the expense for benefits accrued by active employees during the year

## GASB 45 SUMMARY

<p>■ <b>Accrual Accounting</b></p>	<ul style="list-style-type: none"> <li>● Project future employer-provided benefit cash flows</li> <li>● Discount projected cash flows to determine present value of benefits</li> <li>● Allocate present value of benefits (PVB) to past, current, and future periods</li> <li>● Normal Cost is amount allocated to current period</li> <li>● Actuarial Accrued Liability (AAL) is amount allocated to prior periods</li> <li>● Unfunded AAL is AAL less plan assets pre-funded in a segregated and restricted trust</li> </ul>
<p>■ <b>Annual Required Contribution (ARC)</b></p>	<ul style="list-style-type: none"> <li>● “Required contribution” for the current period including:                             <ul style="list-style-type: none"> <li>➢ Normal Cost</li> <li>➢ Amortization of:                                     <ul style="list-style-type: none"> <li>- Initial Unfunded AAL</li> <li>- AAL for plan, assumption, and method changes</li> <li>- Experience gains and losses (difference between expected and actual)</li> <li>- Contribution gains and losses (difference between prior ARCs and actual contributions)</li> </ul> </li> </ul> </li> <li>● ARC in excess of pay-as-you-go costs not required to be funded</li> </ul>
<p>■ <b>Annual OPEB Cost (AOC)</b></p>	<ul style="list-style-type: none"> <li>● Expense for the current period including:                             <ul style="list-style-type: none"> <li>➢ ARC</li> <li>➢ Interest on NOO</li> <li>➢ Adjustment of NOO</li> </ul> </li> </ul>



## GASB 45 SUMMARY

<p>■ <b>Net OPEB Obligation (NOO)</b></p>	<ul style="list-style-type: none"> <li>● Accumulation of amounts expensed and not funded (“contribution losses”) or amounts funded in excess of expense (“contribution gains”)</li> </ul>
<p>■ <b>NOO Adjustment</b></p>	<ul style="list-style-type: none"> <li>● NOO adjustment (amortization) prevents double counting of expense since future ARCs include amortizations of contribution gains and losses previously expensed</li> <li>● GASB 45 approximate method:                             <ul style="list-style-type: none"> <li>➢ Use amortization period in ARC if one UAAL base</li> <li>➢ Use experience gain/loss amortization period in ARC if multiple bases</li> </ul> </li> <li>● GASB Technical Bulletin 2008-1 exact method:                             <ul style="list-style-type: none"> <li>➢ Use actual ARC contribution gain/loss amortization</li> <li>➢ NOO always equals amounts expensed less amounts funded</li> <li>➢ Requires detailed recordkeeping</li> </ul> </li> </ul>

