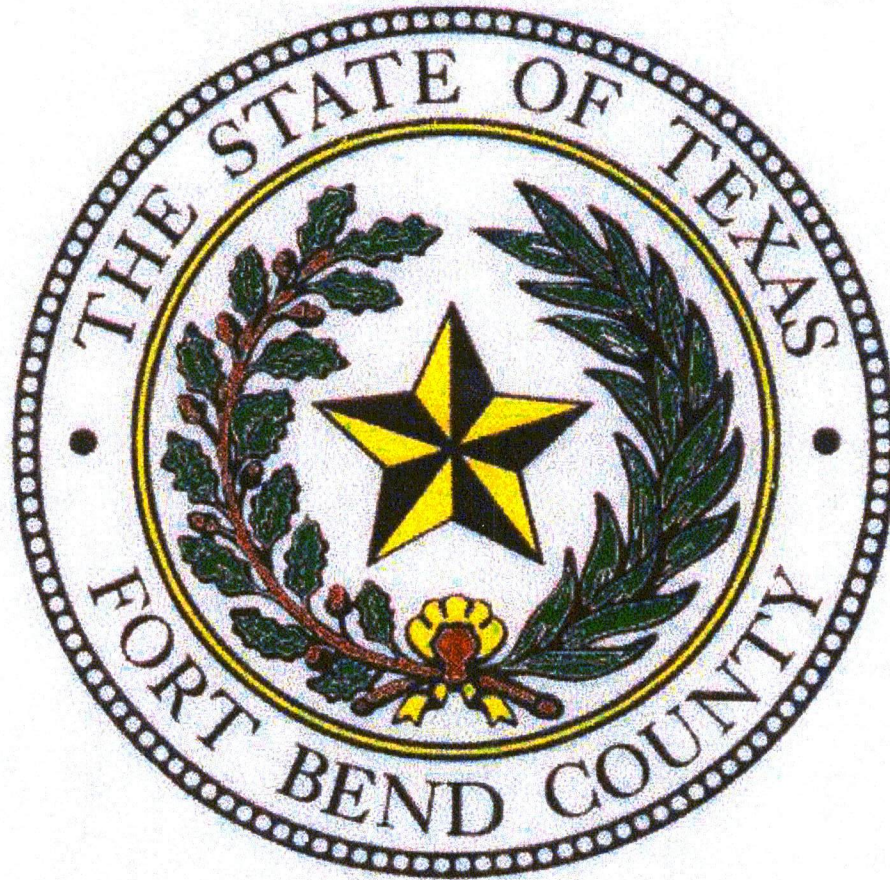


# GASB 45 – An Actuarial Perspective

Presentation for Fort Bend County

*June 18, 2015*





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# Background

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## Why the new standards?

- OPEB benefits are considered to be part of the compensation for services rendered.
- Benefits are “earned” during the period of employment, and employers need to recognize the obligation over that period.
- The true cost of future benefits needs to be measured, evaluated, and reflected in financial statements.





## What are other post-employment Benefits?

- Medical
- Dental
- Vision
- Hearing
- Disability
- Life Insurance
- Long-term Care



## When and how often do I need to report?

- Varies based on the revenue of the government entity
- Fiscal years starting after:
  - Dec 15, 2006 if \$100M+
  - Dec 15, 2007 if \$10M to \$100M
  - Dec 15, 2008 if less than \$10
- Frequency: If membership 200 or more – at least biennially  
If membership fewer than 200 – at least triennially



# Summary of Inputs

# Primary Inputs



# Assumptions

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# Key Assumptions

## **Economic**

Discount rate, salary increases

## **Demographic**

Mortality, Retirement, termination, disability,  
participant election, spousal coverage

## **Medical & Dental**

Trends, claims



# Economic Assumptions

**Discount rate:** 4% per annum, compounded annually, if not funded  
6% to 8% per annum, compounded annually, if funded  
(approximate 15% to 20% change in liabilities for 100 basis point change)

**Salary increase:** 3% to 5% per annum  
(used for life insurance and with amortization of unfunded actuarial liability)



# Demographic Assumptions

- Retirement age, termination rates, and disability rates typically same as pension valuation (TCDRS)
- Mortality rates: Same as pension valuation or other current mortality table; e.g., RP2000 Combined Mortality Table for respective gender (usually with mortality improvement)
- X% of active employees currently electing medical coverage are assumed to elect retiree medical coverage (currently 100%)
- X% of spouses that will elect coverage (currently 40 %)



# Key Medical Assumptions

Claim costs in future years equal the starting claim costs adjusted for the assumed ongoing cost trends. Such trends are based on the health care cost trend rate adjusted for impact of plan design, cost containment features and Medicare coordination.

Pre-65		Post-65		Dental	
Year	Trend	Year	Trend	Year	Dental
2013	5.30%	2013	6.90%	2013	5.89%
2014	5.00%	2014	5.40%	2014	5.74%
2015	4.90%	2015	5.70%	2015	5.59%
2016	7.30%	2016	5.50%	2016	5.45%
2017	6.40%	2017	5.40%	2017	5.30%
2018	6.50%	2018	5.80%	2018	5.15%
2019	6.20%	2019	5.60%	2019	5.00%
2020-2021	6.10%	2020-2021	5.50%	2020	4.85%
2022-2034	6.00%	2022-2023	5.40%	2021	4.70%
2035	5.90%	2024-2033	5.50%	2022	4.56%
2036	5.80%	2034	5.60%	2023	4.41%
2037	5.70%	2035	5.50%	2024	4.26%
2038-2039	5.60%	2036-2037	5.40%	2025	4.11%
2040-2041	5.50%	2038-2040	5.30%	2026+	3.96%
2042	5.60%	2041-2046	5.20%		
2043	6.10%	2047-2055	5.10%		
2044-2045	6.20%	2056	5.40%		
2046-2047	6.10%	2057	6.40%		
2048-2049	6.00%	2058	6.60%		
2050-2052	5.90%	2059-2060	6.50%		
2053-2056	5.80%	2061	6.30%		
2057-2060	5.70%	2062	6.20%		
2061	5.60%	2063	6.00%		
2062	5.50%	2064	5.80%		
2063	5.30%	2065	5.70%		
2064	5.20%	2066	5.60%		
2065	5.10%	2067	5.40%		
2066-2067	5.00%	2068	5.30%		
2068	4.90%	2069	5.20%		
2069	4.80%	2070-2072	5.10%		
2070-2073	4.70%	2073-2078	5.00%		
2074-2093	4.60%	2079-2085	4.90%		
2094+	4.50%	2086+	4.80%		



# Key Medical Assumptions

Monthly Medical/Rx Claims Costs at Sample Ages				
Age	Retiree		Spouse	
	Male	Female	Male	Female
45	\$10,730.56	\$12,272.44	\$7,184.40	\$8,637.27
50	\$9,427.60	\$10,737.62	\$8,172.37	\$9,424.66
55	\$10,047.21	\$10,580.86	\$9,461.36	\$10,347.90
60	\$12,330.16	\$12,039.68	\$11,312.93	\$11,752.33
64	\$15,481.39	\$13,972.53	\$13,805.38	\$13,358.26
65	\$3,079.04	\$2,972.74	\$3,079.04	\$2,972.74
70	\$3,257.82	\$3,186.78	\$3,257.82	\$3,186.78
75	\$3,368.32	\$3,357.26	\$3,368.32	\$3,357.26
80	\$3,409.02	\$3,454.91	\$3,409.02	\$3,454.91
85	\$3,378.09	\$3,452.86	\$3,378.09	\$3,452.86

Monthly Dental Claims Costs at Sample Ages				
Age	Retiree		Spouse	
	Male	Female	Male	Female
45	\$331.68	\$379.28	\$378.90	\$426.46
50	\$374.02	\$413.85	\$421.26	\$461.06
55	\$417.35	\$442.88	\$464.55	\$490.05
60	\$461.37	\$469.27	\$508.58	\$516.45
65	\$489.70	\$479.71	\$536.87	\$526.87
70	\$502.25	\$477.28	\$549.40	\$524.43
75	\$502.25	\$477.28	\$549.40	\$524.43
80	\$502.25	\$477.28	\$549.40	\$524.43
85	\$502.25	\$477.28	\$549.40	\$524.43

\*The medical experience data (claims and enrollment) is relied upon as provided by the client.



# Valuation Methodology

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# Illustration of Valuation Methodology

Simplified Example For Retired Employee*	
Age at hire:	N/A
Current age:	65
Assumed retirement age:	N/A
Assumed age at death:	81
Assumed pre-65 annual claims:	N/A
Assumed post-65 annual claims:	\$3,750

- Total pre-65 payments: \$0
- Total post-65 payments:  $16 \times \$3,750 = \$60,000$
- Total value of future benefits: \$60,000
- Actuarial accrued liability: \$60,000

\*To simplify this example, we have ignored, among other things, interest discounting AND medical inflation. In general, those two items have the opposite effect on actuarial accrued liability.



# Illustration of Valuation Methodology

Simplified Example For Active Employee*	
Age at hire:	38
Current age:	44
Assumed retirement age:	63
Assumed age at death:	81
Assumed pre-65 annual claims:	\$38,500
Assumed post-65 annual claims:	\$6,850

- Total pre-65 payments: \$77,000
- Total post-65 payments:  $16 \times \$5,695 = \$91,125$
- Total future benefits: \$168,125
- Actuarial accrued liability: \$40,350

\*To simplify this example, we have ignored, among other things, interest discounting AND medical inflation after retirement. In general, those two items have the opposite effect on actuarial accrued liability.



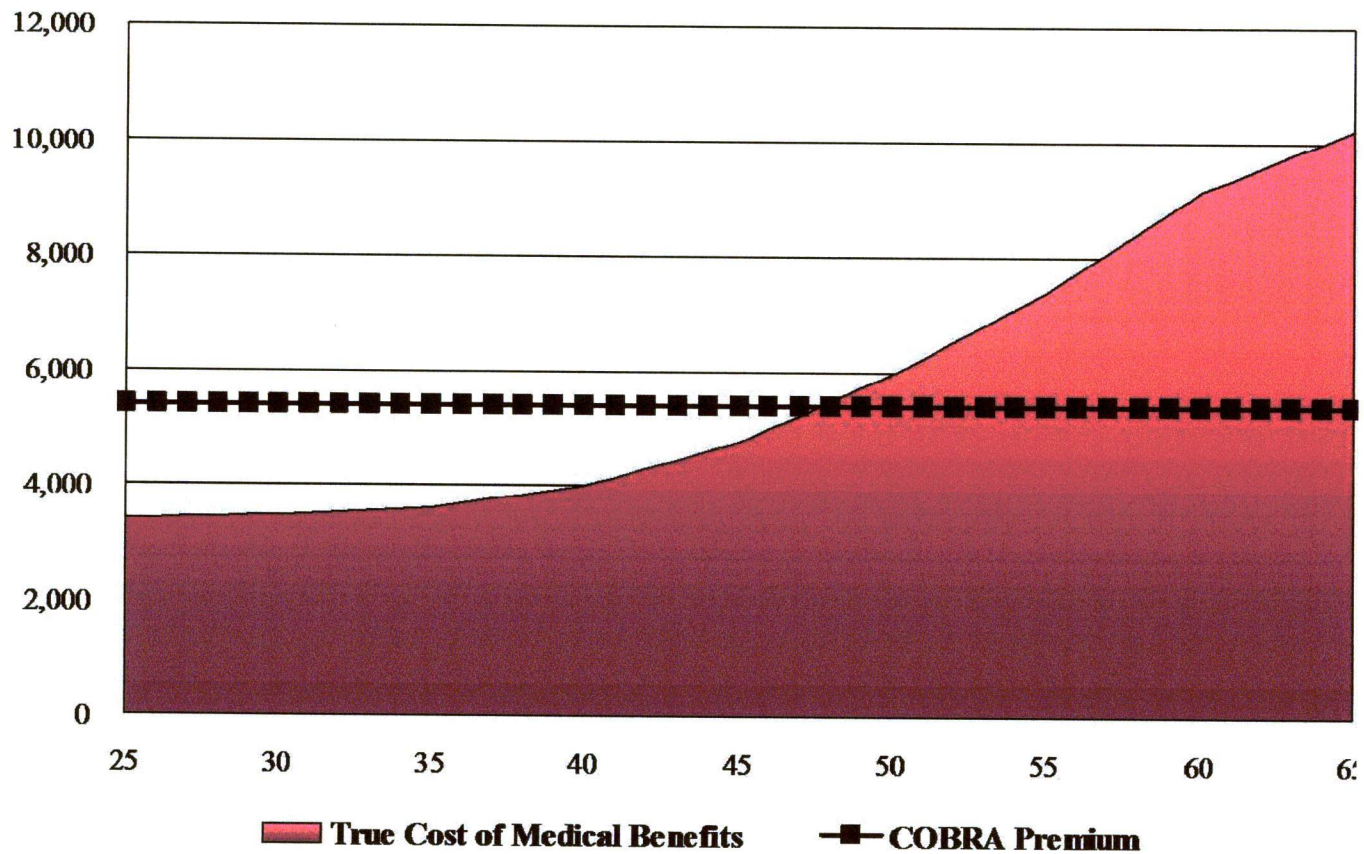
# Implicit Rate Subsidies

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# The Implicit Rate Subsidy



# The Implicit Rate Subsidy

- The difference between the true cost and the COBRA premium is the Implicit Rate Subsidy.
- If retirees or dependents have access to medical benefits but “pay their own way” via a COBRA premium, they are most likely paying far less than the true cost of their benefits, and the employer has a reportable liability.
- If retirees or dependents pay a percentage of the COBRA premium, the employer’s liability includes the rest of the COBRA premium plus the Implicit Rate Subsidy

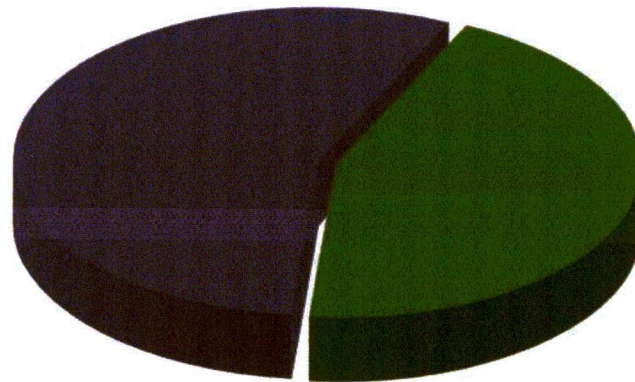


# The Implicit Rate Subsidy

## EXAMPLE:

The total cost of benefits for a 62-year old retiree is \$14,000.

The retiree pays  
the COBRA  
premium of  
**\$10,000**



The rest (**\$4,000**)  
is the Implicit  
Rate Subsidy

GASB 45 valuations must reflect the Implicit Rate Subsidy.



# The Implicit Rate Subsidy

## THE LITMUS TEST

If you remove all of the retirees from your benefits plan,  
will your COBRA premium change?

If the answer is “yes”,  
then you have an Implicit Rate Subsidy situation



# Liabilities

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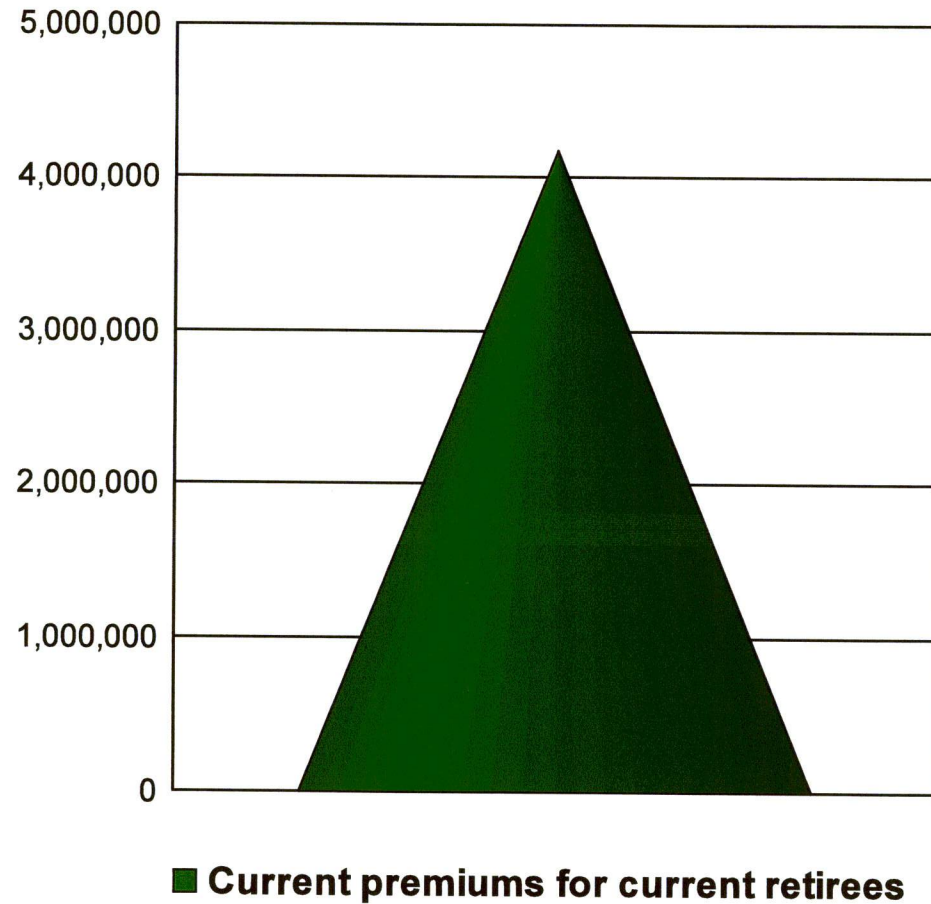
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# Liabilities

## *The Numbers*

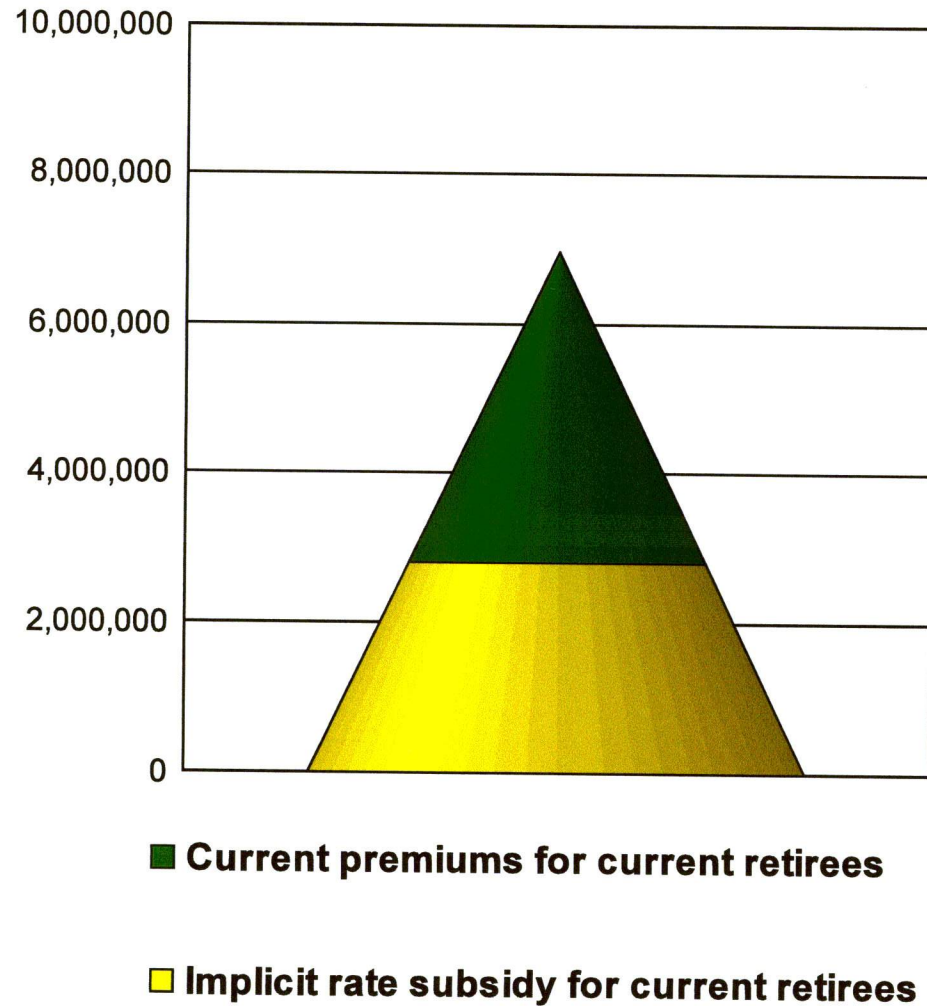
This is how much one municipality is paying in medical premiums each year for its retirees and dependents – just over **\$4 million**.



# Liabilities

## The Numbers

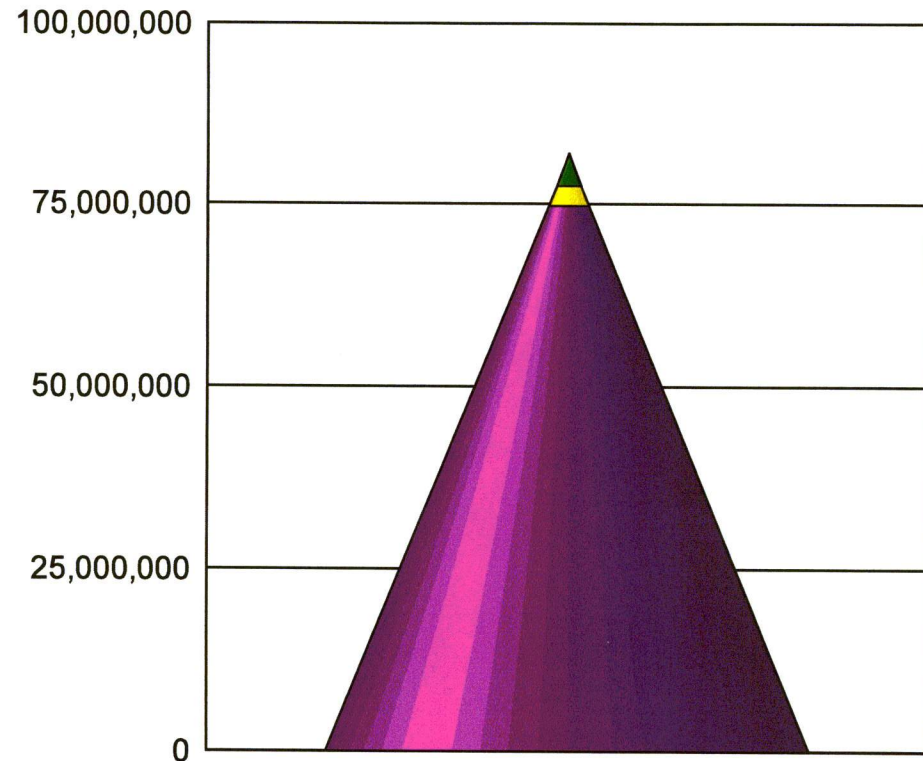
But the municipality also has Implicit Rate Subsidy costs of **\$3 million** because the premium only represents 60% of the real economic cost of providing retiree medical benefits.



# Liabilities

## The Numbers

This current annual cost is dwarfed by the liability for future benefits for the same retirees and dependents – **\$75 million**



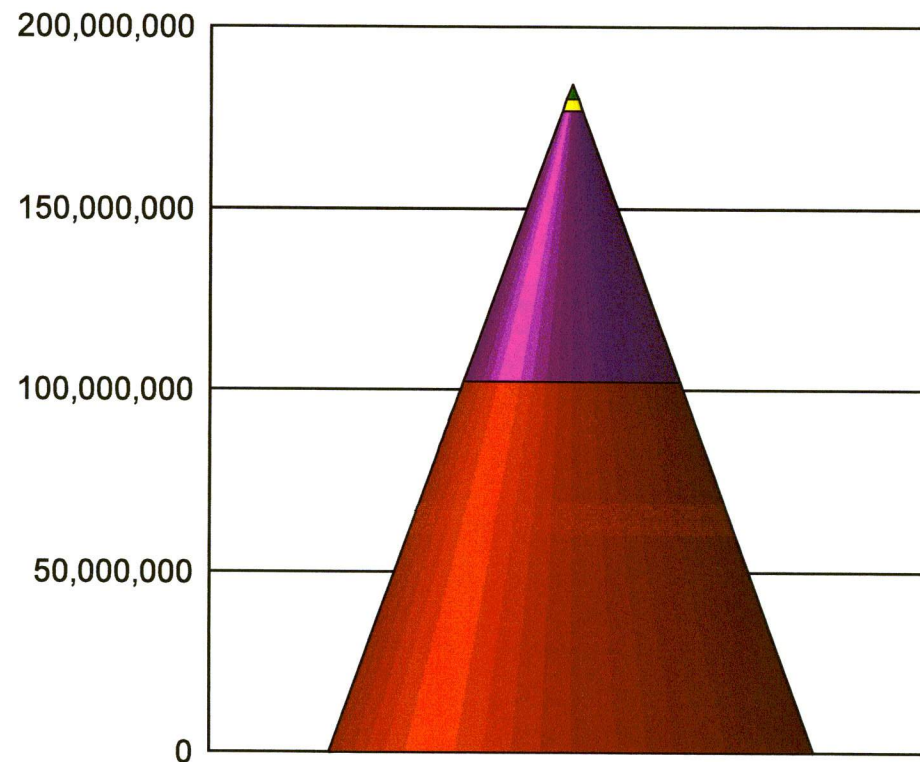
- Current premiums for current retirees
- Implicit rate subsidy for current retirees
- Future benefits for current retirees



# Liabilities

## The Numbers

The final piece is the Actuarial Accrued Liability for active employees – **\$102 million.**



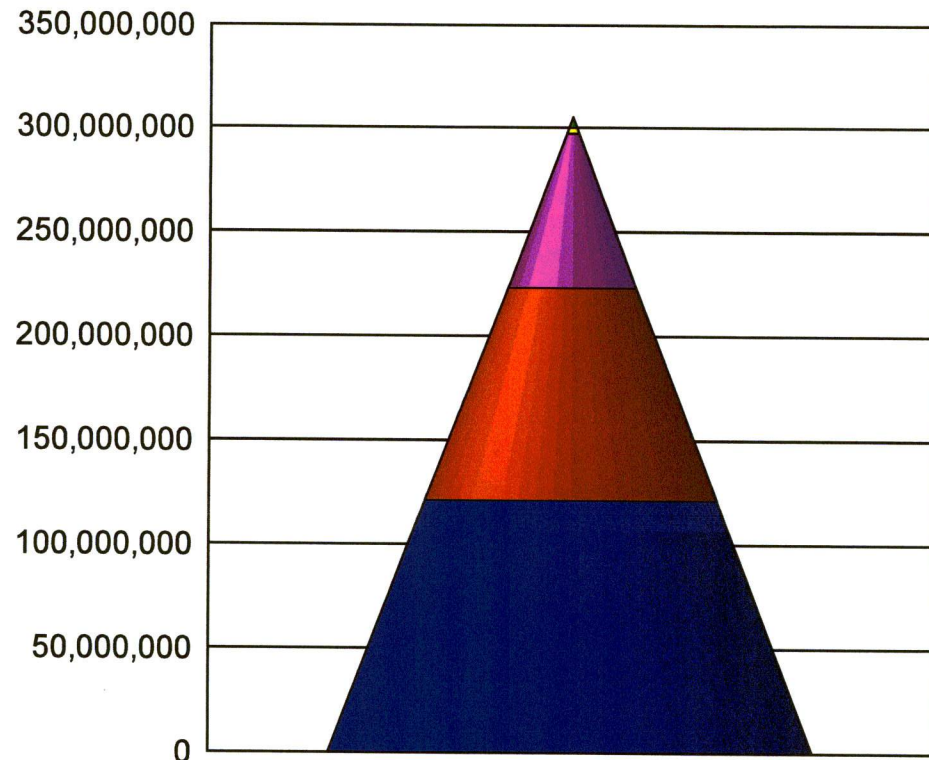
- Current premiums for current retirees
- Implicit rate subsidy for current retirees
- Future benefits for current retirees
- Future benefits for future retirees



# Liabilities


## The Numbers

But if the municipality does not prefund these benefits, the liability grows by another **\$120 million** because future investment income will not be available to help pay for the benefits.



- Current premiums for current retirees
- Implicit rate subsidy for current retirees
- Future benefits for current retirees
- Future benefits for future retirees
- Impact of not prefunding





# October 1, 2013 - Valuation Results

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## Eligibility for Benefits & Plan Provisions

- Retire after age 60 with 8 or more years of service.
- Retire when the sum of age and years of service equals 75 or more.
- Retire after 30 or more years of service.
- Spouses are eligible for coverage if covered 12 months prior to retirement. COBRA offered to surviving spouses.
- Retiree contributions required:
  - Plan A: \$50/month - retiree, \$261/month – retiree & spouse
  - Plan B: \$0/month – retiree, \$101/month – retiree & spouse
  - Med Supp: \$23/month – retiree, \$148/month – retiree & spouse
  - Dental: \$12/month – retiree, \$32/month – retiree & spouse



## Summary of Participant Data

Number of Active Members by Age and Service Groups											
Age	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40&Up	Total
<b>0-24</b>	33	40	8	-	-	-	-	-	-	-	81
<b>25-29</b>	55	123	56	2	-	-	-	-	-	-	236
<b>30-34</b>	35	82	83	29	2	-	-	-	-	-	231
<b>35-39</b>	13	69	59	65	20	1	-	-	-	-	227
<b>40-44</b>	29	52	68	62	47	14	1	-	-	-	273
<b>45-49</b>	14	42	57	38	43	38	11	2	-	-	245
<b>50-54</b>	9	54	66	49	33	26	30	12	-	-	279
<b>55-59</b>	12	46	55	37	22	28	16	9	2	-	227
<b>60-64</b>	5	20	29	27	9	9	6	1	1	-	107
<b>65-69</b>	-	7	15	8	4	4	3	1	-	-	42
<b>70&amp;Up</b>	1	5	5	1	5	3	3	1	-	-	24
<b>Total</b>	206	540	501	318	185	123	70	26	3	-	1,972

Age	Retirees	Spouses	Total
<b>&lt; 50</b>	3	6	9
<b>50-54</b>	28	26	54
<b>55-59</b>	57	35	92
<b>60-64</b>	96	49	145
<b>65-69</b>	113	51	164
<b>70-74</b>	67	50	117
<b>75-79</b>	42	22	64
<b>80&amp;Up</b>	37	16	53
<b>Total</b>	<b>443</b>	<b>255</b>	<b>698</b>



# Valuation Results

## Exhibit 3

### Unfunded Actuarial Accrued Liability (including Drainage District)

Actuarial Accrued Liability (AAL) at 4.00% Discount Rate			
	Actives	Retirees	Total
Medical & Rx	\$ 133,329,062	\$ 54,988,810	\$ 188,317,872
Dental	7,083,399	4,130,697	11,214,096
Post-65 Medical	56,314,923	27,783,949	84,098,872
<b>Total</b>	<b>\$ 196,727,384</b>	<b>\$ 86,903,456</b>	<b>\$ 283,630,840</b>

Unfunded Actuarial Accrued Liability (UAAL)			
	AAL	MV Assets	UAAL
As of October 1, 2013	\$ 283,630,840	\$0	\$ 283,630,840



**Exhibit 4 – Including Drainage District**  
**Annual Required Contribution**

The amortization of the Unfunded Actuarial Accrued Liability for Fiscal Year Ending September 30, 2014 is calculated as a dollar amount. GASB 45 allows for these payments to be calculated as a level percent of salary where salaries are assumed to increase. If this were done, the FYE 2013 ARC would be lower, but the ARC in future years would be higher in later years as payroll increases.

The UAAL must be amortized over a period not exceeding 30 years and included in the ARC amount each year. The amortization of initial UAAL is calculated below as a level dollar amortization over 30 years on a closed basis. At each subsequent valuation date, the UAAL is re-measured and the gain/loss on UAAL is amortized as a level dollar over 30 years on a closed basis. The average amortization period will not exceed the maximum 30 years.

	Fiscal Year-End	
	9/30/2013*	9/30/2014
<b>1. Normal Costs</b>		
a. Current Year Normal Cost as of October 1	\$17,474,304	\$19,393,053
b. Assumed Interest to the End of the Fiscal Year	698,972	775,722
c. Current Year Normal Cost as of September 30 [(1a) + (1b)]	\$18,173,276	\$20,168,775
<b>2. Determination of Current Year Amortization Payment</b>		
a. Unfunded Actuarial Accrued Liability	-	\$283,630,840
b. Effective Amortization Period (new base)	-	30 years
c. Level Dollar Amortization Factor (new base)	-	17.9837
d. Amortization Amount as of FYE	-	\$17,356,115
e. Assumed Interest to the End of the Plan Year	-	694,245
f. Amortization Amount as of FYE [(2d) + (2e)]	\$17,363,132	\$18,050,360
<b>3. Determination of Annual Required Contribution</b>		
a. Normal Cost for Benefits Attributable to Service in the Year (1c)	\$18,173,276	\$20,168,775
b. Amortization of Unfunded Actuarial Accrued Liability (2f)	17,363,132	18,050,360
c. Annual Required Contribution (ARC) [(3a) + (3b)]	\$35,536,408	\$38,219,135

\* Based on audit report for fiscal year ending September 30, 2013.



## Exhibit 6 – Including Drainage District Financial Statement Disclosures

The following table shows the calculation of the Annual Required Contribution and Net OPEB Obligation. The final ARC will be dependent on the discount rate selected and the end of year Net OPEB obligation will need to reflect actual contributions.

	Fiscal Year-End	
	9/30/2013	9/30/2014
<b>Discount Rate – 4.00%</b>		
<b>Determination of Annual Required Contribution</b>		
Normal Cost at fiscal year end	\$18,173,276	\$20,168,775
Amortization of UAAL	17,363,132	18,050,360
Annual Required Contribution (ARC)	\$35,536,408	\$38,219,135
<b>Determination of Net OPEB Obligation</b>		
Net OPEB Obligation – beginning of year	\$130,029,910	\$158,780,332
Annual Required Contribution	\$35,536,408	\$38,219,135
Interest on prior year Net OPEB Obligation	5,201,196	6,351,213
Adjustment to ARC	(7,230,426)	(8,829,118)
Annual OPEB Cost	\$33,507,178	\$35,741,230
Assumed Contributions made	(4,756,756)	(4,762,204)
Estimated Increase in Net OPEB Obligation	\$28,750,422	\$30,979,026
Estimated Net OPEB Obligation – end of year	\$158,780,332	\$189,759,358



# Valuation Results

## Exhibit 7

### Schedule of Funding Progress (including Drainage District)

Actuarial Valuation Date	Actuarial Value of Assets	Discount Rate	Actuarial Accrued Liabilities (AAL) <sup>(1)</sup>	Unfunded Actuarial Accrued Liabilities (UAAL) <sup>(2)</sup>	Funded Ratio	Covered Payroll*	UAAL as a % of Covered Payroll
October 1, 2009	\$ 0	4.00%	\$240,282,297	\$240,282,297	0.0%	\$	%
October 1, 2011	0	4.00%	255,897,447	255,897,447	0.0%	\$	%
October 1, 2013	0	4.00%	283,630,840	283,630,840	0.0%	\$	%



## Exhibit 5

### Projected Benefit Payments

Total net claims include medical and prescription drugs for retirees and spouses. This projection is based on the population used in this valuation and makes no provision for future hires. In addition, it will only be realized if all assumptions are met.

Year Ending 9/30	Medical Claims	Retiree Contributions	Total
2014	5,223,513	(461,309)	4,762,204
2015	5,990,108	(531,718)	5,458,390
2016	6,642,061	(606,269)	6,035,792
2017	7,392,310	(688,203)	6,704,107
2018	8,358,345	(788,223)	7,570,122
2019	9,380,316	(903,697)	8,476,619
2020	10,449,212	(1,021,707)	9,427,505
2021	11,719,209	(1,160,422)	10,558,787
2022	13,001,923	(1,302,363)	11,699,560
2023	14,353,346	(1,457,367)	12,895,979
2024	15,665,740	(1,624,121)	14,041,619
2025	17,127,000	(1,791,365)	15,335,635
2026	18,644,727	(1,981,800)	16,662,927
2027	20,309,416	(2,171,679)	18,137,737
2028	21,713,369	(2,362,815)	19,350,554
2029	23,390,934	(2,575,288)	20,815,646
2030	25,155,143	(2,783,004)	22,372,139
2031	26,899,694	(2,998,533)	23,901,161
2032	28,844,196	(3,220,266)	25,623,930
2033	31,116,616	(3,459,702)	27,656,914



# Potential Next Steps

# Potential Next Steps

## *Alternatives Include . . .*

- Continue as is with no changes to plan
- **Changing the Benefit Structure:** Change to current plan to reduce cost of employer benefits
- **Change in Eligibility Requirements:** Delay the age at which retirees can start OPEB benefits
- **Pre-Funding OPEB Benefits:** Setting up an irrevocable trust with a diversified portfolio of assets to prefund the liability
- **Alter Cost Sharing Provisions:** Increase the portion of costs paid by retirees for OPEB coverage



**New Standards - GASB 74/75**

**Replacement for GASB 43/45  
Effective June 15, 2016 and 2017**

# GASB Statements 74/75

***Effective FYB after June 15, 2016 (GASB 74) and June 15, 2017 (GASB 75)***

- Unfunded liability (UAAL) will become a balance sheet item rather than a note disclosure
- Requires use of Entry Age Normal Cost Method
- Increase in balance sheet liability and volatility of annual OPEB expense



# GASB Statements 74/75

## Terminology

- Total OPEB Liability (TOL) = AAL
  - » Actuarial Accrued Liability calculated in accordance with statements (Individual Entry Age Normal, level percentage of pay, “blended” discount rate)
- Fiduciary Net Position (FNP) = MVA
  - » Market value of plan assets
- Net OPEB Liability (NOL) = UAAL
  - »  $NOL = TOL - FNP$
  - » Formerly known as Unfunded Actuarial Accrued Liability
- Deferred inflows and outflows of resources
  - » Accounts holding unrecognized changes in NOL
  - » Essentially unrecognized gains (deferred inflows) and losses (deferred outflows);
    - *assumption changes, investment gains/losses, demographic gains/losses*



# GASB Statements 74/75

Employers recognize the change in their NOL in current period, except for limited deferrals

Expense = Service cost

- + Interest on TOL
- + Plan changes (recognized immediately)
- + Changes in FNP from other than investments  
(e.g., admin expenses, member contributions)
- Projected earnings on plan investments
- +/- Recognition of portion of deferred inflows/outflows



Questions?