
West Springfield Retirement System



Actuarial Valuation
January 1, 2008





STONE
CONSULTING, INC.

November 12, 2008

West Springfield Retirement Board
26 Central St., Suite 26
West Springfield, MA 01089-2766

Dear West Springfield Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2008 actuarial valuation of the West Springfield Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the West Springfield Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules or if employer finances allow it, to increase the contribution amount. This funding objective is being met.

We anticipate over time the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to maintain a stable contribution level for the upcoming fiscal year. The length of the funding schedule contained in this

actuarial valuation report is seventeen years (fully funded by 2026) and the amortization increase is 3.83%. The amortization increase cannot exceed 4.50% annually. The maximum length of the amortization is until Fiscal 2028. These limits are contained in Chapter 32 of the Massachusetts General Laws.

The contribution amount for Fiscal Year 2010 is \$4,973,290 that is \$672 more than the anticipated contribution amount from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The West Springfield Retirement Board conducted their previous actuarial valuation effective January 1, 2007. This satisfies these guidelines.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results.

Respectfully submitted,
STONE CONSULTING, INC.
Actuaries for the Plan

Lawrence B. Stone
Member, American Academy of Actuaries





WEST SPRINGFIELD RETIREMENT SYSTEM

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WEST SPRINGFIELD RETIREMENT SYSTEM

INTRODUCTION

This report presents the results of the actuarial valuation of the West Springfield Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2008 for the purpose of determining the contribution requirements for Fiscal Year 2010 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2007
- The benefit provisions of M.G.L. Chapter 32 and related statutes;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2008);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (i.e., withdrawals, retirement, death, etc.)

JANUARY 1, 2008 VALUATION SUMMARY

	January 1, 2008	January 1, 2007	Change
Contribution Fiscal 2010	\$4,973,290	\$4,972,618	\$672
Funding Schedule Length	17 years	17 years	0 years
Amortization Increase	3.83%	3.67%	0.16%
Funding Ratio	62%	60%	2%
Interest Rate Assumption	8.00%	8.00%	0.00%
Salary Increase Rate Assumption	5.00%	5.00%	0.00%

- The Fiscal Year 2010 contribution is \$672 more than the planned 2010 contribution. The System experienced a \$360,000 net actuarial asset gain from calendar year 2007. Stone Consulting, with agreement from the Retirement Board, values assets using market value of assets.





WEST SPRINGFIELD RETIREMENT SYSTEM

The System experienced an 8.6% annual return on the market value of assets versus our assumption of an 8.00% return. The System's asset portfolio, effective December 31, 2007 was 62% equities and 38% fixed income and short-term investments. The interest rate assumption was maintained at 8.00% to reflect anticipated market performance.

- We have kept the salary increase rate at 5.00%, consistent with the 2007 actuarial valuation. Total compensation changed by 8.1% over the prior valuation; however average annual compensation (compensation divided by number of active members) changed by 5.6%. This assumption is based on expected future experience.
- The funding level of the West Springfield Retirement System is 62% compared to 60% for the January 1, 2007 actuarial valuation. The funding level is estimated to be in the third quartile of Massachusetts' Contributory Retirement Systems.

The schedule length is seventeen (17) years. The maximum period permitted under Chapter 32 of the Massachusetts General Laws is 19 years (2028). The amortization percentage was changed from 3.67% to 3.83%, while maintaining a FY2010 contribution level consistent with the prior valuation. The maximum amortization permitted under Chapter 32 is 4.5%.

- Non-economic assumptions were changed from the January 1, 2007 actuarial valuation. The disability mortality assumption uses a 2 year set forward instead of 5 years. This implies that disabled participants will live an additional 3 years on average. This change increased the accrued liability by \$754,000.
- For Chapter 68 purposes, under an agreement with PERAC, a valuation as of January 1, 2007 was performed. We have performed a similar calculation for Chapter 68 purposes using the same actuarial assumptions and methodologies as the January 1, 2007 valuation. The result of this valuation was a funding ratio of 67.2%, an increase from the prior calculation of 65%.





WEST SPRINGFIELD RETIREMENT SYSTEM

The assumptions were similar to the January 1, 2008 valuation assumptions described in this report with the following differences:

- Interest rate of 8.4% per year
- Salary assumption of 4.5% per year plus an additional 2.5% for each of the first 6 years of employment
- Incidence of disability is assumed to be 50% ordinary disability and 50% accidental disability
- Retirement age is extended to age 70 for Group 1 and 2 employees.





WEST SPRINGFIELD RETIREMENT SYSTEM

JANUARY 1, 2008 ACTUARIAL VALUATION RESULTS

	January 1, 2008	January 1, 2007	Percentage Change
Funding			
• Contribution for Fiscal 2010	\$4,973,290		
• Contribution for Fiscal 2010 based on current schedule		\$4,972,618	0%
Members *			
• <i>Actives</i>			
a. Number	592	578	2.4%
b. Annual Compensation	\$21,374,645	\$19,770,710	8.1%
c. Average Annual Compensation	\$36,106	\$34,205	5.6%
d. Average Attained Age	47.1	47.4	-0.6%
e. Average Past Service	11.8	11.7	0.9%
• <i>Retired, Disabled and Beneficiaries</i>			
a. Number	368	366	0.5%
b. Total Benefits*	\$5,612,004	5,394,408	4.0%
c. Average Benefits*	\$ 15,250	\$14,739	3.5%
c. Average Age	73.9	73.3	0.8%
• <i>Inactives</i>			
a. Number	97	96	1.0%
Normal Cost			
a. Total Normal Cost as of January 1, 2008	\$2,855,333	\$2,654,881	7.6%
b. Less Expected Members' Contributions	<u>1,838,007</u>	<u>1,686,023</u>	9.0%
c. Normal Cost to be funded by the Municipality	\$1,017,326	\$968,858	5.0%
d. Adjustment to July 1, 2009	77,245	73,565	5.0%
e. Administrative Expense Assumption	<u>232,000</u>	<u>214,000</u>	8.4%
f. Normal Cost Adjusted to July 1, 2009	\$1,326,571	\$1,256,423	5.6%

*Excluding State reimbursed COLA





WEST SPRINGFIELD RETIREMENT SYSTEM

SUMMARY OF JANUARY 1, 2008 VALUATION (Continued)

	January 1, 2008	January 1, 2007	Percentage Change
Actuarial Accrued Liability as of January 1, 2008			
a. Active Members	\$58,748,091	\$54,083,142	8.6%
b. Inactive Members	705,985	636,667	10.9%
c. Retired Members and Beneficiaries	<u>50,463,548</u>	<u>48,978,666</u>	3.0%
d. Total	\$109,917,624	\$103,698,475	6.0%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of January 1, 2008	\$109,917,624	\$103,698,475	6.0%
b. Less Actuarial Value of Assets as of January 1, 2008	<u>68,327,179</u>	<u>62,357,085</u>	9.6%
c. Unfunded Actuarial Accrued Liability as of January 1, 2008	\$41,590,445	\$41,341,390	0.6%
d. Adjustment to July 1, 2009	<u>\$ 2,000,756</u>	<u>\$2,065,157</u>	
e. Unfunded Actuarial Accrued Liability as of July 1, 2009	\$43,591,201	\$43,406,547	





WEST SPRINGFIELD RETIREMENT SYSTEM

DEMOGRAPHIC INFORMATION

Members	January 1, 2008	Percentage Change
• Actives		
a. Number	592	2.4%
b. Annual Compensation	\$21,374,645	8.1%
c. Average Annual Compensation	\$36,106	5.6%
d. Average Attained Age	47.1	-0.6%
e. Average Past Service	11.8	0.9%
• Retired, Disabled and Beneficiaries		
a. Number	368	0.5%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	\$5,612,004	4.0%
• Inactives		
a. Number	97	1.0%

- The data was supplied by the West Springfield Retirement Board. The data was checked under broad parameters for reasonableness. With the assistance of the staff of the West Springfield Retirement Board, we were able to develop a database sufficient for valuation purposes.
- Payroll changed by 8.1% over the course of the past year. Average annual compensation changed by 5.6% over the same time period.
- The salary increase assumption includes general wage adjustments, step increases, and promotional increases.





WEST SPRINGFIELD RETIREMENT SYSTEM

HISTORY OF ACTIVE PARTICIPANTS

Valuation Year	Number	Average Age	Average Past Service	Average Ann'l Compensation
2008	592	47.1	11.8	\$36,106
2007	578	47.4	11.7	\$34,205
2006	579	45.9	11.3	\$32,341
2004	575	45.8	10.2	\$30,845
2002	577	46.0	10.6	\$29,271

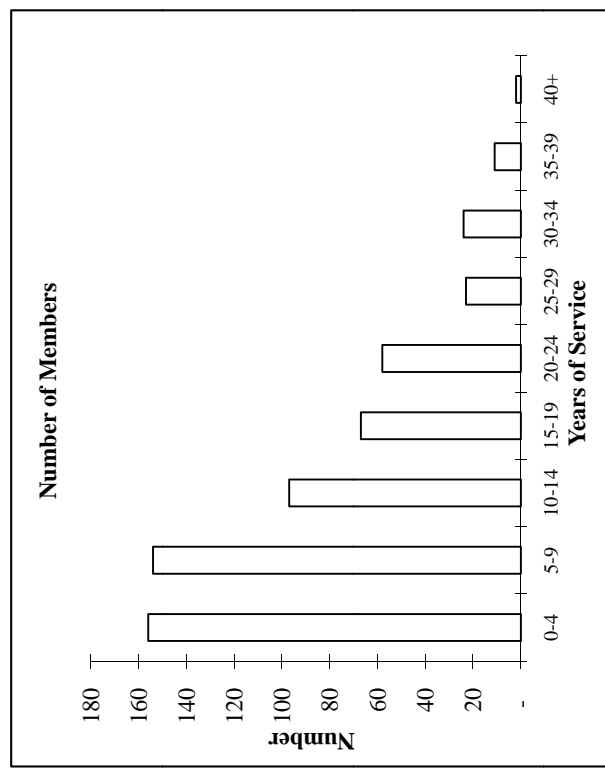
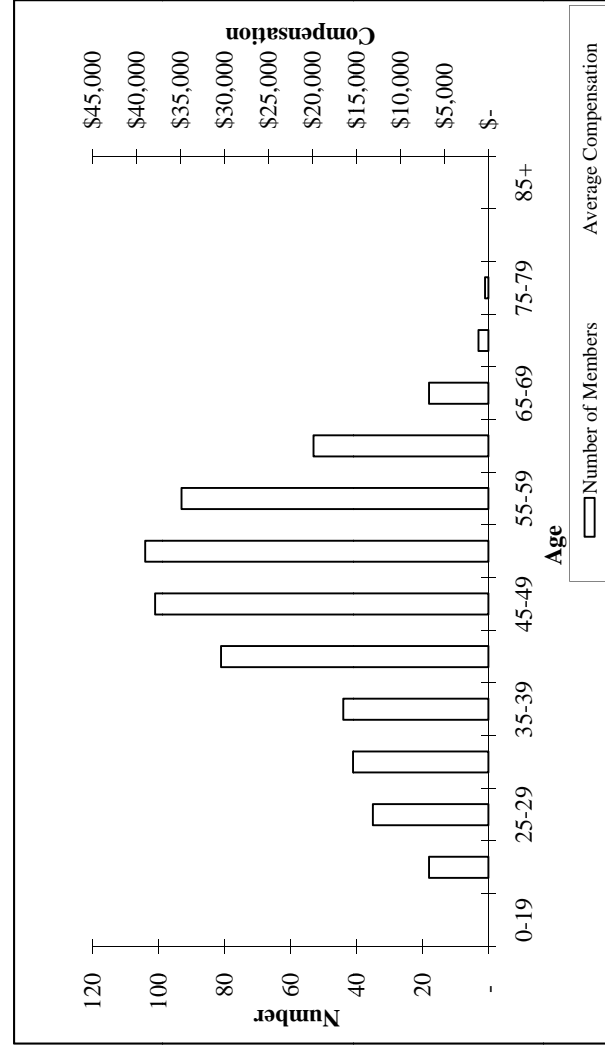
- Employee age has increased by 1.1 years and service has increased by 1.2 years over the course of the past six years. This is consistent with the trend in the Commonwealth towards an aging of the employee population. Average annual compensation has grown by 23.4% (3.6% annually) over the same time period.

The charts on the following pages summarize demographic information regarding active and retiree members.



WEST SPRINGFIELD CONTRIBUTORY RETIREMENT SYSTEM
Distribution of Plan Members as of January 1, 2008
Active Members

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 + Years	Total	Total Compensation \$	Average Compensation \$
0-19	-	-	-	-	-	-	-	-	-	-	-	-
20-24	-	18	-	-	-	-	-	-	-	18	403,503	22,417
25-29	29	6	-	-	-	-	-	-	-	35	1,283,818	36,681
30-34	15	21	5	-	-	-	-	-	-	41	1,593,263	38,860
35-39	10	17	12	5	-	-	-	-	-	44	1,792,247	40,733
40-44	23	21	17	9	10	1	-	-	-	81	3,149,873	38,887
45-49	27	31	8	15	17	3	-	-	-	101	3,378,499	33,450
50-54	20	21	20	16	10	7	10	-	-	104	3,857,812	37,094
55-59	9	19	21	13	11	8	8	4	-	93	3,427,568	36,856
60-64	3	13	9	4	8	1	6	7	2	53	1,980,623	37,370
65-69	2	3	4	5	2	2	-	-	-	18	456,612	25,367
70-74	-	1	1	-	-	1	-	-	-	3	41,633	13,878
75-79	-	1	-	-	-	-	-	-	-	1	9,193	9,193
80-84	-	-	-	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	156	154	97	67	58	23	24	11	2	592	\$ 21,374,645	\$ 36,106

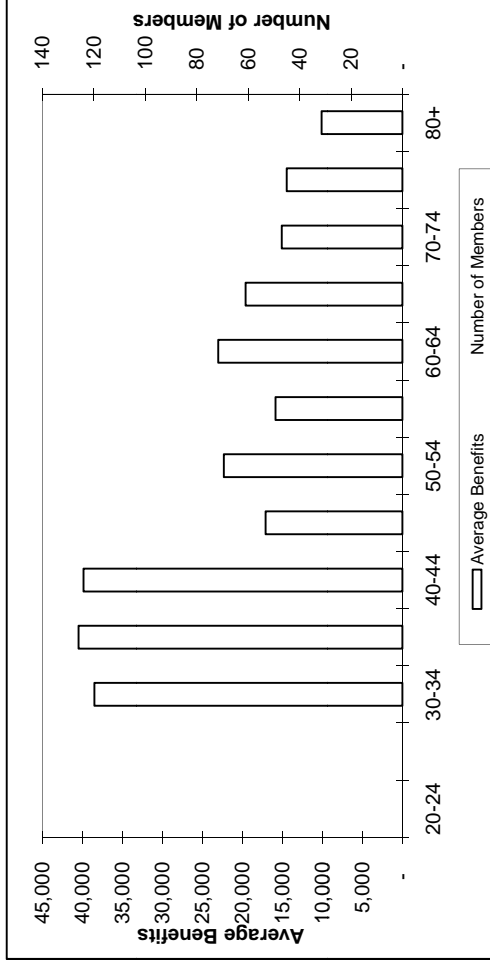




WEST SPRINGFIELD CONTRIBUTORY RETIREMENT SYSTEM
Distribution of Plan Members as of January 1, 2008
Retired Members

Disabled Member			Retired Members and Beneficiaries		
Age	Number	Average Benefit	Number	Average Benefit	Total Benefit
20-24	-	-	-	-	-
25-29	-	-	-	-	-
30-34	1	38,515	1	27,491	27,491
35-39	1	40,491	2	17,296	34,593
40-44	2	39,880	17	13,503	229,558
45-49	1	6,706	33	23,681	781,486
50-54	4	24,847	37	18,032	667,202
55-59	5	23,900	49	13,845	678,385
60-64	10	20,919	72	13,758	990,603
65-69	4	34,291	111	9,811	1,089,040
70-74	7	23,711	322	13,970	4,498,356
75-79	5	24,640			
80+	6	15,625			
TOTAL	46	24,210			

Total		
Age	Number	Total Benefit
20-24	-	-
25-29	-	-
30-34	1	38,515
35-39	1	40,491
40-44	2	39,880
45-49	2	17,098
50-54	6	22,330
55-59	22	15,866
60-64	43	23,039
65-69	41	19,619
70-74	56	15,078
75-79	77	14,465
80+	117	10,109
TOTAL	368	15,250



Benefits shown are net of State reimbursed COLA.



WEST SPRINGFIELD RETIREMENT SYSTEM

VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

NORMAL COST

		January 1, 2008	% of Payroll*
Gross Normal Cost (GNC)	\$	2,855,333	13.4%
Employees Contribution		<u>1,838,007</u>	<u>8.6%</u>
Net Normal Cost (NNC)	\$	1,017,326	4.8%
Adjusted to Beginning of Fiscal Year 2010	\$	77,245	
Administrative Expense	\$	<u>232,000</u>	1.1%
Adjusted Net Normal Cost With Admin. Expense	\$	1,326,571	

*Payroll paid in 2007 for employees as of January 1, 2008 is \$21,374,645. Payroll for new hires in 2007 was annualized.

- The gross normal cost (GNC) is the “price” of benefits accruing in the current year if the assumptions underlying the normal cost were realized.
- An individual normal cost represents that part of the cost of a member’s future benefits that are assigned to the current year as if the costs are to remain level as a percentage of the member’s pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and withdrawals) are included in this calculation.
- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).
- Administrative expenses added to the NNC. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.





WEST SPRINGFIELD RETIREMENT SYSTEM

ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

		January 1, 2008	Percentage Change
Active Actuarial Accrued Liability		\$ 58,748,091	8.6%
Superannuation	\$ 49,346,524		
Death	\$ 1,733,167		
Disability	\$ 6,547,421		
Termination	\$ 1,120,979		
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability		<u>51,169,533</u>	3.1%
Retirees and Beneficiaries	\$ 38,925,916		
Disabled	\$ 11,537,632		
Inactive	\$ 705,985		
Total Actuarial Accrued Liability (AAL)		\$ <u>109,917,624</u>	6.0%
Actuarial Value of Assets (AVA)		\$ <u>68,327,179</u>	9.6%
Unfunded Actuarial Accrued Liability		\$ 41,590,445	0.6%
Funded Ratio (AVA / AAL)			
2008 (8.00% interest rate):	62%		
2007 (8.00% interest rate):	60%		

- Actuarial Accrued Liability (AAL) is the “price” of benefits attributable to benefits earned in past years, or in other words, represents today’s value of all benefits earned by active and inactive members.
- The total AAL is \$109,917,624. This along with an actuarial value of assets of \$68,327,179 produces a funded status of 62%. This compares to a funded status of 60% for the 2007 valuation.

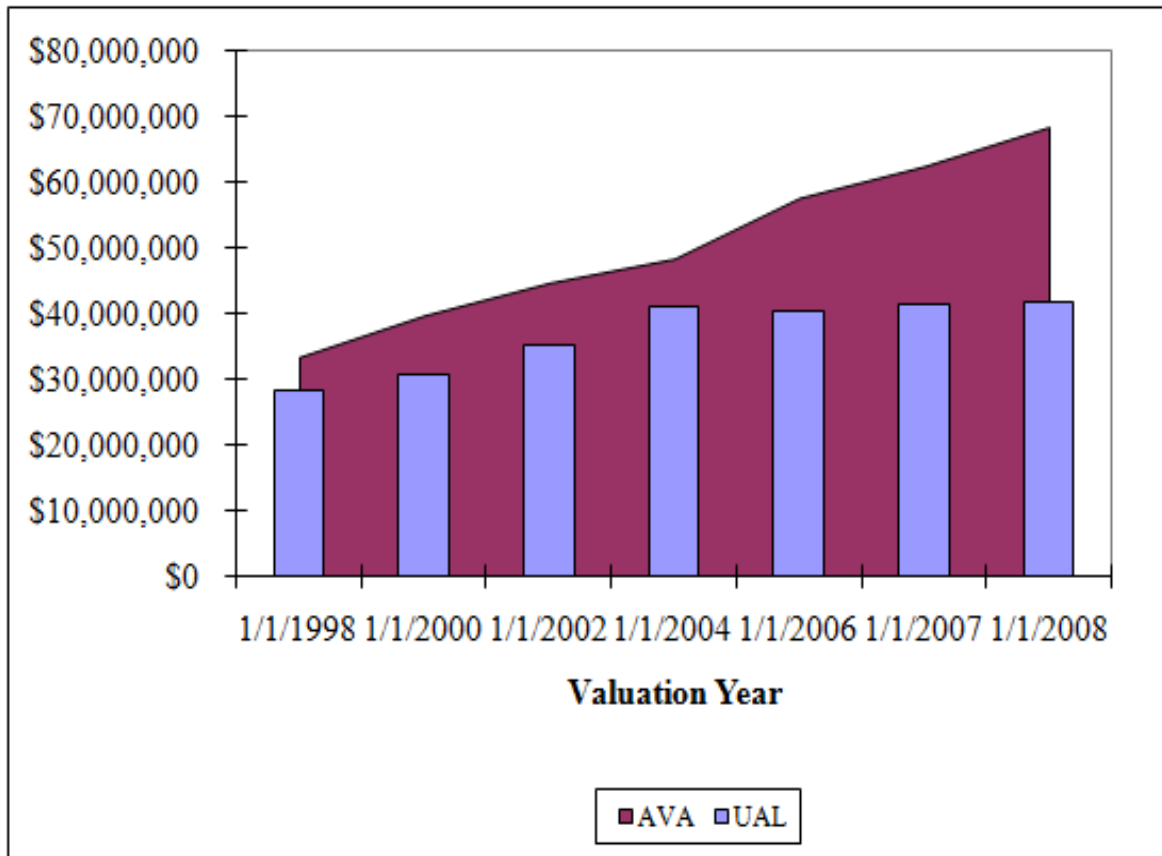
The chart on the following page is a history of the unfunded actuarial accrued liability (UAL) and the valuation assets (AVA) over the course of the past seven actuarial valuations.





WEST SPRINGFIELD RETIREMENT SYSTEM

HISTORY OF ACTUARIAL VALUATION OF ASSETS (AVA) AND UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAL)





WEST SPRINGFIELD RETIREMENT SYSTEM

DEVELOPMENT OF FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2010	\$	1,326,571
Amortization	\$	<u>3,506,357</u>
Total Appropriation		4,832,928
Interest Adjustment for Quarterly payments		<u>140,362</u>
Total Appropriation required for Fiscal 2010	\$	4,973,290

- The funding schedule is composed of the normal cost, and the amortization of the actuarial accrued unfunded liability and is adjusted by the administrative expense assumption. The contribution is assumed to be made quarterly.
- The contribution amount for Fiscal 2010 is \$4,973,290. The funding schedule is presented on page 15. The schedule's length is seventeen (17) years (for the fresh start base) which is the same as the remainder of the January 1, 2007 valuation schedule's length. The maximum funding schedule length allowed by Chapter 32 of the Massachusetts General Laws is nineteen years to 2028.
- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability (UAAL), other than the UAAL due to past early retirement incentives, is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage changed from 3.67% from the January 1, 2007 valuation to 3.83%. The maximum amortization increase allowed under Chapter 32 is 4.50%.





WEST SPRINGFIELD CONTRIBUTORY RETIREMENT SYSTEM

FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution	Adjusted for Quarterly Payments
2010	1,326,571	43,591,201	3,506,357	4,832,928	4,973,290
2011	1,392,900	43,291,631	3,635,511	5,028,410	5,174,449
2012	1,462,545	42,828,610	3,769,611	5,232,155	5,384,112
2013	1,535,672	42,183,720	3,908,847	5,444,519	5,602,643
2014	1,612,455	41,336,862	4,053,416	5,665,871	5,830,424
2015	1,693,078	40,266,122	4,203,522	5,896,600	6,067,854
2016	1,777,732	38,947,608	4,359,377	6,137,109	6,315,348
2017	1,866,619	37,355,289	4,521,201	6,387,820	6,573,340
2018	1,959,950	35,460,815	4,689,224	6,649,173	6,842,284
2019	2,057,947	33,233,318	4,863,681	6,921,628	7,122,651
2020	2,160,844	30,639,208	4,910,620	7,071,464	7,276,839
2021	2,268,887	27,786,875	5,098,697	7,367,583	7,581,559
2022	2,382,331	24,503,233	5,293,977	7,676,308	7,899,249
2023	2,501,447	20,745,996	5,496,736	7,998,184	8,230,473
2024	2,626,520	16,469,201	5,707,261	8,333,781	8,575,817
2025	2,757,846	11,622,895	5,925,849	8,683,695	8,935,894
2026	2,895,738	6,152,809	6,152,809	9,048,547	9,311,342
2027	3,040,525	-	-	3,040,525	3,128,830
2028	3,192,551	-	-	3,192,551	3,285,272

Amortization of Unfunded Liability as of July 1, 2009

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2005	ERI-Housing	6,000	0.00%	15	6,000	10
2005	ERI	128,200	0.00%	15	128,200	10
2010	Fresh Start	3,372,157	3.83%	17	3,372,157	17

Notes on Amortization of Unfunded Liability

Year is the year the amortization base was established.

Type is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

Original Amortization Amount is the annual amortization amount when the base was established.

Percentage Increasing is the percentage that the Original Amortization Amount increases per year.

Original # of Years is the number of years over which the base is being amortized.

Current Amortization Amount is the amortization payment amount for this year.

Years Remaining is the number of years left to amortize the base.

Years Remaining is the number of years left to amortize the base.



WEST SPRINGFIELD RETIREMENT SYSTEM

ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

<u>Assumption</u>	<u>January 1, 2008 Valuation</u>
Interest Rate	8.00% (same as prior valuation)
Salary Increase	5.00% (same as prior valuation)
COLA	3% of \$12,000
COLA Frequency	Granted every year
Mortality	RP-2000 table. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP-2000 table, ages set forward 2 years. (Prior valuation used a 5 year set forward.)
Overall Disability	<u>Groups 1 and 2</u> 30% ordinary disability 70% accidental disability <u>Group 4</u> 10% ordinary disability 90% accidental disability
Retirement Rates	<u>Groups 1 and 2</u> Ages 55 – 65 <u>Group 4</u> Ages 50 – 65
Administrative Expense	\$232,000 budget estimated for FY 2010 provided by West Springfield Retirement Board.





WEST SPRINGFIELD RETIREMENT SYSTEM

ASSETS

a.	Cash	\$	3,817,564.42
b.	Fixed Income		19,731,028.07
c.	Equities		33,545,379.71
d.	PRIT Fund		9,882,766.01
e.	Sub-Total:	\$	66,976,738.21
f.	Interest Due and Accrued		207,367.02
g.	Accounts Receivable		1,223,401.86
h.	Accounts Payable		(80,328.48)
i.	Sub-Total:	\$	1,350,440.40
j.	Market Value of Assets [(e) + (i)]	\$	68,327,178.61

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2007 (adjusted for interest due and accrued, payables and receivables) is \$68,327,178.61.
- The asset allocation as of December 31, 2007 is approximately 8% cash, receivables, payables and short-term investments, 30% fixed income and 62% equities.
- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6 to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25 to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 8.00% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.





WEST SPRINGFIELD RETIREMENT SYSTEM

DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

Schedules of Funding Progress

(Dollars In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll (B-A)/C
	A	B	B-A	A/B	C	
1/1/2008	\$68,327	\$109,918	\$41,591	62%	\$21,375	195%
1/1/2007	\$62,357	\$103,698	\$41,341	60%	\$19,771	209%
1/1/2006	\$57,540	\$97,854	\$40,314	59%	\$18,725	215%
1/1/2004	\$48,288	\$89,408	\$41,120	54%	\$17,736	232%
1/1/2002	\$44,610	\$79,861	\$35,251	56%	\$16,889	209%

Notes to Schedules

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2008
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	17 years for the fresh start base
Asset valuation method	Market value of assets (adjusted by accounts payable and receivable)
Actuarial assumptions:	
Investment Rate of Return	8.00% per year
Projected Salary Increases	5.00% per year





WEST SPRINGFIELD RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Methods

1. Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.
2. Asset Valuation Method

Market value of assets (adjusted by payables and receivables).
3. Fiscal Year Adjustment

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2010. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

Actuarial Assumptions

1. Investment Return

8.00% per year net of investment expenses. (Same as the prior valuation)
2. Salary Increases

5.00% per year. (Same as the prior valuation)





WEST SPRINGFIELD RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

3. Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption. Withdrawal rates are set to zero if the retirement rate at that age is nonzero.

<i>Age</i>	Rate of Withdrawal	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	37.51%	3.15%
25	28.23%	2.85%
30	17.35%	2.48%
35	10.07%	1.88%
40	7.21%	0.84%
45	5.68%	0.06%
50	4.57%	0.00%
55	0.00%	0.00%

4. Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

<i>Age</i>	Rate of Disability	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	0.03%	0.10%
25	0.04%	0.12%
30	0.06%	0.18%
35	0.08%	0.26%
40	0.12%	0.38%
45	0.18%	0.58%
50	0.31%	0.98%
55	0.50%	1.60%
60	0.61%	1.97%

Disability is assumed to be 30% ordinary and 70% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.





WEST SPRINGFIELD RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

Age	Rates of Retirement	
	Group 1 and 2	Group 4
50	N/A	2%
51	N/A	2%
52	N/A	2%
53	N/A	2%
54	N/A	2%
55	10%	5%
56	3%	5%
57	3%	5%
58	3%	5%
59	5%	5%
60	5%	10%
61	5%	10%
62	10%	20%
63	10%	20%
64	10%	20%
65	100%	100%

6. Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct).

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) set-forward by 2 years. Death is assumed to be due to the same cause as the disability 40% of the time. (Prior valuation used RP-2000 mortality table set-forward 5 years.)

8. Regular Interest Rate Credited to Annuity Savings Account

2% per year.





WEST SPRINGFIELD RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

- | | |
|------------------------------|---|
| 9. Family Composition | Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older). |
| 10. Cost-of-Living Increases | A 3% COLA on the first \$12,000 of a member's retirement allowance is assumed to be granted every year. |
| 11. Administrative Expenses | Estimated budgeted amount of \$232,000 for the Fiscal Year 2010 excluding investment management fees and custodial fee is added to the Normal Cost. |
| 12. Step Increases | Step increases are assumed to be part of the salary increase assumption. |
| 13. Credited Service | All service is assumed to be due to employment with the municipality. |
| 14. Contribution Timing | Contributions are assumed to be made quarterly |
| 15. Valuation Date | January 1, 2008. |





WEST SPRINGFIELD RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS

1. Participant Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

Group 1: general employees

Group 2: employees in specified hazardous occupations (e.g., electricians)

Group 4: police and firefighters

2. Member Contributions Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over \$30,000.

3. Pay
- a. Pay Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.
- b. Average Pay The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.
4. Credited Service Period during which an employee contributes to the retirement system plus certain periods of military service and “purchased” service.





WEST SPRINGFIELD RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

5. Service Retirement

- a. Eligibility Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.
- b. Retirement Allowance Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years.

6. Deferred Vested Retirement

- a. Eligibility Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).





WEST SPRINGFIELD RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

6. Deferred Vested Retirement (*continued*)
- b. Retirement Allowance Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option.
- Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.
7. Ordinary Disability Retirement
- a. Eligibility Non-job related disability after completion of 10 years of credited service.
- b. Retirement Allowance Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.
8. Accidental Disability Retirement
- a. Eligibility Disabled as a result of an accident in the performance of duties. No age or service requirement.
- b. Retirement Allowance 72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).





WEST SPRINGFIELD RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

9. Non-Occupational Death
- a. Eligibility Dies while in active service, but not due to occupational injury. 2 years of service.
 - b. Retirement Allowance Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - \$250, first child - \$120, each additional child - \$90.
10. Occupational Death
- a. Eligibility Dies as a result of an occupational injury.
 - b. Benefit Amount Same as 8b.
11. Cost-of-Living Increases
- An increase of up to 3% applied to the first \$12,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.
12. Optional Forms of Payment
- a. Option A Allowance payable monthly for the life of the member.
 - b. Option B Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.
 - c. Option C Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.





WEST SPRINGFIELD RETIREMENT SYSTEM

GLOSSARY OF TERMS

1. Present Value of Benefits Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2. Actuarial Cost Method The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3. Actuarial Assumptions Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4. Actuarial Accrued Liability The portion of the Present Value of Benefits that is attributable to past service.
5. Normal Cost The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6. Actuarial Assets Market value of assets (adjusted by payables and receivables).
7. Unfunded Actuarial Accrued Liability That portion of the Actuarial Accrued Liability not covered by System Assets.
8. PERAC Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.
9. PRIT Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.
10. GASB Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).





WEST SPRINGFIELD RETIREMENT SYSTEM

Acknowledgement of Qualification

Acknowledgement of Qualification for January 1, 2008 actuarial valuation of the West Springfield Retirement System:

I, Lawrence Stone, am a consultant for Stone Consulting, Inc. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Lawrence B. Stone
Member, American Academy of Actuaries

