Pennsylvania Municipal Retirement System

Actuarial Valuation as of January 1, 2011

Produced by Cheiron

May 2012

CHEIRON Classic Values, Innovative Advice

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May 17, 2012

Pennsylvania Municipal Retirement Board of the
Pennsylvania Municipal Retirement System
c/o James B. Allen, Secretary
P.O. Box 1165
Harrisburg, PA 17108-1165

Dear Members of the Board:

At your request, we have conducted the annual actuarial valuation of the Pennsylvania Municipal Retirement System (the System) as of January 1, 2011. The results of the valuation are contained in this report. The purpose of the valuation is discussed in the Foreword.

The purpose of this report is to present the annual actuarial valuation of the Pennsylvania Municipal Retirement System. This report is for the use of the Pennsylvania Municipal Retirement Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party. This report contains analyses which combine asset and liability performance and projections. This is a multiple employer retirement system for participating municipalities and counties. Assets and liabilities are separately accounted for and reported to the Public Employee Retirement Commission of the Commonwealth of Pennsylvania. This report reflects aggregate valuation results for the System. The report provides statistics on employer contribution levels for the defined benefit portion of the municipal plans participating in the system as of the valuation date, the updated methods and assumptions effective January 1, 2011, as well as required disclosures under the Governmental Accounting Standards Board Statement #25 for the entire System.

Your attention is called to the Foreword and Board Summary in which we refer to the general approach employed in the preparation of this report, a big picture view of the System, historical trends developed by Cheiron, and future stress testing of the System. Note the trend data developed prior to January 1, 2007 was developed by the prior actuary. We also comment on the sources and reliability of both the data and the actuarial assumptions on which our findings are based. Those comments are the basis for our certification that this report is complete to the best of our knowledge and belief. We rely on future System experience conforming to the underlying assumptions. To the extent that actual System experience deviates from the underlying assumptions, the results would vary accordingly.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the System. This information includes, but is not limited to, the plan provisions, employee data, and financial information.

We hereby certify that, to the best of our knowledge, this report and its contents, which are based on the information and data supplied by the Pennsylvania Municipal Retirement System, are work products of Cheiron, Inc. These work products are complete and have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Karen Zangara

Kenneth A. Kent, FSA, FCA
Principal Consulting Actuary

Karen Zangara, FSA
Consulting Actuary

cc: Anthony J. Bucci, Jr.

FOREWORD

Cheiron has performed the actuarial valuation of the Pennsylvania Municipal Retirement System (System) as of January 1, 2011. The purpose of this report is to:

1) **Measure and disclose**, as of the valuation date, the financial condition of the System;

2) **Indicate trends** in the financial progress of the System;

3) **Determine the average contribution rate** to be paid by the System's individual municipalities; and

4) **Provide specific information** and documentation required by the Governmental Accounting Standards Board (GASB).

An actuarial valuation establishes and analyzes System assets and liabilities on a consistent basis and traces the progress of both from one year to the next. It includes measurement of the System's investment performance as well as an analysis of actuarial liability gains and losses.

Section I presents a summary containing our findings and disclosing important trends experienced by the System in recent years.

Section II contains details on various asset measures, together with pertinent performance measurements.

Section III shows similar information on System liabilities, measured for actuarial, accounting, and government reporting purposes.

Section IV shows the distribution of the municipalities' contribution rates by component.

Section V includes the required disclosures under GASB Statement Number 25.

The appendices to this report contain a summary of the System's membership at the valuation date, and the actuarial methods and assumptions used in the valuations.

As this System is a multiple employer plan in which each of the participating municipalities are entitled to define and submit to the Board amendments to their benefit provisions for their respective employees, the actual plan provisions are not included in this report. We based our results on the plan provisions defined and submitted to the State under the 2011 Act 205 filings and 2010 Act 293 filings in preparing this valuation. The System is bound by Act 205 to complete a biennial valuation for each employer, but we have developed liabilities for 2011 for all plans in the System, which includes the five county plans, to provide an overall measure of the funded status of the System.

There are a number of plans which were previously considered to be defined contribution plans. However, because the account balances under these plans are guaranteed and the assumed return rate and account balances are typically converted to annuities at retirement, the defined contribution plans actually function more as hybrid plans known as *cash balance plans*. Therefore, we have changed the references to these plans but do not include them in our actuarial determination of liabilities relative to the reserves held by PMRS for the *traditional* defined

FOREWORD

benefit plans. The values under the cash balance plans are unchanged as a result of the change in nomenclature and, by definition the account balances in these plans are equal to the liabilities which are equal to the reserves for these plans as maintained by PMRS.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the Office of the System's Staff. This information includes, but is not limited to, the plan provisions, employee data, and financial information. This report incorporates all data and updates sent to Cheiron by March 31, 2012 effective on January 1, 2011. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23.The actuarial assumptions reflect our understanding of the likely future experience of the System, and the assumptions as a whole represent our best estimate for the future experience of the System. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the System could vary from our results.

This actuarial report was prepared exclusively for the Pennsylvania Municipal Retirement System for the purpose of meeting the obligations of Act 205 and for Board consideration of the status of the System. This valuation report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Finally, in preparing this report, we have conformed to generally accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. To the extent the laws of the Commonwealth of Pennsylvania and/or the administrative practices of the System differ from Actuarial Standards of Practice, we have identified such deviations within the assumption section of this report.

SECTION I
BOARD SUMMARY

General Comments
The primary purpose of the actuarial valuation and this report is to disclose the following as of the valuation date:

- The overall financial condition of the Pennsylvania Municipal Retirement System,
- Biennial valuation of the non-county plans participating in the System,
- Past trends and expected future trends in the System's financial condition, and
- Information required by the Governmental Accounting Standards Board (GASB).

In this Section, we present a summary of the principal valuation results. This includes the basis upon which the January 1, 2011 valuation was completed and an examination of the current financial condition of the System. In addition, we present a review of the key historical trends followed by the System's projected financial outlook.

The municipal plans are valued every other year. Throughout our report our discussion will address changes from January 1, 2009, the last time the municipal plans were valued, to January 1, 2011 when discussing the funded status of the aggregation of these plans. In other parts of our discussion, we address the overall status of the System. In this case, we compare results from the 2010 plan year to 2011 to identify the changes in the overall System funded status.

A. Valuation Basis

The January 1, 2011 valuation results are based on the actuarial assumptions submitted and approved by the Board effective with the January 1, 2011 valuation in the experience study report of the System. All legislative changes from Act 44 of 2009 are incorporated into these results. All results presented prior to January 1, 2007 are based on the valuation reports prepared by the prior actuary.

Below we identify key results of this valuation:

- *Unfunded Actuarial Liability (UAL):* The UAL is the excess of the System's actuarial liability (AL) over the actuarial value of assets (AVA). Because the System is made up of many plans, some with UAL and others with surplus (when the municipality's AVA is greater than the AL), the aggregate change of each of these values combined provides the net funded level of the System. In aggregate, the System has been in a net surplus based on these measures. However, the surplus has decreased since last year from $59.8 Million as of January 1, 2010 to $39.8 Million as of January 1, 2011.

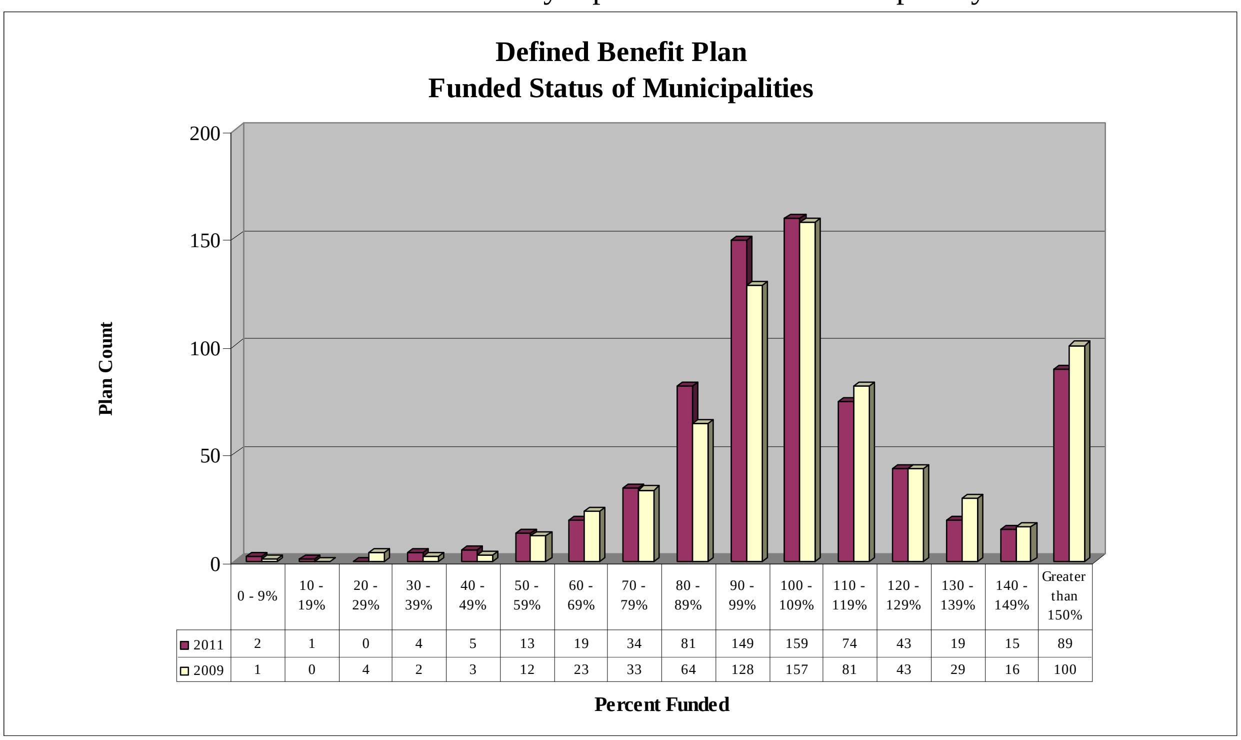
- On a snap shot basis comparing the market value of assets (MVA) to AL provides information of the progress of the System funding after the 2008 dramatic market decline that resulted in the Systems assets dropping below the total reserves. As of January 1, 2011 the AL exceeded the MVA resulting in an unfunded liability of $131.6 million. However, this represents a significant improvement compared to the same measurement of AL to MVA as of January 1, 2010 of $193.8 million or a net $62.2 million dollar decrease in the funded level over the one year period on a market value basis.

SECTION I
BOARD SUMMARY

- *Funding Ratio:* This is the ratio of the System's AVA to AL. The funding ratio decreased from 103.8% as of January 1, 2010 to 102.4% as of January 1, 2011 reflecting the continued absorption of the 2008 investment losses.

- *Assumption Change:* The assumptions for the defined benefit plans were based upon the Board's review of the 2010 Experience Study (the Study). These changes include numerous changes predominately to the demographic assumptions and are fully outlined in the Study. The net impact of the adopted assumptions was a $4.2 million decrease in the aggregate actuarial liability and a $2.6 million decrease in the aggregate normal cost for all participating municipalities.

The following chart shows a distribution of the funded status of the plans covered by the System in 2009 and 2011. From this comparison, the distribution of funded status of the individual plans has decreased as compared to 2009. We are comparing these results to the 2009 results because the traditional defined benefit non-county plans were last explicitly valued in 2009.



SECTION I
BOARD SUMMARY

B. Current Financial Condition

On the following pages, we summarize the key results of the January 1, 2011 valuation and compare them to the January 1, 2010 valuation results.

1. System Membership:

As shown in Table I-1 below, total membership in the Retirement System increased by 1.9% from 2010 to 2011. The aggregate covered payroll of the System increased by 3.0% this year, while the average salary per active member increased by 4.6%.

Table I-1
Membership Total

	January 1, 2011	January 1, 2010	% Change
Traditional Defined Benefit Actives	8,091	8,357	-3.2%
Cash Balance Benefit Actives	1,119	994	12.6%
Terminated Vesteds	987	857	15.2%
Participants Receiving Benefit Payments	3,707	3,449	7.5%
Beneficiaries	477	460	3.7%
Total System Members	14,381	14,117	1.9%
Annual Salaries*	$425,485,909	$413,065,016	3.0%
Average Salary per Active Member	46,198	44,173	4.6%

* Annualized salary for Defined Benefit plan participants and actual salary for Cash balance participants.

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BOARD SUMMARY

Table I-2 summarizes demographic make-up of the System's traditional defined benefit and cash balance plans.

Table I-2
Demographic Make-up of the System

Category	Valuation as of January 1, 2011	Valuation as of January 1, 2010	Percent Change
Number of plans:			
Traditional Defined Benefit Plans	707	697	1.43%
Cash Balance Plans	229	202	13.37%
Active Employees in Traditional Defined Benefit Plans:			
Count	8,091	8,357	-3.18%
Average Age	47.8	47.6	0.35%
Average Service	12.7	12.4	2.02%
Total Payroll*	$ 383,802,844	$ 377,960,930	1.55%
Average Pay	$ 47,436	$ 45,227	4.88%
Active Employees in Cash Balance Plans:			
Count	1,119	994	12.58%
Average Age	49.8	49.5	0.55%
Average Service	11.8	11.3	4.34%
Average Pay*	$ 37,250	$ 35,316	5.48%
Inactive Participants in Traditional Defined Benefit Plans:			
Deferred Pension	711	647	9.89%
Return of Contributions	42	23	82.61%
Inactive Participants in Cash Balance Plans	234	187	25.13%
Pensioners:			
Count	3,707	3,449	7.48%
Average Age	69.7	69.9	-0.22%
Average Monthly Benefit	$ 1,141	$ 1,081	5.56%
Number of New Awards	396	296	33.78%
Average New Monthly Benefit	$ 1,552	$ 1,336	16.18%
Number Receiving Legislated COLA	164	153	7.19%
Survivor Beneficiaries:			
Count	477	460	3.70%
Average Age	74.0	74.1	-0.07%
Average Monthly Benefit	$ 785	$ 756	3.88%

* *Actual salaries paid during the prior Plan year.*

SECTION I
BOARD SUMMARY

2. System Assets and Liabilities:

Table I-3 presents a comparison between the January 1, 2010 and January 1, 2011 System assets, liabilities, UAL, and funding ratios for traditional defined benefit non-county, traditional defined benefit county, and cash balance plans. While this valuation was prepared to support the non-county plans, we were provided county participant data and estimated their liabilities for comparative purposes. The total funding ratio decreased from 103.8% as of January 1, 2010 to 102.4% as of January 1, 2011. However, using the market asset value as a measure of funded status there was improvement year over year from 87.6% to 92.1%.

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BOARD SUMMARY

Table I-3
Total Plan Assets and Liabilities
($ thousands)

	January 1, 2011	January 1, 2010	% Change
Traditional Defined Benefit (Non-county) Plans:			
Actives	$ 905,782	$ 873,031	3.8%
Terminated Vesteds	53,485	50,918	5.0%
In Pay Status	559,188	497,144	12.5%
Total Actuarial Liability	$ 1,518,455	$ 1,421,093	6.9%
Actuarial Value of Assets[1]	1,552,880	1,481,919	4.8%
Unfunded/(Surplus) of Actuarial Liability	$ (34,425)	$ (60,826)	-43.4%
Traditional Defined Benefit (County) Plans:			
Actives	$ 60,726	$ 55,518	9.4%
Terminated Vesteds	6,571	6,036	8.9%
In Pay Status	19,618	20,454	-4.1%
Total Actuarial Liability[2]	$ 86,915	$ 82,008	6.0%
Actuarial Value of Assets[1]	82,720	80,975	2.2%
Unfunded/(Surplus) of Actuarial Liability	$ 4,195	$ 1,033	306.0%
Cash Balance Plans:			
Actives	$ 51,751	$ 42,446	21.9%
Terminated Vesteds	8,189	6,751	21.3%
In Pay Status	8,594	8,060	6.6%
Total Actuarial Liability	$ 68,534	$ 57,257	19.7%
Actuarial Value of Assets[1]	68,534	57,257	19.7%
Unfunded/(Surplus) of Actuarial Liability	$ -	$ -	0.0%
Total of All Plans			
Actives	$ 1,018,259	$ 970,995	4.9%
Terminated Vesteds	68,245	63,705	7.1%
In Pay Status	587,400	525,658	11.7%
Total Actuarial Liability	$ 1,673,904	$ 1,560,358	7.3%
Market Value of Assets	$ 1,542,288	$ 1,366,586	12.9%
Actuarial Value of Assets (summation of above)[1]	$ 1,704,134	$ 1,616,776	
Assets for Expenses	3,375	3,375	
Actuarial Value of Asset Adjustment[3]	6,243	-	
Final Actuarial Value of Assets[4]	$ 1,713,752	$ 1,620,151	5.8%
Unfunded/(Surplus) using Actuarial Value	**$ (39,848)**	**$ (59,793)**	**-33.4%**
Funding Ratio on Actuarial Asset Value	**102.4%**	**103.8%**	**-1.4%**
Unfunded/(Surplus) using Market Asset Value	**$ 131,616**	**$ 193,772**	**-32.1%**
Funding Ratio on Market Asset Value	**92.1%**	**87.6%**	**4.5%**

1 The assets shown above are attributable to the traditional defined benefit, cash balance, non-county and county plans as of January 1, 2011 based upon updated data and information provided.
2 County plan liabilities are estimated in odd years based upon unaudited data received from the System.
3 The Actuarial Value of Asset Adjustment reflects an adjustment to the retiree reserve account to reflect the actual retiree liability as of January 1, 2011 and to the municipal reserve account for changes in the annual contributions and late payments.
4 The Final Actuarial Value of Assets reflect the December 31, 2010 asset value based upon Member, Municipal, Retiree and Disability reserve accounts, as approved by the Board and provided by PMRS.

SECTION I
BOARD SUMMARY

Table I-4 presents a summary of the January 1, 2011 traditional defined benefit plans that are in a surplus or underfunded position.

Table I-4
Funded Status of Municipalities

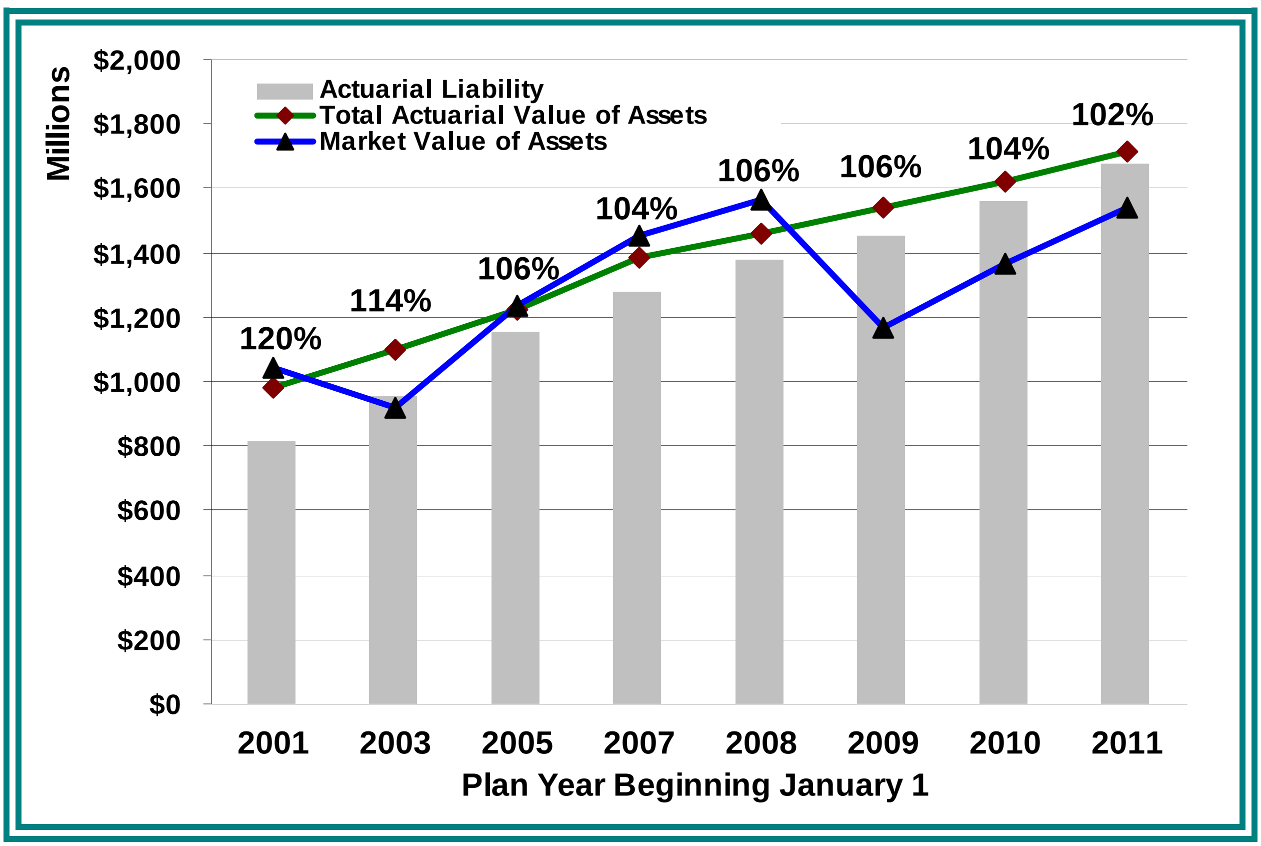
	January 1, 2011	January 1, 2009
A. Municipal Plans in a surplus position		
1. Number of plans with a surplus	397	425
2. Assets in plans with a surplus	$808,658,601	$992,151,618
3. Actuarial Liability in plans with a surplus	683,650,091	831,035,497
4. Amount of surplus (2. – 3.)	$125,008,510	$161,116,121
B. Municipal Plans in an underfunded position		
1. Number of underfunded plans	305	271
2. Assets in underfunded plans	$744,221,262	$497,077,124
3. Actuarial Liability in underfunded plans	834,805,427	569,677,767
4. Amount of (unfunded) liability (2. – 3.)	($90,584,165)	($72,600,643)

C. Historical Trends

Even though the attention given to the valuation reflects the most recently computed actuarial liability and funding ratio, it is important to remember that each valuation is merely a snapshot of the long-term progress of the System. It is equally important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

In the chart below, we present the historical trends for the total System (traditional defined benefit, cash balance, county and non-county) market and actuarial value of assets compared to the total System (traditional defined benefit, cash balance, county and non-county) actuarial liabilities. Additionally, we have included the funding ratio on an actuarial asset valuation basis to show the progress of the Retirement System since 2001.

Pennsylvania Municipal Retirement System Assets and Liabilities – 2001 to 2011



This graph demonstrates that the System's funding ratio (Actuarial Value of Assets divided by the Actuarial Liability) declined steadily over the given period, but still remained over 100% because of the method assets are measured for funding purposes. However, the 2011 Market Value of Assets is less than the Actuarial Liability, such that on a market value basis, the funded ratio would be 92.1% reflecting steady improvement since the decline first reflected in 2009.

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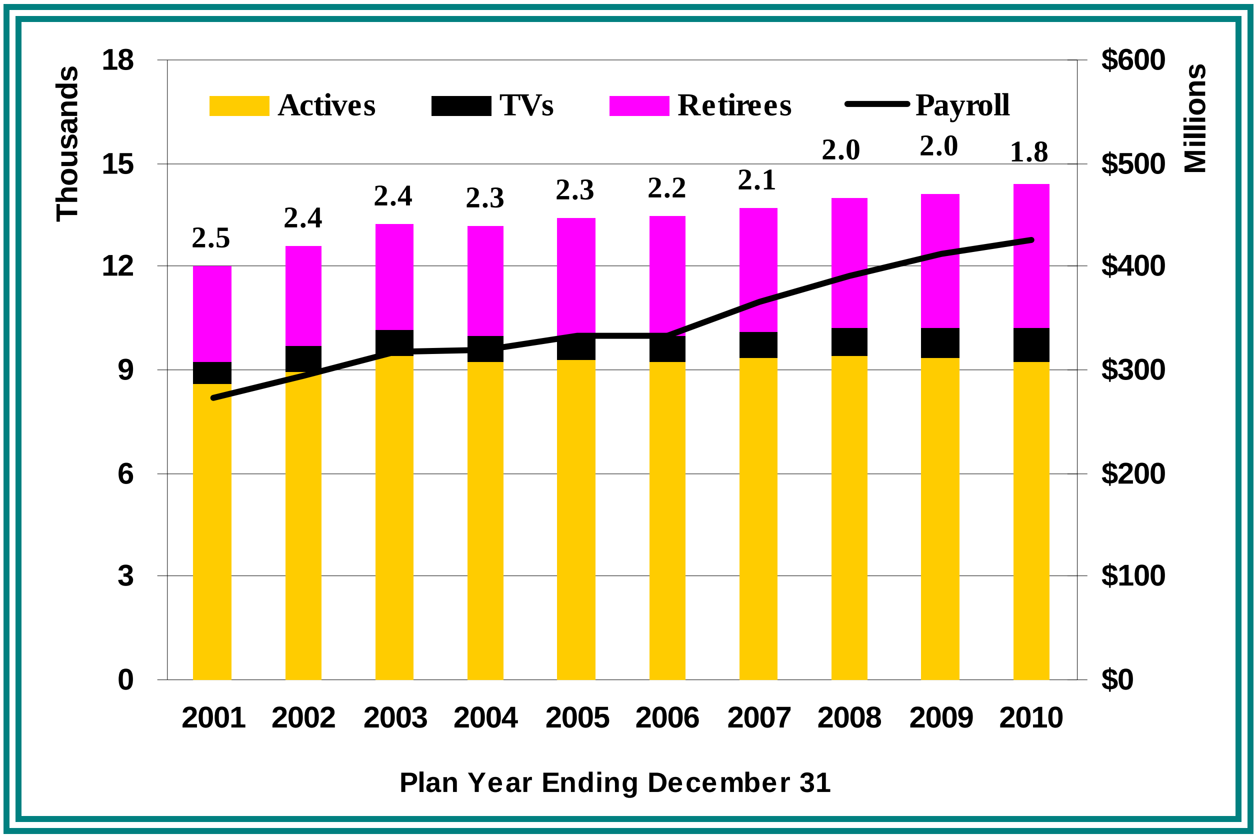
BOARD SUMMARY

Pennsylvania Municipal Retirement System Participant Counts – end of year 2001 to 2010

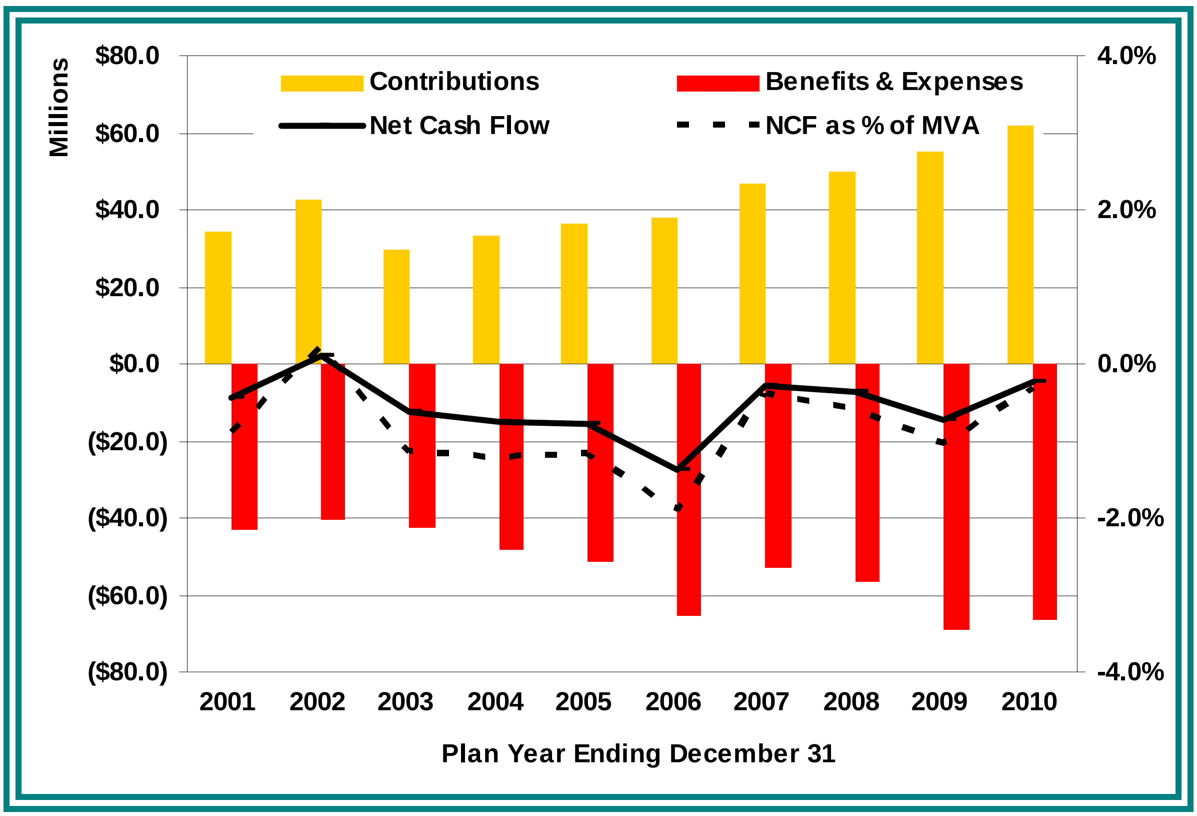


The chart above shows a comparison of the demographic makeup of the System over the last ten years. The number above the bars represents the ratio of active to inactive employees, which is decreasing at a gradual pace. A retirement system has a life cycle of its own, reaching maturity when as many or more of the covered participants are non-active (retirees and terminated vested participants (TVs)). When this occurs, the ratio moves closer to and sometimes below 1.0. For the System, the fact that this ratio is still relatively high indicates that contribution income is likely to continue to offsets most of the benefit payments plus expenses resulting in relatively small negative cash flows at about 0.3% of assets.

SECTION I
BOARD SUMMARY

This next graph tracks the cash flow since 2001. An important risk element of a retirement system is the implication of cash flow and resources for paying benefits. If the level of benefit payments exceeds expected contributions, then additional cash from existing assets are needed to make the benefit payments. This is referred to as negative cash flow, which is typical among mature public retirement systems. On the right-hand side, we show the net cash flow as a percent of assets. As the graph below illustrates, the net negative cash flow falls within the range between 0.3% to 2.0% of total assets (the cash flow was slightly positive in 2002 only). This implies that along with proceeds from contributions, an additional amount of cash generated from asset investments must be identified to pay benefits. Another way to consider this is that for the total value of assets to grow, the fund needed a minimum return between 0.3% to 2.0%.

Pennsylvania Municipal Retirement System Cash Flows – 2001 through 2010



SECTION I
BOARD SUMMARY

D. Projected Financial Trends

Our analysis of the Pennsylvania Municipal Retirement System's projected financial trends is an important part of this valuation. In this section, we present our assessment of the implications of the January 1, 2011 valuation results on the future outlook in terms of benefit security (assets over liabilities) and the System's expected funding progression.

In the charts that follow, we project the Retirement System's resources and obligations. We assume the Act 205 contributions are made each year. The projections are provided on two different bases:

1) Assuming 6.00% returns each and every year, and

2) Assuming returns shown in the table below. These are rates of return which vary each year but over the projection period equal on average the assumed 6.00% return. We do this because the System's return will never be level from year to year.

Table I-5
Projected Returns Equal to the Valuation Rate

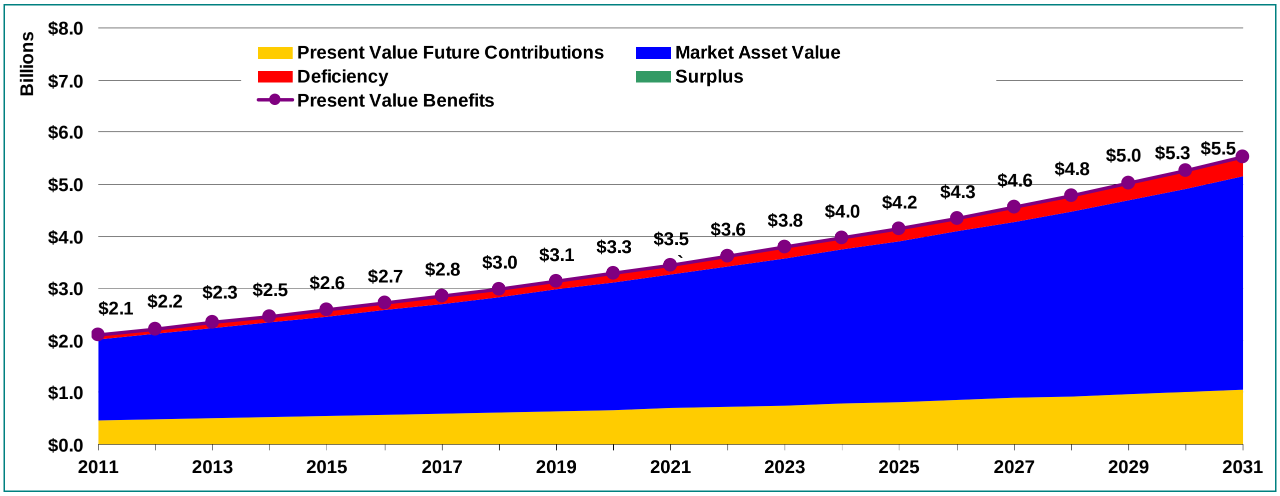
Fiscal Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Return	12.00%	3.00%	-10.00%	15.00%	11.00%	8.00%	2.00%	4.00%	14.00%	8.00%
Fiscal Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	
Return	6.00%	-10.50%	4.00%	5.00%	9.00%	10.00%	12.00%	7.00%	8.75%	

This first chart shows how the total projected obligations of the system assuming the current active population remains constant (shown by the purple line). That means when an active participant is expected to change status, they are assumed to be replaced. The area under the curve represents the *Present Value of Benefits.* This amount takes into account the value of all benefits earned up to this point of time – actuarial liability – plus benefits assumed to be earned into the future. This then represents the total PMRS obligation over time.

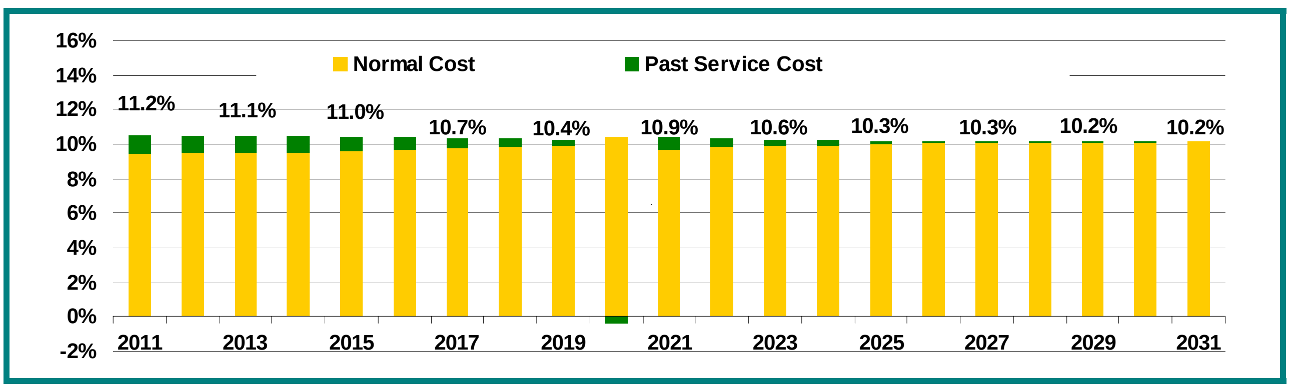
To meet this obligation, we have resources which include the market value of assets (in blue) and the present value of future contributions (in gold). To the extent these two sources are insufficient to meet the obligations today or in the future, the result will be a deficit (in red). If the resources are more then enough, the result will be a surplus (green).

To the extent you have a deficit, under the PMRS system the only additional resource to meet the obligation is through additional investment earnings above the 6.0% crediting rate. The current deficit is equal to approximately $99 million after reflecting the expected contributions in terms of a present value. This is a reflection of the risk of the system and defines the level of investment risk of the past as well the future risk and can only be decreased through positive investment performance in excess of the current 6.0% investment return guaranteed.

SECTION I
BOARD SUMMARY



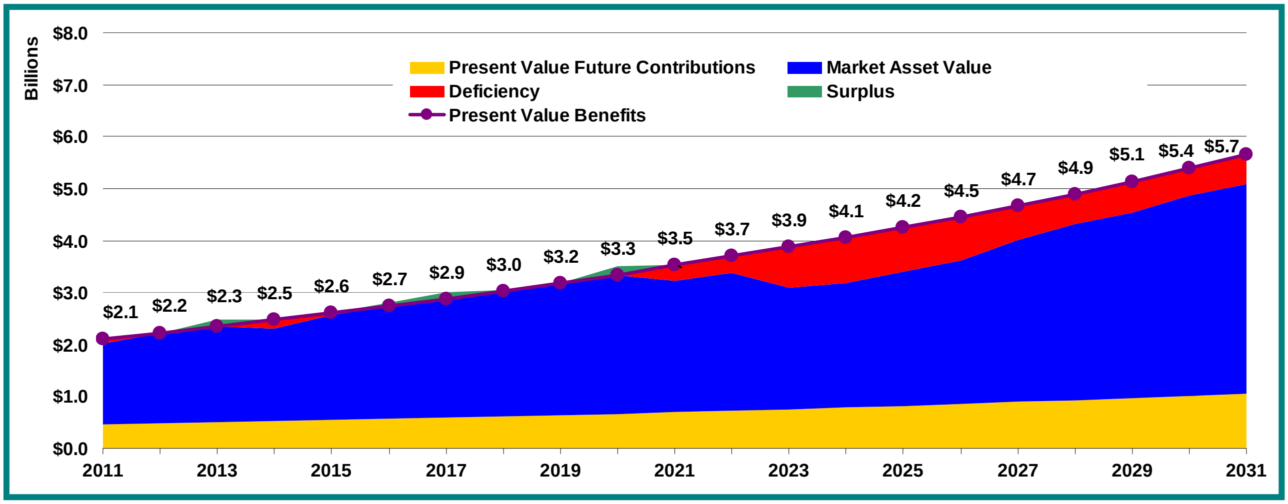
This next graph shows the projected aggregate average employer cost as a percent of pay. The values above the bars represent the net employer contribution rates as a percent of covered pay. The increase in cost in 2021 reflects the fact that those municipalities with surplus are projected exhaust the surplus which is spread over ten years, after which costs increase reflecting the balance of the funds with amortization charges that go out beyond ten years. Prior to 2021, amortization bases are expiring, causing a decrease in the cost as a percent of pay. The green bars that show up above or below the yellow bars reflect additional amortization of costs (or surplus) that increases (or offsets) the normal cost of benefits. Unfunded liabilities for applicable municipalities have been amortized based on actual reported amounts due.



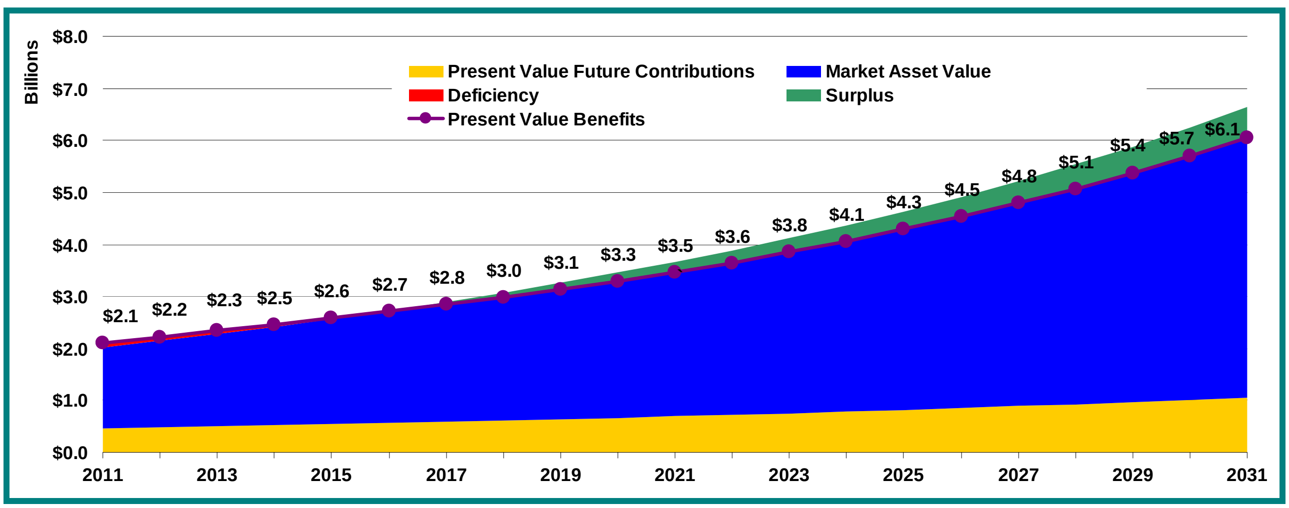
The System's return on assets each year will not equal exactly 6.0% but will, over the long run, have a high likelihood of achieving this rate of return based on the Systems investment consultant. Using hypothetical future return rates in Table I - 5 above, which yield an average 6.0% rate of return over the projection period, the projected funded status will show higher and lower levels of funding when considering the market value of assets.

SECTION I
BOARD SUMMARY

The following chart displays potential long term returns that result in an overall 6% return.



If the System's return on assets each year yields 7.5% annually over the projection period, the projected funded status will show the fund in a surplus beginning in 2020 and increasing throughout the projection period.



SECTION II
ASSETS

The System's assets play a key role in the financial operation and in the decisions the Board may make with respect to future deployments. The level of assets, the allocation among investment classes, and the methodology used to measure assets will likely impact upon benefit levels, Municipal and County contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on total (county & non-county) System assets including:

- **Disclosure** of System assets at December 31, 2010 and December 31, 2009;
- Statement of the **changes** in market values during the year;
- Development of the **actuarial value of assets**; and
- Allocation of **excess interest**.

Disclosure

The market value of assets represents a "snap-shot" or "cash-out" value, which provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not suitable for long-range planning.

The actuarial value of assets determines the funded ratio of the system.

Table II-1 summarizes assets at market value by asset class.

Table II-1
Statement of Assets at Market Value December 31 ($ Thousands)

	2010		2009	
Assets				
Equity Investments	$	1,010,924	$	913,246
Accounts Receivable		8,403		7,737
Fixed Income Investments		329,872		299,516
Real Estate Investments		195,872		151,565
Fixed Assets		176		209
Accounts Payable		(2,016)		(1,697)
Investment Purchases Payable		(943)		(3,990)
Total Market Value of Assets	**$**	**1,542,288**	**$**	**1,366,586**

SECTION II
ASSETS

Table II-2 summarizes the transaction of the assets during the year leading up to the valuation.

Table II-2
Changes in Market Value in ($ Thousands)

Market Value of Assets – January 1, 2010		**$ 1,366,586**
Additions		
Contributions:		
Plan Members	$ 20,685	
Municipal Employers	40,949	
Assessments	296	
Total Contributions		$ 61,930
Investment Income:		
Net Appreciation In Fair Value Of Investments	$ 175,868	
Short-Term And Other Investments	716	
Common And Preferred Stock	8,016	
Real Estate Equity	(3,321)	
International Equities	4,644	
Miscellaneous Income	185	
Less Investment Expenses	(5,770)	
Net Investment Income		$ 180,338
Total Additions		**$ 242,268**
Deductions		
Annuity Benefits	$ (54,772)	
Terminations	(8,611)	
Administrative Expenses	(3,183)	
Total Deductions		**$ (66,566)**
Market Value of Assets – January 1, 2011		**$ 1,542,288**

From the above table, it is important to recognize that benefit payouts plus expenses of $66.6 million exceeds contribution income of $61.9 million for a net negative cash flow of $4.7 million which is best met through cash income from investments. The negative cash flow between contributions and benefit payments has been reduced compared to the negative $14.3 million as of January 1, 2010 due primarily to an increase in contributions.

SECTION II
ASSETS

Actuarial Value of Assets

The actuarial value of assets is developed by the actuary based upon the individual municipal account balances maintained by PMRS. This asset valuation method also takes into account the calculation of *excess interest*, which is derived from income in excess of the long-term investment return assumption. The steps in the determination of the actuarial asset value as of December 31, 2010 are shown below. The difference between the market value of assets and the actuarial value of assets is considered the surplus. However, the market value of assets is less than the reserves by $171.5 million as of December 31, 2010. This represents 11.1% of the market value and, based on the funding structure of the System, is currently anticipated to be made up by future investment returns in excess of the long-term 6.0% investment assumption.

Table II-3
Development of Actuarial Value of Assets ($ Thousands)

1. Prior Year Actuarial Value:	$	1,620,151
2. Total Audited Reserve Accounts:		1,710,377
3. Expected Administrative Expenses:		3,375
4. Preliminary Actuarial Value (2+3):	$	1,713,752
5. Current Year Market Value of Assets:		1,542,288
6. Prior Year Market Value of Assets:		1,366,586
7. New Surplus {Minimum of [(5-4)&(5-4)-(6-1)]}:		(171,464)
8. Percentage of New Surplus Credited as Excess Interest:[a]		0.000%
9. Excess Interest (Maximum of 0 and (7x8)) available:		-
10. Excess Interest awarded		-
11. Current Year Actuarial Value of Assets (4+10):	**$**	**1,713,752**

a See Table II-4b

SECTION II
ASSETS

Excess Interest Allocation

Each year, municipalities may be eligible to receive a supplemental allocation of investment monies beyond the regular 6.0% interest rate. This "excess interest" award is derived as a portion of "new surplus" created during the year. "Surplus" refers to the excess of market value over the actuarial value of assets. Once the preliminary actuarial asset value has been determined, a formula is used to determine the new surplus. Depending on the relative size of surplus to market value "margin," between 10% and 90% of new surplus will be designated as "excess interest."

For the year ended December 31, 2010, there was no surplus because the market value of assets is less than the actuarial value of assets. The calculation in Table II-4a details the calculation leads to no excess interest for this year.

Table II-4a
Determination of Excess Interest ($ Thousands)

1. Assets		
a. Market value	$	1,542,288
b. Preliminary Actuarial Value		1,713,752
c. Available Surplus (1a. - 1b.)	**$**	**(171,464)**
2. Reserves		
a. Members	$	395,049
b. Municipal		735,092
c. Disability		65
d. Retired		580,171
e. Total (2a. + 2b. + 2c. + 2d.)	**$**	**1,710,377**
3. Last year's surplus	$	-
4. New surplus (1c. - 3.)	$	(171,464)
5. Excess percent of New Surplus (see Table II-4b)		0.000%
6. Excess Interest Award	$	-
7. Percent of reserve {6. / (2e. - 2c.)}		0.00%
8. Trial Surplus (1c. - 6.)	$	(171,464)
9. Trial margin percent {8. / 1a.}		0.00%

SECTION II
ASSETS

Table II-4b
Determination of Excess Percent of New Surplus ($ Thousands)

1. Market Value of Assets	$ 1,542,288
2. Available Surplus	-
3. Margin (2. / 1.)	0.00%
4. New Surplus	-
5. New Margin (4. / 1.)	0.00%
6. Excess Percent (10% + 8*3.) / (100% + 8*5.)	0.00%

Because there is a net deficit, there is no excess interest to award to participating municipalities.

SECTION III
LIABILITIES

Disclosure

The actuarial liabilities are used for funding calculations and GASB disclosures. This liability is calculated taking the present value of benefits less the present value of future normal costs under the **Entry Age Normal** funding method.

The following table presents the defined benefit Municipal Plan liabilities for the 2011 valuation.

Table III-1
Obligation Deficit/(Surplus) Analysis of All PMRS Plans

		January 1, 2011
Present Value of All Benefits - Total Obligation		
Active Participant Benefits	$	1,456,794,175
Retiree and Inactive Benefits		655,645,661
Present Value of Benefits (PVB)	**$**	**2,112,439,836**
Present Value of Future Contributions		(471,152,792)
Municipal Market Value of Assets (MVA)		(1,542,288,103)
Net (Surplus)/Deficit of Resources to Obligation		
(PVB + PVFNC + MVA)	**$**	**98,998,941**
Actuarial Liability		
Present Value of Benefits (PVB)	$	2,112,439,836
Present Value of Future Normal Cost Contributions (PVFNC)		(438,535,691)
Actuarial Liability (AL = PVB + PVFNC)	**$**	**1,673,904,145**
Municipal Actuarial Value of Assets (AVA)		(1,713,751,974)
Net Unfunded/(Surplus) (AL + AVA)	**$**	**(39,847,829)**

SECTION IV
CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what contributions are needed based upon the funding policy established for the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For each of the plans covered by the System, the funding cost method as stipulated by law to be applied in the determination of the liability is the **Entry Age Actuarial Cost Method**. Based upon this cost method, the statutory methods for funding any unfunded liability, there are three components that are used to determine the total contribution: the **normal cost**, the amortization of **initial unfunded actuarial liability**, and any amortizations of **increases/decreases in the unfunded actuarial liability / or adjustment for surplus** expressed as a percent of payroll.

For plans with a surplus, the contribution rate is the normal cost offset by 10% of the surplus again expressed as a percent of payroll. This report provides an analysis of the aggregate assets and liabilities but not the aggregation of the Minimum Municipal Obligations required for each participating municipality covered by 2011 Act 205 forms as the combination of underfunded and surplus plans would not necessarily be informative in reviewing the overall funded status of the System.

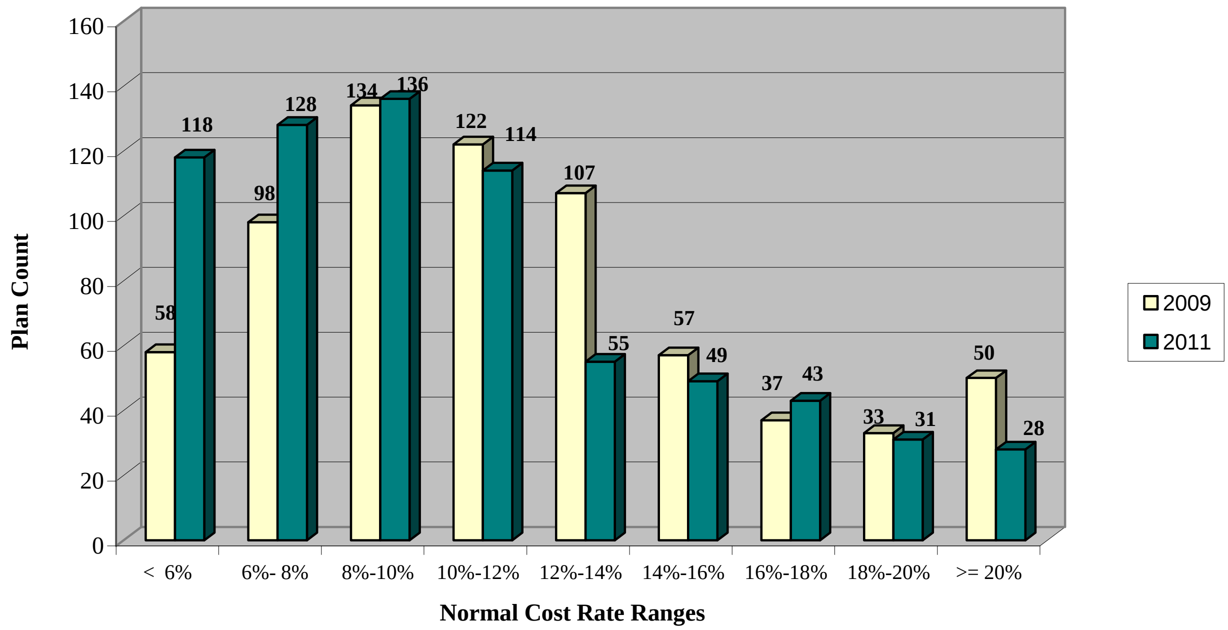
Below, we describe the cost components and provide graphically the distribution of costs among the participating municipalities.

The normal cost rate (i.e., normal cost as a percent of payroll) is determined in the following steps. First, for a typical new entrant an individual normal cost rate is determined by taking the value, as of entry age into the plan, of that member's projected future benefits. This value is then divided by the value, also at entry age, of the member's expected future salary. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate. If a plan provides for a Separate Member Annuity through required member contributions, this amount is then added to the total normal cost rate to determine the final total normal cost rate.

SECTION IV
CONTRIBUTIONS

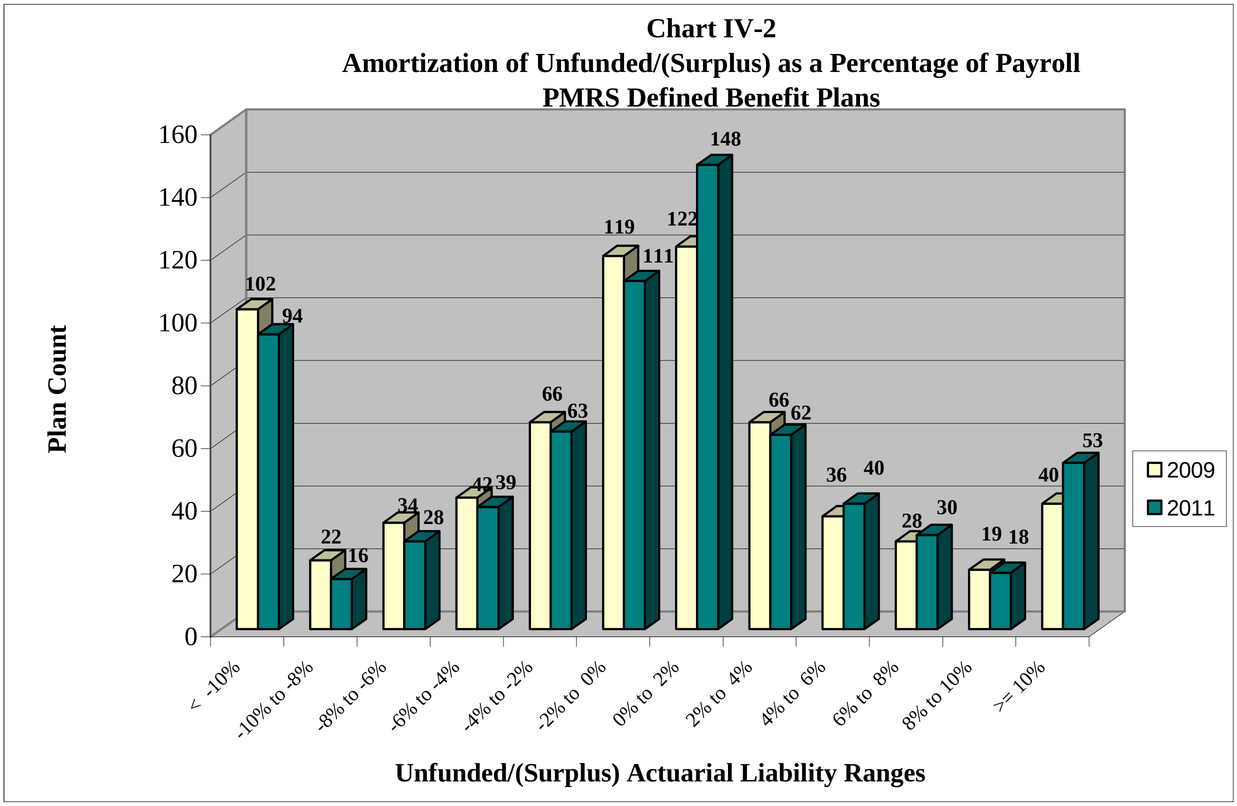
The chart below is a summary of the normal cost rates determined for the traditional defined benefit plans, including plans that have no normal cost because there are no active participants, as of January 1, 2009 and January 1, 2011 for trend comparison. There is a clear distribution to the lower normal cost rates over the full distribution.

Chart IV-1
Distribution of Normal Cost Rates as a Percentage of Payroll
PMRS Defined Benefit Plans



SECTION IV
CONTRIBUTIONS

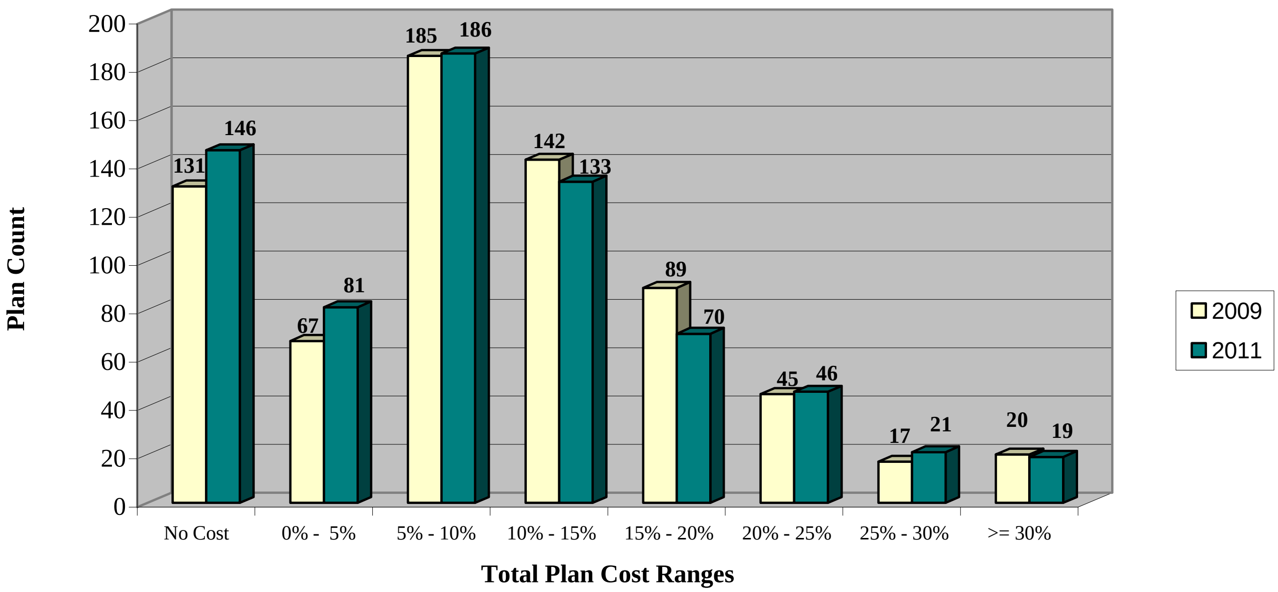
Chart IV-2 below is a summary of the unfunded/(surplus) actuarial liability amortization costs defined as a percent of covered payroll of each plan's active members, determined for the defined benefit plans as of January 1, 2009 and January 1, 2011 for trend comparison.



SECTION IV
CONTRIBUTIONS

Chart IV-3 below is a summary of the total costs as a percentage of covered payroll, representing the sum of the normal cost and amortization of unfunded/(surplus) offset determined for the defined benefit plans as of January 1, 2009 and January 1, 2011 for trend comparison. For 2011, there are 54 plans that have no payroll because there are no active participants. These plans are all listed in the "No Cost" category. Four of these plans are currently underfunded and are required to amortize the cost of the unfunded actuarial liability through continued contributions.

Chart IV-3
Cost of Plan as Percentage of Payroll
PMRS Defined Benefit Plans



SECTION V
ACCOUNTING STATEMENT INFORMATION

Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The GASB-25 actuarial liability is the same as the actuarial liability amount calculated for funding purposes.

The actuarial liability (GASB-25) is determined assuming that the System is on-going and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 6.0% per annum.

GASB Statement No. 25 requires the actuarial liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of January 1, 2011 are exhibited in Table V-1.

Tables V-2 through V-7 are exhibits to be used with the System's CAFR report:

- Table V-2 is the Note to Required Supplementary Information;
- Table V-3 is the Solvency Test, which shows the portion of Actuarial Liability covered by Assets;
- Table V-4 is the Funded Status of Actuarial Liabilities;
- Table V-5 is the Schedule of Retirees and Beneficiaries;
- Table V-6 is the Schedule of Total Membership; and
- Table V-7 is the Schedule of Total Membership Funded Status of Actuarial Liabilities.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-1
Accounting Statement Information

	January 1, 2011	January 1, 2010
A. GASB No. 25 Basis		
1. Actuarial Liabilities for retirees and beneficiaries currently receiving benefits and terminated not yet receiving benefits	$ 655,645,661	$ 589,362,501
2. Actuarial Liabilities for current employees	1,018,258,484	970,995,035
3. Total Actuarial Liability (1. + 2.)	$ 1,673,904,145	$ 1,560,357,536
4. Net Final Actuarial Assets available for benefits	1,713,751,974	1,620,150,779
5. Unfunded/(Surplus) Actuarial Liability (3. - 4.)	$ (39,847,829)	$ (59,793,243)

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-2
NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	January 1, 2011
Actuarial cost method	Entry age
Amortization method	Level dollar for Plan Bases and average for Aggregate Gain/Loss, 10% of surplus is credited against aggregate cost where applicable
Actuarial assumptions:	
Investment rate of return*	6.0%
Projected salary increases*	3.0%-8.3%
*Includes inflation at	3.0%
Cost-of-living adjustments	ad hoc

The actuarial assumptions used have been recommended by the actuary and adopted by the System's Board based on the most recent review of the System's experience completed in 2010.

The rate of employer contributions to the System is composed of the normal cost, amortization of the unfunded actuarial liability and an allowance for administrative expenses. The normal cost is a level percent of payroll cost which, along with member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial liability. The allowance for administrative expenses is based upon the System's actual administrative expenses.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-3
SOLVENCY TEST
Aggregate Accrued Liabilities for

Valuation Date January 1,	Active Member Contributions (1)*	Retirees & Beneficiaries (2)	Active Member Employer Financed Contributions (3)	Actuarial Value of Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)
2011	$395,048,320	$655,645,661	$623,210,164	$1,713,751,974	100%	100%	106%
2010	348,126,106	589,362,501	622,868,929	1,620,150,779	100%	100%	110%
2009	333,142,928	538,733,517	579,760,819	1,540,152,742	100%	100%	115%
2008	321,567,969	461,965,617	593,667,414	1,458,148,442	100%	100%	114%
2007	293,593,948	471,770,821	516,657,229	1,336,009,295	100%	100%	110%
2005	231,122,200	395,061,900	528,674,100	1,219,130,000	100%	100%	112%

** This includes the sum of the active member employee contribution balances, the member separate annuity account balances, the municipal for separate annuity account balances, and the excess interest allocations.*

Table V-4
Funded Status of Actuarial Liabilities
GASB Statement No. 25 Disclosure

Valuation Date January 1,*	Actuarial Value of Assets (A)	Actuarial Liability (AL) Entry Age (B)	Unfunded AL (Surplus) (B-A)	Funded Ratio (A/B)
2011	1,713,751,974	1,673,904,145	(39,847,829)	102.4%
2010	1,620,150,779	1,560,357,536	(59,793,243)	103.8%
2009	1,540,152,742	1,451,637,264	(88,515,478)	106.1%
2008	1,458,148,442	1,377,201,000	(80,947,442)	105.9%
2007	1,336,009,295	1,282,021,998	(53,987,297)	104.2%
2006	60,678,307	55,251,080	(5,427,227)	109.8%

** Represents the county plan information for 2006; System-wide data for years after 2006.*

The actuarial assumptions as of January 1, 2011 are shown in the assumptions and methods section. The above information was derived from the following membership data, as provided by the System, regarding:

- 707 traditional defined benefit county and non-county plans and 229 cash balance plans as of January 1, 2011;
- Five traditional defined benefit plans required to re-determine contribution levels as of January 1, 2010 (prior year non-county benefit plans estimated from the January 1, 2009 valuation);
- 696 traditional defined benefit county and non-county plans and 203 cash balance plans as of January 1, 2009;
- Four traditional defined benefit plans required to re-determine contribution levels as of January 1, 2008 (prior year non-county benefit plans estimated from the January 1, 2007 valuation);
- 679 traditional defined benefit county and non-county plans and 177 cash balance plans as of January 1, 2007; and
- Four traditional defined benefit plans required to re-determine contribution levels as of January 1, 2006.

SECTION V
ACCOUNTING STATEMENT INFORMATION

The table below is a schedule of the changes to the retiree and beneficiary rolls over the last six years.

Table V-5
Schedule of Retirees and Beneficiaries - Added to and Removed from Rolls in Last Six Years

Valuation Date January 1,	Added to roll	Average Annual Annuities Added	Annual Benefit Increase	Deleted from roll	Average Annual Annuities Removed	Number on roll	Annual Annuities	Percentage Increase in Annuities	Average Annual Annuities	Percent Increase in Average Annuities
2011	396	$18,624	$432	121	$8,981	4,184	$55,257,189	13.0%	$13,207	5.6%
2010	296	16,030	623	137	9,458	3,909	48,897,954	7.7%	12,509	3.3%
2009	271	13,883	790	119	11,494	3,750	45,414,210	5.9%	12,110	1.6%
2008	236	12,780	362	97	8,921	3,598	42,895,559	7.6%	11,922	3.4%
2007	252	12,828	N/A	170	N/A	3,459	39,870,509	5.1%	11,527	2.6%
2006	268	N/A	N/A	83	N/A	3,377	37,943,181	9.4%	11,236	3.4%

The table below is a summary of the total membership over the last six years.

Table V-6
Schedule of Total Membership
Six Year Trend

Valuation	Active Members:						
Date January 1,	Defined Benefit	Cash Balance	Retirees	Beneficiaries	Deferred Pensions	Inactive Members	Total
2011	8,091	1,119	3,707	477	945	42	14,381
2010	8,357	994	3,449	460	834	23	14,117
2009	8,411	978	3,289	461	847	0	13,986
2008	8,383	950	3,173	425	744	7	13,682
2007	8,314	918	2,965	494	723	33	13,447
2006	8,374	896	2,941	436	675	66	13,388

SECTION V
ACCOUNTING STATEMENT INFORMATION

The table below is a schedule of the total membership over the last four years.

Table V-7
Schedule of Total Membership
Funded Status of Actuarial Liabilities

	As of January 1[a]			
	2011	**2010**	**2009**	**2008**
a. Retirees currently receiving benefits	3,707	3,449	3,289	3,173
b. Beneficiaries currently receiving benefits	477	460	461	425
c. Terminated vested employees entitled to future benefits from Defined Benefit Plans	711	647	650	570
d. Terminated non-vested employees entitled to contribution refunds from Defined Benefit Plans	42	23	-	7
e. Active employees in defined benefit plans	8,091	8,357	8,411	8,383
i. Aggregate Salary[b]	$383,802,844	$377,960,930	$372,370,037	$364,865,185
ii. Vested[c]	4,992	5,025	4,952	4,913
iii. Non-vested	3,099	3,333	3,459	3,470
f. Participants in cash balance plans	1,353	1,181	1,175	1,124
i. Aggregate Salary	$41,683,065	$35,104,086	$32,811,919	$31,107,136
ii. Active	1,119	994	978	950
iii. Inactive	234	187	197	174

a Includes defined benefit non-county plans, defined benefit county plans, and cash balance plans
b Actual salary for preceding valuation date
c Count of vested participants estimated based on service as of the valuation date

APPENDIX A
MEMBERSHIP INFORMATION

Distribution of All Active Members by Age and Service as of January 1, 2011

COUNTS BY AGE/SERVICE

Age	Service: 1 year or less	1 to 2	2 to 3	3 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 & up	Total
Under 20	8	0	0	0	0	0	0	0	0	0	8
20 to 24	70	44	39	28	6	0	0	0	0	0	187
25 to 29	82	71	74	124	110	8	0	0	0	0	469
30 to 34	69	58	74	126	271	71	2	0	0	0	671
35 to 39	61	69	75	108	273	193	70	5	0	0	854
40 to 44	64	54	66	147	313	257	167	108	2	0	1,178
45 to 49	69	49	76	135	321	252	227	250	91	17	1,487
50 to 54	72	53	54	133	307	261	200	239	185	190	1,694
55 to 59	52	30	57	93	234	230	173	232	113	264	1,478
60 to 64	23	17	32	50	148	131	123	136	68	118	846
65 & up	5	8	6	17	53	67	58	49	19	56	338
Total	575	453	553	961	2,036	1,470	1,020	1,019	478	645	9,210

APPENDIX A
MEMBERSHIP INFORMATION

Distribution of Active Defined Benefit Members by Age and Service as of January 1, 2011

COUNTS BY AGE/SERVICE

	Service										
Age	1 year or less	1 to 2	2 to 3	3 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 & up	Total
Under 20	7	0	0	0	0	0	0	0	0	0	7
20 to 24	57	42	34	24	3	0	0	0	0	0	160
25 to 29	75	62	69	110	100	8	0	0	0	0	424
30 to 34	65	53	70	109	246	70	2	0	0	0	615
35 to 39	57	60	67	94	242	172	65	5	0	0	762
40 to 44	56	45	56	126	280	230	157	96	2	0	1,048
45 to 49	64	42	62	119	289	212	204	225	85	17	1,319
50 to 54	59	48	47	118	264	222	165	216	179	171	1,489
55 to 59	37	20	46	77	201	199	146	211	106	244	1,287
60 to 64	16	12	27	42	127	108	102	116	57	104	711
65 & up	3	4	5	14	46	58	42	38	14	45	269
Total	496	388	483	833	1,798	1,279	883	907	443	581	8,091

APPENDIX A
MEMBERSHIP INFORMATION

Distribution of Active Cash Balance Members by Age and Service as of January 1, 2011

COUNTS BY AGE/SERVICE

	Service										
Age	1 year or less	1 to 2	2 to 3	3 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 & up	Total
Under 20	1	0	0	0	0	0	0	0	0	0	1
20 to 24	13	2	5	4	3	0	0	0	0	0	27
25 to 29	7	9	5	14	10	0	0	0	0	0	45
30 to 34	4	5	4	17	25	1	0	0	0	0	56
35 to 39	4	9	8	14	31	21	5	0	0	0	92
40 to 44	8	9	10	21	33	27	10	12	0	0	130
45 to 49	5	7	14	16	32	40	23	25	6	0	168
50 to 54	13	5	7	15	43	39	35	23	6	19	205
55 to 59	15	10	11	16	33	31	27	21	7	20	191
60 to 64	7	5	5	8	21	23	21	20	11	14	135
65 & up	2	4	1	3	7	9	16	11	5	11	69
Total	79	65	70	128	238	191	137	112	35	64	1,119

APPENDIX A
MEMBERSHIP INFORMATION

Inactive Benefit Payment Distribution as of January 1, 2011

COUNTS BY BENEFIT/AGE: RECEIVING PAYMENTS

Age	Monthly Benefit	Count
x < 30	$1,688	1
30 <= x < 35	$3,568	4
35 <= x < 40	$2,620	6
40 <= x < 45	$11,978	23
45 <= x < 50	$24,745	38
50 <= x < 55	$171,573	128
55 <= x < 60	$635,051	388
60 <= x < 65	$1,007,776	726
65 <= x < 70	$1,058,809	880
70 <= x < 75	$656,621	682
75 <= x < 80	$495,303	557
80 <= x < 85	$324,785	399
85 <= x	$211,049	352
<Total>	$4,605,566	4,184

COUNTS BY BENEFIT/AGE: DEFERRED PAYMENTS

Age	Monthly Benefit	Count
x < 30	$579	3
30 <= x < 35	$5,394	15
35 <= x < 40	$22,499	46
40 <= x < 45	$63,838	91
45 <= x < 50	$106,833	138
50 <= x < 55	$158,991	203
55 <= x < 60	$133,046	168
60 <= x < 65	$21,163	40
65 <= x < 70	$3,692	5
70 <= x < 75	$1,044	2
75 <= x < 80	$0	0
80 <= x < 85	$0	0
85 <= x	$0	0
<Total>	$517,078	711

Deferred payments listed above are attributable to defined benefit plans only. Deferred payments to the 234 cash balance participants will be determined upon retirement.

APPENDIX A
MEMBERSHIP INFORMATION

Pensions in Payment on January 1, 2011 by Type and Amount

Monthly Amount	Total	Normal	Pension Type Involuntary early	Voluntary early	Service disability	Non-service disability
Total	4,184	3,462	202	416	31	73
Under $100	208	179	17	10	1	1
$ 100 - $199	255	208	29	18	0	0
200 - 299	268	205	35	28	0	0
300 - 399	287	229	28	27	0	3
400 - 499	238	191	14	30	2	1
500 - 599	264	216	14	26	1	7
600 - 699	217	178	9	24	0	6
700 - 799	226	173	11	34	0	8
800 - 899	207	163	7	24	1	12
900 - 999	195	153	9	23	3	7
1,000 - 1,199	376	302	9	46	6	13
1,200 - 1,399	271	221	6	35	4	5
1,400 - 1,599	226	191	6	20	7	2
1,600 - 1,799	166	144	3	17	2	0
1,800 - 1,999	147	129	3	12	0	3
2,000 - 2,199	131	115	0	14	1	1
2,200 - 2,399	85	79	0	6	0	0
2,400 - 2,599	80	74	0	4	1	1
2,600 - 2,799	78	67	2	6	1	2
2,800 - 2,999	45	44	0	0	0	1
3,000 - 3,499	92	85	0	6	1	0
3,500 - 3,999	72	67	0	5	0	0
4,000 and over	50	49	0	1	0	0

APPENDIX A
MEMBERSHIP INFORMATION

Pensions Awarded in Prior Ten Years, by Type and Monthly Amount

Year Ended December 31:	Total Number	Total Average Monthly Amount	Normal Number	Normal Average Monthly Amount	Involuntary early Number	Involuntary early Average Monthly Amount	Voluntary early Number	Voluntary early Average Monthly Amount	Disability Number*	Disability Average Monthly Amount
2000	185	954	147	1,028	25	736	8	423	5 (1)	702
2001	246	1,277	206	1,346	30	957	6	945	4 (0)	655
2002	199	1,087	170	1,121	17	974	5	670	7 (2)	837
2003	214	1,199	171	1,226	26	1,206	8	609	9 (4)	1,199
2004	247	1,126	189	1,185	35	994	13	653	10 (1)	1,100
2005	264	1,270	217	1,290	23	1,257	11	639	13 (4)	1,493
2006	252	1,069	192	1,082	19	572	32	1,196	9 (2)	1,373
2007	236	1,065	227	1,056	6	1,259	-	-	3 (0)	1,350
2008	271	1,157	223	1,150	7	843	36	1,259	5 (3)	1,162
2009	296	1,336	249	1,412	17	339	26	1,300	4 (0)	1,067
2010	396	1,552	341	1,632	13	364	37	1,250	5 (0)	1,407

* *Numbers of service-related disability pensions are shown in parentheses.*

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Actuarial Assumptions:

The current PMRS actuarial assumptions used in this valuation are as follows.

A. Healthy Life Mortality:

Rates of Pre-Retirement Mortality
Males: RP 2000 with 1 year set back
Females: RP 2000 with 5 year set back

Rates of Post-Retirement Mortality
Males and females: RP 2000 Sex-Distinct Mortality Table

B. Disabled Life Mortality Rates:

Males and females: RP 2000 with 10 year set forward

While the current mortality tables adopted in 2010 for first use in this 2011 Valuation do not include projections for mortality improvements, PMRS is obligated under Commonwealth Law to perform an experience analysis once every four years at which time any trend changes in future mortality rates based on recent experience will be considered, including the value of applying a typical projection scales to the rates of mortality as appropriate.

C. Termination Rates Before Retirement

Termination Rates for Municipal Participants

Service	Number of Active Members in Plan <25	Number of Active Members in Plan 25+
< 1	20.0%	20.0%
1	20.0%	20.0%
2	12.0%	15.0%
3	10.0%	12.0%
4	8.0%	7.0%
5	6.0%	7.0%
6	4.0%	6.0%
7	3.0%	5.0%
8	3.0%	5.0%
9	2.5%	5.0%
10+	2.5%	3.0%

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Termination Rates for Uniformed Participants

Service	Number of Active Members in Plan <25	25+
< 1	14%	13%
1	14%	10%
2	12%	7%
3	10%	7%
4	6%	6%
5	4%	5%
6	3%	4%
7	2%	3%
8	2%	3%
9	1%	3%
10+	1%	3%

D. Disability Incidence Rates:

Municipal - 40% of 1964 OASDI (Social Security) Experience for Males. Sample rates are:

Age	Valuation Rate (%)
25	0.034%
35	0.059
45	0.144
55	0.404
65	0.928

Uniformed plans – 60% of 1964 OASDI (Social Security) Experience for Males. Sample rates are:

Age	Valuation Rate (%)
25	0.051%
35	0.088
45	0.216
55	0.605
65	1.393

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Type of Disability:
(a) 15% of disablements are assumed to be service related for municipal plans, and
(b) 50% of disablements are assumed to be service related for uniform plans.

E. Workers Compensation: Service-related disability benefits payable from municipal plans are offset by 25% of final average salary.

F. Salary Scale:

Age	Salary Scale Total Rate (%)* (including inflation)
25	8.30%
30	6.40%
35	5.60%
40	5.00%
45	4.20%
50	4.10%
55	3.90%
60	3.70%
65	3.00%

*Add 2% for each of the first three years of service.

G. Rates of Retirement:

(a) Municipal Members:

Age	Municipal Rate of Retirement[1]
Under 46	5%
46 – 54	15
55 – 59	10
60 – 61	10
62	30
63 – 64	20
65	35
66 – 74	15
75	100

1 Rates indicated are adjusted by adding 5% (and 10% for ages 60-62 under current rate assumptions) for the year in which the member is first eligible for normal retirement.

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(b) Uniformed Members:

Retirement Rates for Uniform Participants

Age	Rates for all Plans
<49	0%
50	20%
51	10%
52	10%
53	10%
54	10%
55	20%
56	25%
57	25%
58	30%
59	30%
60	40%
61	50%
62	50%
63	60%
64	70%
65	80%
66+	100%

H. Marital Status and Spouse's Age (if applicable):

85% of active members and are assumed to be married for retirees with the 50% J&S form of payment. Male spouses are assumed to be three years older than female spouses.

I. Social Security Projections (if applicable):

(a) The Social Security Taxable Wage Base will increase by 3.5% compounded annually;
(b) The Consumer Price Index will increase 3.0% compounded annually; and
(c) The Average Total Wages of All Workers will increase by 3.5% compounded annually.

J. Post-Retirement Cost of Living Increases (if applicable): 3.0% per year, subject to plan limitations.

K. Investment Return Assumption:

6.00% compounded annually, net of expenses.

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L. Administrative Expenses:

The expense assumption is based upon the expected expenses for the current year.

Changes in Actuarial Assumptions:

All changes in demographic actuarial assumptions are due to the Experience Study completed in 2010. These changes include the following:

- Uniformed retirement rates
- Termination rates
- Mortality rates for both healthy and disabled participants
- Marriage assumption

Actuarial Methods:

Contribution requirements are individually determined for each participating municipality, on an actuarial basis as described below, at least biennially. The frequency of the actuarial valuation is determined by applicable Commonwealth statute (Act 205 of 1984 and Act 293 of 1972). The following actuarial methods were adopted effective January 1, 1985, unless indicated otherwise.

Actuarial Value of Assets:

Sum of all audited reserve accounts as of the valuation date, including Member, Municipal, Retired, and Disability Reserves, and a one-year administration expense reserve, plus the portion of any additional investment income to be distributed as "excess interest." The actuarial value can never be less than 90 percent of fair market value.

Each year, municipalities receive an excess interest allocation derived as a portion of new surplus created during the prior year. "Surplus" refers to the excess of fair market value over the actuarial value of assets. Once the preliminary actuarial asset value has been determined, a formula is used to allocate the new surplus. Generally, depending on the relative size of surplus to fair market value, between 10 percent and 90 percent of the new surplus will become excess interest.

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Based on the unique legislative structure of PMRS, because assets are set equal to reserves under the System, they do not necessarily relate directly or indirectly with the current market value of assets as required under Actuarial Standard of Practice Statement No. 44 which states under Section 3.3:

"…the actuary should select an asset valuation method that is designed to produce actuarial values of assets that bear a reasonable relationship to the corresponding market values. The qualities of such an asset valuation method include the following:

a. The asset valuation method is likely to produce actuarial values of assets that are sometimes greater than and sometimes less than the corresponding market values.
b. The asset valuation method is likely to produce actuarial values of assets that, in the actuary's professional judgment, satisfy both of the following:
    1. The asset values fall within a reasonable range around the corresponding market values. For example, there might be a corridor centered at market value, outside of which the actuarial value of assets may not fall, in order to assure that the difference from market value is not greater than the actuary deems reasonable.
    2. Any differences between the actuarial value of assets and the market value are recognized within a reasonable period of time. For example, the actuary might use a method where the actuarial value of assets converges toward market value at a pace that the actuary deems reasonable, if the investment return assumption is realized in future periods.

In lieu of satisfying both (1) and (2) above, an asset valuation method could satisfy section 3.3(b) if, in the actuary's professional judgment, the asset valuation method either (i) produces values within a sufficiently narrow range around market value or (ii) recognizes differences from market value in a sufficiently short period."

On this basis, the administrative rules adopted by the PMRS Board, which are not subject to comply with Actuarial Standards of Practice (ASOP), when defining the Actuarial Value of Assets, does not necessarily meet the requirement of ASOP 44 Selection and Use of Asset Valuation Methods for Pension Valuation.

Actuarial Cost Method:

Entry Age Normal Actuarial Cost Method.

Entry age is defined as attained age less credited service. The normal cost rate is derived as a level percent of future compensation of current employees, on an individual basis. This rate is applied to the projected payroll and projected employee contributions are deducted. Actuarial gains (or losses), including the effect of contributions greater or lesser than the previously determined actuarial level, are reflected by decreases (or increases) in the unfunded actuarial liability. Under Act 205 of 1984, the unfunded actuarial liability is amortized as a level dollar amount over the lesser of:

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(a) (i) 30 years, with respect to the initial liability as of 1/1/85 (or first valuation);
(ii) 20 years, with respect to actuarial gains and losses;
(iii) 20 years, with respect to changes due to actuarial assumptions;
(iv) 20 years, with respect to changes due to plan provisions;
(v) 10 years, with respect to changes in benefits for currently retired members; or

(b) The average assumed working lifetime of active employees as of the date the liability was established. If there are no active employees, the unfunded liability is amortized one year after the liability was established.

With the two exceptions which follow, the funding method is applied individually with respect to each municipality:

1) Retired and disabled members are paid monthly benefits from the System's Retired Reserve account, which at the time of retirement receives a transfer from the municipal and member accounts in an amount actuarially determined to be sufficient to pay all future benefits for the member (and, if applicable, a surviving beneficiary). Thus, post-retirement experience is pooled with the System. (However, this procedure does not apply to the legislated ad-hoc adjustments effective January 1, 1989.)

2) A disabled member's pension is met in part from the amount that can be provided by the value of that portion of the member's accrued benefit attributable to municipal contributions, with the balance of the pension being provided by the appropriate transfer from the Disability Reserve Account. The amount of annual transfer from the accumulated municipal contributions to the Disability Reserve Account is determined on the one year term cost basis, i.e., the expected cost of disabilities in the coming year.

Changes in Actuarial Assumptions:
There was a change in the Actuarial Method for amortizing the unfunded gain/loss. The amortization period was extended from 15 years to 20 years in accordance with amendments to Act 205 by Act 44.