Municipal Employees' Retirement System of Michigan

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT

PITTSFIELD CHARTER TOWNSHIP (8110)

DECEMBER 31, 2010

GRS

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June 22, 2011

The Retirement Board
Municipal Employees' Retirement System of Michigan

Ladies and Gentlemen:

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2010. The report includes the determination of liabilities and contribution rates resulting from the participation of Pittsfield Charter Township in the Municipal Employees' Retirement System of Michigan ("MERS").

MERS is an agent multiple-employer public employee pension plan and is a tax-qualified plan under section 401(a) of the Internal Revenue Code (most recent letter of Favorable Determination issued June 15, 2005). MERS is an independent non-profit public corporation established by the Legislature pursuant to Public Act 220 of 1996, as amended, and is an instrumentality of the participating municipalities and courts. Pittsfield Charter Township is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

For this annual actuarial valuation, the Retirement Board adopted revised actuarial assumptions and/or methods. Please refer to page 78 for an explanation of the Board's action.

The valuation utilized information furnished by the MERS administrative staff concerning Retirement System benefits, financial transactions, and individual member information. Data was checked for consistency with the prior year, but was not otherwise audited by us.

To the best of our knowledge, this report is complete and accurate and was made in accordance with generally recognized actuarial methods in compliance with Act No. 220 of the Public Acts of 1996, as amended, and the MERS Plan Document as revised. All of the undersigned are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The actuarial assumptions used for this valuation produce results that we believe are reasonable. The Retirement Board of the Municipal Employees' Retirement System of Michigan confirms that the System provides for payment of the required employer contribution as described in Section 20m of Act No. 314 of 1965 (MCL 38.1140m).

Please review the Comments on the Investment Markets on page 3.

This report may be provided only in its entirety by the municipality to other interested parties (MERS or the Actuary customarily provides the full report on request to related third parties such as the auditor for the municipality).

Please contact the Finance Department at MERS if you would like to receive future annual valuations in electronic format, instead of a printed report (800-767-2308; billingteam@mersofmich.com).

Sincerely,

Alan Sonnanstine, MAAA, ASA

Cathy Nagy, MAAA, FSA

Jim Koss, MAAA, ASA

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Pittsfield Charter Township (8110)

Executive Summary

Required Employer Contributions

The computed minimum required employer contributions to the retirement system for the fiscal years beginning January 1, 2012 (2010 Valuation) and January 1, 2011 (2009 Valuation) are as follows:

Division	Minimum Required Monthly Employer Contributions @			
	Percentage of Payroll		$ Based on Valuation Payroll	
	2010 Valuation	2009 Valuation	2010 Valuation	2009 Valuation
01 - AFSCME	2.86%	4.23%	$1,509	$2,458
02 - Pol Ptrl	5.85%	7.28%	9,130	11,089
05 - Fire Fght	7.42%	7.32%	9,381	7,753
10 - Elctd Ofc	16.45%	15.83%	3,215	3,094
11 - Dsptchr *	2.50%	1.87%	741	609
14 - Adm/NonUnion	5.45%	6.11%	8,998	9,165
15 - Utilities Dr #	-%	10.94%	0	808
20 - Pol Cmnd	37.18%	38.28%	17,320	12,488
Total Municipality			$50,294	$47,464

@ *The above employer contribution requirements are in addition to the member contributions, if any, shown in Table 1.*

* *The current year's required employer contributions reflect a change in benefit provisions or a change in member contribution rates. Please see Tables 16 and 17 for details.*

\# *This division will not have new hires. Invoices will be based on the dollar contribution amounts shown in this table (see page 104).*

Please see the Comments on the Investment Markets on page 3.

For additional details see Table 15.

It is important to note that the contribution rates shown above are not expected to remain at present levels indefinitely. If future experience were to match the valuation assumptions exactly, the computed employer rates for divisions that are open to new hires would trend over time toward the long-term cost of system benefits, known as the Normal Cost (see Table 15). For underfunded divisions that are closed to new hires and are not linked to an open division, the computed employer dollar contribution would increase 4%-8% annually, until full funding is reached. The required employer contribution for such a closed division typically reaches its highest level about 11-12 years after the division becomes closed. Prospective benefit changes as well as Retirement System gains and losses will also affect future contribution rates.

Contribution rates will change from one year to the next as a result of changes in benefit provisions, changes in the actuarial assumptions, and experience of the plan (investment

experience and demographic experience).

The 2010 valuation reflects changes in actuarial assumptions and/or methods (please refer to page 78). The effects of the changes are shown in the note below Table 16 for each division. For benefit provision changes see Table 1.

2010 System Experience

Based on the smoothed Actuarial Value of Assets, the recognized rate of investment return for MERS overall was 5.7% (up from 5.3% in 2009, but less than the 8% actuarial assumption). On average this will result in increases in computed employer contributions.

Demographic experience varied by division. This reflects what actually happened to participants (active members, retirees, and vested former members) compared to what was projected by the actuarial assumptions.

2010 Funded Position

The ratio of the Valuation Assets to the Actuarial Accrued Liability for Pittsfield Charter Township in aggregate is 79%; last year's ratio was 77%.

Comments on the Investment Markets

The dramatic price declines across the world financial markets in 2008 led to increased volatility unlike any experienced in decades. The following two years, 2009 and 2010, have been more stable and MERS' portfolio recovered with investment returns of over 17% and 14%, respectively. While economic worries continue to haunt investors world-wide, equity markets have rebounded, particularly in the United States. MERS maintains the 8% annual return assumption on investments in the belief that over the long term this is achievable.

The actuarial value of assets (funding value), used to determine both your funded status and your required employer contribution, is based on a 10-year smoothed value of assets. Only a portion (three-tenths, for 2008, 2009, and 2010) of the 2008 investment market losses were recognized in this actuarial valuation report. This reduces the volatility of the valuation results, which affects your required employer contribution and actuarial funded percentage.

As of December 31, 2010 the actuarial value of assets is 116% of market value (down from 125% in 2009). This means that meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 8% investment return assumption.

If the December 31, 2010 valuation results were based on market value on that date instead of

10-year smoothed funding value: i) the funded percent of your entire municipality would be 68% (instead of 79%); and ii) your total employer contribution requirement for the fiscal year starting January 1, 2012 would be $730,500 (instead of $603,528). If the investment markets do not fully make-up for the 2008 losses, employer contribution requirements may rise. MERS' investment strategy employs diversification using various asset categories (stocks, bonds, and to a smaller extent real estate and private equity) to capture as much of the upside return as possible while managing acceptable risk. If contribution increases do become necessary, MERS would work to impose them incrementally.

Remember that only three-tenths of the 2008 market losses are reflected in this actuarial valuation report. As was true for past market downturns, MERS expects the markets to continue to rebound. By the time the 2008 market losses would be fully recognized (over the following 7 years), future market gains are expected to partly or fully offset 2008 market losses. This smoothing method is a powerful tool for reducing the volatility of your required employer contributions. However, if the financial markets do not rebound, the result would be gradual increases in your employer contribution requirement over the next 7 years (as described above).

Possible Future Changes in Actuarial Assumptions

Actuarial assumptions are reviewed every five years, and sometimes more often. The most recent review of MERS actuarial assumptions was completed in March 2010, and covered the 2004-2008 valuation years. All areas of activity were studied, and the Retirement Board adopted revised actuarial assumptions that will be reflected in this valuation (see page 78), and in the December 31, 2011 valuation. MERS expects to provide employers with general updates concerning pending revised actuarial assumptions and the ongoing effects of the financial markets.

Projections of Employer Contributions and Funded Percentage - Combined for All Divisions

The following page combines the projections for each division (see chart 17.5 for each division) into a projection for the municipality as a whole. Please refer to page 101 for a discussion of the projection. As noted there, the projection should not be used for short term budgeting purposes because the assumptions are designed to be a long term expectation of future events. For example, the projection assumes that the 10-year smoothed actuarial value of assets always reflects 8% annual investment income (which would require all of the 2008 market losses to be recouped sooner than is likely).

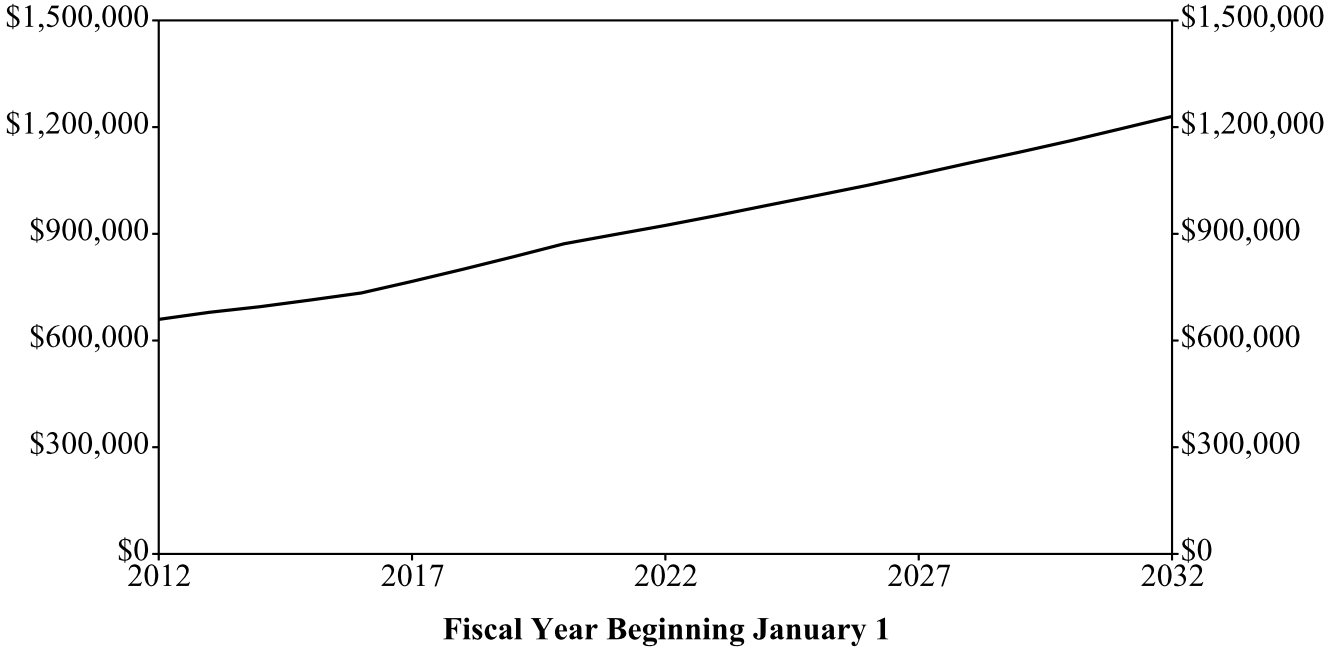
Comment on Actuarial Calculations - The projections of your future employer contributions in this report are based on the current actuarial assumptions used in the December 31, 2010 actuarial valuation. As always, your required employer contribution rate changes every year, in response to demographic changes, financial experience, benefit provision changes, etc, within your specific plan. The results of future actuarial valuations will differ from the projections, sometimes materially.

Pittsfield Charter Township (8110)

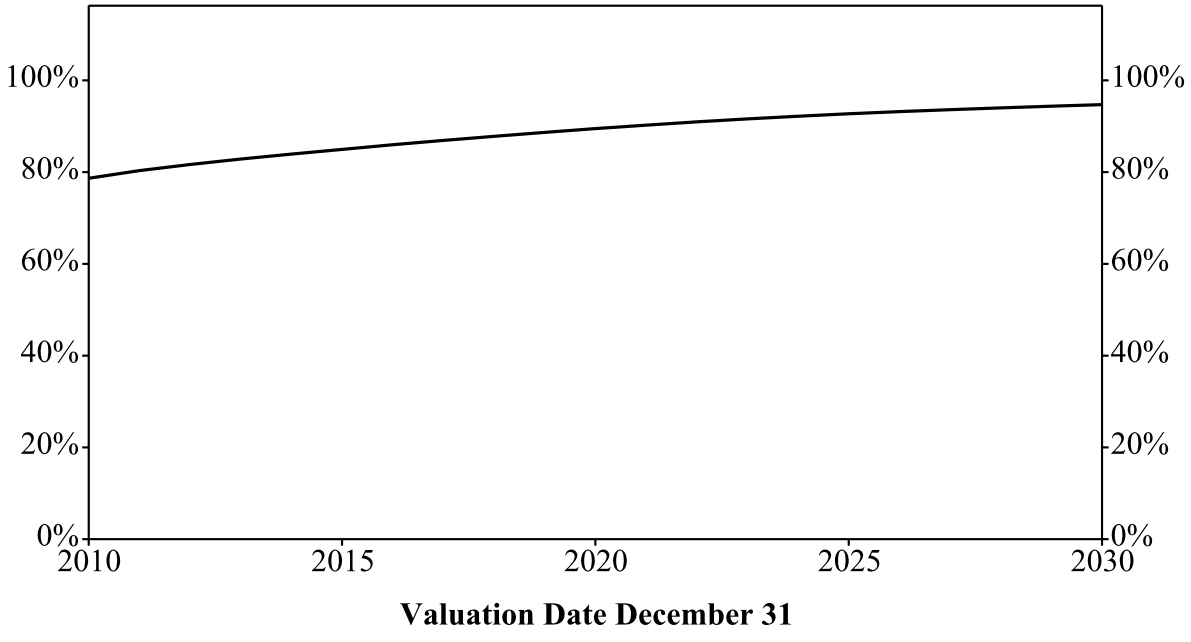
Executive Summary (concluded)

All Divisions Combined

Projected Annual Employer Contributions



Projected Funded Percentage



Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Table 1

Benefit Provisions Evaluated and/or Considered

Division	2010 Valuation	2009 Valuation
01 - AFSCME	B-2 Normal Ret Age: 60 V-10 FAC-3 5.00% Member Contrib. Act 88 Election (11/10/2003)	B-2 Normal Ret Age: 60 V-10 FAC-3 5.00% Member Contrib. Act 88 Election (11/10/2003)
02 - Pol Ptrl	B-3 - 80% Max Normal Ret Age: 60 V-10 F50(25) FAC-3 6.17% Member Contrib. Act 88 Election (11/10/2003)	B-3 - 80% Max Normal Ret Age: 60 V-10 F50(25) FAC-3 6.17% Member Contrib. Act 88 Election (11/10/2003)
05 - Fire Fght	B-3 - 80% Max Normal Ret Age: 60 V-10 F55(15) FAC-3 5.00% Member Contrib. Act 88 Election (11/10/2003)	B-3 - 80% Max Normal Ret Age: 60 V-10 F55(15) FAC-3 5.00% Member Contrib. Act 88 Election (11/10/2003)
10 - Elctd Ofc	B-3 - 80% Max Normal Ret Age: 60 V-8 FAC-3 E-2 (2.5%) (11/01/2004) 6.93% Member Contrib. Act 88 Election (11/10/2003)	B-3 - 80% Max Normal Ret Age: 60 V-8 FAC-3 E-2 (2.5%) (11/01/2004) 6.93% Member Contrib. Act 88 Election (11/10/2003)
11 - Dsptchr	B-3 - 80% Max Normal Ret Age: 60 V-10 FAC-3 5.00% Member Contrib. Act 88 Election (11/10/2003)	B-2 Normal Ret Age: 60 V-10 FAC-3 5.00% Member Contrib. Act 88 Election (11/10/2003)
14 - Adm/NonUnion	B-3 - 80% Max Normal Ret Age: 60 V-10 FAC-3 5.00% Member Contrib. Act 88 Election (11/10/2003)	B-3 - 80% Max Normal Ret Age: 60 V-10 FAC-3 5.00% Member Contrib. Act 88 Election (11/10/2003)

Pittsfield Charter Township (8110)

Table 1 (continued)

Benefit Provisions Evaluated and/or Considered

Division	2010 Valuation	2009 Valuation
15 - Utilities Dr#	B-3 - 80% Max Normal Ret Age: 60 V-10 F55(25) FAC-3 6.00% Member Contrib. Act 88 Election (10/01/2007)	B-3 - 80% Max Normal Ret Age: 60 V-10 F55(25) FAC-3 6.00% Member Contrib. Act 88 Election (10/01/2007)
20 - Pol Cmnd	B-4 - 80% Max Normal Ret Age: 60 V-10 F50(25) FAC-3 E-2 (2.5%) (01/01/2001) 9.06% Member Contrib. Act 88 Election (11/10/2003)	B-4 - 80% Max Normal Ret Age: 60 V-10 F50(25) FAC-3 E-2 (2.5%) (01/01/2001) 9.06% Member Contrib. Act 88 Election (11/10/2003)

 # This division is closed to new hires or had no active members, so the closed division amortization policy applies. Please refer to the Amortization of Unfunded Actuarial Accrued Liability on page 100 and Open Divisions and Closed Divisions on page 104.

MERS provides the actuary with the benefit provisions in effect in Table 1 above. Any corrections to the benefit provisions should be reported to your Regional Manager in the MERS Office of Marketing and Employer services.

Pittsfield Charter Township (8110)

Table 2

Membership Summary

Division	2010 Valuation		2009 Valuation	
	Number	Annual Payroll*	Number	Annual Payroll*
01 - AFSCME				
Active Members	18	$633,150	21	$697,600
Vested Former Members	6	56,183	5	38,764
Retirees and Beneficiaries	4	18,705	4	18,705
02 - Pol Ptrl				
Active Members	30	$1,872,798	31	$1,827,777
Vested Former Members	2	14,697	2	14,697
Retirees and Beneficiaries	2	16,828	2	16,828
05 - Fire Fght				
Active Members	23	$1,517,003	21	$1,270,865
Vested Former Members	2	75,724	1	33,011
Retirees and Beneficiaries	1	25,042	1	25,042
10 - Elctd Ofc				
Active Members	3	$234,513	3	$234,513
Vested Former Members	1	14,444	1	14,444
Retirees and Beneficiaries	4	65,041	4	64,166
11 - Dsptchr				
Active Members	8	$355,745	9	$390,756
Vested Former Members	4	19,045	3	7,806
Retirees and Beneficiaries	0	0	0	0
14 - Adm/NonUnion				
Active Members	34	$1,981,088	33	$1,800,059
Vested Former Members	7	104,566	6	77,429
Retirees and Beneficiaries	3	27,695	1	15,196
15 - Utilities Dr				
Active Members	0	0	1	$88,664
Vested Former Members	1	23,274	0	0
Retirees and Beneficiaries	0	0	0	0
20 - Pol Cmnd				
Active Members	7	$559,006	5	$391,489
Vested Former Members	1	23,169	1	23,169
Retirees and Beneficiaries	8	312,329	7	270,730

Pittsfield Charter Township (8110)

Table 2 (continued)

Membership Summary

Division	2010 Valuation		2009 Valuation	
	Number	Annual Payroll*	Number	Annual Payroll*
Total Municipality				
Active Members	123	$7,153,303	124	$6,701,723
Vested Former Members	24	331,102	19	209,320
Retirees and Beneficiaries	22	465,640	19	410,667
Total Participants	169		162	

* *Annual payroll for active members; annual deferred benefits payable for vested former members; annual benefits being paid for retirees and beneficiaries.*

Pittsfield Charter Township (8110)

Table 3

Active Members in the Valuation - Comparative Schedule

Valuation Date 12/31	Number	Annual Payroll	Average Pay		Average Age	Average Benefit Service*	Average Eligibility Service*
			Annual $	% Increase			
2000	99	$ 3,648,928	$ 36,857	1.0%	37.5	5.6	
2001	103	4,078,516	39,597	7.4	38.3	6.3	6.4
2002	111	4,515,902	40,684	2.7	38.0	6.7	6.8
2003	112	5,189,309	46,333	13.9	38.5	7.1	7.4
2004	120	5,344,918	44,541	(3.9)	38.7	7.2	7.5
2005	124	5,776,668	46,586	4.6	38.5	7.5	7.8
2006	124	6,008,307	48,454	4.0	39.2	8.0	8.3
2007	125	6,298,954	50,392	4.0	40.4	8.7	8.9
2008	121	6,274,163	51,853	2.9	40.7	8.8	9.3
2009	124	6,701,723	54,046	4.2	41.1	9.0	9.6
2010	123	7,153,303	58,157	7.6	41.2	9.1	9.8

** See description on page 97.*

Table 4

Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Net Transfers	New Member	End of Year
				Vested	Non-Vested			
2001				(3)	(5)		12	103
2002					(7)		15	111
2003	(1)			(1)	(5)		8	112
2004	(1)			(3)	(6)		18	120
2005	(1)			(2)	(7)		14	124
2006	(1)			(1)	(6)		8	124
2007				(3)	(5)		9	125
2008	(2)			(4)	(8)		10	121
2009	(2)				(5)		10	124
2010	(2)			(5)	(6)		12	123

Pittsfield Charter Township (8110)

Table 5

Vested Former Members in the Valuation - Comparative Schedule

Valuation Date 12/31	Number	Annual Deferred Benefits	Average Age	Average Benefit Service*	Average Eligibility Service*
2000	15	$			
2001	17	132,830	41.5	8.5	10.7
2002	15	113,098	43.0	8.8	11.4
2003	16	139,846	44.3	9.8	12.7
2004	16	146,346	42.7	10.2	13.0
2005	18	152,587	43.7	9.4	12.8
2006	16	158,709	45.2	10.7	13.9
2007	19	155,743	42.1	8.9	12.4
2008	22	240,402	42.9	9.9	13.5
2009	19	209,320	44.0	9.9	13.4
2010	24	331,102	45.3	11.6	15.5

** See description on page 97.*

Table 6

Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Net Transfers	New	End of Year
2001				(2)		4	17
2002				(2)			15
2003						1	16
2004				(3)		3	16
2005						2	18
2006	(1)			(2)		1	16
2007	(1)					4	19
2008				(2)		5	22
2009	(1)			(2)			19
2010	(1)					6	24

Pittsfield Charter Township (8110)

Table 7

Retirees and Beneficiaries in the Valuation - Comparative Schedule

Valuation Date 12/31	Retirees		Beneficiaries		Total Recipients		No. of Actives per Recip.	Benefits As % of Active Payroll
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
2000		$		$	8	$ 68,650	12.4	1.9%
2001	6	62,035	2	6,615	8	68,650	12.9	1.7
2002	6	61,176	2	6,615	8	67,791	13.9	1.5
2003	7	78,678	3	14,053	10	92,731	11.2	1.8
2004	8	99,606	3	14,239	11	113,845	10.9	2.1
2005	9	128,717	3	21,237	12	149,954	10.3	2.6
2006	11	181,796	3	21,593	14	203,389	8.9	3.4
2007	12	193,791	3	21,950	15	215,741	8.3	3.4
2008	13	261,509	3	21,821	16	283,330	7.6	4.5
2009	16	388,490	3	22,177	19	410,667	6.5	6.1
2010	19	443,106	3	22,534	22	465,640	5.6	6.5

Table 8

Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust. *	Number	Annual Benefits	Benefit Adjust. #	Number	Annual Benefits
2000		$	$		$	$	8	$ 68,650
2001							8	68,650
2002						(859)	8	67,791
2003	2	24,940					10	92,731
2004	1	20,928	186				11	113,845
2005	1	28,587	7,522				12	149,954
2006	2	51,859	1,576				14	203,389
2007	1	9,692	2,660				15	215,741
2008	2	82,916	2,661	(1)	(17,502)	(486)	16	283,330
2009	4	134,438	8,095	(1)	(15,196)		19	410,667
2010	3	47,800	7,173				22	465,640

@ Includes beneficiaries of retirees who died during the year.
** Includes where applicable E, E-1, and E-2 benefits, and corrections.*
 # Includes where applicable C-2 and Accelerated Option benefits, and corrections.

Pittsfield Charter Township (8110)

Table 9

Retirees and Beneficiaries on the Rolls as of December 31, 2010

Distribution by Type of Benefit Being Paid

Benefits Being Paid to:	Annual Benefits	
	Number	Amount
Age and service retirants	18	$435,970
Non-duty disability retirants	0	0
Duty disability retirants	1	7,136
Beneficiaries of deceased retirants*	2	19,781
Beneficiaries of deceased members:		
Non-duty death	1	2,753
Duty death	0	0
Total Benefits Being Paid	22	$465,640

* *Alternate Payees, if any, are all included with beneficiaries of deceased retirants.*

Pittsfield Charter Township (8110)

Table 10

Reported Assets (Market Value)

Division	2010 Valuation		2009 Valuation	
	Employer And Retiree*	Employee#	Employer And Retiree*	Employee#
01 - AFSCME	$ 589,942	$ 340,922	$ 465,187	$ 307,880
02 - Pol Ptrl	1,779,641	1,061,225	1,158,858	806,358
05 - Fire Fght	1,296,049	565,235	988,351	489,510
10 - Elctd Ofc	239,514	94,040	227,803	77,571
11 - Dsptchr	192,881	196,028	130,836	175,716
14 - Adm/NonUnion	2,294,547	1,226,104	1,755,243	1,115,463
15 - Utilities Dr	61,252	99,110	32,595	96,026
20 - Pol Cmnd	2,221,332	494,398	1,980,024	441,319
Total Municipality	**$ 8,675,158**	**$ 4,077,062**	**$ 6,738,897**	**$ 3,509,843**
Combined Reserves	**$12,752,220**		**$10,248,740**	

** Reserve for Employer Contributions and Benefit Payments*
 # Reserve for Employee Contributions

The December 31, 2010 Valuation Assets are equal to 1.162921 times the reported Market Value of assets. The derivation of Valuation Assets is described on page 106 and the detailed calculations are shown on pages 107 - 109.

Pittsfield Charter Township (8110)

Table 11

Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Net Transfers*	Balance
	Employer	Member					
2001	$ 242,891	$ 241,437	$ 317,360	$ (68,650)	$ (18,746)	$ 1	$ 4,176,971
2002	246,282	256,435	248,166	(68,650)	(32,466)	0	4,826,738
2003	285,559	293,987	512,225	(80,032)	(12,091)	1	5,826,387
2004	298,754	305,396	445,275	(93,853)	(31,493)	0	6,750,466
2005	357,073	336,650	473,095	(146,120)	(15,748)	0	7,755,416
2006	416,355	353,345	654,031	(169,433)	(29,878)	36,086	9,015,922
2007	472,566	359,907	733,266	(206,619)	(96,078)	(1)	10,278,963
2008	510,445	367,989	580,155	(199,071)	(88,761)	65,728	11,515,448
2009	503,828	365,468	803,796	(310,482)	(84,863)	34,825	12,828,020
2010	742,471	432,920	1,032,060	(448,528)	(69,956)	312,836	14,829,823

* *Transfers in and out are usually related to the transfer of participants between municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Pittsfield Charter Township (8110)

Table 12

Termination Liability as of December 31, 2010

Division	Termination Liability*	Valuation Assets	Percent Funded	Unfunded (Overfunded)
01 - AFSCME				
Active Members	$ 458,352			
Vested Former Members	268,642			
Retirees and Beneficiaries	156,311			
Pending Refunds	46,680			
Total	$ 929,985	$ 1,082,521	116.4%	$ (152,536)
02 - Pol Ptrl				
Active Members	$ 1,825,056			
Vested Former Members	123,687			
Retirees and Beneficiaries	177,813			
Pending Refunds	2,692			
Total	$ 2,129,248	$ 3,303,703	155.2%	$ (1,174,455)
05 - Fire Fght				
Active Members	$ 689,937			
Vested Former Members	560,785			
Retirees and Beneficiaries	298,677			
Pending Refunds	3,531			
Total	$ 1,552,930	$ 2,164,526	139.4%	$ (611,596)
10 - Elctd Ofc				
Active Members	$ 94,590			
Vested Former Members	80,476			
Retirees and Beneficiaries	605,108			
Pending Refunds	20,936			
Total	$ 801,110	$ 387,897	48.4%	$ 413,213
11 - Dsptchr				
Active Members	$ 174,573			
Vested Former Members	42,913			
Retirees and Beneficiaries	0			
Pending Refunds	15,607			
Total	$ 233,093	$ 452,270	194.0%	$ (219,177)
14 - Adm/NonUnion				
Active Members	$ 2,950,087			
Vested Former Members	605,875			
Retirees and Beneficiaries	242,399			
Pending Refunds	86,743			
Total	$ 3,885,104	$ 4,094,239	105.4%	$ (209,135)

Pittsfield Charter Township (8110)

Table 12 (continued)

Termination Liability and Present Value of Accrued Benefits as of December 31, 2010

Division	Termination Liability*	Valuation Assets	Percent Funded	Unfunded (Overfunded)
15 - Utilities Dr				
Active Members	$ 0			
Vested Former Members	148,318			
Retirees and Beneficiaries	0			
Pending Refunds	0			
Total	$ 148,318	$ 186,488	125.7%	$ (38,170)
20 - Pol Cmnd				
Active Members	$ 725,135			
Vested Former Members	147,643			
Retirees and Beneficiaries	4,306,192			
Pending Refunds	0			
Total	$ 5,178,970	$ 3,158,179	61.0%	$ 2,020,791
Total Municipality				
Active Members	**$ 6,917,730**			
Vested Former Members	**1,978,339**			
Retirees and Beneficiaries	**5,786,500**			
Pending Refunds	**176,189**			
Total	**$ 14,858,758**	**$ 14,829,823**	**99.8%**	**$ 28,935**

* The Termination Liability represents the present value of benefits payable in the event that all active members terminate employment on December 31, 2010, based upon the valuation interest and mortality assumptions. Pending refunds represent expected refunds of accumulated member contributions to persons who have terminated membership before becoming eligible for pension benefits.

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Table 13

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 2010

Division	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - AFSCME				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 328,463	$ 410,671	125.0%	$ (82,208)
Vested Former Members	174,617	174,617	100.0	0
Retirees and Beneficiaries	156,311	156,311	100.0	0
Total	$ 659,391	$ 741,599	112.5%	$ (82,208)
Reserve for Employee Contributions				
Active Members	$ 200,217	$ 200,217		
Vested Former Members	94,025	94,025		
Pending Refunds	46,680	46,680		
Total	$ 340,922	$ 340,922	100.0%	$ 0
Division Total	**$ 1,000,313**	**$ 1,082,521**	**108.2%**	**$ (82,208)**
02 - Pol Ptrl				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 2,282,692	$ 2,021,762	88.6%	$ 260,930
Vested Former Members	105,402	105,402	100.0	0
Retirees and Beneficiaries	177,813	177,813	100.0	0
Total	$ 2,565,907	$ 2,304,977	89.8%	$ 260,930
Reserve for Employee Contributions				
Active Members	$ 977,749	$ 977,749		
Vested Former Members	18,285	18,285		
Pending Refunds	2,692	2,692		
Total	$ 998,726	$ 998,726	100.0%	$ 0
Division Total	**$ 3,564,633**	**$ 3,303,703**	**92.7%**	**$ 260,930**
05 - Fire Fght				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 1,200,460	$ 842,422	70.2%	$ 358,038
Vested Former Members	458,191	458,191	100.0	0
Retirees and Beneficiaries	298,677	298,677	100.0	0
Total	$ 1,957,328	$ 1,599,290	81.7%	$ 358,038
Reserve for Employee Contributions				
Active Members	$ 459,111	$ 459,111		
Vested Former Members	102,594	102,594		
Pending Refunds	3,531	3,531		
Total	$ 565,236	$ 565,236	100.0%	$ 0
Division Total	**$ 2,522,564**	**$ 2,164,526**	**85.8%**	**$ 358,038**

Pittsfield Charter Township (8110)

Table 13 (continued)

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 2010

Division	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
10 - Elctd Ofc				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 50,863	$ 0	0.0%	$ 50,863
Vested Former Members	41,245	0	0.0	41,245
Retirees and Beneficiaries	605,108	293,858	48.6	311,250
Total	$ 697,216	$ 293,858	42.1%	$ 403,358
Reserve for Employee Contributions				
Active Members	$ 33,872	$ 33,872		
Vested Former Members	39,231	39,231		
Pending Refunds	20,936	20,936		
Total	$ 94,039	$ 94,039	100.0%	$ 0
Division Total	**$ 791,255**	**$ 387,897**	**49.0%**	**$ 403,358**
11 - Dsptchr				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 204,950	$ 256,242	125.0%	$ (51,292)
Vested Former Members	0	0	0.0	0
Retirees and Beneficiaries	0	0	0.0	0
Total	$ 204,950	$ 256,242	125.0%	$ (51,292)
Reserve for Employee Contributions				
Active Members	$ 137,508	$ 137,508		
Vested Former Members	42,913	42,913		
Pending Refunds	15,607	15,607		
Total	$ 196,028	$ 196,028	100.0%	$ 0
Division Total	**$ 400,978**	**$ 452,270**	**112.8%**	**$ (51,292)**
14 - Adm/NonUnion				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 2,161,205	$ 2,245,044	103.9%	$ (83,839)
Vested Former Members	393,808	393,808	100.0	0
Retirees and Beneficiaries	242,399	242,399	100.0	0
Total	$ 2,797,412	$ 2,881,251	103.0%	$ (83,839)
Reserve for Employee Contributions				
Active Members	$ 914,178	$ 914,178		
Vested Former Members	212,067	212,067		
Pending Refunds	86,743	86,743		
Total	$ 1,212,988	$ 1,212,988	100.0%	$ 0
Division Total	**$ 4,010,400**	**$ 4,094,239**	**102.1%**	**$ (83,839)**

Pittsfield Charter Township (8110)

Table 13 (continued)

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 2010

Division	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
15 - Utilities Dr				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 0	$ 38,170	0.0%	$ (38,170)
Vested Former Members	49,208	49,208	100.0	0
Retirees and Beneficiaries	0	0	0.0	0
Total	$ 49,208	$ 87,378	177.6%	$ (38,170)
Reserve for Employee Contributions				
Active Members	$ 0	$ 0		
Vested Former Members	99,110	99,110		
Pending Refunds	0	0		
Total	$ 99,110	$ 99,110	100.0%	$ 0
Division Total	**$ 148,318**	**$ 186,488**	**125.7%**	**$ (38,170)**
20 - Pol Cmnd				
Reserve for Employer Contributions and Benefit Payments				
Active Members	$ 1,405,809	$ 0	0.0%	$ 1,405,809
Vested Former Members	133,724	0	0.0	133,724
Retirees and Beneficiaries	4,306,192	2,601,286	60.4	1,704,906
Total	$ 5,845,725	$ 2,601,286	44.5%	$ 3,244,439
Reserve for Employee Contributions				
Active Members	$ 542,974	$ 542,974		
Vested Former Members	13,919	13,919		
Pending Refunds	0	0		
Total	$ 556,893	$ 556,893	100.0%	$ 0
Division Total	**$ 6,402,618**	**$ 3,158,179**	**49.3%**	**$ 3,244,439**
Municipality Totals				
Reserve for Employer Contributions and Benefit Payments				
Active Members	**$ 7,634,442**	**$ 5,814,311**	**76.2%**	**$ 1,820,131**
Vested Former Members	**1,356,195**	**1,181,226**	**87.1**	**174,969**
Retirees and Beneficiaries	**5,786,500**	**3,770,344**	**65.2**	**2,016,156**
Total	**$ 14,777,137**	**$ 10,765,881**	**72.9%**	**$ 4,011,256**
Reserve for Employee Contributions				
Active Members	**$ 3,265,609**	**$ 3,265,609**		
Vested Former Members	**622,144**	**622,144**		
Pending Refunds	**176,189**	**176,189**		
Total	**$ 4,063,942**	**$ 4,063,942**	**100.0%**	**$ 0**
Municipality Total	**$ 18,841,079**	**$ 14,829,823**	**78.7%**	**$ 4,011,256**

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Table 14

Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
1996	$ 2,736,955	$ 1,389,927	51%	$ 1,347,028	58%
1997	3,105,629	1,827,266	59	1,278,363	49
1998	3,778,507	2,307,455	61	1,471,052	51
1999	4,202,782	2,887,981	69	1,314,801	39
2000	5,038,816	3,462,677	69	1,576,139	43
2001	5,900,412	4,176,971	71	1,723,441	42
2002	6,638,884	4,826,738	73	1,812,146	40
2003	8,233,918	5,826,387	71	2,407,531	46
2004	9,711,666	6,750,466	70	2,961,200	55
2005	10,943,440	7,755,416	71	3,188,024	55
2006	12,681,900	9,015,922	71	3,665,978	61
2007	14,059,796	10,278,963	73	3,780,833	60
2008	15,441,447	11,515,448	75	3,925,999	63
2009	16,665,216	12,828,020	77	3,837,196	57
2010	18,841,079	14,829,823	79	4,011,256	56

Notes: Actuarial assumptions were revised for the 1997, 2000, 2004, 2008, 2009 and 2010 actuarial valuations.

Pittsfield Charter Township (8110)

Table 15

Computed Employer Contributions to the Retirement System

For the Fiscal Year Beginning January 1, 2012

Division	Employer Contributions @		
	Normal Cost	Unfunded Accrued Liability #	Total Required Employer Contribution
Percentage of Payroll			
01 - AFSCME	4.38%	(1.52)%	2.86%
02 - Pol Ptrl	5.20%	0.65%	5.85%
05 - Fire Fght	6.18%	1.24%	7.42%
10 - Elctd Ofc	7.41%	9.04%	16.45%
11 - Dsptchr	3.96%	(1.46)%	2.50%
14 - Adm/NonUnion	5.97%	(0.52)%	5.45%
15 - Utilities Dr &	-%	-%	-%
20 - Pol Cmnd	6.85%	30.33%	37.18%
Estimated Monthly Contribution*			
01 - AFSCME	$ 2,311	$ (802)	$ 1,509
02 - Pol Ptrl	8,116	1,014	9,130
05 - Fire Fght	7,813	1,568	9,381
10 - Elctd Ofc	1,448	1,767	3,215
11 - Dsptchr	1,174	(433)	741
14 - Adm/NonUnion	9,856	(858)	8,998
15 - Utilities Dr	0	0	0
20 - Pol Cmnd	3,191	14,129	17,320
Total Municipality	**$ 33,909**	**$ 16,385**	**$ 50,294**
Estimated Annual Contribution*			
Total Municipality	**$ 406,908**	**$ 196,620**	**$ 603,528**

@ The above Employer contribution requirements are in addition to the Member contributions, if any, shown in Table 1.

** For divisions that are open to new hires, estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher). For divisions that will have no new hires, invoices will be based on the above dollar amounts which are based on projected fiscal year payroll. See Open Divisions and Closed Divisions on page 104.*

 # The amortization method and period are described in Table 16 for each division.

& This division will not have new hires. Invoices will be based on the dollar contribution amounts shown in this table.

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 01 - AFSCME

Table 16A

Computed Employer Contributons to the Retirement System For the Fiscal Year Beginning January 1, 2012

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	8.34%	$4,400
Member Contributions	5.00	2,638
Less Potential Refunds	(1.04)	(549)
Net Member Contributions	3.96	2,089
Employer Normal Cost @	4.38%	$2,311
Amortization of Unfunded Accrued Liability (28 years) #	(0.71)	(375)
Total Long Term Contribution	3.67	1,936
Overfunding Credit #	(0.81)	(427)
Total Employer Contribution @	**2.86%**	**$1,509 ***

@ *The above Employer contribution requirement is based on Member contributions of 5.00% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.85% of pay.*

* *Estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *For this division, projected assets exceed projected liabilities as of the beginning of the January 1, 2012 fiscal year (see Table 24). The negative unfunded accrued liability is amortized (spread) over 10 years, and used to reduce the employer contribution rate. The total credit is 1.52% (0.71% plus 0.81%). The additional 0.81% results from spreading the negative unfunded accrued liability over 10 years instead of 28 years.*

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2010 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(18,036)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**0.00%**
Amortization Payment:	**(0.16)%**
Total:	**(0.16)%**

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 01 - AFSCME

Table 17A

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution
	Number	Annual Payroll	
1996	34	$ 918,988	5.32%
1997	36	1,062,811	4.58%
1998	38	1,184,469	4.26%
1999	43	1,387,055	3.91%
2000	16	393,345	1.99%
2001	19	464,063	1.74%
2002	21	522,868	2.63%
2003	20	513,251	2.85%
2004	23	587,232	3.12%
2005	24	661,076	3.93%
2006	21	611,697	4.10%
2007	22	646,217	4.29%
2008	20	635,140	4.59%
2009	21	697,600	4.23%
2010	18	633,150	2.86%

Notes:

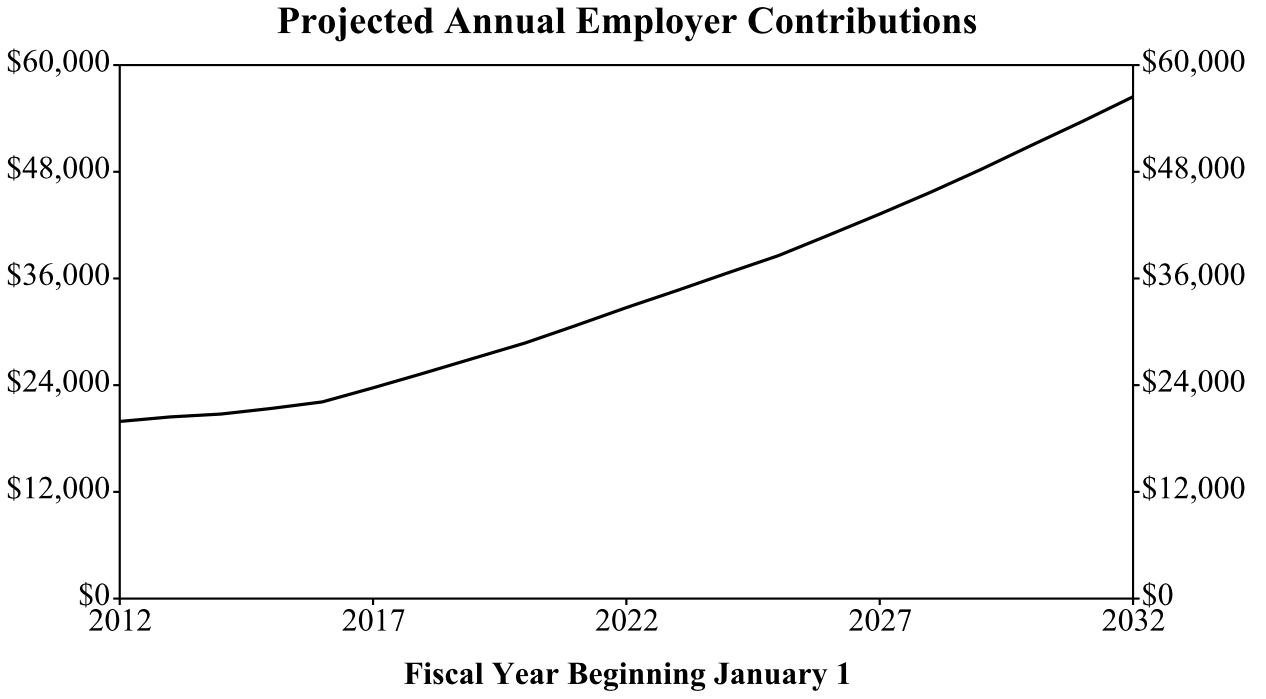
Actuarial assumptions were revised for the 1997 valuation.
Actuarial assumptions were revised for the 2000 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Adoption of Benefit B-2 reflected in 2005 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.
Actuarial assumptions and methods were revised for the 2010 valuation.

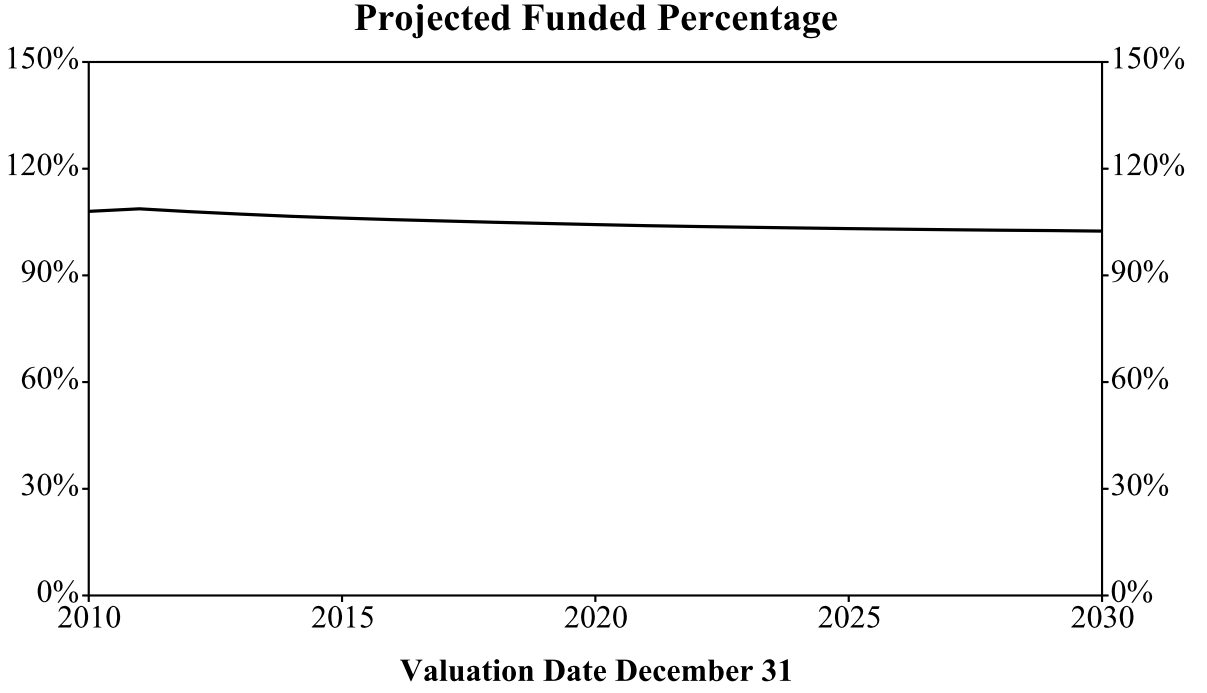
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

Pittsfield Charter Township (8110)

Division 01 - AFSCME

Chart 17.5A





Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Division 01 - AFSCME

Table 18A
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001				(1)	(2)	(1)		7	19
2002					(3)			5	21
2003					(3)	(2)		4	20
2004				(1)	(2)			6	23
2005				(1)	(1)			3	24
2006					(4)			1	21
2007					(3)	(1)		5	22
2008					(2)				20
2009						(1)		2	21
2010				(1)	(4)			2	18

Table 19A
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001				(1)			1	8
2002				(1)				7
2003								7
2004				(2)			1	6
2005							1	7
2006				(1)				6
2007							1	7
2008				(1)				6
2009				(1)				5
2010							1	6

Pittsfield Charter Township (8110)

Division 01 - AFSCME

Table 20A
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$		$	$	4	$ 20,050
2002						(859)	4	19,191
2003							4	19,191
2004							4	19,191
2005							4	19,191
2006							4	19,191
2007							4	19,191
2008						(486)	4	18,705
2009							4	18,705
2010							4	18,705

@ *Includes beneficiaries of retirees who died during the year.*
* *Includes where applicable E, E-1, and E-2 benefits, and corrections.*
\# *Includes where applicable C-2 and Accelerated Option benefits, and corrections.*

Pittsfield Charter Township (8110)

Division 01 - AFSCME

Table 21A
Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 17,996	$ 23,089	$ 46,154	$ (20,050)	$ (4,559)	$ (2,867)	$ 0	$ 630,406
2002	10,236	25,807	25,795	(20,050)	(2,513)	(1,963)	1,914	669,632
2003	9,305	26,745	3,680	(19,764)	(11,478)	(134,138)	0	543,982
2004	15,213	28,934	38,413	(19,191)	(8,576)	0	0	598,775
2005	22,797	33,096	40,997	(19,191)	(2,301)	(564)	564	674,173
2006	27,236	33,793	55,200	(19,191)	(17,069)	0	0	754,142
2007	25,158	32,077	61,203	(19,191)	(32,935)	(14,490)	0	805,964
2008	27,493	33,631	40,743	(18,867)	(14,292)	(334)	334	874,672
2009	30,114	35,112	59,855	(18,705)	(9,858)	(3,567)	0	967,623
2010	31,597	34,613	69,824	(18,705)	(2,431)	0	0	1,082,521

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22A
Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 591,294	$ 630,406	107%	$ (39,112)	0%
2002	663,466	669,632	101	(6,166)	0
2003	574,598	543,982	95	30,616	6
2004	624,438	598,775	96	25,663	4
2005	739,316	674,173	91	65,143	10
2006	805,063	754,142	94	50,921	8
2007	834,644	805,964	97	28,680	4
2008	904,962	874,672	97	30,290	5
2009	959,704	967,623	101	(7,919)	0
2010	1,000,313	1,082,521	108	(82,208)	0

Pittsfield Charter Township (8110)

Division 02 - Pol Ptrl

Table 16B

Computed Employer Contributons to the Retirement System For the Fiscal Year Beginning January 1, 2012

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	10.32%	$16,106
Member Contributions	6.17	9,629
Less Potential Refunds	(1.05)	(1,639)
Net Member Contributions	5.12	7,990
Employer Normal Cost @	5.20%	$8,116
Amortization of Unfunded Accrued Liability (28 years)	0.65	1,014
Total Long Term Contribution	5.85	9,130
Overfunding Credit #	0.00	0
Total Employer Contribution @	**5.85%**	**$9,130 ***

@ *The above Employer contribution requirement is based on Member contributions of 6.17% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.87% of pay.*

* *Estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *Only applies if projected assets exceed projected liabilities as of the beginning of the January 1, 2012 fiscal year (see Table 24).*

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2010 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(114,606)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**0.00%**
Amortization Payment:	**(0.34)%**
Total:	**(0.34)%**

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 02 - Pol Ptrl

Table 17B

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution	
	Number	Annual Payroll	Regular Contribution	Minimum Required Contribution
1996	17	$ 533,602	5.14%	5.14%
1997	21	600,442	3.95%	3.94%
1998	22	768,407	4.24%	4.24%
1999	24	881,710	3.47%	3.47%
2000	24	950,910	3.49%	3.49%
2001	23	967,248	4.38%	4.38%
2002	28	1,183,721	4.02%	4.02%
2003	27	1,289,399	4.03%	4.03%
2004	29	1,425,412	4.86%	4.86%
2005	28	1,501,642	4.82%	4.82%
2006	31	1,685,425	6.51%	6.51%
2007	28	1,635,804	6.29%	6.29%
2008	30	1,769,768	7.64%	7.64%
2009	31	1,827,777	7.28%	7.28%
2010	30	1,872,798	5.85%	5.85%

Notes:

Actuarial assumptions were revised for the 1997 valuation.
Actuarial assumptions were revised for the 2000 valuation.
Adoption of Benefit B-2 reflected in 2001 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Adoption of Benefit B-3 - 80% Maximum reflected in 2006 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Adoption of Benefit F50(25), 6.17% Member Contributions reflected in 2009 valuation.
Actuarial assumptions were revised for the 2009 valuation.
Actuarial assumptions and methods were revised for the 2010 valuation.

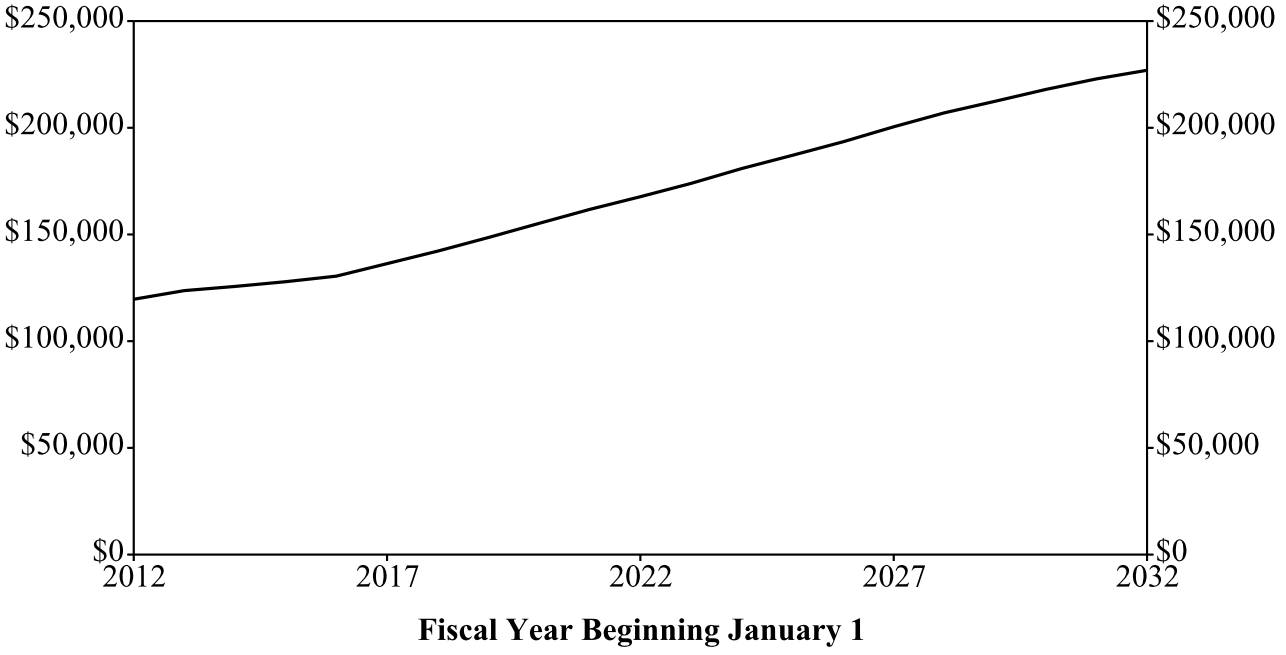
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

Pittsfield Charter Township (8110)

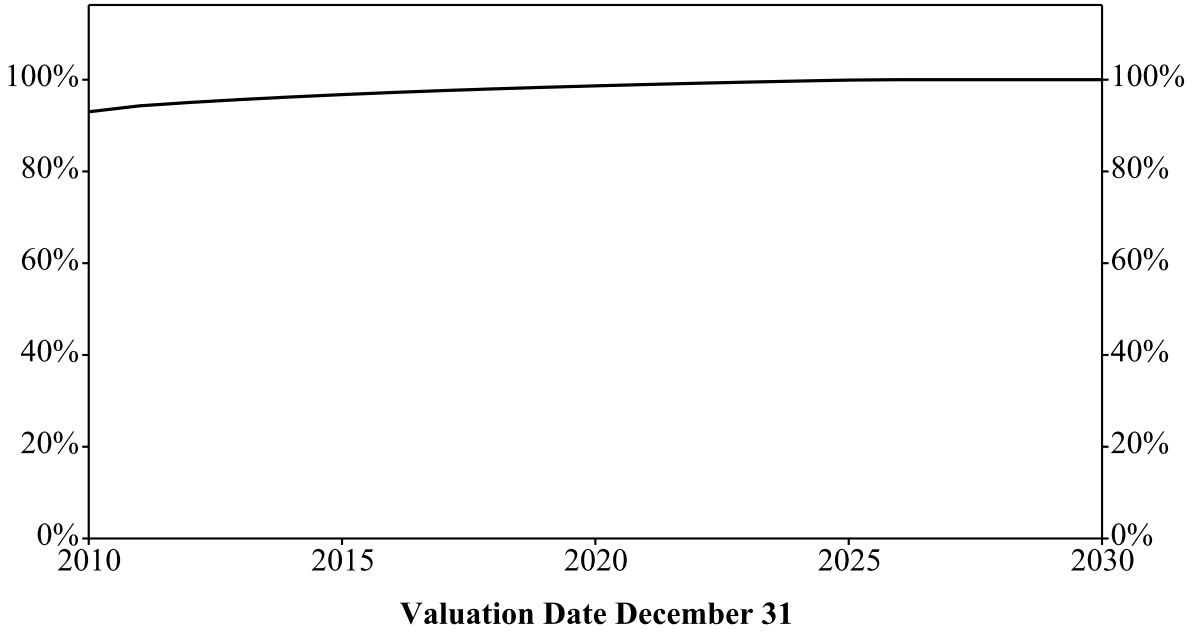
Division 02 - Pol Ptrl

Chart 17.5B

Projected Annual Employer Contributions



Projected Funded Percentage



Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Division 02 - Pol Ptrl

Table 18B
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001				(1)	(2)	(1)		3	23
2002					(2)			7	28
2003					(1)				27
2004								2	29
2005					(3)			2	28
2006						(1)		4	31
2007				(1)	(2)	(1)		1	28
2008								2	30
2009					(1)			2	31
2010						(3)		2	30

Table 19B
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001							1	3
2002								3
2003								3
2004				(1)				2
2005								2
2006								2
2007	(1)						1	2
2008								2
2009								2
2010								2

Pittsfield Charter Township (8110)

Division 02 - Pol Ptrl

Table 20B
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$		$	$	1	$ 7,136
2002							1	7,136
2003							1	7,136
2004							1	7,136
2005							1	7,136
2006							1	7,136
2007	1	9,692					2	16,828
2008							2	16,828
2009							2	16,828
2010							2	16,828

@ Includes beneficiaries of retirees who died during the year.
** Includes where applicable E, E-1, and E-2 benefits, and corrections.*
 # Includes where applicable C-2 and Accelerated Option benefits, and corrections.

Pittsfield Charter Township (8110)

Division 02 - Pol Ptrl

Table 21B
Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 34,603	$ 49,865	$ 51,487	$ (7,136)	$ (11,933)	$ (16,639)	$ 0	$ 675,701
2002	39,668	56,832	43,111	(7,136)	(14,173)	0	0	794,003
2003	56,774	64,811	92,787	(7,136)	(613)	0	0	1,000,626
2004	56,057	69,724	79,596	(7,136)	0	0	0	1,198,867
2005	60,218	74,908	86,048	(7,136)	(5,753)	(193)	193	1,407,152
2006	83,351	83,970	120,024	(7,136)	(7,203)	(78,490)	36,086	1,637,754
2007	104,765	83,843	134,596	(10,367)	(39,767)	(78,902)	0	1,831,922
2008	111,291	85,500	115,224	(16,829)	0	0	0	2,127,108
2009	113,968	90,710	172,869	(16,829)	(28,028)	(24)	24	2,459,798
2010	314,861	121,159	299,512	(16,829)	0	(68,712)	193,914	3,303,703

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22B
Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 907,772	$ 675,701	74%	$ 232,071	24%
2002	990,074	794,003	80	196,071	17
2003	1,215,072	1,000,626	82	214,446	17
2004	1,513,261	1,198,867	79	314,394	22
2005	1,746,034	1,407,152	81	338,882	23
2006	2,278,522	1,637,754	72	640,768	38
2007	2,420,555	1,831,922	76	588,633	36
2008	2,854,451	2,127,108	75	727,343	41
2009	3,131,111	2,459,798	79	671,313	37
2010	3,564,633	3,303,703	93	260,930	14

Pittsfield Charter Township (8110)

Division 05 - Fire Fght

Table 16C

Computed Employer Contributons to the Retirement System For the Fiscal Year Beginning January 1, 2012

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	10.31%	$13,034
Member Contributions	5.00	6,321
Less Potential Refunds	(0.87)	(1,100)
Net Member Contributions	4.13	5,221
Employer Normal Cost @	6.18%	$7,813
Amortization of Unfunded Accrued Liability (28 years)	1.24	1,568
Total Long Term Contribution	7.42	9,381
Overfunding Credit #	0.00	0
Total Employer Contribution @	**7.42%**	**$9,381 ***

@ *The above Employer contribution requirement is based on Member contributions of 5.00% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.88% of pay.*

* *Estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *Only applies if projected assets exceed projected liabilities as of the beginning of the January 1, 2012 fiscal year (see Table 24).*

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2010 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(69,183)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**0.01%**
Amortization Payment:	**(0.25)%**
Total:	**(0.24)%**

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 05 - Fire Fght

Table 17C

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution
	Number	Annual Payroll	
1996	7	$ 241,804	5.67%
1997	8	290,076	4.44%
1998	8	330,203	4.44%
1999	8	355,011	4.03%
2000	14	546,703	3.56%
2001	14	620,556	4.17%
2002	14	629,081	4.20%
2003	13	823,880	5.60%
2004	20	908,953	5.46%
2005	20	944,419	5.28%
2006	20	985,429	6.34%
2007	20	1,032,601	6.31%
2008	21	1,097,550	7.04%
2009	21	1,270,865	7.32%
2010	23	1,517,003	7.42%

Notes:

Actuarial assumptions were revised for the 1997 valuation.
Actuarial assumptions were revised for the 2000 valuation.
Adoption of Benefit B-2 reflected in 2003 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Adoption of Benefit B-3 - 80% Maximum reflected in 2006 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.
Actuarial assumptions and methods were revised for the 2010 valuation.

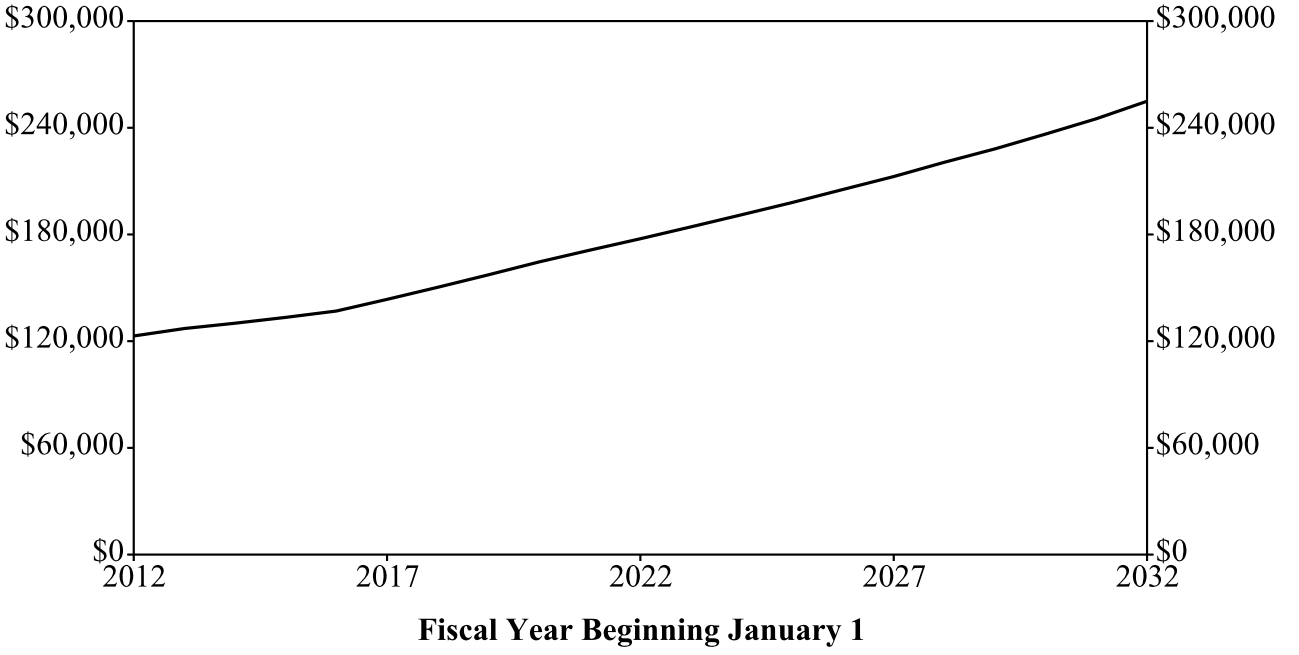
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

Pittsfield Charter Township (8110)

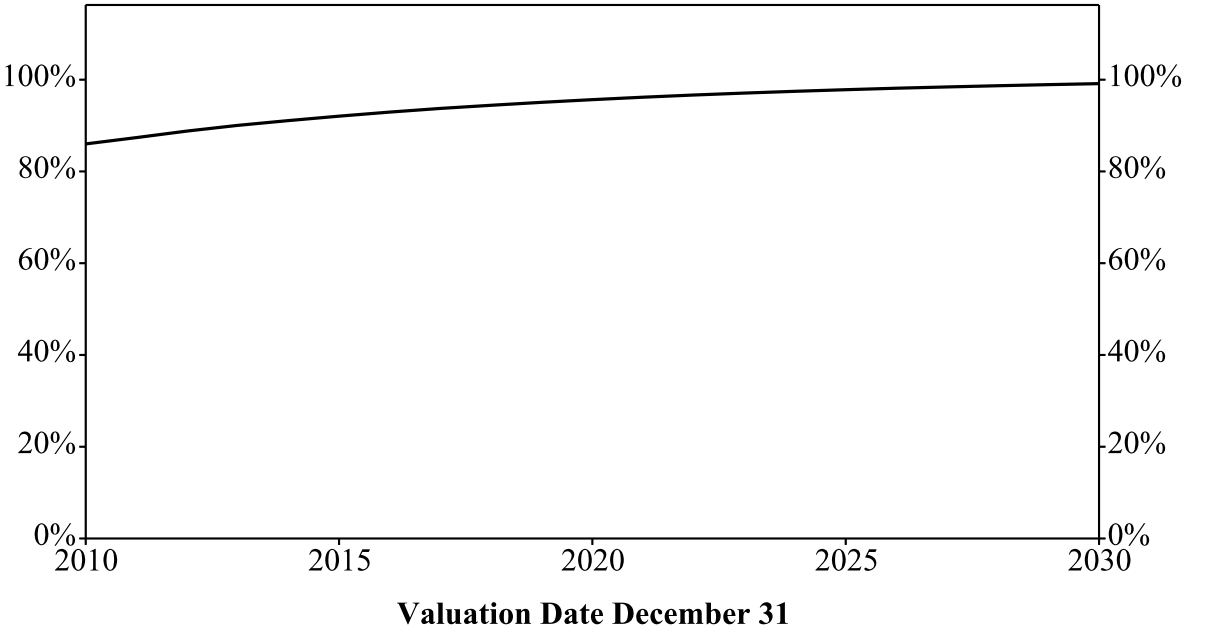
Division 05 - Fire Fght

Chart 17.5C

Projected Annual Employer Contributions



Projected Funded Percentage



Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Division 05 - Fire Fght

Table 18C
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001									14
2002									14
2003				(1)					13
2004								7	20
2005					(1)			1	20
2006				(1)	(1)			2	20
2007									20
2008				(1)				2	21
2009					(1)			1	21
2010				(1)				3	23

Table 19C
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001								0
2002								0
2003							1	1
2004								1
2005								1
2006							1	2
2007								2
2008				(1)			1	2
2009	(1)							1
2010							1	2

Pittsfield Charter Township (8110)

Division 05 - Fire Fght

Table 20C
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$		$	$	0	$ 0
2002							0	0
2003							0	0
2004							0	0
2005							0	0
2006							0	0
2007							0	0
2008							0	0
2009	1	25,042					1	25,042
2010							1	25,042

@ Includes beneficiaries of retirees who died during the year.
** Includes where applicable E, E-1, and E-2 benefits, and corrections.*
 # Includes where applicable C-2 and Accelerated Option benefits, and corrections.

Pittsfield Charter Township (8110)

Division 05 - Fire Fght

Table 21C
Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 25,008	$ 31,028	$ 38,081	$ 0	$ 0	$ 0	$ 0	$ 495,607
2002	22,552	31,479	31,082	0	0	0	0	580,720
2003	40,601	41,939	68,720	0	0	0	0	731,980
2004	38,213	38,914	57,753	0	0	0	0	866,860
2005	52,679	47,108	63,075	0	0	0	0	1,029,722
2006	54,106	49,710	88,056	0	0	0	0	1,221,594
2007	70,113	51,592	99,279	0	(23,376)	0	0	1,419,202
2008	68,392	53,937	78,635	0	(42,394)	0	0	1,577,772
2009	80,050	63,496	136,820	(8,347)	0	0	0	1,849,791
2010	111,960	79,404	153,458	(25,042)	(5,045)	0	0	2,164,526

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22C
Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 636,705	$ 495,607	78%	$ 141,098	23%
2002	726,318	580,720	80	145,598	23
2003	1,047,809	731,980	70	315,829	38
2004	1,113,512	866,860	78	246,652	27
2005	1,266,466	1,029,722	81	236,744	25
2006	1,500,773	1,221,594	81	279,179	28
2007	1,713,134	1,419,202	83	293,932	28
2008	1,867,228	1,577,772	84	289,456	26
2009	2,149,803	1,849,791	86	300,012	24
2010	2,522,564	2,164,526	86	358,038	24

Pittsfield Charter Township (8110)

Division 10 - Elctd Ofc

Table 16D

Computed Employer Contributons to the Retirement System For the Fiscal Year Beginning January 1, 2012

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	13.12%	$2,564
Member Contributions	6.93	1,354
Less Potential Refunds	(1.22)	(238)
Net Member Contributions	5.71	1,116
Employer Normal Cost @	7.41%	$1,448
Amortization of Unfunded Accrued Liability (28 years)	9.04	1,767
Total Long Term Contribution	16.45	3,215
Overfunding Credit #	0.00	0
Total Employer Contribution @	**16.45%**	**$3,215 ***

@ *The above Employer contribution requirement is based on Member contributions of 6.93% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.84% of pay.*

* *Estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *Only applies if projected assets exceed projected liabilities as of the beginning of the January 1, 2012 fiscal year (see Table 24).*

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2010 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(3,720)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**(0.01)%**
Amortization Payment:	**(0.09)%**
Total:	**(0.10)%**

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 10 - Elctd Ofc

Table 17D

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution	
	Number	Annual Payroll	Regular Contribution	Minimum Required Contribution
1996	1	$ 48,492	12.58%	12.58%
1997	1	49,928	26.29%	26.29%
1998	1	53,466	26.10%	26.09%
1999	1	55,050	25.22%	25.22%
2000	2	85,384	19.00%	19.00%
2001	2	120,742	15.34%	15.34%
2002	2	127,886	15.21%	15.21%
2003	3	208,647	12.02%	12.02%
2004	3	178,120	16.95%	16.95%
2005	3	223,722	15.28%	15.28%
2006	3	220,310	15.76%	15.76%
2007	3	225,804	16.10%	16.10%
2008	3	211,712	15.00%	15.00%
2009	3	234,513	15.83%	15.83%
2010	3	234,513	16.45%	16.45%

Notes:

Adoption of 6.93% member contributions reflected in 1996 valuation.
Actuarial assumptions were revised for the 1997 valuation.
Actuarial assumptions were revised for the 2000 valuation.
Adoption of Benefit E-2 (2.5%) reflected in 2004 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.
Actuarial assumptions and methods were revised for the 2010 valuation.

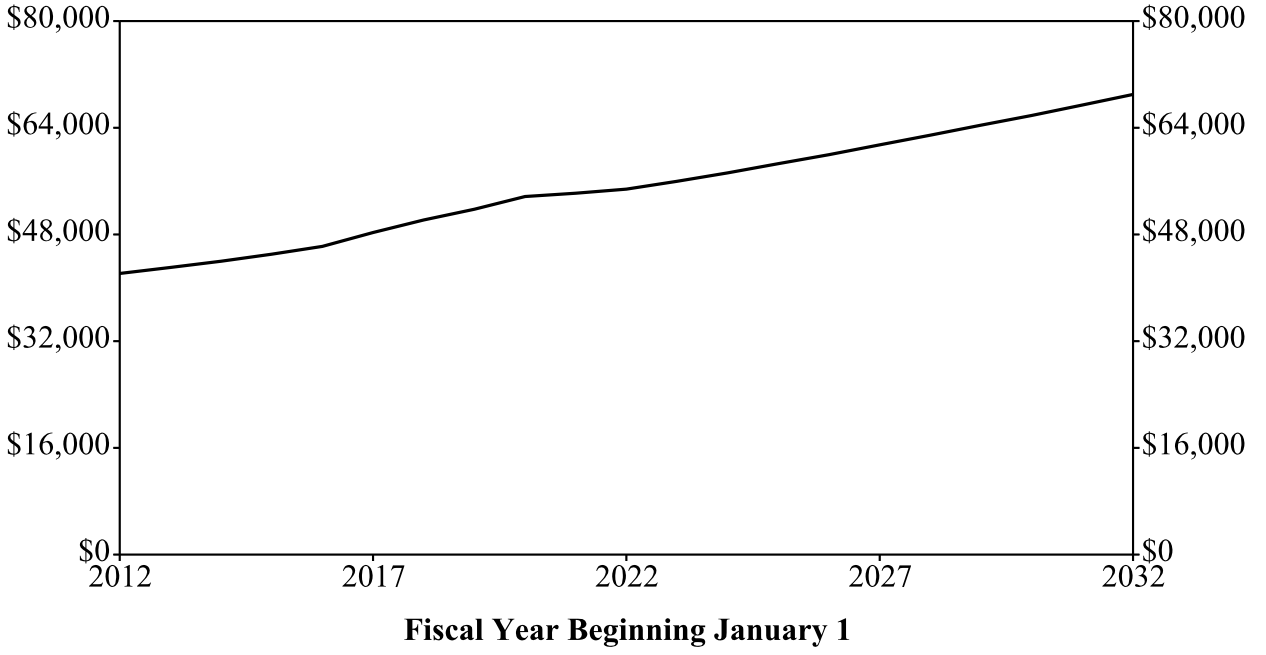
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

Pittsfield Charter Township (8110)

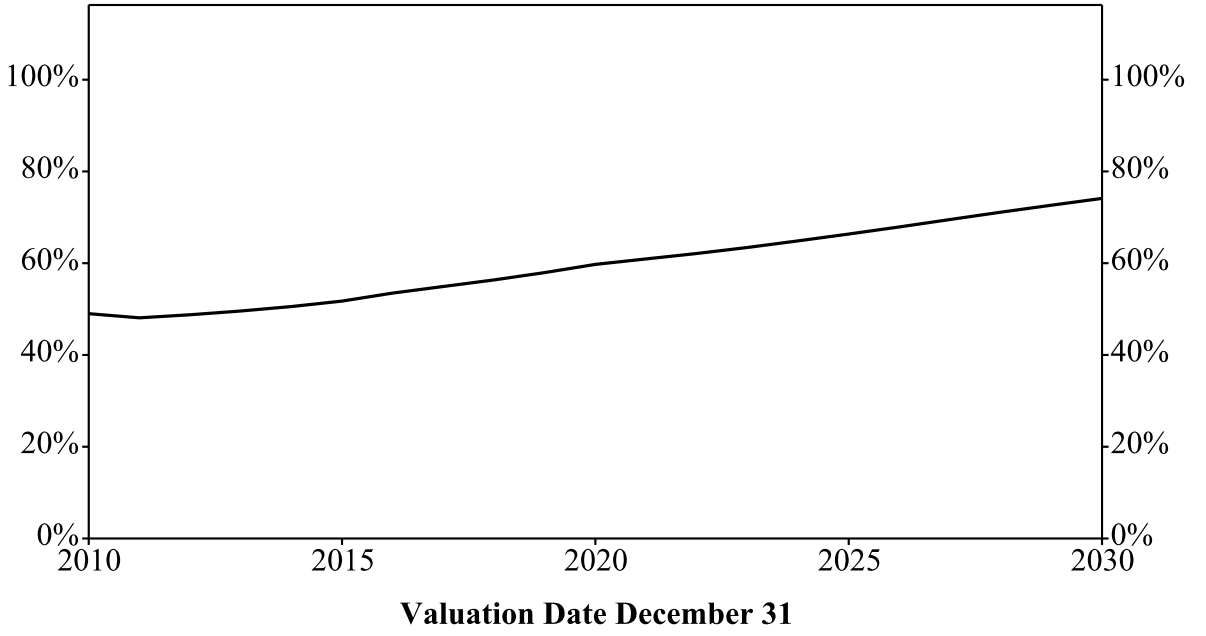
Division 10 - Elctd Ofc

Chart 17.5D

Projected Annual Employer Contributions



Projected Funded Percentage



Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Division 10 - Elctd Ofc

Table 18D
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001									2
2002									2
2003							1		3
2004	(1)							1	3
2005									3
2006									3
2007									3
2008	(1)			(1)	(1)			3	3
2009									3
2010									3

Table 19D
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001								0
2002								0
2003								0
2004								0
2005								0
2006								0
2007								0
2008							1	1
2009								1
2010								1

Pittsfield Charter Township (8110)

Division 10 - Elctd Ofc

Table 20D
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$		$	$	2	$ 26,268
2002							2	26,268
2003							2	26,268
2004	1	20,928					3	47,196
2005			524				3	47,720
2006			523				3	48,243
2007			523				3	48,766
2008	1	13,866	523				4	63,155
2009			1,011				4	64,166
2010			875				4	65,041

@ *Includes beneficiaries of retirees who died during the year.*
* *Includes where applicable E, E-1, and E-2 benefits, and corrections.*
\# *Includes where applicable C-2 and Accelerated Option benefits, and corrections.*

Pittsfield Charter Township (8110)

Division 10 - Elctd Ofc

Table 21D

Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 30,451	$ 8,367	$ 13,339	$ (26,268)	$ 0	$ 0	$ 0	$ 180,815
2002	24,298	8,862	7,868	(26,268)	0	0	0	195,575
2003	30,845	13,886	21,981	(26,268)	0	0	6,695	242,714
2004	32,819	14,371	18,038	(27,390)	0	0	0	280,552
2005	33,916	15,504	17,726	(47,818)	0	0	0	299,880
2006	37,342	15,267	23,879	(47,719)	0	0	0	328,649
2007	34,503	15,645	26,177	(48,243)	0	0	0	356,731
2008	36,154	15,989	17,316	(49,921)	0	0	0	376,269
2009	37,757	16,252	15,254	(63,305)	0	0	0	382,227
2010	35,177	16,252	18,408	(64,167)	0	0	0	387,897

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22D

Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 396,066	$ 180,815	46%	$ 215,251	178%
2002	420,458	195,575	47	224,883	176
2003	487,175	242,714	50	244,461	117
2004	611,513	280,552	46	330,961	186
2005	665,049	299,880	45	365,169	163
2006	698,520	328,649	47	369,871	168
2007	745,206	356,731	48	388,475	172
2008	714,664	376,269	53	338,395	160
2009	755,823	382,227	51	373,596	159
2010	791,255	387,897	49	403,358	172

Pittsfield Charter Township (8110)

Division 11 - Dsptchr

Table 16E

Computed Employer Contributons to the Retirement System For the Fiscal Year Beginning January 1, 2012

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	8.09%	$2,398
Member Contributions	5.00	1,482
Less Potential Refunds	(0.87)	(258)
Net Member Contributions	4.13	1,224
Employer Normal Cost @	3.96%	$1,174
Amortization of Unfunded Accrued Liability (28 years) #	(0.68)	(202)
Total Long Term Contribution	3.28	972
Overfunding Credit #	(0.78)	(231)
Total Employer Contribution @	**2.50%**	**$741 ***

@ *The above Employer contribution requirement is based on Member contributions of 5.00% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.89% of pay.*

* *Estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *For this division, projected assets exceed projected liabilities as of the beginning of the January 1, 2012 fiscal year (see Table 24). The negative unfunded accrued liability is amortized (spread) over 10 years, and used to reduce the employer contribution rate. The total credit is 1.46% (0.68% plus 0.78%). The additional 0.78% results from spreading the negative unfunded accrued liability over 10 years instead of 28 years.*

Note: Changes in actuarial assumptions and/or methods, and a change in benefit provisions and/or member contributions were reflected in the December 31, 2010 actuarial valuation (see Table 1). The effects of the benefit change(s), as it relates to the benefits of current and future active members, are shown below along with the effects of assumption and method changes, as they relate to all participants:

	Benefit Changes	Assumption Changes
Increase in Actuarial Accrued Liabilities:	**$33,552**	**$(12,399)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll		
Normal Cost:	**0.77%**	**0.00%**
Amortization Payment:	**0.56%**	**(0.19)%**
Total:	**1.33%**	**(0.19)%**

The full effects of the benefit provision changes, if any, on the benefits of current retirees and beneficiaries, and the effect of any window benefit provisions are included in the liabilities of retirees and beneficiaries.

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 11 - Dsptchr

Table 17E

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution	
	Number	Annual Payroll	Regular Contribution	Minimum Required Contribution
1996	6	$ 143,131	2.56%	2.56%
1997	8	155,564	0.95%	0.95%
1998	4	102,561	1.31%	1.30%
1999	8	209,888	1.95%	1.94%
2000	9	248,842	1.28%	1.26%
2001	8	252,826	1.30%	1.30%
2002	9	298,489	1.68%	1.68%
2003	9	334,231	3.14%	3.14%
2004	6	238,919	2.70%	2.70%
2005	9	339,241	2.20%	2.20%
2006	8	295,996	0.96%	0.96%
2007	9	346,806	1.31%	1.31%
2008	9	369,217	2.82%	2.82%
2009	9	390,756	1.87%	1.87%
2010	8	355,745	2.50%	2.50%

Notes:

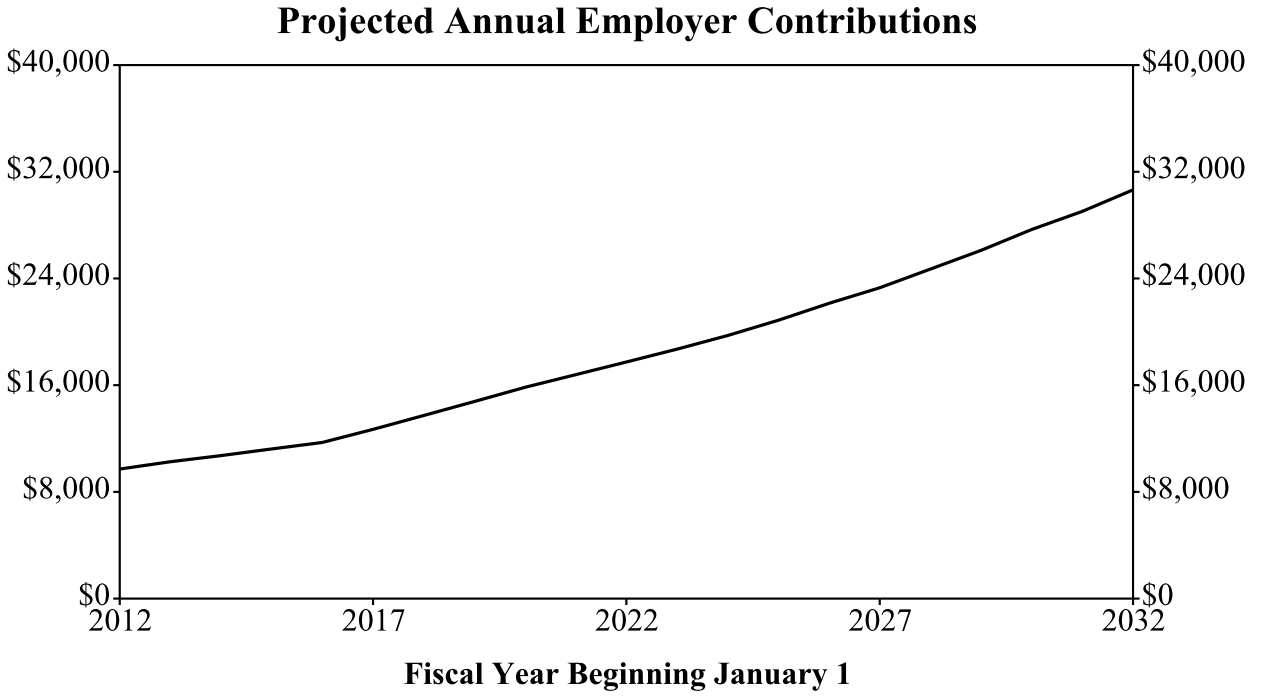
Actuarial assumptions were revised for the 1997 valuation.
Actuarial assumptions were revised for the 2000 valuation.
Adoption of Benefit B-2 reflected in 2003 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.
Adoption of Benefit B-3 - 80% Maximum reflected in 2010 valuation.
Actuarial assumptions and methods were revised for the 2010 valuation.

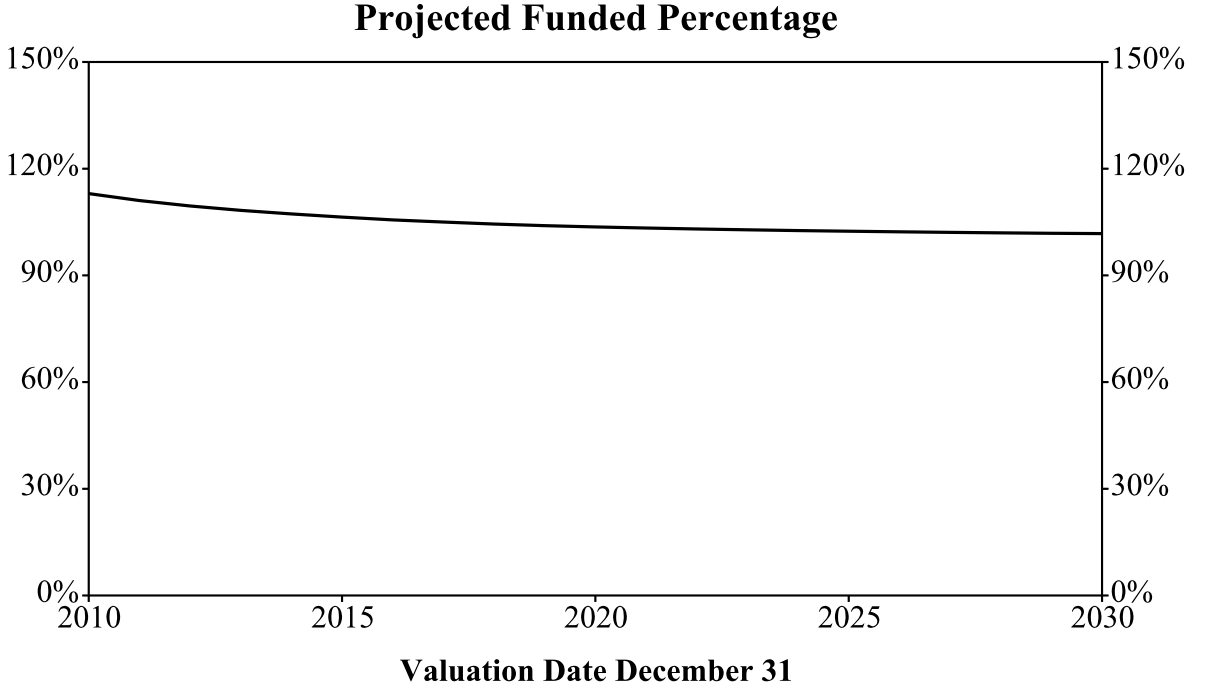
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

Pittsfield Charter Township (8110)

Division 11 - Dsptchr

Chart 17.5E





Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Division 11 - Dsptchr

Table 18E
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001					(1)				8
2002								1	9
2003									9
2004				(2)	(2)			1	6
2005					(1)			4	9
2006					(1)				8
2007				(1)				2	9
2008									9
2009									9
2010				(1)					8

Table 19E
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001				(1)				1
2002				(1)				0
2003								0
2004							2	2
2005								2
2006								2
2007							1	3
2008								3
2009								3
2010							1	4

Pittsfield Charter Township (8110)

Division 11 - Dsptchr

Table 20E
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$		$	$	0	$ 0
2002							0	0
2003							0	0
2004							0	0
2005							0	0
2006							0	0
2007							0	0
2008							0	0
2009							0	0
2010							0	0

@ *Includes beneficiaries of retirees who died during the year.*
* *Includes where applicable E, E-1, and E-2 benefits, and corrections.*
\# *Includes where applicable C-2 and Accelerated Option benefits, and corrections.*

Pittsfield Charter Township (8110)

Division 11 - Dsptchr

Table 21E
Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 5,113	$ 13,176	$ 7,667	$ 0	$ 0	$ (351)	$ 351	$ 100,428
2002	3,641	14,450	7,696	0	0	0	0	126,215
2003	4,345	16,713	15,101	0	0	0	0	162,374
2004	4,884	14,621	10,920	0	(20,204)	0	0	172,595
2005	9,797	15,645	12,545	0	(647)	0	0	209,935
2006	8,503	15,745	17,703	0	(1,911)	0	0	249,975
2007	7,116	16,313	20,100	0	0	0	0	293,504
2008	3,544	18,461	16,693	0	0	0	0	332,202
2009	5,119	19,538	26,842	0	0	0	0	383,701
2010	16,481	19,820	32,268	0	0	0	0	452,270

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22E
Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 81,107	$ 100,428	124%	$ (19,321)	0%
2002	111,804	126,215	113	(14,411)	0
2003	183,301	162,374	89	20,927	6
2004	165,225	172,595	104	(7,370)	0
2005	200,764	209,935	105	(9,171)	0
2006	212,728	249,975	118	(37,247)	0
2007	256,874	293,504	114	(36,630)	0
2008	318,643	332,202	104	(13,559)	0
2009	341,413	383,701	112	(42,288)	0
2010	400,978	452,270	113	(51,292)	0

Pittsfield Charter Township (8110)

Division 14 - Adm/NonUnion

Table 16F

Computed Employer Contributons to the Retirement System For the Fiscal Year Beginning January 1, 2012

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	9.99%	$16,493
Member Contributions	5.00	8,255
Less Potential Refunds	(0.98)	(1,618)
Net Member Contributions	4.02	6,637
Employer Normal Cost @	5.97%	$9,856
Amortization of Unfunded Accrued Liability (28 years) #	(0.24)	(396)
Total Long Term Contribution	5.73	9,460
Overfunding Credit #	(0.28)	(462)
Total Employer Contribution @	**5.45%**	**$8,998 ***

@ *The above Employer contribution requirement is based on Member contributions of 5.00% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.82% of pay.*

* *Estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *For this division, projected assets exceed projected liabilities as of the beginning of the January 1, 2012 fiscal year (see Table 24). The negative unfunded accrued liability is amortized (spread) over 10 years, and used to reduce the employer contribution rate. The total credit is 0.52% (0.24% plus 0.28%). The additional 0.28% results from spreading the negative unfunded accrued liability over 10 years instead of 28 years.*

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2010 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(90,729)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**0.00%**
Amortization Payment:	**(0.25)%**
Total:	**(0.25)%**

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 14 - Adm/NonUnion

Table 17F

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution
	Number	Annual Payroll	
2000	26	$ 951,000	5.09%
2001	28	1,093,505	5.69%
2002	28	1,175,486	5.57%
2003	31	1,400,783	5.85%
2004	30	1,385,696	6.73%
2005	32	1,523,392	6.40%
2006	33	1,628,149	6.37%
2007	33	1,650,460	6.12%
2008	29	1,515,248	6.62%
2009	33	1,800,059	6.11%
2010	34	1,981,088	5.45%

Notes:

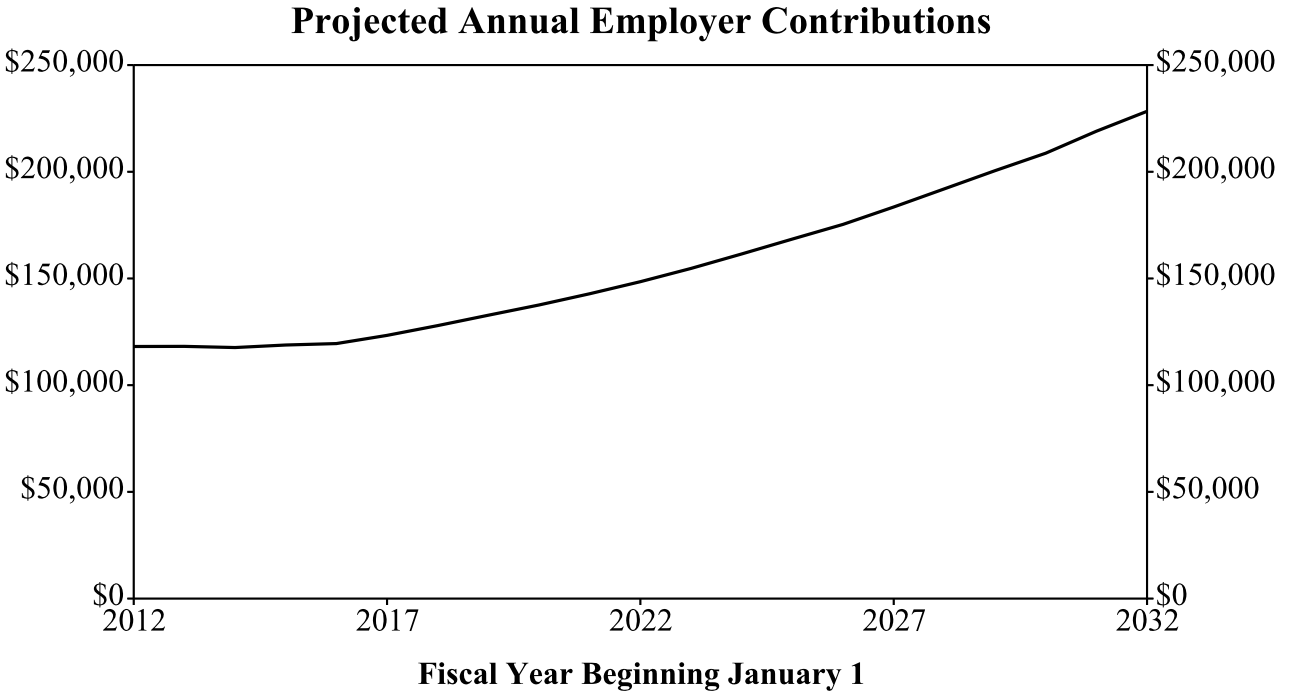
Actuarial assumptions were revised for the 2000 valuation.
Adoption of Benefit B-3 - 80% Maximum, 6.00% Member Contributions reflected in 2004 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Adoption of 5.00% Member Contributions reflected in 2008 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.
Actuarial assumptions and methods were revised for the 2010 valuation.

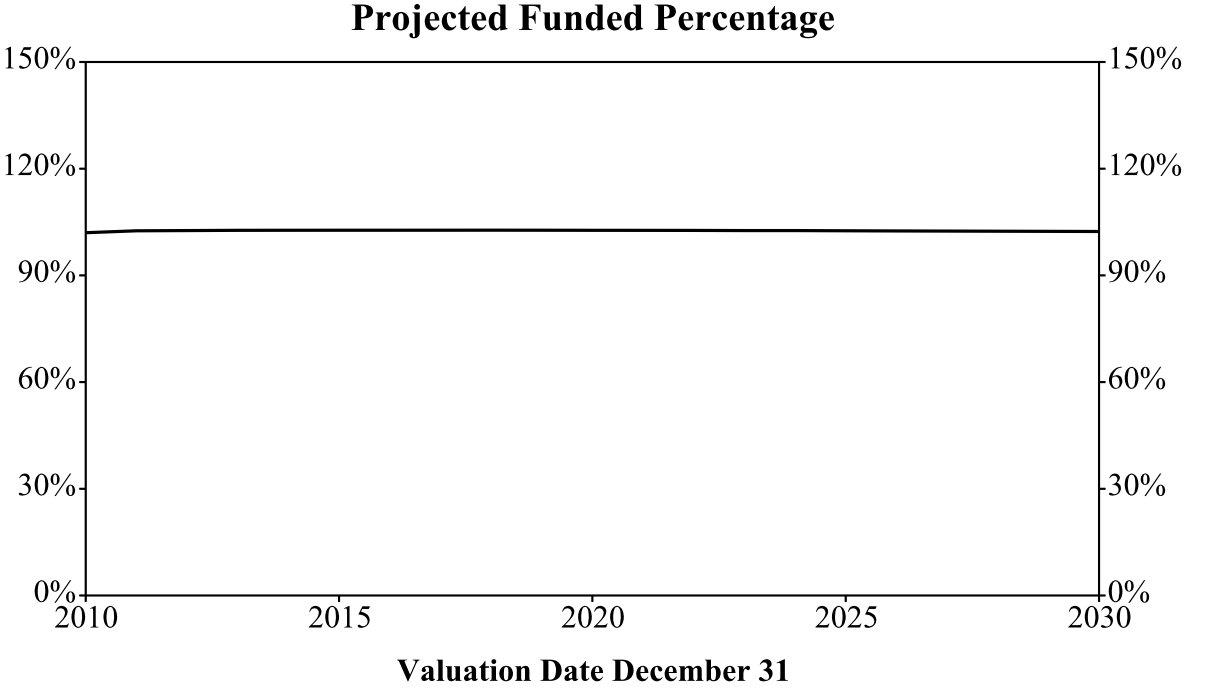
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

Pittsfield Charter Township (8110)

Division 14 - Adm/NonUnion

Chart 17.5F





Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Division 14 - Adm/NonUnion

Table 18F
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001				(1)			1	2	28
2002					(2)			2	28
2003	(1)				(1)	(1)	2	4	31
2004					(2)			1	30
2005				(1)	(1)			4	32
2006								1	33
2007				(1)		(1)	1	1	33
2008				(2)	(5)			3	29
2009					(3)		2	5	33
2010	(1)			(1)	(2)			5	34

Table 19F
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001							2	3
2002								3
2003								3
2004								3
2005							1	4
2006				(1)				3
2007							1	4
2008							3	7
2009				(1)				6
2010	(1)						2	7

Pittsfield Charter Township (8110)

Division 14 - Adm/NonUnion

Table 20F

Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$		$	$	0	$ 0
2002							0	0
2003	1	17,502					1	17,502
2004							1	17,502
2005							1	17,502
2006							1	17,502
2007							1	17,502
2008				(1)	(17,502)		0	0
2009	1	15,196					1	15,196
2010	2	12,499					3	27,695

@ *Includes beneficiaries of retirees who died during the year.*
* *Includes where applicable E, E-1, and E-2 benefits, and corrections.*
\# *Includes where applicable C-2 and Accelerated Option benefits, and corrections.*

Pittsfield Charter Township (8110)

Division 14 - Adm/NonUnion

Table 21F
Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 62,668	$ 58,899	$ 76,056	$ 0	$ (2,254)	$ 0	$ 3,036	$ 972,994
2002	60,554	59,965	60,911	0	(15,780)	0	49	1,138,693
2003	75,887	66,741	174,573	(11,668)	0	0	127,444	1,571,670
2004	79,417	71,425	121,686	(17,502)	(2,713)	0	0	1,823,983
2005	97,979	87,940	129,348	(17,502)	(7,047)	(99)	99	2,114,701
2006	108,115	96,221	179,720	(17,502)	(3,695)	0	0	2,477,560
2007	106,480	100,325	203,133	(17,502)	0	(25,747)	0	2,844,249
2008	107,565	91,626	159,856	0	(14,538)	(15,712)	15,712	3,188,758
2009	117,770	84,672	238,952	(5,065)	(46,977)	(65,433)	80,494	3,593,171
2010	125,529	122,938	274,302	(21,485)	(62,480)	0	62,264	4,094,239

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22F
Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 1,190,108	$ 972,994	82%	$ 217,114	20%
2002	1,365,208	1,138,693	83	226,515	19
2003	1,916,599	1,571,670	82	344,929	25
2004	2,295,517	1,823,983	79	471,534	34
2005	2,632,398	2,114,701	80	517,697	34
2006	2,991,979	2,477,560	83	514,419	32
2007	3,366,297	2,844,249	84	522,048	32
2008	3,463,118	3,188,758	92	274,360	18
2009	3,794,301	3,593,171	95	201,130	11
2010	4,010,400	4,094,239	102	(83,839)	0

Pittsfield Charter Township (8110)

Division 15 - Utilities Dr

Table 16G

Computed Employer Contributons to the Retirement System For the Fiscal Year Beginning January 1, 2012

Contribution for	Monthly Dollar Contribution *
Total Normal Cost	$0
Member Contributions	0
Less Potential Refunds	0
Net Member Contributions	0
Employer Normal Cost @	$0
Amortization of Unfunded Accrued Liability (26 years) #	(250)
Total Long Term Contribution	(250)
Overfunding Credit #	(263)
Total Employer Contribution @	**$0 ***

@ *The above Employer contribution requirement is based on Member contributions of 6.00% of pay.*

* *The monthly dollar contribution is based on projected fiscal year payroll. Monthly invoices will be based on the dollar amount shown above.*

\# *For this division, projected assets exceed projected liabilities as of the beginning of the January 1, 2012 fiscal year (see Table 24). The negative unfunded accrued liability is amortized (spread) over 10 years, and used to reduce the employer contribution rate. The total credit is $513 ($250 plus $263). The additional $263 results from spreading the negative unfunded accrued liability over 10 years instead of 26 years.*

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 15 - Utilities Dr

Table 17G

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution
	Number	Annual Payroll	
2007	1	$ 82,054	10.46%
2008	1	85,036	11.17%
2009	1	88,664	10.94%
2010	0	0	$ 0 #

 # Beginning with this valuation, a monthly dollar contribution is shown because the division will have no new hires.

Notes:

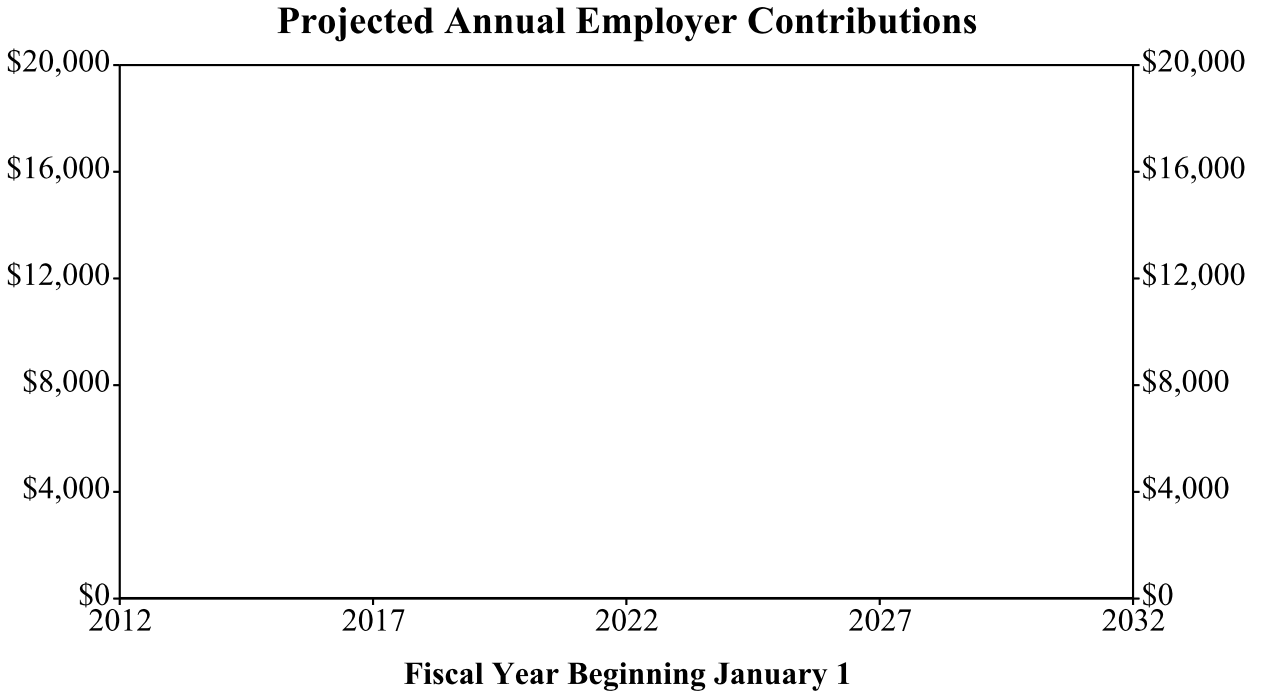
Adoption of Benefit V-10, F55(25), FAC-3, B-3 - 80% Maximum, Normal Retirement: 60, 6.00% Member Contributions reflected in 2007 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.
Actuarial assumptions were revised for the 2010 valuation.

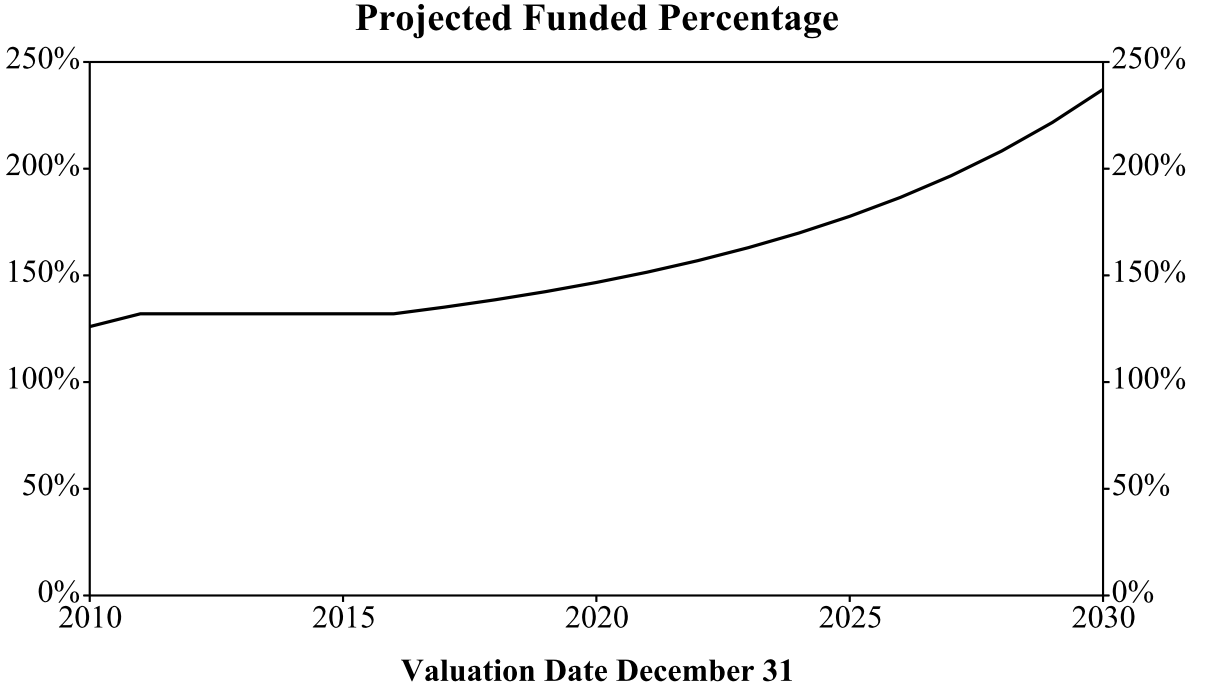
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

Pittsfield Charter Township (8110)

Division 15 - Utilities Dr

Chart 17.5G





Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Division 15 - Utilities Dr

Table 18G
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2007							1		1
2008									1
2009									1
2010				(1)					0

Table 19G
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2007								0
2008								0
2009								0
2010							1	1

Pittsfield Charter Township (8110)

Division 15 - Utilities Dr

Table 20G
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2007		$	$		$	$	0	$ 0
2008							0	0
2009							0	0
2010							0	0

@ Includes beneficiaries of retirees who died during the year.
** Includes where applicable E, E-1, and E-2 benefits, and corrections.*
 # Includes where applicable C-2 and Accelerated Option benefits, and corrections.

Pittsfield Charter Township (8110)

Division 15 - Utilities Dr

Table 21G
Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2007	$ 2,330	$ 1,327	$ (756)	$ 0	$ 0	$ 0	$ 40,236	$ 43,137
2008	8,963	5,102	11,053	0	0	0	65,728	133,983
2009	9,274	5,320	12,414	0	0	0	0	160,991
2010	9,987	2,815	12,695	0	0	0	0	186,488

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22G
Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2007	$ 62,405	$ 43,137	69%	$ 19,268	23%
2008	172,413	133,983	78	38,430	45
2009	183,689	160,991	88	22,698	26
2010	148,318	186,488	126	(38,170)	

Pittsfield Charter Township (8110)

Division 20 - Pol Cmnd

Table 16H

Computed Employer Contributons to the Retirement System For the Fiscal Year Beginning January 1, 2012

Contribution for	As Percentage of Active Member Payroll	Estimated Monthly Dollar Contribution *
Total Normal Cost	14.34%	$6,680
Member Contributions	9.06	4,220
Less Potential Refunds	(1.57)	(731)
Net Member Contributions	7.49	3,489
Employer Normal Cost @	6.85%	$3,191
Amortization of Unfunded Accrued Liability (28 years)	30.33	14,129
Total Long Term Contribution	37.18	17,320
Overfunding Credit #	0.00	0
Total Employer Contribution @	**37.18%**	**$17,320 ***

@ *The above Employer contribution requirement is based on Member contributions of 9.06% of pay. If Member contributions are increased/decreased by 1.00% of pay, the Employer long term contribution requirement (based on a 28 year amortization) will decrease/increase by 0.82% of pay.*

* *Estimated contributions are based on valuation payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts (usually higher).*

\# *Only applies if projected assets exceed projected liabilities as of the beginning of the January 1, 2012 fiscal year (see Table 24).*

Note: Changes in actuarial assumptions and/or methods were reflected in the December 31, 2010 actuarial valuation. The effects of the changes are shown below:

Increase in Actuarial Accrued Liabilities:	**$(67,350)**
Increase in Computed Long Term Employer Contribution As a Percentage of Active Member Payroll	
Normal Cost:	**0.00%**
Amortization Payment:	**(0.67)%**
Total:	**(0.67)%**

Please see the Comments on the Investment Markets on page 3.

Pittsfield Charter Township (8110)

Division 20 - Pol Cmnd

Table 17H

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution	
	Number	Annual Payroll	Regular Contribution	Minimum Required Contribution
1996	8	$ 393,492	8.39%	8.39%
1997	8	433,573	7.42%	7.42%
1998	7	384,164	7.70%	7.70%
1999	7	395,506	7.03%	7.02%
2000	7	397,573	10.14%	10.14%
2001	8	481,398	10.38%	10.38%
2002	8	497,066	10.59%	10.59%
2003	8	531,309	11.79%	11.79%
2004	9	620,586	14.43%	14.43%
2005	8	583,176	16.63%	16.63%
2006	8	581,301	18.51%	18.51%
2007	9	679,208	18.33%	18.33%
2008	8	590,492	24.39%	24.39%
2009	5	391,489	38.28%	38.28%
2010	7	559,006	37.18%	37.18%

Notes:

Actuarial assumptions were revised for the 1997 valuation.
Adoption of Benefit B-4 reflected in 1998 valuation.
Adoption of Benefit F50 (25 years) and 11.06% member contributions reflected in 1998 valuation.
Elimination of Benefit F55 (15 years) reflected in 1998 valuation.
Adoption of Benefit E-2 reflected in 2000 valuation.
Actuarial assumptions were revised for the 2000 valuation.
Adoption of Benefit E-2 (2.5%) reflected in 2001 valuation.
Actuarial assumptions were revised for the 2004 valuation.
Adoption of 10.06% Member Contributions reflected in 2005 valuation.
Adoption of 9.06% Member Contributions reflected in 2007 valuation.
Actuarial assumptions and methods were revised for the 2008 valuation.
Actuarial assumptions were revised for the 2009 valuation.
Actuarial assumptions and methods were revised for the 2010 valuation.

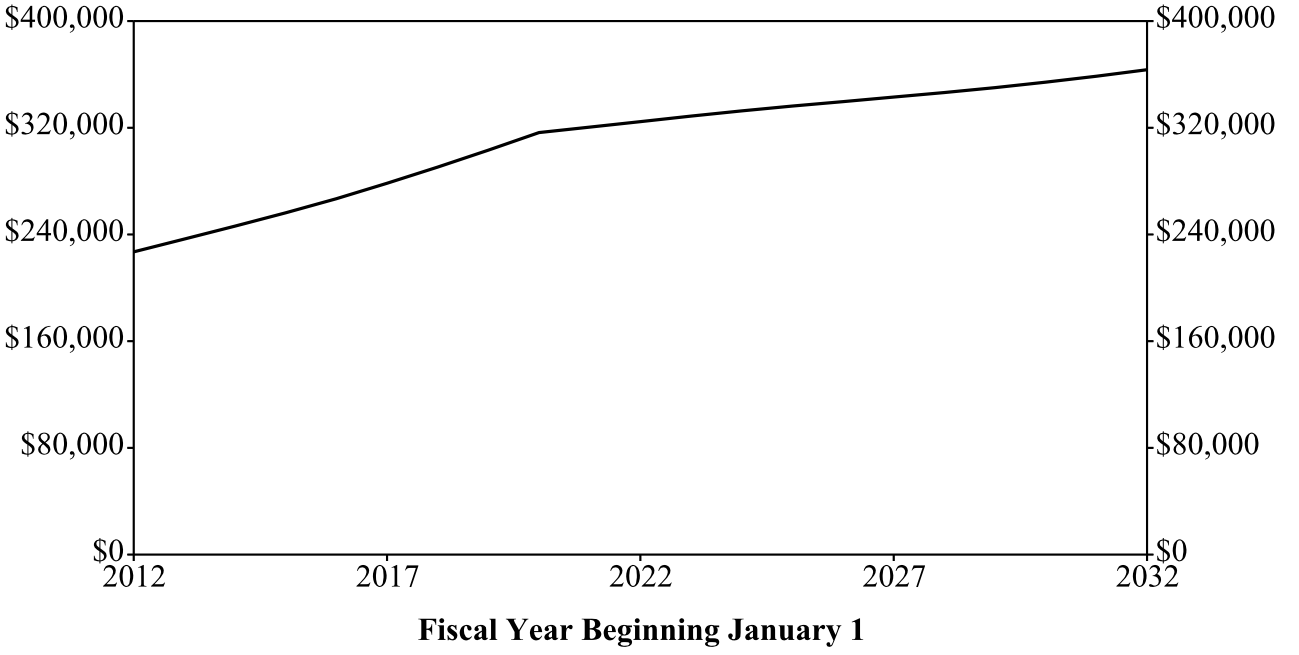
The most recent 15 years of benefit changes are reflected in this table. For a complete benefit history see Table 25.

Pittsfield Charter Township (8110)

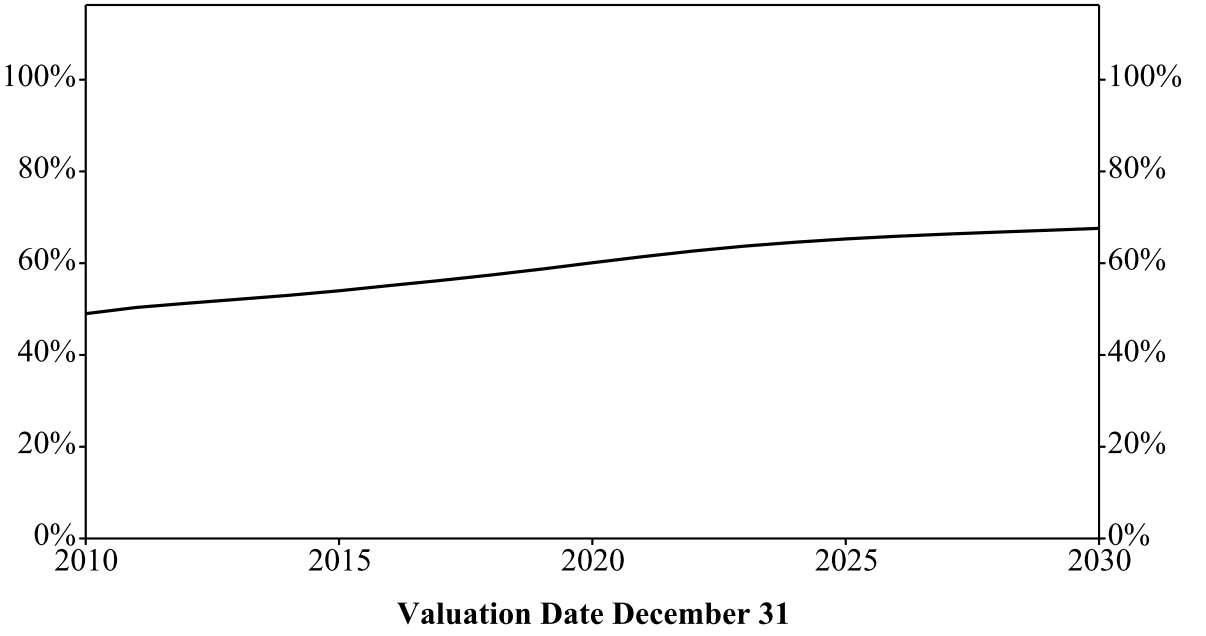
Division 20 - Pol Cmnd

Chart 17.5H

Projected Annual Employer Contributions



Projected Funded Percentage



Note: Please refer to page 101 for a discussion of the projection.

Pittsfield Charter Township (8110)

Division 20 - Pol Cmnd

Table 18H
Flow of Active Membership

Year Ended 12/31	Retired	Disabled	Died (Survivor Benefit)	Other Termination		Transfer		New Member	End of Year
				Vested	Non-Vested	Out	In		
2001							1		8
2002									8
2003									8
2004							1		9
2005	(1)								8
2006	(1)						1		8
2007							1		9
2008	(1)								8
2009	(2)					(1)			5
2010	(1)						3		7

Table 19H
Flow of Vested Former Members

Year Ended 12/31	Retired	Return To Work	Died (Survivor Benefit)	Forfeit Benefit	Transfer		New	End of Year
					Out	In		
2001								2
2002								2
2003								2
2004								2
2005								2
2006	(1)							1
2007								1
2008								1
2009								1
2010								1

Pittsfield Charter Township (8110)

Division 20 - Pol Cmnd

Table 20H
Flow of Retirees and Beneficiaries

Year Ended 12/31	Added to Rolls			Removed from Rolls			Year End	
	Number@	Annual Benefits	Benefit Adjust.*	Number	Annual Benefits	Benefit Adjust.#	Number	Annual Benefits
2001		$	$		$	$	0	$ 0
2002							0	0
2003	1	7,438					1	7,438
2004			186				1	7,624
2005	1	28,587	6,998				2	43,209
2006	2	51,859	1,053				4	96,121
2007			2,137				4	98,258
2008	1	69,050	2,138				5	169,446
2009	2	94,200	7,084				7	270,730
2010	1	35,301	6,298				8	312,329

@ Includes beneficiaries of retirees who died during the year.
** Includes where applicable E, E-1, and E-2 benefits, and corrections.*
 # Includes where applicable C-2 and Accelerated Option benefits, and corrections.

Pittsfield Charter Township (8110)

Division 20 - Pol Cmnd

Table 21H
Flow of Valuation Assets (Actuarial Value)

Year Ended 12/31	Contributions		Investment Income	Benefit Payments	Member Contrib. Refunds	Transfer*		Balance
	Employer	Member				Out	In	
2001	$ 56,426	$ 53,104	$ 74,416	$ 0	$ 0	$ 0	$ 16,471	$ 968,465
2002	73,367	54,975	67,002	0	0	0	0	1,163,809
2003	55,150	58,762	123,338	0	0	0	0	1,401,059
2004	63,571	66,392	128,649	(7,438)	0	0	160,258	1,812,491
2005	71,971	62,449	124,570	(39,277)	0	0	0	2,032,204
2006	88,822	58,639	171,235	(62,689)	0	0	78,490	2,366,701
2007	112,381	58,785	191,678	(96,120)	0	0	78,902	2,712,327
2008	136,351	63,743	142,821	(98,258)	(17,537)	0	0	2,939,447
2009	101,904	50,368	133,794	(188,100)	0	(42,045)	35,350	3,030,718
2010	96,879	35,919	171,593	(302,300)	0	0	125,370	3,158,179

* *Transfers out and in are usually related to the transfer of participants between divisions or municipalities, and to employer and member payments for service credit purchases (if any) that the governing body has approved.*

Table 22H
Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Accrued Liability	UAL as Percent of Annual Payroll
2001	$ 1,726,779	$ 968,465	56%	$ 758,314	158%
2002	1,967,344	1,163,809	59	803,535	162
2003	2,379,077	1,401,059	59	978,018	184
2004	3,250,940	1,812,491	56	1,438,449	232
2005	3,559,320	2,032,204	57	1,527,116	262
2006	4,063,496	2,366,701	58	1,696,795	292
2007	4,533,239	2,712,327	60	1,820,912	268
2008	5,022,008	2,939,447	59	2,082,561	353
2009	5,349,372	3,030,718	57	2,318,654	592
2010	6,402,618	3,158,179	49	3,244,439	580

Pittsfield Charter Township (8110)

Table 23

GASB 25 And GASB 27 Information

The following information has been prepared to provide the information necessary to comply with GASB Statements Number 25 and 27. Statement 25 is effective for fiscal years beginning after June 15, 1996 and Statement 27 is effective for fiscal years beginning after June 15, 1997.

All entries and the annual employer contribution amount were based on the actuarial methods and assumptions used in the December 31, 2010 actuarial valuation. The entry age normal actuarial method was used to determine the disclosure entries.

GASB 25 Information (as of 12/31/2010)

Actuarial Accrued Liability	
Retirees and beneficiaries currently receiving benefits	$5,786,500
Terminated employees (vested former members) not yet receiving benefits	1,978,339
Non-vested terminated employees (pending refunds of accumulated member contributions)	176,189
Current employees -	
Accumulated employee contributions including allocated investment income	3,265,609
Employer financed	7,634,442
Total Actuarial Accrued Liability	$18,841,079
Net Assets Available for Benefits at Actuarial Value	14,829,823
(Market Value is $12,752,220)	
Unfunded (Overfunded) Actuarial Accrued Liability	$4,011,256

GASB 27 Information (as of 12/31/2010)

Fiscal Year Beginning	January 1, 2012
Annual Required Contribution (ARC)	$ 603,528*
Amortization Factor Used - Underfunded Liabilities (28 years)	0.055889
Amortization Factor Used - Underfunded Liabilities (26 years)	0.058519
Amortization Factor Used - Overfunded Liabilities (10 years)	0.119963

* Based on valuation payroll (based on projected fiscal year payroll for divisions that will have no new hires). For divisions that are open to new hires the actual required contribution will be based on current monthly payroll (during the fiscal year beginning January 1, 2012) times the computed employer contribution rate(s) shown in Tables 15 and 16. The ARC shown here is the sum of the ARC's calculated separately for each division.

Pittsfield Charter Township (8110)

Table 24

Development of Projected Unfunded Accrued Liability At Beginning of Fiscal Year (January 1, 2012)

Division	Unfunded Accrued Liability 12/31/2010	Employer Normal Cost	Expected Employer Contrib.	Interest	Unfunded Accrued Liability 1/1/2012	Projected Fiscal Year Payroll
01 - AFSCME	$ (82,208)	$ 28,980	$ (27,987)	$ (6,537)	$ (87,752)	$ 691,416
02 - Pol Ptrl	260,930	101,768	(142,475)	19,246	239,469	2,045,142
05 - Fire Fght	358,038	97,970	(116,042)	27,920	367,886	1,656,605
10 - Elctd Ofc	403,358	18,159	(38,794)	31,443	414,166	256,094
11 - Dsptchr	(51,292)	14,721	(6,952)	(3,793)	(47,316)	388,483
14 - Adm/NonUni	(83,839)	123,593	(126,491)	(6,823)	(93,560)	2,163,398
15 - Utilities #	(38,170)	0	(9,696)	(3,441)	(51,307)	-
20 - Pol Cmnd	3,244,439	40,015	(223,617)	252,211	3,313,048	610,448

\# *This division will have no new hires.*

The unfunded accrued liability as of December 31, 2010 (see Table 13) is projected to the beginning of the fiscal year for which employer contributions are being calculated (January 1, 2012). This allows the 2010 valuation to take into account the expected future contributions that are based on past valuations. This projection process will result in more stable computed contribution rates, and was first used for the December 31, 2004 actuarial valuations.

The projected unfunded accrued liability is amortized over the appropriate period (see Table 16 for each division) to determine the amortization payment. For divisions that will have no new hires this is the dollar amortization payment. For divisions that are open to new hires this payment is divided by the projected fiscal year payroll to determine the amortization payment as a percentage of active member payroll. The resulting amortization contributions are displayed in Table 16 for each division.

Pittsfield Charter Township (8110)

Table 25

Benefit Provision History

The following benefit provision history is provided by MERS. Any corrections to this history or discrepancies between this information and information displayed elsewhere in the valuation report should be reported to your Regional Manager in the MERS Office of Marketing and Employer Services.

Division 01 - AFSCME

Provisions by Date

1/1/2004	Benefit B-2
11/10/2003	Covered by Act 88
7/11/1995	Blanket Resolution (All Service)
8/1/1991	10 Year Vesting
8/1/1991	Fiscal Month - January
8/1/1991	Member Contribution Rate 5.00%
8/1/1991	Benefit C-2/Base B-1
8/1/1991	Benefit FAC-3 (3 Year Final Average Compensation)

Division 02 - Pol Ptrl

Provisions by Date

12/1/2009	Benefit F50 (With 25 Years of Service)
12/1/2009	Member Contribution Rate 6.17%
12/1/2006	Benefit B-3 (80% max)
8/1/2006	Temporary Benefit B-3 (80% max) (08/01/2006 - 09/30/2006)
8/1/2006	E2 2.5% Annual COLA for future retirees (08/01/2006) to (09/30/2006)
11/10/2003	Covered by Act 88
1/1/2001	Benefit B-2
7/11/1995	Blanket Resolution (All Service)
8/1/1992	Benefit C-2/Base B-1
8/1/1992	Benefit F55 (With 15 Years of Service)
8/1/1992	Member Contribution Rate 5.00%
8/1/1992	10 Year Vesting
8/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1991	Fiscal Month - January

Division 05 - Fire Fght

Provisions by Date

1/1/2007	Benefit B-3 (80% max)
11/10/2003	Covered by Act 88
3/1/2003	Benefit B-2
7/11/1995	Blanket Resolution (All Service)
8/1/1992	10 Year Vesting
8/1/1992	Member Contribution Rate 5.00%
8/1/1992	Benefit F55 (With 15 Years of Service)

Pittsfield Charter Township (8110)

Table 25 (continued)

Benefit Provision History

Division 05 - Fire Fght

Provisions by Date

8/1/1992	Benefit C-2/Base B-1
8/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1991	Fiscal Month - January

Division 10 - Elctd Ofc

Provisions by Date

1/1/2005	E2 2.5% Annual COLA for future retirees (11/01/2004)
11/10/2003	Covered by Act 88
5/1/1996	Member Contribution Rate 6.93%
5/1/1996	Benefit B-3 (80% max)
4/30/1996	Member Contribution Rate 0.00%
4/1/1996	Benefit B-2 (80% max)
7/11/1995	Blanket Resolution (All Service)
8/1/1991	8 Year Vesting
8/1/1991	Fiscal Month - January
8/1/1991	Member Contribution Rate 5.00%
8/1/1991	Benefit B-2
8/1/1991	Benefit FAC-3 (3 Year Final Average Compensation)

Division 11 - Dsptchr

Provisions by Date

12/1/2009	Benefit B-3 (80% max)
11/10/2003	Covered by Act 88
1/1/2003	Benefit B-2
7/11/1995	Blanket Resolution (All Service)
10/1/1992	10 Year Vesting
10/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/1992	Member Contribution Rate 5.00%
10/1/1992	Benefit C-2/Base B-1
8/1/1991	Fiscal Month - January

Division 12 - Director

Provisions by Date

11/10/2003	Covered by Act 88
12/1/1996	Benefit B-4 (80% max)
12/1/1996	Member Contribution Rate 9.90%
11/30/1996	Member Contribution Rate 0.00%
1/1/1996	Member Contribution Rate 6.90%
1/1/1996	Benefit B-3 (80% max)
12/31/1995	Member Contribution Rate 0.00%

Pittsfield Charter Township (8110)

Table 25 (continued)

Benefit Provision History

Division 12 - Director

Provisions by Date

7/11/1995	Blanket Resolution (All Service)
1/1/1993	8 Year Vesting
1/1/1993	Benefit B-2
1/1/1993	Member Contribution Rate 5.00%
1/1/1993	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1991	Fiscal Month - January

Division 13 - Pub Sfty

Provisions by Date

11/10/2003	Covered by Act 88
12/1/1997	Benefit B-2
12/1/1997	10 Year Vesting
12/1/1997	Benefit FAC-3 (3 Year Final Average Compensation)
12/1/1997	Member Contribution Rate 5.00%
7/11/1995	Blanket Resolution (All Service)
8/1/1991	Fiscal Month - January

Division 14 - Adm/NonUnion

Provisions by Date

8/1/2008	Member Contribution Rate 5.00%
8/1/2005	Temporary 25 Years & Out (08/01/2005 - 11/03/2005)
1/1/2005	Member Contribution Rate 6.00%
1/1/2005	Benefit B-3 (80% max)
11/10/2003	Covered by Act 88
1/1/2000	Member Contribution Rate 5.00%
1/1/2000	Benefit B-2
1/1/2000	10 Year Vesting
1/1/2000	Benefit FAC-3 (3 Year Final Average Compensation)
7/11/1995	Blanket Resolution (All Service)
8/1/1991	Fiscal Month - January

Division 15 - Utilities Dr

Provisions by Date

10/1/2007	10 Year Vesting
10/1/2007	Benefit FAC-3 (3 Year Final Average Compensation)
10/1/2007	Covered by Act 88
10/1/2007	Member Contribution Rate 6.00%
10/1/2007	Benefit F55 (With 25 Years of Service)
10/1/2007	Benefit B-3 (80% max)
10/1/2007	Blanket Resolution (All Service)

Pittsfield Charter Township (8110)

Table 25 (continued)

Benefit Provision History

Division 15 - Utilities Dr

Provisions by Date

8/1/1991	Fiscal Month - January

Division 20 - Pol Cmnd

Provisions by Date

10/1/2009	Temporary 20 Years & Out (10/01/2009 - 01/31/2010)
2/1/2007	Member Contribution Rate 9.06%
7/1/2005	Member Contribution Rate 10.06%
11/10/2003	Covered by Act 88
1/1/2001	E2 2.5% Annual COLA for future retirees (01/01/2001)
1/1/1999	Benefit F50 (With 25 Years of Service)
1/1/1999	Member Contribution Rate 11.06%
1/1/1999	Benefit B-4 (80% max)
7/11/1995	Blanket Resolution (All Service)
6/1/1992	10 Year Vesting
6/1/1992	Benefit C-2/Base B-1
6/1/1992	Member Contribution Rate 5.00%
6/1/1992	Benefit F55 (With 15 Years of Service)
6/1/1992	Benefit FAC-3 (3 Year Final Average Compensation)
8/1/1991	Fiscal Month - January

APPENDIX

SUMMARY OF

PLAN PROVISIONS

AND

ACTUARIAL ASSUMPTIONS

AND

ACTUARIAL FUNDING METHOD

AS OF DECEMBER 31, 2010

FOR THE

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

INTRODUCTION

An actuarial valuation is the mathematical process that estimates plan liabilities and employer contribution requirements for purposes of financing the retirement system. This process is repeated annually to update the liabilities and contribution requirements for changes in member census and plan features, and to reflect actual plan experience in the process. The valuation reflects the present provisions of the Municipal Employees' Retirement Act of 1984, as amended by 1996 Public Act 220 (as amended), as embodied in the MERS Plan Document (as revised). The specific benefit provisions in effect for each municipality are listed in Table 1 in the results section of the report.

In addition to utilizing current membership and financial data, an actuarial valuation requires the use of a series of assumptions regarding uncertain future events. The assumptions and methods used in the December 31, 2010 actuarial valuation are those adopted by the Retirement Board. The actuarial assumptions were last revised as of December 31, 2010 to reflect the results of the study of plan experience covering the period from December 31, 2003 through December 31, 2008.

There have been no changes in the funding method which was adopted by the Retirement Board commencing with the December 31, 1993 valuations. The basic funding method is entry age normal and employer contribution amounts are developed as a level percentage of payroll.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). Gabriel, Roeder, Smith & Company is an independent firm of consultants and actuaries.

Details on MERS plan provisions, actuarial assumptions, and actuarial methodology follow this section.

ASSUMPTION AND METHOD CHANGES FOR THE DECEMBER 31, 2010 ACTUARIAL VALUATION

The December 31, 2010 actuarial valuation reflects the following changes in the actuarial assumptions and methods:

- Temporary lower wage inflation assumption (see page 91).
- New assumption related to increases in final average compensation for some municipalities (see page 92)
- The standard amortization period for positive unfunded accrued liabilities is maintained at 28 years.

The effects of these changes are shown in the note below Table 16 for each division.

SUMMARY OF PLAN PROVISIONS - DEFINED BENEFIT PLAN *

The benefits summarized in this section are intended only as general information regarding the Municipal Employees' Retirement System of Michigan. They are not a substitute for Act. No. 220 of the Public Acts of 1996, and the MERS Plan Document as revised. If any conflict occurs between the information in this summary and Act. No. 220 of the Public Acts of 1996, as amended, or the MERS Plan Document, as revised, the provisions of Act. No. 220 and the MERS Plan Document govern.

Eligibility for Retirement (Plan Section 10)

Age 60 with 10 or more years of credited service (reduced to 8 or 6 years if either Benefit V-8 or V-6, respectively, is adopted).

Age 55 with 15 or more years of credited service (reduced benefit unless Benefit F55 is adopted).

Age 50 with 25 or more years of credited service (reduced benefit unless Benefit F50 is adopted).

The retirement allowance is reduced ½ of 1% for each complete month that the retirement date precedes the age at which full normal retirement benefits are available. The reduction may be partially or fully waived by adopting Benefit F55 and/or Benefit F50 and/or Benefit F(N).

Optional Retirement Programs (Unreduced Benefits) (Plan Section 10)

Benefit F50 - Age 50 with a required period of credited service of either 25 or 30 years.

Benefit F55 - Age 55 with a required period of credited service of 15, 20, 25 or 30 years.

Benefit F(N) - Any age with a required period of credited service of either 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 or 30 years.

Mandatory Retirement

None.

Deferred Retirement (Plan Section 12)

Termination of membership before age 60 other than by retirement or death, after 10 years of credited service (8 or 6 years if Benefit V-8 or V-6 is adopted). Retirement allowance begins upon application filed with MERS and satisfaction of the eligibility requirements for retirement. The deferred retirement allowance is computed in the same manner as a service retirement allowance, based on the benefit program in effect as of the date of termination of membership.

Rights to an allowance are forfeited if the member's accumulated contributions are refunded after termination of employment.

** Please see page 86 for a description of the Hybrid Plan.*

Service Retirement Allowance (Plan Sections 13-19)

Credited service at time of termination of membership is multiplied by:

Benefit A	-	1.0% of a member's final average compensation (FAC). Benefit A may not be adopted after January 2, 1986.
Benefit C New	-	1.3% of FAC.
Benefit C Old	-	Sum of 1.0% times the first $4,200 of FAC, plus 1.5% times the portion of FAC over $4,200. Benefit C Old may not be adopted after January 2, 1986.
Benefit C-1 New	-	1.5% of FAC.
Benefit C-1 Old	-	Sum of 1.2% times the first $4,200 of FAC, plus 1.7% times the portion of FAC over $4,200. Benefit C-1 Old may not be adopted after January 2, 1986.
Benefit B-1	-	1.7% of FAC.
Benefit C-2	-	2.0% of FAC, payable until attainment of the age at which unreduced Social Security benefits are available (currently age 66 for normal retirement, gradually increasing to age 67). Upon attainment of this age, the benefit reverts to the basic Benefit A, C New, C Old, C-1 New, C-1 Old or B-1.
Benefit B-2	-	2.0% of FAC.
Benefit B-3	-	2.25% of FAC, with a maximum benefit of 80% of FAC.
Benefit B-4	-	2.5% of FAC, with a maximum benefit of 80% of FAC.

Maximum Benefit Payable by MERS (Plan Section 55)

The maximum benefit that may be paid by MERS is governed by Section 415 of the Internal Revenue Code (see page 89). Benefits in excess of the maximum benefit will be paid by the MERS Excess Benefit Plan under Plan Section 55A.

Act 88 (Reciprocal Retirement Act, 1961 P.A. 88)

If the municipality has elected to come under the provision of Act 88 (see Table 1), service with former and future public employers in Michigan may be used to satisfy the service eligibility conditions of MERS. MERS maintains a statewide Act 88 adoption list:

www.mersofmich.com/images/stories/Forms/Member/form_77.pdf

Final Average Compensation (Plan Sections 2A(6) and 2A(11))

MERS plan benefits are based on a member's final average compensation (FAC), subject to the dollar compensation limits under Section 401(a)(17) of the Internal Revenue Code (see page 89). For this purpose, final average compensation means one-fifth of the aggregate amount of compensation (as defined in the MERS Plan Document, Section 2A(6)) paid to a member during the period of 5 consecutive years of the member's credited service in which the aggregate compensation paid is highest, known as FAC-5. Adoption of Benefit FAC-3 results in final average compensation being averaged over 3 years, instead of 5 years.

Disability Retirement Allowance (Plan Section 24)

Total and permanent disability while employed by a participating municipality and after meeting the vesting requirement of the benefit program. The service requirement is waived if the disability is the natural and proximate result of duty-connected causes.

The allowance is computed in the same manner as a service retirement allowance, except that the reduction for retirement before age 60 is not applied.

If disability is due to duty-connected causes, the amount of the retirement allowance shall not be less than 25% of the member's final average compensation.

Adoption of optional Benefit Program D-2 will provide a retirement allowance for a duty-connected disability that is the greater of:

(i) 25% of the member's final average compensation; or
(ii) A benefit based on 10 years of credited service in addition to the member's actual period of service, provided the total years of service do not exceed the greater of 30 years or the member's actual period of service.

Non-Duty Death Allowance (Plan Sections 26 and 28)

If a member or vested former member with the minimum years of service required to be vested dies before retirement, a monthly survivor allowance may be payable.

If the member is married, the spouse is the automatic beneficiary unless the spouse, in writing, declines a benefit in favor of another named beneficiary.

A contingent survivor beneficiary (named in an Option II Contingent Beneficiary Designation form filed with MERS) will receive a retirement allowance computed in the same manner as a service retirement allowance, based on service and final average compensation at death, but reduced to reflect an Option II (100% joint and survivor) election. The reduction for retirement before age 60 is not applied. Payment of a retirement allowance to the contingent survivor beneficiary of a deceased member commences immediately. Payment of a retirement allowance to the contingent survivor beneficiary of a deceased vested former member commences on the date the member would have first satisfied eligibility for retirement with an unreduced service retirement allowance.

If there is no named beneficiary and the member leaves a spouse, the spouse will receive an Option II survivor allowance. Payment of a retirement allowance to the surviving spouse of a deceased member commences immediately. Payment of a retirement allowance to the surviving spouse of a deceased vested former member commences on the date the member would have first satisfied eligibility for retirement for an unreduced service retirement allowance. The amount of a surviving spouse's retirement allowance shall be 85% of the deceased member's or deceased vested former member's accrued retirement allowance computed in the same manner as a service retirement allowance, based on service and final average compensation at time of death.

The amount of a surviving spouse's benefit is always the larger of i) the benefit computed as a contingent survivor beneficiary, and ii) the 85% of accrued retirement allowance benefit described above.

If there is no named beneficiary and no retirement allowance being paid to a surviving spouse, unmarried children under age 21 will be paid an equal share of 50% of the deceased member's or deceased vested former member's accrued retirement allowance. The reduction for retirement before age 60 is not applied.

If no retirement allowance becomes payable at death, the member's accumulated contributions, if any, are paid to the beneficiary or to the decedent's estate.

Duty-Connected Death Allowance (Plan Section 27)

A duty death allowance, computed in the same manner as a non-duty death allowance, may be payable to a spouse or children if death occurs as the natural and proximate result of performance of duty with a participating municipality. The vesting requirement is waived, and the minimum benefit is 25% of the deceased member's final average compensation.

Adoption of optional Benefit Program D-2 will provide a retirement allowance for a duty-connected death that is the greater of:

(i) 25% of the member's final average compensation; or
(ii) A benefit based on 10 years of credited service in addition to the member's actual period of service, provided the total years of service do not exceed the greater of 30 years or the member's actual period of service.

Member Contributions (Plan Sections 32 and 35)

Each member contributes a percent of annual compensation, as selected by the municipality, on the member's annual compensation up to the compensation limit under Section 401(a)(17) of the Internal Revenue Code (see page 89). Any percentage from 0% to 10% (in 0.1% increments) may be selected. A 3%/5% contribution program was available prior to 1985 and may be continued (until any new benefit programs are adopted), but not adopted, after 1984. Under this program the member contributes 3% of the first $4,200 of annual compensation and 5% of portions of annual compensation over $4,200. Interest is credited to accumulated member contributions each December 31 (and reflected in the Annual Member Statement provided to each member) at a rate determined by MERS, currently the one-year U.S. Treasury Bill rate determined as of each December 31. The interest rate credited for the 12-month period ending on the valuation date was 0.28%.

If a member leaves the employ of the municipality, or dies, without a retirement allowance or other benefit payable on his/her account, the member's accumulated contributions plus interest (as described above) are refunded with spousal consent, to the member, if living, or to the member's surviving spouse, if any, or to a named beneficiary (after spousal consent, if applicable).

Note for MERS' Defined Contribution Program (Plan Section 19A): The Annual Actuarial Valuation addresses assets and liabilities for participation under MERS' Defined Benefit Programs. MERS' Defined Contribution Program (Benefit Program DC), which first became available for adoption in late 1997, is not addressed in the valuation results as it is not a defined benefit program.

Post-Retirement Adjustments (Plan Sections 20-22)

Benefit E – provides a one-time benefit increase to present retirants and beneficiaries. The amount of the increase is equal to a fixed percentage of the present benefit, or a fixed dollar amount times the number of years since the later of retirement or the date specified in the resolution. Benefit E may be readopted from time to time.

Benefit E-1 – provides automatic 2.5% annual non-compounded benefit increases to persons (and their beneficiaries) retired before the effective date of Benefit E-1. Such increases are further limited to increases in the Consumer Price Index (CPI) if Benefit E-1 was adopted before January 1, 1999. For all adoptions or readoptions after that date, the increase is an automatic 2.5% non-compounded increase without any CPI limitation.

Benefit E-2 – provides automatic 2.5% annual non-compounded benefit increases to persons (and their beneficiaries) retired on or after the effective date of Benefit E-2. Such increases are further limited to increases in the Consumer Price Index (CPI) if Benefit E-2 was adopted before January 1, 1999. For all adoptions or readoptions after that date, the increase is an automatic 2.5% non-compounded increase without any CPI limitation.

Death-After-Retirement Surviving Spouse Benefit (Plan Sections 23 and 23A)

A retiring member electing form of payment SL (straight life retirement allowance) is normally paid a lifetime retirement allowance, with payments terminating at death. The retiring member could provide benefits to a surviving spouse or another named beneficiary (see below) by electing Option II (100% continuation to beneficiary) or Option II-A (75% continuation to beneficiary) or Option III (50% continuation to beneficiary). A surviving spouse is automatically the beneficiary to an Option II, IIA or III allowance unless the spouse, in writing, relinquishes the benefit to the member electing a straight life allowance or to another named beneficiary. Electing these alternate forms of payment would lower the retiring member's retirement allowance.

If Benefit Program RS50% is adopted, a member retiring on or after the effective date of Benefit RS50% may elect form of payment SL and still provide a 50% survivor benefit to the member's spouse. To be eligible for a surviving spouse benefit, the retiring member and spouse must have been married to each other both at the time of death and during the full one-year period just before retirement.

DROP+ Delayed Retirement Option Partial Lump Sum (Plan Section 10(6))

Any member who is eligible to retire with full, immediate retirement benefits has the option to:

(i) Retire immediately and receive a monthly benefit payable immediately, or

(ii) Delay his or her retirement date and continue to work.

If the member is covered by Benefit Program DROP+ and the member retires at least 12 months after first becoming eligible for unreduced benefits, at actual retirement the member *has the option* to receive a partial lump sum and a reduced monthly benefit:

(i) The member can elect a lump sum equal to 12, 24, 36, 48, or 60 times the member's monthly accrued benefit (if the member has delayed retirement at least that many months).

(ii) For each 12 months included in the lump sum, the member's lifetime benefit is reduced by the DROP+ Percentage adopted by the employer. The employer can adopt any of the following DROP+ reduction percentages: 4%, 5%, 6%, 7%, or 8%.

SUMMARY OF PLAN PROVISIONS - HYBRID PLAN *

The benefits summarized in this section are intended only as general information regarding the Municipal Employees' Retirement System of Michigan. They are not a substitute for Act. No. 220 of the Public Acts of 1996, and the MERS Plan Document as revised. If any conflict occurs between the information in this summary and Act. No. 220 of the Public Acts of 1996, as amended, or the MERS Plan Document, as revised, the provisions of Act. No. 220 and the MERS Plan Document govern.

Part I - Defined Benefit Portion of Hybrid Plan

Eligibility for Retirement (Plan Section 19B)

Age 60 and 6 or more years of service.

Optional Retirement Programs (Unreduced Benefits) (Plan Section 10)

None

Mandatory Retirement

None

Deferred Retirement (Plan Sections 12 and 19B)

Termination of membership before age 60 other than death, after 6 years of credited service. Retirement allowances begin upon application filed with MERS, at age 60 or later. The deferred retirement allowance is computed in the same manner as a service retirement allowance, based on the final average compensation and years of service at termination.

Service Retirement Allowance (Plan Section 19B)

Credited service at time of termination is multiplied by:

Hybrid 1.0%	1.0% of a member's final average compensation (FAC)
Hybrid 1.25%	1.25% of FAC
Hybrid 1.5%	1.5% of FAC

** Please see page 79 for a description of the Defined Benefit Plan.*

Maximum Benefit Payable by MERS (Plan Section 55)

The maximum benefit that may be paid by MERS is governed by Section 415 of the Internal Revenue Code (see page 89). Benefits in excess of the maximum benefit will be paid by the MERS Excess Benefit Plan under Plan Section 55A.

Act 88 (Reciprocal Retirement Act, 1961 P.A. 88)

If the municipality has elected to come under the provision of Act 88 (see Table 1), service with former and future public employers in Michigan may be used to satisfy the service eligibility conditions of MERS. MERS maintains a statewide Act 88 adoption list:

http://www.mersofmich.com/images/stories/Forms/Member/form_77.pdf

Final Average Compensation (Plan Sections 2A(6), 2A(11) and 19(B))

Computed under defined benefit plan Benefit Program FAC-3.

Disability Retirement Allowance (Plan Section 24)

Benefits are the same as under the defined benefit plan, except that optional Benefit Program D-2 does not apply.

Non-Duty Death Allowance (Plan Sections 26 and 28)

Benefits are the same as under the defined benefit plan.

Duty-Connected Death Allowance (Plan Section 27)

Benefits are the same as under the defined benefit plan, except that optional Benefit Program D-2 does not apply.

Member Contributions (Plan Section 19B)

None

Post-Retirement Adjustments (Plan Sections 20-22)

None

Death-After-Retirement Surviving Spouse Benefit (Plan Sections 23 and 23A)

The same optional forms of payment are available as under the defined benefit plan, except that optional Benefit Program RS50% does not apply.

DROP+ Delayed Retirement Option Partial Lump Sum (Plan Section 10(6))

None

Part II - Defined Contribution Portion of Hybrid Plan

Employer Contributions (Plan Section 19B)

Contribution Amount - Any percentage of compensation allowed by federal law.

Vesting Schedule - One of the following vesting schedules for employer contributions can be adopted by the employer:

1. Immediate vesting upon participation, or
2. 100% vesting after stated years (participant is 100% vested after not to exceed maximum 5 years of service ("cliff" vesting)), or
3. Graded vesting percentages per year of service, not to exceed maximum 6 years of service for 100% vesting, nor be less than certain stated minimums

Member Contributions (Plan Section 19B)

Contribution Amount - Any amount allowed by federal law and subject to procedures established by the Retirement Board.

Vesting Schedule - 100% immediate vesting

Municipal Employees' Retirement System of Michigan
IRC Section 415(b)(1)(A) Benefit Dollar Limits - 2011

The limits are based on the retiree's age at retirement. The limit at ages 62-65 is indexed with inflation, in $5,000 increments. The limits at earlier ages are then increased proportionately. The limit applies to the retiree's or beneficiary's employer-financed straight life benefit, except in the case of an Option II, IIA, or III election with the retiree's spouse as named beneficiary, in which case the limit applies to the employer-financed portion of the reduced joint and survivor benefit.

Age at Retirement	General Employees	Police and Fire Members #
35	$ 35,498	$ 195,000
36	37,513	195,000
37	39,655	195,000
38	41,934	195,000
39	44,361	195,000
40	46,947	195,000
41	49,705	195,000
42	52,648	195,000
43	55,793	195,000
44	59,154	195,000
45	62,753	195,000
46	66,608	195,000
47	70,744	195,000
48	75,185	195,000
49	79,961	195,000
50	85,103	195,000
51	90,649	195,000
52	96,639	195,000
53	103,118	195,000
54	110,140	195,000
55	117,764	195,000
56	126,057	195,000
57	135,094	195,000
58	144,963	195,000
59	155,763	195,000
60	167,610	195,000
61	180,638	195,000
62	195,000	195,000
63	195,000	195,000
64	195,000	195,000
65 & older	195,000	195,000

 # Requires that the member have at least 15 years of police, fire, and/or armed forces service as defined in the final regulations issues on April 5, 2007. Otherwise, use the limits for general members.

IRC Section 401(a)(17) Compensation Limit - 2011

For 2011 the IRC Section 401(a)(17) limit is $245,000. This limit is indexed with inflation in $5,000 increments.

ACTUARIAL ASSUMPTIONS

Actuarial Assumptions

To calculate MERS contribution requirements, assumptions are made about future events that could affect the amount and timing of benefits to be paid and the assets to be accumulated. The economic and demographic assumptions include:

- An assumed rate of investment return that is used to discount liabilities and project what plan assets will earn.
- A mortality table projecting the number of members who will die before retirement and the duration of benefit payments after retirement.
- Assumed retirement rates projecting when members will retire and commence receiving retirement benefits.
- A set of withdrawal and disability rates to estimate the number of members who will leave the work force before retirement.
- Assumed rates of pay increase to project member compensation in future years.

The actuarial assumptions used in connection with this December 31, 2010 actuarial valuation are unchanged from the December 31, 2009 valuation assumptions, with the exceptions noted on page 78. The actuarial assumptions currently utilized are summarized below and on the following pages.

Interest Rate

Funding plan benefits involves the accumulation of assets to pay benefits in the future. These assets are invested and the net rate of investment earnings is a significant factor in determining the contributions required to support the ultimate cost of benefits. For the 2010 actuarial valuation, the net long-term investment yield is assumed to be 8%. This assumption was first used for the December 31, 1981 actuarial valuations.

The reader should note that, given that the actuarial value of assets is currently 16% higher than the market value, meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 8% investment return assumption.

Please see the Comments on the the Investment Markets on page 3 .

Pay Increases

Because benefits are based on a member's final average compensation, it is necessary to make an assumption with respect to each member's estimated pay progression. The pay increase assumption used in the actuarial valuation projects annual pay increases of 4.5% (1% for calendar years 2011-2014) plus a percentage based on an age-related scale to reflect merit, longevity and promotional pay increases.

The pay increase assumption for selected ages is shown below. The 4.5% long-term wage inflation assumption was first used for the December 31, 1997 actuarial valuations. The merit and longevity pay increase assumption was first used for the December 31, 2004 actuarial valuations.

Age	Base (Wage Inflation)#	Merit and Longevity	Total Percentage Increase in Pay
20	4.50%	8.40%	12.90%
25	4.50	5.33	9.83
30	4.50	3.26	7.76
35	4.50	2.05	6.55
40	4.50	1.30	5.80
45	4.50	0.81	5.31
50	4.50	0.52	5.02
55	4.50	0.30	4.80
60	4.50	0.00	4.50

 # For calendar years 2011, 2012, 2013 and 2014, the wage inflation assumption is 1%, instead of 4.5%. This assumption was first used for the December 31, 2010 actuarial valuations.

Inflation

Although no specific price inflation assumption is needed for this valuation, the 4.5% long-term wage inflation assumption would be consistent with a price inflation of 3% to 4%.

Payroll Growth

For divisions that are open to new hires, the number of active members is projected to remain constant, and the total payroll is projected to increase 4.5% annually in the long term (1% annually for calendar years 2011 - 2014). This assumption was first used for the December 31, 1997 actuarial valuations.

Increase in Final Average Compensation

The 1999-2003 and 2004-2008 experience studies determined that for some retirees of some municipalities, the actual final average compensation (FAC) at retirement was larger than would be expected based on reported annual pays and FAC's for the years just before retirement. Some possible sources for the differences are:

- Lump sum payments for unused paid time off. Unused sick leave payouts have been excluded from FAC since the mid 1970s. However, since that time it has become popular to combine sick and vacation time into paid time off, which is included in the FAC. Consequently, the lump sums that are includible in FAC have grown over the years.
- Extra overtime pay during the final year of employment. Our studies only reflect any increase in overtime during the final year, not any increase that occurs during the full 3 to 5 year averaging period.

We analyzed the variation among municipalities. The amount of unexpected FAC increase varies quite a bit between municipalities. Some municipalities show no sign of FAC loading, while other municipalities show increases above the average increase. This is presumably the result of different personnel policies among municipalities.

The Retirement Board adopted new FAC assumptions to be first used for the December 31, 2010 annual actuarial valuations. These assumptions reflect an FAC load of 0% to 4% for each municipality, based on the municipality's experience. The FAC increase assumption(s) for your municipality are shown in the table below.

Division	FAC Increase Assumption
All divisions	0.00%

Withdrawal Rates

The withdrawal rates are used to estimate the number of employees at each age that are expected to terminate employment before qualifying for retirement benefits. The withdrawal rates do not apply to members eligible to retire, and do not include separation on account of death or disability. The assumed rates of withdrawal applied in the current valuation are based on years of service, and scaled up or down according to each division's experience.

Division	Withdrawal Rate Scaling Factor
All divisions	100%

The base withdrawal rates (see the table below) are multiplied by the scaling factor to obtain the assumed withdrawal rates.

Sample rates of withdrawal from active employment, before application of the scaling factor, are shown below. These rates were first used for the December 31, 2008 actuarial valuations.

Sample Years of Service	% of Active Members Withdrawing Within the Next Year
0	20.00%
1	17.00
2	14.00
3	11.00
4	9.00
5	6.50
10	5.00
15	3.70
20	3.00
25	2.70
30	2.60
34 and over	2.40

Retirement Rates

A schedule of retirement rates is used to measure the probability of eligible members retiring during the next year. The retirement rates for Normal Retirement are determined by each member's replacement index at the time of retirement. The replacement index is defined as the approximate percentage of the member's pay (after reducing for MERS member contributions) that will be replaced by the member's benefit at retirement. The index is calculated as:

Replacement Index = 100 x Accrued Benefit divided by [Pay less Member Contributions]

Retirement rates for Early (reduced) Retirement are determined by the member's age at early retirement.

The revised Normal Retirement rates below were first used for the December 31, 2009 actuarial valuations. The Early Retirement rates were first used for the December 31, 2004 actuarial valuations.

NORMAL RETIREMENT

Sample Replacement Index	Percent of Eligible Active Members Retiring Within Next Year
5	5%
10	11
15	16
20	19
25	20
30	20
35	20
40	20
45	20
50	20
55	21
60	22
65	24
70	24
75	28
80	32
85	38
90	45
95	48
100+	50

EARLY RETIREMENT - REDUCED BENEFIT

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
50	2%
51	2
52	3
53	5
54	8
55	4
56	4
57	4
58	6
59	8

Disability Rates

Disability rates are used in the valuation to estimate the incidence of member disability in future years.

The assumed rates of disablement at various ages are shown below. These rates were first used for the December 31, 2004 actuarial valuations.

Sample Ages	Percent Becoming Disabled Within Next Year
20	0.02%
25	0.02
30	0.02
35	0.06
40	0.06
45	0.11
50	0.24
55	0.41
60	0.41
65	0.41

85% of the disabilities are assumed to be non-duty and 15% of the disabilities are assumed to be duty related. For those plans which have adopted disability provision D-2, 70% of the disabilities are assumed to be non-duty and 30% are assumed to be duty related.

Mortality Table

In estimating the amount of the reserves required at the time of retirement to pay a member's benefit for the remainder of his or her lifetime, it is necessary to make an assumption with respect to the probability of surviving to retirement and the life expectancy after retirement.

The mortality table used to project the mortality experience of plan members is a 50% Male - 50% Female blend of the 1994 Group Annuity Mortality Table. For disabled retirees, the regular mortality table is used with a 10-year set forward in ages to reflect the higher expected mortality rates of disabled members. These mortality tables were first used for the December 31, 2004 actuarial valuations.

90% of active member deaths are assumed to be non-duty deaths and 10% of the deaths are assumed to be duty related.

The life expectancies and mortality rates projected for **non-disabled** members are shown below for selected ages:

Age	Expected Years of Life Remaining	Mortality Rates
20	61.55	0.04%
25	56.68	0.05
30	51.82	0.06
35	46.97	0.07
40	42.13	0.09
45	37.34	0.13
50	32.60	0.20
55	27.98	0.34
60	23.53	0.62
65	19.40	1.16
70	15.66	1.87
75	12.24	2.99
80	9.25	5.07

The life expectancies and mortality rates projected for **disabled** members are shown below for selected ages:

Age	Expected Years of Life Remaining	Mortality Rates
20	51.82	0.06%
25	46.97	0.07
30	42.13	0.09
35	37.34	0.13
40	32.60	0.20
45	27.98	0.34
50	23.53	0.62
55	19.40	1.16
60	15.66	1.87
65	12.24	2.99
70	9.25	5.07
75	6.81	8.25
80	4.85	13.46

Miscellaneous and Technical Assumptions

Loads	- None
Marriage Assumptions	- 70% of males and 70% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing	- Beginning of valuation year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Pay Adjustment	- None.
Decrement Timing	- Decrements of all types are assumed to occur mid-year.
Future Service	- Members are assumed to earn 1.0 years of service in each future year.
Eligibility Testing	- Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service	- Exact fractional service is used to determine the amount of benefit payable. Benefit service is the service used in the benefit formula.
Eligibility Service	- The larger of reported Eligibility Service and reported Vesting Service was used as eligibility service in the valuation. Eligibility service is the service used to meet the conditions for retirement, and is generally equal to or larger than benefit service.
Decrement Relativity	- Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation	- Disability and withdrawal do not operate during retirement eligibility.
Normal Form of Payment	- Future retiring members are assumed to elect:

Form of Payment	Percentage
SL	40%
II	30
IIA	10
III	15
IV	5

Incidence of Contributions	- Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.
Maximum Compensation	- The dollar compensation limits under Section 401(a)(17) of the Internal Revenue Code are projected to increase 4.5% annually. No member or employer contributions are projected to be made on the portion of any member's annual compensation in excess of the IRC Section 401(a)(17) limit for the year.

Miscellaneous and Technical Assumptions (continued)

Maximum Benefit	-	The dollar benefit limitations under Section 415 of the Internal Revenue Code are projected to increase 4.5% annually. Employee divisions 02, 20-29 (Police), 05 and 50-59 (Fire) are presumed eligible for the public safety benefit limits. No benefits in excess of the IRC section 415 limits are projected to be paid, except as provided under the Qualified Excess Benefit Arrangement, Plan Section 55A.
Member Contribution Interest	-	The interest rate credited on member contributions is the one-year Treasury Bill rate as of December 31, determined annually. The long-term rate assumed in the valuation is 4%, which is consistent with the 3% to 4% price inflation assumption.
DROP+ Assumptions	-	Each eligible member is assumed to make the DROP+ election with the most valuable combination of lump sum and reduced monthly benefit. The retirement probabilities on page 94 are used for members who are *not* covered by Benefit Program DROP+. For members covered by Benefit Program DROP+, it is assumed that retirement will be delayed long enough to become eligible for at least 4 years worth of DROP+ lump sum.

ACTUARIAL FUNDING METHOD

The Retirement Board has adopted funding methodology for the Retirement System to achieve the following major objectives:

- Develop level required contribution rates as a percentage of payroll (for divisions that are open to new hires);
- Finance benefits earned by present employees on a current basis;
- Accumulate assets to enhance members' benefit security;
- Produce investment earnings on accumulated assets to help meet future benefit costs;
- Make it possible to estimate the long-term actuarial cost of proposed amendments to System provisions; and
- Assist in maintaining the Retirement System's long-term financial viability.

The basic funding objective is a level pattern of cost as a percentage of pay throughout each member's working lifetime. The funding method used in this actuarial valuation – the entry age normal cost method – is intended to i) meet this objective, and ii) result in a relatively level long-term contribution requirement as a percentage of pay. This actuarial method was first used for the December 31, 1993 actuarial valuations.

Under the entry age normal cost method, the total actuarially-determined contribution requirement is equal to the sum of the normal cost plus the payment required to fund the unfunded actuarial accrued liability over a period of years. Funding or amortizing the unfunded actuarial accrued liability includes a payment toward the liability (principal) plus a payment to reflect the time value of money (interest).

Normal Cost

In general terms, the normal cost is the cost of benefit rights accruing on the basis of current service. Technically, the normal cost rate is the level percentage-of-pay contribution required each year, with respect to each member, to accumulate over his or her projected working lifetime the reserves needed to meet the cost of earned benefits. The normal cost represents the ultimate cost of the Retirement System, if the unfunded liability is paid up and the actual experience of the System conforms to the assumptions.

Actuarial Accrued Liability

The total actuarial present value of future benefits is computed using the valuation's actuarial assumptions. Subtracting the present value of future normal costs results in the actuarial accrued liability.

The total actuarial accrued liability essentially represents the amount that would have been accumulated as of December 31, 2010, if contributions sufficient to meet the normal costs of the Retirement System had been made each year in the past, benefit provisions had always been the same as current benefit provisions, and actual past experience had always conformed to current actuarial assumptions. If assets equaled the total accrued liability, there would be no unfunded liability and future contribution requirements would consist solely of the calculated normal cost rates.

Amortization of Unfunded Actuarial Accrued Liability

The unfunded actuarial accrued liability is projected to the beginning of the fiscal year for which employer contributions are being calculated (see page 72 for a description of the projection). The projected unfunded accrued liability is then amortized by level percent of payroll contributions over a period of years. Active member payroll is assumed to increase 4.5% a year for the purpose of determining the level percent contributions.

The standard amortization period to fund the unfunded liability is 28 years for positive unfunded liabilities in the 2010 valuation. This period will be reduced by one year in each of the next eight annual valuations, reaching 20 years in the 2018 valuation. Beginning with the 2019 valuation the 20 year period will be reestablished with each annual valuation. Section 20m of Act No. 314 of the Public Acts of 1965 as amended (MCL 38.1140m) requires that the amortization period not exceed 30 years.

The standard amortization period for negative unfunded liabilities is 10 years, with the 10 year period reestablished with each annual actuarial valuation.

For divisions that are closed to new hires, and the new hires are not covered by MERS defined benefit or hybrid provisions (in a linked division, as discussed on page 104), the otherwise applicable MERS-wide standard amortization period for positive unfunded liabilities in effect in the valuation year in which the division is closed is decreased annually by 2 years until the period reaches 5 years. At that point, the amortization period will remain at 5 years.

Shorter amortization periods may be elected by a municipality (but not shorter than 5 years for

negative unfunded liabilities).

Table 16 in the results section of this report indicates the current length of the amortization period for each division. Note that when the 10 year amortization is used for negative unfunded liabilities, Table 16 reports the amortization in two parts: i) a long term credit based on the long term amortization period (usually the standard amortization period described above), plus ii) an overfunding credit resulting from using a 10 year amortization.

In calculating the annual required contribution (ARC) for reporting and disclosure purposes under Statement Nos. 25 and 27 of the Governmental Accounting Standards Board, the following amortization methods are used:

- A level percentage of payroll amortization is used, based on the amortization periods described in the previous paragraph and based on the assumption that payroll increases 4.5% per year.
- For divisions that are less than 100% funded and are closed to new hires (and new hires are not covered by MERS defined benefit or hybrid provisions in a linked division, as discussed on page 104), a 30-year level dollar amortization is used, if it results in a higher amortization payment.

Termination Liability

The termination liability represents the value of the benefits that have been earned as of the valuation date based on final average compensation and benefit service as of the valuation date. All active members are assumed to terminate employment on the valuation date. Vested and non-vested active members are assumed to retire at the first age when the member would be eligible for unreduced deferred retirement benefits, assuming no continued employment after the valuation date (non-vested benefits are assumed to commence at age 60).

Projections of Employer Contributions and Funded Percentage

The 20-year projections of employer contributions and funded percentages displayed in Chart 17.5 are based on the following assumptions:

- All demographic assumptions will be met during the projection period, including the assumption that active members' pays increase in accordance with the pay increase assumption (see page 91). If the number of active members remains constant, projected total active member payroll will increase about 4.5% annually (1% annually for calendar years 2011-2014), the wage inflation assumption. For open divisions (an open division is open to newly hired employees), this projected payroll growth results in

increasing employer contributions even when the employer contribution rate is stable or slowly declining.

- The actuarial value of assets will earn the assumed 8% return each year during the projection period **(see Comments on the Investment Markets on page 3)**.
- There will be no benefit changes during the projection period.
- The employer contributions through January 1, 2012 are not affected, and are based on previous annual actuarial valuations.
- For open divisions (new hires are added to the division), the number of active members is assumed to remain constant. However, if an open division is linked to a division that will have no new hires (whose new hires, transfers and rehires enter the open division - see page 104), the total number of active members in the linked divisions (combined) is assumed to remain constant. For closed divisions (no new hires), the number of active members is assumed to gradually decline to zero, based on the assumptions for retirement, disability, termination, and death.

The projected contribution amounts should not be used for short term budgeting purposes because the assumptions are designed to be a long term expectation of future events. These projections illustrate the long term pattern of employer contributions under current funding policies. A projection of contribution rates for budgeting purposes would require additional short-term actuarial analysis, which is beyond the scope of this report.

Most open division projections (an open division is open to newly hired employees, transfers and rehires - see page 104) will show a very gradual change, up or down, in the funded percentage toward 100% funding. For divisions that are currently less than 100% funded, the reader may be surprised at how long it takes to approach 100% funding. This happens because the standard amortization period for unfunded accrued liabilities, after declining to 20 years in the 2018 annual actuarial valuations, will be reset each year thereafter to a new 20 year period. This results in more stable employer contribution rates, but also a very gradual approach to 100% funding. Additional employer contributions would accelerate the funding progress.

A closed division (no new hires) that is not linked to an open division (see page 104 for a discussion of linked divisions) and is less than 100% funded will have a projected employer contribution that increases each year for the first 11-12 years after closure. This results in a more rapid amortization of unfunded accrued liabilities and a more rapid increase in the division’s funded percentage. This is necessary to ensure that the division has adequate assets to pay benefits. However, the closed division's funded percentage may start to decline several years after all the members have retired. Once the average age of the retiree-only division reaches the late 70's or older, the 5-year

amortization period may result in insufficient assets to cover the pension payout. This issue was reviewed in the 2004-2008 study of MERS experience, and beginning with the December 31, 2011 valuation, a minimum contribution will become effective, based on cash flow needs. The projections in this report reflect the minimum contribution requirement, if applicable, in fiscal years starting in 2013 and later.

A few open divisions will see a decline in the funded percentage. This is usually an open division with a very small number of active members (often only one) and a much larger number of retirees. Because the division is open to new hires, the standard amortization period is used. For many years this may result in a declining funded percentage, before the funded percentage begins to head up toward 100% funding. The minimum contribution requirement based on cash flow needs (see previous paragraph) will keep the funded percentage from going negative. However, such a division should be considered a candidate for either merging with a different division, or an accelerated funding schedule.

A division with no new hires that is linked to an open division within the same employee classification (with new hires, transfers and rehires – see page 104 for a discussion of linked divisions) will typically show a projected funded percentage that declines and may even become negative. This is an expected condition, because the standard open division amortization policy applies to a division with no new hires that is linked to an open division. The linked division with no new hires is allowed to share the assets of the linked open division. The division with no new hires alone will run out of assets; however, the combined linked divisions will not run out of assets and the combined funded percentage will head towards 100%. For a linked division the projections also show a dashed line that represents the combined projection of all the linked divisions.

A small number of divisions currently have negative assets, and a negative funded percentage. These are generally divisions for which many or most of the employees have been transferred to a different division, with the bulk of the assets also being transferred to the other division. Negative assets means the division is temporarily borrowing from better funded divisions within the same municipality. The minimum contribution requirement based on cash flow needs will result in a positive funded percentage by 2014 or 2015. However such a division should be considered a candidate for either merging with a different division, or an accelerated funding schedule.

Some divisions are so well funded that no future employer contributions will be needed; assuming that there are no major changes in the covered participants, benefit provisions are not changed, and the actuarial assumptions are met. Assets substantially exceed present liabilities. The funded percentage will continue to increase during the projection period. Such a division may be a

candidate for a reallocation of assets among other divisions, if appropriate.

For divisions that are affected by employer contribution rate caps, the projections of employer contributions in Chart 17.5 do not reflect the impact of the employer cap provision. Member contribution rates are assumed to remain constant at the rates shown in Table 1. The projected employer contribution rate is allowed to move up or down, as needed, to adequately fund the benefit obligations. In other words, projection of the future impact of the employer cap provision is beyond the scope of the Chart 17.5 projections. Future annual actuarial valuation reports will, of course, reflect (in the results) the application of the then-current employer cap provision.

Open Divisions and Closed Divisions

Open divisions will include the future new hires within an employee classification (bargaining unit). Rehired members will also become members of the open division. Members transferred to the employee classification will also become members of the open division, unless the Alternate Transfer Provision is adopted by the municipality. In the latter case, each transferring member is given a choice of entering the open division or a closed division within the employee classification (if there are still active members in the closed division, and the closed division is of the same type - defined benefit, hybrid, or defined contribution - as the division from which the member transferred).

There may also be one or more divisions within the employee classification that no longer accept new hires. These are generally referred to as closed divisions, but in some situations are linked to the open division with the new hires (for actuarial valuation purposes - see Linked Divisions below). Note that a division is also treated like a closed division if the division has no active members reported as of the valuation date.

Linked Divisions

The closed division funding policy described at the bottom of page 100 was adopted by the Retirement Board (Amortization Policy for Closed Divisions Within Open Municipalities, as revised by the Retirement Board on March 9, 2010). The purpose is to ensure that a defined benefit (DB) division that is closed to new hires does not run out of money. Funding the unfunded liabilities over the MERS standard amortization period will likely deplete a closed division's assets before the death of the last participant in the division. Assets cannot be shared between the closed DB division and a defined contribution (DC) plan covering the new hires, or a non-MERS DB plan covering the new hires, even if the employees are part of the same employee classification (bargaining unit).

However, if the new hires, transfers and rehires are covered by a new tier of benefits in the MERS

DB Plan (including the DB portion of the MERS Hybrid Plan), there can be a sharing of employer assets between the DB division with no new hires (with the old benefit structure) and the DB/Hybrid division covering the new hires within the same employee classification. The employer can avoid the required more rapid amortization of the unfunded liabilities by putting new hires into a MERS DB or MERS Hybrid division, instead of a DC plan or non-MERS DB plan.

If a division with no new hires is “linked” to an open MERS DB division, this is indicated in Table 1, in the footnote to Table 16, and in the projections in Chart 17.5. Both the linked divisions will use the standard open division funding policy.

ASSET VALUATION METHOD

The actuarial value of assets is determined on the basis of a method that calculates expected investment income at the valuation rate of return and adds a portion of the difference between the expected investment income and actual investment income earned on a market value basis. The difference in investment income between expected return and market return is recognized over a 10-year period at the rate of 10% per year. This asset valuation method was first adopted for the December 31, 2005 valuation, and is applied as follows:

Actuarial Value equals:

(a) Actuarial value of assets from the previous actuarial valuation, plus
(b) Aggregate employer and member contributions since the last valuation, minus
(c) Benefit payments and refunds of member contributions since the last valuation, plus
(d) Estimated investment income at the 8% valuation interest rate, plus
(e) Portion of gain (loss) recognized in the current valuation.

For the above purpose, gain (loss) is defined as the excess during the period of the investment return on the market value of assets over the expected investment income. The portion recognized in the valuation is 10% of the current year's gain (loss) plus 10% of the gain (loss) from each of the 9 preceding years. The cumulative difference between the market value and valuation assets as of December 31, 2005 is recognized over 9 years.

During 2010, the approximate net investment return on average total assets at actuarial value (determined as the actuarial value of investment income divided by the average actuarial value of assets during the year) was 5.74%. The corresponding amounts for 2009, 2008, 2007 and 2006 were 5.30%, 4.73%, 8.12%, and 8.14%, respectively.

For the December 31, 2010 valuation, the actuarial value of assets is equal to 116.29% of market value (compared to 125.17%, 139.15%, 98.85%, and 98.62% in 2009, 2008, 2007, and 2006, respectively). This percentage is applied to each division's reported market value of assets to estimate the actuarial value of assets for the division. The chart on page 107 provides the details of the derivation of the actuarial value of assets for the retirement system in the aggregate.

The reader should note that, given that the actuarial value of assets is currently 16% higher than the market value, meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 8% investment return assumption.

Please see the Comments on the Investment Markets on page 3 .

Municipal Employees' Retirement System of Michigan
Derivation of Actuarial Value of Assets

Valuation Date December 31:	2001	2002	2003	2004	2005
1. Beginning of Year Assets					
a) Market Value	$ 3,788,886,471	$ 3,647,820,869	$ 3,285,304,333	$ 4,071,997,180	$ 4,619,201,287
b) Valuation Assets	3,791,423,339	4,034,377,419	4,134,404,645	4,459,492,020	4,732,208,229
2. End of Year Market Value Assets	3,647,820,869	3,285,304,333	4,071,997,180	4,619,201,287	4,906,288,690
3. Net Additions to Market Value					
a) Net Contributions	154,103,475	167,427,558	223,450,393	223,057,268	277,589,524
b) Net Investment Income = (3d) - (3a) - (3c)	(93,269,286)	(324,926,459)	792,139,959	577,562,751	288,223,418
c) Benefit Payments	(201,899,791)	(205,017,635)	(228,897,505)	(253,415,912)	(278,725,539)
d) Total Additions to Market Value = (2) - (1a)	(141,065,602)	(362,516,536)	786,692,847	547,204,107	287,087,403
4. Average Valuation Assets =					
(1b) + .5x[(3a) + (3c)]	3,767,525,181	4,015,582,381	4,131,681,089	4,444,312,698	4,731,640,222
5. Expected Income at Valuation Rate = 8% x (4)	301,402,014	321,246,590	330,534,487	355,545,016	378,531,218
6. Gain (Loss) = (3b) - (5)	(394,671,300)	(646,173,049)	461,605,472	222,017,735	(90,307,800)
7. Phased-In Recognition of Investment Return					
a) Current Year: 0.2 x (6)	(78,934,260)	(129,234,610)		44,403,547	(18,061,560)
b) First Prior Year	(79,670,266)	(78,934,260)			44,403,547
c) Second Prior Year	63,981,441	(79,670,266)			
d) Third Prior Year	40,228,410	63,981,441			
e) Fourth Prior Year	43,743,057	40,228,408			
f) 1999-2003 Years Combined	N/A	N/A	0	(96,873,710)	(96,873,710)
g) Total Recognized Investment Gain (Loss)	(10,651,618)	(183,629,287)	0	(52,470,163)	(70,531,723)
8. Change in Valuation Assets					
(3a) + (3c) + (5) + (7g)	242,954,080	100,027,226	325,087,375	272,716,209	306,863,480
9. End of Year Assets					
a) Market Value = (2)	3,647,820,869	3,285,304,333	4,071,997,180	4,619,201,287	4,906,288,690
b) Valuation Assets = (1b) + (8)	4,034,377,419	4,134,404,645	4,459,492,020	4,732,208,229	5,039,071,709
c) Difference Between Market & Valuation Assets	(386,556,550)	(849,100,312)	(387,494,840)	(113,006,942)	(132,783,019)
10. Recognized Rate of Return = [(5) + (7g)] / (4)	7.72%	3.43%	8.00%	6.82%	6.51%
11. Market Rate of Return	(2.48%)	(8.95%)	24.13%	14.24%	6.24%
12. Valuation Asset Adjustment Factor = (9b) / (9a)	1.105969	1.258454	1.095161	1.024465	1.027064

Municipal Employees' Retirement System of Michigan
Derivation of Actuarial Value of Assets (cont.)

Valuation Date December 31:	2006	2007	2008	2009	2010
1. Beginning of Year Assets					
a) Market Value	$ 4,906,288,690	$ 5,590,042,317	$ 6,071,046,914	$ 4,512,260,955	$ 5,276,645,338
b) Valuation Assets	5,039,071,709	5,512,924,466	6,001,040,078	6,278,731,673	6,604,608,397
2. End of Year Market Value Assets	5,590,042,317	6,071,046,914	4,512,260,955	5,276,645,338	5,971,593,444
3. Net Additions to Market Value					
a) Net Contributions	371,505,157	386,942,952	374,214,134	413,354,720	423,489,032
b) Net Investment Income = (3d) - (3a) - (3c)	622,409,716	442,377,206	(1,553,001,917)	771,066,207	733,059,352
c) Benefit Payments	(310,161,246)	(348,315,561)	(379,998,176)	(420,036,544)	(461,600,278)
d) Total Additions to Market Value = (2) - (1a)	683,753,627	481,004,597	(1,558,785,959)	764,384,383	694,948,106
4. Average Valuation Assets =					
(1b) + .5x[(3a) + (3c)]	5,069,743,665	5,532,238,162	5,998,148,057	6,275,390,761	6,585,552,774
5. Expected Income at Valuation Rate = 8% x (4)	405,579,493	442,579,053	479,851,845	502,031,261	526,844,222
6. Gain (Loss) = (3b) - (5)	216,830,223	(201,847)	(2,032,853,762)	269,034,946	206,215,130
7. Phased-In Recognition of Investment Return					
a) Current Year: 0.1 x (6)	21,683,022	(20,185)	(203,285,376)	26,903,495	20,621,513
b) First Prior Year	(14,753,669)	21,683,022	(20,185)	(203,285,376)	26,903,495
c) Second Prior Year		(14,753,669)	21,683,022	(20,185)	(203,285,376)
d) Third Prior Year			(14,753,669)	21,683,022	(20,185)
e) Fourth Prior Year				(14,753,669)	21,683,022
f) Fifth Prior Year					(14,753,669)
g) Sixth Prior Year					
h) Seventh Prior Year					
i) Eighth Prior Year					
j) Ninth Prior Year					
k) Total Recognized Investment Gain (Loss)	6,929,353	6,909,168	(196,376,208)	(169,472,713)	(148,851,200)
8. Change in Valuation Assets					
(3a) + (3c) + (5) + (7k)	473,852,757	488,115,612	277,691,595	325,876,724	339,881,776
9. End of Year Assets					
a) Market Value = (2)	5,590,042,317	6,071,046,914	4,512,260,955	5,276,645,338	5,971,593,444
b) Valuation Assets = (1b) + (8)	5,512,924,466	6,001,040,078	6,278,731,673	6,604,608,397	6,944,490,173
c) Difference Between Market & Valuation Assets	77,117,851	70,006,836	(1,766,470,718)	(1,327,963,059)	(972,896,729)
10. Recognized Rate of Return = [(5) + (7k)] / (4)	8.14%	8.12%	4.73%	5.30%	5.74%
11. Market Rate of Return	12.61%	7.89%	(25.59%)	17.10%	13.94%
12. Valuation Asset Adjustment Factor = (9b) / (9a)	0.986204	0.988469	1.391482	1.251668	1.162921

Municipal Employees' Retirement System of Michigan
Derivation of Actuarial Value of Assets (cont.)

Valuation Date December 31:	2011	2012	2013	2014	2015
1. Beginning of Year Assets					
a) Market Value					
b) Valuation Assets					
2. End of Year Market Value Assets					
3. Net Additions to Market Value					
a) Net Contributions					
b) Net Investment Income = (3d) - (3a) - (3c)					
c) Benefit Payments					
d) Total Additions to Market Value = (2) - (1a)					
4. Average Valuation Assets =					
(1b) + .5x[(3a) + (3c)]					
5. Expected Income at Valuation Rate = 8% x (4)					
6. Gain (Loss) = (3b) - (5)					
7. Phased-In Recognition of Investment Return					
a) Current Year: 0.1 x (6)					
b) First Prior Year	20,621,513				
c) Second Prior Year	26,903,495	20,621,513			
d) Third Prior Year	(203,285,376)	26,903,495	20,621,513		
e) Fourth Prior Year	(20,185)	(203,285,376)	26,903,495	20,621,513	
f) Fifth Prior Year	21,683,022	(20,185)	(203,285,376)	26,903,495	20,621,513
g) Sixth Prior Year	(14,753,669)	21,683,022	(20,185)	(203,285,376)	26,903,495
h) Seventh Prior Year		(14,753,669)	21,683,022	(20,185)	(203,285,376)
i) Eighth Prior Year			(14,753,669)	21,683,022	(20,185)
j) Ninth Prior Year				(14,753,667)	21,683,025
k) Total Recognized Investment Gain (Loss)	(148,851,200)	(148,851,200)	(148,851,200)	(148,851,198)	(134,097,528)
8. Change in Valuation Assets					
(3a) + (3c) + (5) + (7k)					
9. End of Year Assets					
a) Market Value = (2)					
b) Valuation Assets = (1b) + (8)					
c) Difference Between Market & Valuation Assets					
10. Recognized Rate of Return = [(5) + (7k)] / (4)					
11. Market Rate of Return					
12. Valuation Asset Adjustment Factor = (9b) / (9a)					

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MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT

PITTSFIELD CHARTER TOWNSHIP (8110)

DECEMBER 31, 2010