DEPARTMENT OF STATE POLICE OF INDIANA
PENSION TRUST AGREEMENT

REVISED ACTUARIAL VALUATION

JULY 1, 2015

ONEAMERICA®

Retirement plan administrative and recordkeeping services provided by
MCCREADY AND KEENE, INC.
a ONEAMERICA® *company*

DEPARTMENT OF STATE POLICE OF INDIANA
PENSION TRUST AGREEMENT

REVISED ACTUARIAL VALUATION

VALUATION DATE	July 1, 2015	
PLAN YEAR	July 1, 2015	- June 30, 2016
EFFECTIVE DATE OF PLAN	July 1, 1937	
EFFECTIVE DATE OF LAST AMENDMENT (Executed May 20, 2014)	January 1, 2014	

DEPARTMENT OF STATE POLICE OF INDIANA
PENSION TRUST AGREEMENT

Summary of Revised Actuarial Valuation as of July 1, 2015

Introduction

This Valuation has been prepared as of July 1, 2015 for the Plan which was originally effective July 1, 1937. As of the valuation date there were 1,187 active participants, 18 DROP participants, 1,251 retirees, 337 beneficiaries, and 156 terminated or disabled participants entitled to future benefits (includes 0 due and unpaid).

We have established the following contribution as of July 1, 2015:

Recommended Minimum Contribution (30-Year Amortization of Unfunded Liability starting July 1, 2010 - 25 years remaining as of July 1, 2015)	$ 16,184,566
Contribution as Percentage of Anticipated Payroll	23.9%

Please note that the July 1, 2015 results shown in this report have been revised from the report issued on September 30, 2015 to reflect data corrections for active participant appointment dates as well as a mortality update reflecting the MP-2015 Mortality Improvement Projection Scale.

This report reflects the plan provisions in effect as of July 1, 2015. Refer to the exhibit titled Summary of Plan Provisions for a brief description of benefits provided by this plan.

The Recommended Minimum Contribution is composed of normal cost of $11,267,009, a net amortization payment of $8,298,079, and less $4,040,844 in member contributions. The contribution also includes one-half year's interest to reflect the fact that contributions are received monthly.

As of July 1, 2015, the Unfunded Actuarial Accrued Liability is $105,596,921, which represents 156.1% of anticipated payroll. The assets expressed as a percentage of the total accrued liability are 81.5% as of July 1, 2015 as compared to 85.0% as of July 1, 2014.

Introduction, Continued

The Recommended Minimum Contribution for 2015, as a percentage of anticipated payroll, is 23.9% as compared to 20.3% for the year ending June 30, 2015. The Fund had experience losses from investments yielding less than the assumed 6.75% (estimated return for the plan year ending June 30, 2015 was -0.3% on a market value basis and 5.0% on a smoothed actuarial value basis). In terms of actual dollars, the Recommended Minimum Contribution increased by $2,298,113, from $13,886,453 for the plan year ending June 30, 2015 to $16,184,566 for the plan year ending June 30, 2016.

Actuarial Methods and Assumptions

The Entry Age Normal Cost Method was continued for determining the cost of retirement benefits, death benefits, and termination benefits. Valuation assets continue to be developed on a smoothed actuarial basis.

The actuarial assumptions used in this Valuation have been reviewed and revised from the prior Valuation. The mortality tables were revised from the 2014 IRS Tables to the RP-2014 Mortality Tables adjusted from 2006 using MP-2015 Improvement Scale with Blue Collar adjustments. The interest rate assumption was maintained at 6.75%. It is our opinion that the actuarial assumptions, as revised, will better reflect both anticipated and actual plan experience.

A brief explanation of the methods used and a complete summary of the assumptions may be found in the exhibits labeled Actuarial Methods and Actuarial Assumptions.

Valuation Data and Disclaimer

The valuation census data was provided by the office of the Treasurer of the State of Indiana and the employer and transposed into a computer file for processing. We have relied upon this information in the preparation of this report. Similar information has been furnished to us in the past, and the accuracy of this report depends on the accuracy of all data that has been furnished to us from time to time. Trust information was furnished by the Treasurer of the State of Indiana. It is noted that we make no representation concerning the accuracy of any employee data or valuation information that has been furnished to us.

Valuation Data and Disclaimer, Continued

The Valuation has been prepared for the sole purpose of determining the contribution requirements for the respective plan year and for providing accounting data to meet the requirements of GASB #67 and GASB #68. The figures in this Valuation should not be used as the basis for any other purpose for which it was not designed.

Summary of Trust Experience

Using market value, 45.8% of the assets are invested in equity securities and 26.4% are invested in debt securities. The remaining assets consist of 1.7% in cash and cash equivalents, 1.3% in member contribution and loans receivable, and 24.8% in alternative investments. Based on the market value, the entire asset portfolio had net investment income of -$1,292,077 for the plan year ending June 30, 2015 for an estimated yield of -0.3%. The income is composed of investment income of $8,621, net appreciation in fair value of $380,734, and less $1,681,432 in investment and administrative expenses. Based on the smoothed actuarial value reflecting recognition of 25% each year of the difference between expected market value and actual market value, the Fund had net investment income of $22,516,986 for the plan year ending June 30, 2015 for an estimated yield of 5.0%.

We will be pleased to furnish any additional information or answer any questions which may arise after your review of this report.

DEPARTMENT OF STATE POLICE OF INDIANA
PENSION TRUST AGREEMENT

Actuarial Certification

The information and valuation results shown in this report are, to the best of my knowledge, complete and accurate and are based upon:

1. Employee census data as of July 1, 2015 submitted by the office of the Treasurer of the State of Indiana and the employer. Although we did not audit this data, it appears to be sufficient and reliable for purposes of the report.
2. Financial data as of July 1, 2015 submitted by the Treasurer of the State of Indiana. Although we did not audit this data, it appears to be sufficient and reliable for purposes of this report.
3. Actuarial assumptions which were chosen by the actuary with each assumption deemed to be reasonably related to past experience and to anticipated future experience.
4. Generally accepted actuarial principles and in accordance with the standards of practice by the Actuarial Standards Board.
5. Actuarial methods as stated in the report and our interpretation of plan provisions as summarized in the report.

Prepared and Submitted by
McCready and Keene, Inc.

By________________________________
Geoff Bridges
F.S.A., M.A.A.A., E.A.
Senior Consulting Principal and AVP

CONTRIBUTION BREAKDOWN AND COMPARISON

		July 1, 2014	July 1, 2015
RECOMMENDED MINIMUM CONTRIBUTION			
30-Year Amortization of Unfunded Liability from July 1, 2010			
	Total Normal Cost	$ 11,123,886	$ 11,267,009
Plus:	Amortization of Unfunded Actuarial Liability	6,264,944	8,298,079
Equals:	Total Cost, Beginning of Year	$ 17,388,830	$ 19,565,088
Plus:	Interest Charges for One-Half Year	586,873	660,322
Less:	Anticipated Member Contributions	4,089,250	4,040,844
Equals:	Total Employer Annual Cost, prior to adjustments	$ 13,886,453	$ 16,184,566
Plus:	Loan Correction Adjustments	0	0
Equals:	Total Employer Annual Cost	$ 13,886,453	$ 16,184,566
TOTAL EMPLOYER ANNUAL COST AS % OF ANTICIPATED PAYROLL		20.3%	23.9%
NORMAL COST PLUS INTEREST ON UNFUNDED LIABILITY			
No Amortization of Unfunded Liability			
	Total Normal Cost	$ 11,123,886	$ 11,267,009
Plus:	Interest on Unfunded Actuarial Liability	5,464,001	7,127,792
Equals:	Total Cost, Beginning of Year	$ 16,587,887	$ 18,394,801
Plus:	Interest Charges for One-Half Year	559,841	620,825
Less:	Anticipated Member Contributions	4,089,250	4,040,844
Equals:	Total Employer Annual Cost	$ 13,058,478	$ 14,974,782
	Percentage of Anticipated Payroll	19.1%	22.1%

HISTORY OF 5-YEAR STATUS OF IC 10-12-2-2(i), page 1 of 2

Year Ended June 30	(a) Normal Cost Plus Interest on Unfunded Liability	(b) Actual Employer Contribution	Percent of Normal Cost Plus Interest Contributed (b) divided by (a)
1999	8,725,624	$ 9,609,542	110.1%
2000	8,478,219	$ 9,587,042	113.1%
2001	9,179,335	$ 9,587,042	104.4%
2002	9,071,476	$ 9,587,042	105.7%
2003	9,403,905	$ 8,387,042	89.2%
2004	10,125,626	$ 7,543,612	74.5%
2005	11,678,224	$ 7,543,612	64.6%
2006	12,194,862	$ 7,535,612	61.8%
2007	9,086,657	$ 12,113,595	133.3%
2008	8,942,636	$ 9,412,228	105.3%
2009	10,034,807	$ 9,472,493	94.4%
2010	13,522,384	$ 9,471,135	70.0%
2011	11,806,865	$ 9,449,670	80.0%
2012	13,824,084	$ 44,039,964	318.6%

HISTORY OF 5-YEAR STATUS OF IC 10-12-2-2(i), page 2 of 2

Year Ended June 30	(a) Normal Cost Plus Interest on Unfunded Liability	(b) Actual Employer Contribution	Percent of Normal Cost Plus Interest Contributed (b) divided by (a)
2013	13,692,414	12,367,074	90.3%
2014	13,059,204	10,603,145	81.2%
2015	13,058,478	10,218,000	78.2%

IC 10-12-2-2(i) states that "(t)he minimum annual contribution by the department must be of sufficient amount, as determined by the pension consultants, to prevent any deterioration in the actuarial status of the pension plan during that year. If the department fails to make the minimum contribution for five (5) successive years, the pension trust terminates and the trust fund shall be liquidated." If paying "Normal Cost Plus Interest on Unfunded Liability" qualifies as the minimum annual contribution, then this exhibit shows a history of when the requirements of this Indiana Code have been met.

DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

		July 1, 2014	July 1, 2015
Development of Actual Unfunded Actuarial Accrued Liability			
Entry Age Normal Cost Actuarial Accrued Liability			
-	Active Members	$ 223,925,783	$ 226,143,340
-	Retired Members, Disabled Members, and Beneficiaries Receiving Benefits	308,154,975	331,144,138
-	Terminated Vested Members	8,716,641	13,092,930
-	Due and Unpaid	-	-
Total		$ 540,797,399	$ 570,380,408
Less:	Valuation Assets	459,849,238	464,783,487
Equals:	Unfunded Actuarial Liability	$ 80,948,161	$ 105,596,921
Funded Status		85.0%	81.5%
Development of Expected Unfunded Actuarial Accrued Liability			
Unfunded Actuarial Accrued Liability, Prior Year		$ 88,929,403	$ 80,948,161
Less:	Amortization of Unfunded Actuarial Accrued Liability, Prior Year (BOY)	6,786,533	6,264,944
Plus:	Interest for Full Year at 6.75%	5,544,644	5,041,117
Plus:	Under/(Over) Contribution	3,266,310	3,668,453
Plus:	Estimated Plan Changes (13th check)	268,768	274,657
Plus:	Actuarial Assumption Changes	774,897	9,224,707
Equals:	Expected Unfunded Actuarial Accrued Liability	$ 91,997,489	$ 92,892,151
Analysis of Experience (Gain) or Loss			
-	Asset Experience (Gain) or Loss	$ (12,100,780)	$ 7,942,510
-	Liability Experience (Gain) or Loss	1,051,452	4,762,260
Total	Experience (Gain) or Loss [Actual UAL - Expected UAL]	$ (11,049,328)	$ 12,704,770

SUMMARY OF EMPLOYEE DATA

	July 1, 2014	July 1, 2015 Pre-87 Plan	July 1, 2015 1987 Plan	July 1, 2015 Total
Active Participants (not incl. DROP participants)	1,206	36	1,151	1,187
Anticipated Annual Payroll*	$ 68,490,381	$ 1,683,555	$ 65,944,441	$ 67,627,996
Bi-Weekly Sixth Year Trooper Pay*	$ 1,763	$ 1,799	N/A	1,799
Average Monthly Salary*	$ 4,733	$ 3,897	$ 4,774	4,748
Anticipated Member Contributions	$ 4,089,250	$ 84,178	$ 3,956,666	4,040,844
DROP Participants	$ 28	4	14	18
Annual Benefits Payable from Trust	$ 1,110,492	$ 136,269	$ 562,561	$ 698,829
Average Annual Benefit	$ 39,660	$ 34,067	$ 40,183	$ 38,824
Retired Members	1,225	625	626	1,251
Annual Benefits Payable from Trust	$ 25,095,905	$ 8,947,645	$ 17,570,831	$ 26,518,476
Average Annual Benefit	$ 20,486	$ 14,316	$ 28,068	$ 21,198
Beneficiaries	335	255	82	337
Annual Benefits Payable from Trust	$ 1,930,960	$ 1,019,317	$ 1,020,186	$ 2,039,503
Average Annual Benefit	$ 5,764	$ 3,997	$ 12,441	$ 6,052
Disabled Members Entitled to Future Benefits	35	5	32	37
Estimated Deferred Annual Benefits	$ 1,308,786	$ 207,242	$ 1,135,306	$ 1,342,548
Estimated Average Deferred Annual Benefit	$ 37,394	$ 41,448	$ 35,478	$ 36,285
Terminated Vested Members Entitled to Future Benefits	112	4	115	119
Estimated Deferred Annual Benefits	$ 915,295	$ 138,121	$ 816,559	$ 954,680
Estimated Average Deferred Annual Benefit	$ 8,172	$ 34,530	$ 7,101	$ 8,023
Due and Unpaid Members	0	0	0	0
Total Number of Members	2,941	929	2,020	2,949

*Reflects limitation of Pre-1987 salary to Sixth Year Trooper pay ($1,763.40 as of 7/1/2014, $1,798.67 bi-weekly as of 7/1/2015).

FIVE YEAR PROJECTION OF BENEFITS ***

Plan Year	Number of Inactives		Anticipated Annual Benefits	
	New	Total*	New	Total*
As of July 1, 2015		1,762 **		$ 29,256,808 **
2015 - 2016	36	1,797	$ 638,034	31,530,516
2016 - 2017	36	1,811	1,169,746	32,781,147
2017 - 2018	34	1,819	1,140,976	33,495,248
2018 - 2019	34	1,826	1,194,113	34,236,890
2019 - 2020	36	1,833	1,292,006	35,050,344
Total	178		$ 5,434,875	

* This projection assumes members retire and survive in accordance with the retirement and mortality assumptions detailed in the exhibit titled Actuarial Assumptions.

** Includes 18 DROP Participants and their Anticipated Annual Pension.

*** For 2015, the participant count includes vested terminated, deferred disabled and DROP participants as well as participants in pay status. Future counts and benefits reflect net decreases due to projected deaths.

ANALYSIS OF RETIREES AND BENEFICIARIES

As of July 1, 2015

Attained Age Nearest Birthday	Number of Retirees	Retiree Average Annual Pension	Number of Beneficiaries	Beneficiary Average Annual Pension	Total Participants	Average Annual Pension
Under 40	-	-	-	-	-	$ -
40-44	-	-	1	11,375	1	11,375
45-49	6	$ 31,455	2	12,597	8	26,740
50-54	82	22,010	3	16,268	85	21,807
55-59	162	28,141	11	12,135	173	27,123
60-64	219	28,294	16	14,720	235	27,370
65 & up	800	18,086	304	5,214	1,104	14,541
Total	1,269		337		1,606	
Average Annual Benefits Payable		$ 21,448		$ 6,052		$ 18,217

DEVELOPMENT OF ASSETS

		Market
TRUST ASSETS, July 1, 2014	$	467,997,697
RECEIPTS		
Employer Contribution for 2014 Plan Year - Pension	$	10,218,000
Employer Contribution for 2013 Plan Year - Pension		-
Member Contributions		3,967,047
Investment Income		8,621
Net Appreciation		380,734
Miscellaneous Income		1,420
Total	$	14,575,822
DISBURSEMENTS		
Pension Benefits	$	31,720,500
Investment Expense		1,380,704
Professional Services		89,102
Operating Expenses		209,309
Loan Interest Reductions		2,318
Total	$	33,401,932
TRUST ASSETS, June 30, 2015	$	449,171,587
Plus: Receivable Employer Contribution		-
Plus: Receivable Service Purchase Payments (Estimated)		56,376
Less: 13th Check Payments Due to be Paid During September 2015		274,657
MARKET VALUE OF ASSETS, June 30, 2015	$	448,953,306
Plus: 75% of 2014-2015 (Gain) Loss [75% of $32,290,148]		24,217,611
Plus: 50% of 2013-2014 (Gain) Loss [50% of $(15,469,032)]		(7,734,516)
Plus: 25% of 2012-2013 (Gain) Loss [25% of $(2,611,655)]		(652,914)
VALUATION ASSETS, July 1, 2015*	$	464,783,487

* Must fall between 80% and 120% of Market Value

DEVELOPMENT OF ASSET GAIN OR LOSS

	July 1, 2014 through June 30, 2015	
July 1, 2014 Plan Year's Valuation Interest Rate	6.75%	
	Market Value	Actuarial Value
1. Value of Assets, Beginning of Year (Before Receivables/Payables)	$ 467,997,697	$ 460,018,815
2. Contributions During Year	14,186,467	14,186,467
3. Benefits Paid During Year	31,720,500	31,720,500
4. Expected Return on Assets		
a) Beginning Asset Value	31,589,845	31,051,270
b) Contributions	478,793	478,793
c) Benefit Payments	1,070,567	1,070,567
d) Subtotal [(a) + (b) - (c)]	$ 30,998,071	$ 30,459,496
5. Expected Value of Assets, End of Year (Before Receivables/Payables) [(1) + (2) - (3) + (4)(d)]	$ 481,461,735	$ 472,944,278
6. Actual Value of Assets, End of Year (Before Receivables/Payables)	$ 449,171,587	$ 465,001,768
7. Investment (Gain)/Loss for Plan Year [(5) - (6)]	$ 32,290,148	$ 7,942,510

HISTORICAL FUNDED RATIOS

Schedule of Funding Progress, page 1

Valuation Date	(a) Actuarial Value of Assets	(b) Actuarial Accrued Liability (AAL)*	(c) Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a)/(b)	(d) Annual Covered Payroll	UAAL as % of Payroll (c)/(d)
7/1/1997	$ 240,879,851	$ 279,575,105	$ 38,695,254	86.2%	$ 44,470,431	87.0%
7/1/1998	255,614,003	289,612,135	33,998,132	88.3%	45,187,822	75.2%
7/1/1999	273,032,332	303,804,704	30,772,372	89.9%	46,361,474	66.4%
7/1/2000	292,382,579	326,015,612	33,633,033	89.7%	50,897,868	66.1%
7/1/2001	307,072,445	338,867,491	31,795,046	90.6%	51,394,768	61.9%
7/1/2002	312,788,491	349,772,276	36,983,785	89.4%	50,894,784	72.7%
7/1/2003	313,123,162	360,501,721	47,378,559	86.9%	51,204,319	92.5%
7/1/2004	311,707,048	378,770,114	67,063,066	82.3%	53,095,170	126.3%
7/1/2005	317,836,619	390,479,723	72,643,104	81.4%	53,896,719	134.8%
7/1/2006	339,122,497	392,809,758	53,687,261	86.3%	54,156,357	99.1%
7/1/2007	371,918,092	413,968,601	42,050,509	89.8%	59,862,892	70.2%
7/1/2008	386,872,985	438,460,280	51,587,295	88.2%	65,421,105	78.9%
7/1/2009	356,056,202	453,687,692	97,631,490	78.5%	68,283,255	143.0%
7/1/2010	363,487,316	447,063,504	83,576,188	81.3%	66,603,419	125.5%
7/1/2011	361,457,004	470,852,078	109,395,074	76.8%	64,947,968	168.4%

HISTORICAL FUNDED RATIOS

Schedule of Funding Progress, page 2

Valuation Date	(a) Actuarial Value of Assets	(b) Actuarial Accrued Liability (AAL)*	(c) Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a)/(b)	(d) Annual Covered Payroll	UAAL as % of Payroll (c)/(d)
7/1/2012	403,851,491	504,814,363	100,962,872	80.0%	66,083,075	152.8%
7/1/2013	434,286,555	523,215,958	88,929,403	83.0%	64,346,657	138.2%
7/1/2014	459,849,238	540,797,399	80,948,161	85.0%	68,490,381	118.2%
7/1/2015	464,783,487	570,380,408	105,596,921	81.5%	67,627,996	156.1%

* Determined under the Entry Age Actuarial Cost Method.

IRC SECTION 401(h) CONTRIBUTION LIMIT AND HISTORY

(Pension Trust Agreement and Police Benefit Fund Combined)

Year Ending	Total Pension Normal Cost	Total Pension Contribution	(1) Maximum IRC Sec 401(h) Contribution	(2) Actual IRC Sec 401(h) Contribution	Cumulative Contrib. Limit IRC Sec 401(h) PY + (1) - (2)
6/30/2006	$ 9,285,975	$ 10,295,054	$ 3,095,325	$ 0	$ 3,095,325
6/30/2007	7,158,207	15,059,166	2,386,069	0	5,481,394
6/30/2008	7,968,460	12,795,310	2,656,153	0	8,137,547
6/30/2009	8,605,097	13,063,773	2,868,366	0	11,005,913
6/30/2010	8,969,271	13,026,461	2,989,757	0	13,995,670
6/30/2011	8,179,822	13,022,403	2,726,607	5,277,898	11,444,379
6/30/2012	8,221,908	48,239,222	2,740,636	9,268,785	4,916,230
6/30/2013	9,399,475	16,112,654	3,133,158	1,496,676	6,552,711
6/30/2014	9,176,342	15,148,393	3,058,781	928,616	8,693,587
6/30/2015	11,055,686	14,560,313	3,685,229	917,905	12,378,816
6/30/2016	11,002,298	11,002,298 *	3,667,433	Not Available	16,046,249

* Assuming a Pension Contribution of at least the Pension Normal Cost is made for the 2015-16 plan year.

JULY 1, 2014 TO JUNE 30, 2015 CONTRIBUTIONS

Description	Amount	Comments
401(h) Employee Contributions	$ 899,186.65	Bi-weekly Withholding
401(h) Disability Contrib.	18,718.56	
	$ 917,905.21	

IRC SECTION 401(h) - DEVELOPMENT

(Breakdown Between Pension Trust Agreement and Police Benefit Fund)

Year Ending	Pension Normal Cost: Pension Trust Agreement	Pension Normal Cost: Police Benefit Fund	Pension Normal Cost: Total	Pension Contribution: Pension Trust Agreement	Pension Contribution: Police Benefit Fund	Pension Contribution: Total
6/30/2006	$ 6,869,615	$ 2,416,360	$ 9,285,975	$ 7,535,612	$ 2,759,442	$ 10,295,054
6/30/2007	5,148,357	2,009,850	7,158,207	12,113,595	2,945,571	15,059,166
6/30/2008	5,696,692	2,271,768	7,968,460	9,412,228	3,383,082	12,795,310
6/30/2009	5,958,220	2,646,877	8,605,097	9,472,493	3,591,280	13,063,773
6/30/2010	6,099,591	2,869,680	8,969,271	9,471,135	3,555,326	13,026,461
6/30/2011	5,427,083	2,752,739	8,179,822	9,449,670	3,572,733	13,022,403
6/30/2012	5,572,720	2,649,188	8,221,908	44,039,964	4,199,258	48,239,222
6/30/2013	6,309,003	3,090,472	9,399,475	12,367,074	3,745,580	16,112,654
6/30/2014	6,504,789	2,671,553	9,176,342	10,603,145	4,545,248	15,148,393
6/30/2015	7,034,636	4,021,050	11,055,686	10,218,000	4,342,313	14,560,313
6/30/2016	7,226,165	3,776,133	11,002,298	7,226,165 *	3,776,133 *	11,002,298

* Assuming a Pension Contribution of at least the Pension Normal Cost is made for the 2015-16 plan year.

HISTORICAL PLAN EXPERIENCE

Plan Year Ending June 30	Estimated Annual Rate of Investment Return		Estimated Annual Rate of Salary Increases*
	Market Basis	Smoothed Basis	
1998	7.0%	5.3%	2.3%
1999	7.3%	6.4%	2.4%
2000	10.4%	6.9%	11.6%
2001	(0.5%)	5.3%	2.7%
2002	(3.5%)	2.6%	1.4%
2003	4.0%	1.9%	4.6%
2004	10.5%	1.7%	9.5%
2005	7.2%	4.6%	1.8%
2006	6.6%	10.4% **	5.1%
2007	13.4%	11.6%	7.6%
2008	(5.7%)	6.4%	7.2%
2009	(15.6%)	(5.7%)	1.8%
2010	16.2%	5.7%	1.3%
2011	22.0%	2.6%	0.5%
2012	1.9%	5.9%	2.0%
2013	7.4%	10.9%	3.0%
2014	10.3%	9.6%	1.9%
2015	(0.3%)	5.0%	3.5%

* For continuing actives only - reflects Sixth Year Trooper (Third Year Trooper prior to 2007) maximum salary in Pre-1987 plan

** 5.6% before change in asset method

ACTUARIAL METHODS

ACTUARIAL COST METHOD	Entry Age Normal Cost
ASSET VALUATION METHOD	Smoothed Value*

Entry Age Normal Cost

The normal cost is calculated separately for each active participant and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The unfunded actuarial accrued liabilities on any valuation date is the accumulated value of such normal costs from entry age to the valuation date less the actuarial value of assets.

The effect of this valuation method is to spread all actuarial gains and losses, resulting from experience different from that anticipated in our assumptions, over a fixed period. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

* Gains and losses are graded in over a 4-year period. This asset valuation method was phased in over a 4-year period beginning with the market value of assets as of July 1, 1997. Beginning with the 2006 plan year, gains and losses, calculated as the difference between the expected market value and the actual market value, are graded in over a 4-year period. Prior to 2006, realized and unrealized capital gains and losses were graded in over a 4-year period. Valuation assets are to lie within a corridor of 80% to 120% of the market value of assets.

ACTUARIAL ASSUMPTIONS

Interest	6.75% compounded annually (net of administrative expenses)
Rationale	*This is the long term expected rate of return*
Future Salary Increases	Pre-1987 Plan - Sixth Year Trooper pay assumed to increase at an annual rate of 3.5% 1987 Plan - 9% annual increases at ages 26 and younger. The annual increase is reduced by 0.5% per year reaching 4% at age 36. Annual increases of 4% are assumed at ages 36 and older.
Rationale	*Future salary increases are based on an experience study through June 30, 2010.*
Mortality	RP-2014 Blue Collar Mortality Tables adjusted from 2006 using MP-2015 Mortality Improvement Scale
Rationale	*The mortality assumptions are our best estimate for a plan that does not have sufficient experience to develop plan-specific assumptions.*
Disabled Mortality	RP-2014 Disabled Retiree Mortality Table adjusted from 2006 using MP-2015 Mortality Improvement
Rationale	*The mortality assumptions are our best estimate for a plan that does not have sufficient experience to develop plan-specific assumptions.*
Disability Incidence	None anticipated
Rationale	*Future disabilities are treated as gains and losses as they arise.*
Termination	Pre-1987 Plan - None anticipated 1987 Plan - 2% for all ages under 37 and Sarason T-1 for ages 37 and above.
Rationale	*Termination rates are based on an experience study through June 30, 2010*

ACTUARIAL ASSUMPTIONS

- Continued -

Retirement	Pre-1987 Plan - Retirement rates are based on age with 10% assumed to retire at ages 42-45, 7.5% at ages 46-54, 10% at 55, 12.5% at 56, 15% at 57, 20% at 58, 40% at ages 59 and older, except 100% at 65 (with at least 20 years of service). Based on experience study through June 30, 2010. 1987 Plan - Retirement rates are based on years of service with 15% assumed to retire at 25 years of service, 12.5% at 26 years, 10% at 27 years, 7.5% at years 28 and 29, 10% at 30 years, 12.5% at 31 years, 15% at 32 years, 40% at 33 years, and 27.5% at 34 or more years, except 100% at age 65 (with at least 25 years of service). Based on experience study through June 30, 2010.
Rationale	*Retirement rates are based on an experience study through June 30, 2010.*
Normal Form of Retirement Benefit	Joint and 50% Survivor. 90% of members are assumed to be married. Males are assumed to be 3 years older than their spouses.
Employee Contributions	Pre-1987 Plan - 5% of pay (limited to sixth-year trooper pay) 1987 Plan - 6% of pay (no limit) Member contributions earn interest at the rate of 3% annually.
Future Increases in IRS Maximum Benefit	Assumed to increase at an annual rate of 4%

ACTUARIAL ASSUMPTIONS
- Continued -

OTHER DISCLOSURES PERTAINING TO ECONOMIC ASSUMPTIONS

Any known change in circumstances that occurs after the valuation date that would affect economic assumptions selected as of the valuation date?	None

OTHER DISCLOSURES PERTAINING TO DEMOGRAPHIC ASSUMPTIONS

Any known change in circumstances that occurs after the valuation date that would affect demographic assumptions selected as of the valuation date?	None

OTHER DISCLOSURES PERTAINING TO PRESCRIBED ASSUMPTIONS OR METHODS

Any prescribed assumption or method set by another party that significantly conflicts with what, in the actuary's professional judgment, would be reasonable for the purpose of the valuation?	None
Any prescribed assumption or method set by another party that the actuary is unable to evaluate for reasonableness for the purpose of the valuation?	None

SUMMARY OF MAJOR PLAN PROVISIONS

Retirement Benefits

Pre-1987 Plan

The basic monthly benefit valued was 50% of current monthly salary (but in no event greater than the monthly equivalent of the sixth year trooper rate), plus $20 for members retiring after age 45 with 20 years of service.

For members retiring with more than 20 years of service, this benefit was increased:

2% for each of the first 2 years in excess of 20
3% for each of the next 2 years in excess of 22
4% for each of the next 2 years in excess of 24
5% for each of the next 2 years in excess of 26
6% for each of the next 2 years in excess of 28
7% for each of the next 2 years in excess of 30
8% for each of the next 2 years in excess of 32

For members retiring before age 45 with 20 years of service or more, benefits were reduced as follows based on age at termination:

Age	
44	98%
43	96%
42	94%
41	92%

SUMMARY OF MAJOR PLAN PROVISIONS

Retirement Benefits

Pre-1987 Plan, continued

For members retiring with at least 10 years of service but less than 20 years of service, the benefit was reduced approximately 2.5% for each year by which service was less than 20 years and is payable commencing at the earlier of age 55 or the 20th anniversary of date of hire.

Furthermore, benefits for members terminating with less than 20 years of service and before age 55 were reduced as follows based on age at termination:

Age		Age	
54	97.7%	42	77.3%
53	95.5%	41	76.1%
52	93.4%	40	74.9%
51	91.4%	39	73.8%
50	89.5%	38	72.7%
49	87.7%	37	71.7%
48	86.0%	36	70.7%
47	84.4%	35	69.8%
46	82.8%	34	68.9%
45	81.3%	33	68.0%
44	79.9%	32	67.2%
43	78.6%	31	66.4%

Members terminating with at least 5 years of service but less than 10 years of service receive their member contributions plus interest in addition to the present value of 25% of the monthly benefit payable at age 55 based on their years of service at termination.

SUMMARY OF MAJOR PLAN PROVISIONS

Retirement Benefits

1987 Plan

The basic monthly benefit valued was 50% of the monthly average of the highest 36 consecutive months of salary (not to exceed the maximum monthly pay of a captain if retirement occurs between July 1, 1988 and June 30, 1989), for members retiring with 25 years of service.

For members retiring with more than 25 years of service, this benefit was increased:

5% for each of the first 3 years in excess of 25
6% for each of the next 2 years in excess of 28
7% for each of the next 2 years in excess of 30
8% for each of the next 2 years in excess of 32

For members retiring with at least 5 years of service but less than 25 years of service, this benefit was reduced 2% for each year less than 25 and is payable at the later of age 50 or age at retirement.

Furthermore, for members terminating with less than 25 years of service, benefits commencing before age 55 were reduced as follows:

Age	
54	98%
53	96%
52	94%
51	92%
50	90%

Post-retirement increases payable after June 30, 2007 and after June 30, 2008 to an employee beneficiary of the 1987 benefit system who retired or was disabled after June 30, 1987 and before July 2, 2005 (July 2, 2006 for increase after June 30, 2008). The increases are equal to 1% of the maximum basic monthly pension amount payable to a retired state police employee in the grade of a trooper who has completed 25 years of service as of July 1, 2007, or $19.39 per month.

SUMMARY OF MAJOR PLAN PROVISIONS

Return of Member Contribution Feature	After all other benefits under the plan have been paid, an additional amount is payable in order that the total benefits paid be at least equal to the member's contributions plus interest.
Other Benefits	Death before retirement, but after completion of 5 years of service and with surviving spouse, named beneficiary, or dependent child or children under age 18. Termination or early retirement benefit, whichever is applicable, is payable.

NOTE: If information given in this Summary disagrees or appears to disagree with the provisions of the plan legal document, the provisions of the document prevail.