

**ACTUARIAL VALUATION OF
TOWN OF DAVIE POLICE
PENSION PLAN
AS OF OCTOBER 1, 2017**

February, 2018

Determination of Contribution for the
Plan Year ending September 30, 2018
Contribution to be
Paid in Fiscal Year October 1, 2017
through September 30, 2018

**DuLaney and Company, Inc.
Actuarial Services**

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February 12, 2018

Board of Trustees
Town of Davie Police Pension Plan
c/o Mr. Dave Williams
Precision Pension Administration, Inc.
13790 NW 4th Street, Suite 105
Sunrise, FL 33325

Dear Board Members:

We are pleased to present the October 1, 2017 Actuarial Valuation for the Town of Davie Police Pension Plan. The purpose of this report is to indicate appropriate contribution levels and to satisfy State requirements. The report is prepared for and at the request of the Board of Trustees.

This report consists of this commentary, detail Tables I through XVI and State Required Exhibit - Table XVII. The Tables contain basic Retirement Plan cost figures plus significant detail on the benefits, liabilities and experience of your Plan.

Costs for Fiscal Year Beginning October 1, 2017

This Actuarial Valuation develops the required minimum Retirement Plan payment for the fiscal year beginning October 1, 2017 and ending September 30, 2018 under the Florida Protection of Public Employee Retirement Benefits Act and Chapter 185. The minimum payment consists of payment of annual normal cost plus amortization of the unfunded actuarial accrued liability over various periods, and interest, as prescribed by law. We anticipated that member pension contributions will be \$1,384,927 (9.0% of covered payroll).

The required funding amount for the plan/fiscal year ending September 30, 2018, to be met by the Town and State contributions under Chapter 185, is **\$7,170,624** or **46.6%** of the covered payroll. Please note that Chapter 185 states that employer contributions must be made at least quarterly, and these quarterly amounts must be at least **\$1,616,302**.

The anticipated State (Chapter 185) contribution is **\$705,416**. The resulting Town required contribution is **\$6,465,208**, or 42.0% of the covered payroll. If the actual Chapter 185 contribution is below the anticipated \$705,416, the difference must be made up by additional Town contribution.

The Town contributed its entire contribution for the 10/1/16 - 9/30/17 plan year in a single payment of \$6,472,000 on 11/3/2016, rather than making contributions throughout the plan year. From the 10/1/16 valuation report, the Town's Minimum Funding Requirement (MFR) was \$6,566,704, but the MFR as of 11/3/2016 was only \$6,317,120. Thus the Town generated a prepaid contribution of \$154,880 (\$6,472,000 - \$6,317,120).

Changes in Plan Provisions, Actuarial Methods or Assumptions Recognized in this Valuation

The plan provisions remained the same as those recognized in our October 1, 2016 valuation. The plan provisions are outlined in Table XI.

The actuarial assumptions on mortality table and fund investment return have been revised in this valuation. The assumed fund investment return was changed from 7.60% to 7.50%, (net of investment expenses), compounded annually. There were no other changes in actuarial assumptions and methods from those utilized in the last actuarial valuation. Table XII contains an outline of the assumptions and methods used.

Comparison of October 1, 2016 and October 1, 2017 Valuation Results

Table II of the report provides information of a comparative nature. Column I shows the results of the October 1, 2016 Actuarial Valuation while Column II shows the results as of October 1, 2017 prior to the change in actuarial assumptions. A comparison of the two columns shows the effect of plan experience during the year. Covered payroll increased by approximately 0.7% while the number of active participants decreased by 1.2%. The unfunded liability decreased from \$36,589,839 to \$30,851,147. The actuarial gain experienced during the plan year was \$4,734,365. The Town's minimum funding requirement decreased as a dollar amount and as a percentage of pay.

Column III of the Table displays the results after the assumption changes. A comparison of Columns II and III indicates that the changes increased the unfunded actuarial accrued liability by \$3,193,344, from \$30,851,147 to \$34,044,491. The Town minimum funding requirement increased from 39.4% to 42.0% of the covered payroll of \$15,388,083, assuming a Chapter 185 contribution of at least \$705,416 for 2017/2018, as a combined result of plan experience and assumption changes. The Town's funding requirement increased as a dollar amount from \$6,067,244 to \$6,465,208.

Plan Experience

Table XVI provides a summary of certain plan experience during the plan year. The actuarial value of assets return was 10.6% for the 2016/2017 plan year, which was above the assumed 7.6%. The market value rate of return was 11.8%. Asset return was a source of actuarial gain. Employee turnover was 6% lower than the expected turnover during the last plan year, and the most recent three (3) and five (5) year averages were 75% and 88% of the expected amounts, respectively. Average salary increase was 3.7%, as compared to the assumed 5.5%. Employee turnover contributed to the actuarial loss and salary increase contributed to the actuarial gain during the plan year.

Participant Census and Financial Data

Board of Trustees
February 12, 2018
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Census data for the fiscal year October 1, 2016 through September 30, 2017 was provided by the Town. Supplemental information was also received on retirees and terminations from the plan custodian and the plan administrator. The data was reviewed for consistency and is believed to be reliable.

Information on Plan assets was received from the Plan's auditors. We did not audit this information; however, we believe it to be reliable.

DuLaney and Company

Donald A. DuLaney, Jr. A.S.A., E.A.
Senior Consulting Actuary

Panrong Xiao, E.A., M.A.A.A.
Enrolled Actuary

DAD/PX
Attachments

Table I

TOWN OF DAVIE POLICE PENSION PLAN

Summary of Retirement Plan Costs as of October 1, 2017

	<u>Cost Data</u>	<u>% of Payroll</u>	
A.	<u>Participant Data Summary</u>		
1.	Active employees	163	N/A
2.	Terminated vested	2	N/A
3.	Receiving benefits	105	N/A
4.	DROP participants	20	N/A
5.	Annual payroll of active employees	\$ 15,388,083	100.0%
B.	<u>Total Normal Costs</u>		
1.	Age retirement benefits	\$ 4,201,318	27.3%
2.	Termination benefits	212,115	1.4%
3.	Death benefits	57,679	0.4%
4.	Disability benefits	103,390	0.7%
5.	Estimated expenses	<u>197,732</u>	<u>1.3%</u>
6.	Total annual normal costs	\$ 4,772,234	31.0%
C.	<u>Total Actuarial Accrued Liability</u>		
1.	Age retirement benefits active employees	\$ 78,291,866	508.8%
2.	Termination benefits active employees	1,689,586	11.0%
3.	Death benefits active employees	182,415	1.2%
4.	Disability benefits active employees	556,850	3.6%
5.	Retired or terminated vested participants	66,790,429	434.0%
6.	DROP participants benefits	23,444,192	152.4%
7.	Terminated vested participants entitled to future benefits	822,836	5.3%
8.	Deceased participants whose beneficiaries are receiving benefits	2,954,365	19.2%
9.	Disabled participants receiving benefits	<u>2,457,514</u>	<u>16.0%</u>
10.	Total actuarial accrued liability	\$ 177,190,053	1,151.5%
D.	<u>Actuarial Value of Assets (Table VI)</u>	\$ 143,145,562	930.2%
E.	<u>Unfunded Actuarial Accrued Liability (C. – D.)</u>	\$ 34,044,491	221.2%

Table I
(continued two)

F.	<u>Minimum Funding Requirements</u>		
1.	Total normal cost	\$ 4,772,234	31.0%
2.	Amortization of unfunded actuarial accrued liability	3,403,874	22.1%
3.	Interest adjustment	<u>379,443</u>	<u>2.5%</u>
4.	Total payment	\$ 8,555,551	55.6%
G.	<u>Contribution Sources</u>		
1.	a) Town	\$ 6,465,208	42.0%
	b) State	<u>705,416</u>	<u>4.6%</u>
	c) Total Town and State	\$ 7,170,624	46.6%
2.	Employees	\$ 1,384,927	9.0%
H.	<u>Actuarial Present Value of Vested Accrued Benefits</u>		
1.	Retired, terminated vested, beneficiaries and disabled receiving benefits	\$ 72,202,308	469.2%
2.	DROP participants	23,444,192	152.4%
3.	Terminated vested participants entitled to future benefits	822,836	5.3%
4.	Active participants entitled to future benefits	<u>59,676,400</u>	<u>387.8%</u>
5.	Total actuarial present value of vested accrued benefits	\$ 156,145,736	1014.7%
I.	<u>Market Value of Assets (Table V)</u>	\$ 142,750,360	927.7%
J.	<u>Unfunded Actuarial Present Value of Vested Accrued Benefits (H. - I., not less than \$0)</u>	\$ 13,395,376	87.1%
K.	<u>Vested Benefit Security Ratio (I. ÷ H.)</u>	91.4%	N/A

Table II

TOWN OF DAVIE POLICE PENSION PLAN

Comparison of Cost Data of October 1, 2016 and October 1, 2017 Actuarial Valuations

	<u>October 1, 2016</u>		<u>October 1, 2017 Prior Assumptions</u>		<u>October 1, 2017 Current Assumptions</u>	
	<u>Cost Data</u>	<u>% of Annual Compensation</u>	<u>Cost Data</u>	<u>% of Annual Compensation</u>	<u>Cost Data</u>	<u>% of Annual Compensation</u>
A. Participants						
1. Active employees						
Tier One + Tier Two = Total	112 + 53 = 165	N/A	106 + 57 = 163	N/A	106 + 57 = 163	N/A
2. Terminated vested	2	N/A	2	N/A	2	N/A
3. Receiving benefits	103	N/A	105	N/A	105	N/A
4. DROP participants	17	N/A	20	N/A	20	N/A
5. Annual payroll of active Employees ¹	\$ 15,278,632	100.0%	\$ 15,388,083	100.0%	\$ 15,388,083	100.0%
B. Total Normal Costs	\$ 4,760,452	31.2%	\$ 4,662,136	30.3%	\$ 4,772,234	31.0%
C. Total Actuarial Accrued Liability	\$ 163,695,888	1071.4%	\$ 173,996,709	1130.7%	\$ 177,190,053	1151.5%
D. Actuarial Value of Assets	\$ 127,106,049	831.9%	\$ 143,145,562	930.2%	\$ 143,145,562	930.2%
E. Unfunded Actuarial Accrued Liability	\$ 36,589,839	239.5%	\$ 30,851,147	200.5%	\$ 34,044,491	221.2%
F. Town Minimum Funding Requirement	\$ 6,566,704	43.0%	\$ 6,067,244	39.4%	\$ 6,465,208	42.0%
G. Unfunded Actuarial Present Value of Vested Accrued Benefits ²	\$ 14,840,405	97.1%	\$ 10,527,280	68.4%	\$ 13,395,376	87.1%
H. Vested Benefit Security Ratio ²	89.4%	N/A	93.1%	N/A	91.4%	N/A

¹ Covered payroll includes up to 150 hours of overtime pay per year.

² Calculated based on market value of assets.

Table III

TOWN OF DAVIE POLICE PENSION PLAN

**Characteristics of Participants in
Actuarial Valuation as of October 1, 2017**

A. Characteristic of Active Participants

1.	Active participants as of beginning of prior year	165
2.	New entrants during prior year	7
3.	Exits during prior year	(9)
4.	Active participants as of beginning of year	163
5.	Active participants fully vested	93
6.	Active participants partially vested	0
7.	Active participants non-vested	70
8.	Annual payroll of active participants	\$ 15,388,083
9.	Average pay	\$ 94,405
10.	Average attained age	38.82 years
11.	Percent female	16.56%

B. Characteristics of Inactive Participants

1.	Inactives as of beginning of prior year	122
2.	Newly inactive during prior year	5
3.	Exits during prior year	(0)
4.	Inactives as of beginning of year	127
5.	Age retirees	88
6.	Annual benefit for age retirees	\$ 5,155,236
7.	DROP participants	20
8.	Annual benefit for DROP participants	\$ 1,607,968
9.	Beneficiaries receiving benefits	11
10.	Annual benefits for beneficiaries receiving benefits	\$ 272,522
11.	Beneficiaries due deferred benefits	0
12.	Annual benefits for beneficiaries due deferred benefits	\$ 0
13.	Disabled participants receiving benefits	6
14.	Annual benefits for disabled participants	\$ 222,128
15.	Terminated vested due deferred benefits	2
16.	Annual benefits for terminated vested participants	\$ 79,029

Table IV

TOWN OF DAVIE POLICE PENSION PLAN

Statement of Assets as of October 1, 2017¹

		<u>Market Value</u>
A.	<u>Assets</u>	
	1. Cash and Cash Equivalents	\$ 13,626
	2. Corporate Bonds	11,391,287
	3. U. S. Government Securities	19,251,624
	4. Domestic Stocks	42,455,242
	5. Mortgages	7,308,167
	6. Receivables	269,820
	7. Domestic Equity Fund	37,379,308
	8. International Equity Fund	14,404,626
	9. Real Estate Fund	17,925,770
	10. Prepaid Expenses	492,061
	11. Temporary Investments	<u>2,478,053</u>
	12. Total Assets	\$ 153,369,584
B.	<u>Liabilities</u>	
	1. Prepaid Town Contributions	2,680,837
	2. Securities Purchased Payable	0
	3. DROP Benefits Payable	7,120,763
	4. Unused Chapter 185 Funds	508,907
	5. Accounts Payable	<u>308,717</u>
	6. Total Liabilities	\$ 10,619,224
C.	<u>Grand Total (Item A.12. – Item B.6.)</u>	\$ 142,750,360

¹ As reported by Plan's Auditors.

Table V

TOWN OF DAVIE POLICE PENSION PLAN

Reconciliation of Plan Assets

A.	<u>Market Value of Assets as of October 1, 2016</u>		\$ 125,302,200
B.	<u>Receipts During Period</u>		
1.	Contributions		
a.	Town	\$ 6,472,000	
b.	Employee	2,104,437	
c.	State (not limited by 99-1)	<u>905,664</u>	
d.	Total		\$ 9,482,101
2.	Investment income		
a.	Interest, dividends and Miscellaneous income	\$ 2,590,450	
b.	Investment expenses	<u>(668,544)</u>	
c.	Net		\$ 1,921,906
3.	Net gains (losses)		
a.	Realized gains (losses)	\$ 0	
b.	Unrealized gains (losses)	<u>13,492,207</u>	
c.	Total gains (losses)		<u>13,492,207</u>
4.	Total receipts during period (1.d. + 2.c. + 3.c.)		\$ 24,896,214
C.	<u>Disbursements During Period</u>		
1.	Pension payments		\$ 5,548,433
2.	DROP payments		1,318,895
3.	Contribution refunds		36,851
4.	Administrative expenses		197,732
5.	Increase / (decrease) in COLA reserve		0
6.	Increase / (decrease) in State contribution reserve		<u>346,143</u>
7.	Total disbursements during period		\$ 7,448,054
D.	<u>Market Value of Assets as of October 1, 2017 (A. + B.4. - C.7.)</u>		<u>\$ 142,750,360</u>
E.	<u>Reconciliation of DROP Accounts Balance</u>		
1.	DROP accounts balance as of October 1, 2016		\$ 5,421,637
2.	Benefit payments into DROP accounts during year		1,318,895
3.	Unused Leave Pay Transfer during year		129,155
4.	Disbursements from DROP accounts during year		(451,264)
5.	Expenses deducted from DROP accounts		(4,050)
6.	Investment gains/(losses) during year		<u>706,390</u>
7.	DROP accounts balance as of September 30, 2017		\$ 7,120,763

Table VI

TOWN OF DAVIE POLICE PENSION PLAN

Development of Actuarial Value of Assets

	<u>10/1/2016 – 9/30/2017</u>	<u>10/1/2015 – 9/30/2016</u>	<u>10/1/2014 – 9/30/2015</u>
A. Market value of assets as of beginning of year	\$ 125,302,200	\$ 114,006,889	\$ 111,843,783
B. Contributions	9,482,101	8,255,994	7,967,403
C. Benefit payments and expenses	7,101,911	6,872,086	6,524,971
D. Expected investment income (A. x .076 + (B.-C.) x .038)	9,613,414	8,717,112	8,554,947
E. Expected assets at end of year (A. + B. – C. + D.)	137,295,804	124,107,909	121,841,342
F. Actual market value at end of year	142,750,360	125,302,200	114,006,889
G. Excess/(shortfall) of actual over expected assets (F. – E.)			
1. From previous plan year	5,454,556	1,194,291	(7,834,453)
2. From two plan years ago	1,194,291	(7,834,453)	1,228,615
3. From three plan years ago	(7,834,453)	1,228,615	5,137,095
H. Deferred recognized amounts of excess/(shortfall)			
1. 33-1/3% from previous plan year	1,818,185	398,097	(2,611,484)
2. 33-1/3% from two plan years ago	398,097	(2,611,484)	409,538
3. 33-1/3% from three plan years ago	<u>(2,611,484)</u>	<u>409,538</u>	<u>1,712,365</u>
4. Total	(395,202)	(1,803,849)	(489,581)
I. Preliminary actuarial value of assets at end of year (F. – H.4.)	\$ 143,145,562	\$ 127,106,049	\$ 114,496,470
J. 80% of end of year market value of assets (F. x 0.80)	114,200,288	100,241,760	91,205,511
K. 120% of end of year market value of assets (F. x 1.20)	171,300,432	150,362,640	136,808,267
L. Actuarial value of assets (I., but not less than J. and not more than K.)	\$ 143,145,562	\$ 127,106,049	\$ 114,496,470

Table VII

TOWN OF DAVIE POLICE PENSION PLAN

History of Chapter 185 Contribution Usage

Under the provisions of Florida Statutes Chapter 185, as amended by Chapter 99-1, increments in Chapter 185 contributions over the amount for 1997 must first be used to fund the cost of meeting minimum benefit requirements. After the minimum requirements are met, any additional Chapter 185 contributions received must be used to provide extra benefits. The following is an accounting of the contributions received and the amounts used for compliance since the 1997 plan year.

- A. 1997 Chapter 185 contributions received (Base Amount) \$ 280,098
- B. Benefit improvements purchased 09/30/2011 to meet Chapter 185 minimum benefits:
 Compensation definition to include up to 300 (currently 150) hours per year of overtime pay; minimum service connected disability benefit to be greater of accrued benefit or 42% of final pay; minimum non-service connected disability benefit to be greater of accrued benefit or 25% of final pay, payable as 10 year certain and life annuity; and early retirement benefit reduction to be no more than 3.0% per year.
 Cost: One time use of Cumulative Reserve balance of \$182,273 + annual excess of \$98,030.
- C. History of Chapter 185 contribution usage

During Plan Year	<u>Adjusted Base Amount</u>			<u>Actual Amount Received</u>		
	Chapter 185 Contribution	Cost for New Benefits	Total Chapter 185 Contribution Used	Chapter 185 Contribution	Excess of Actual over Base Amount	Cumulative Excess of Actual over Base Amount with Interest*
1997/1998	\$ 280,098	\$ 0	\$ 280,098	\$ 280,098	\$ 0	\$ 0
1998/1999	\$ 280,098	\$ 0	\$ 280,098	\$ 287,371	\$ 7,273	\$ 7,273
1999/2000	\$ 280,098	\$ 0	\$ 280,098	\$ 281,642	\$ 1,544	\$ 8,817
2000/2001	\$ 280,098	\$ 5,477	\$ 285,575	\$ 317,953	\$ 32,378	\$ 41,195
2001/2002	\$ 285,575	\$ 0	\$ 285,575	\$ 394,388	\$ 108,813	\$ 280,098
2002/2003	\$ 285,575	\$ 0	\$ 285,575	\$ 417,529	\$ 131,954	\$ 293,963
2003/2004	\$ 285,575	\$ 261,943	\$ 547,518 ¹	\$ 547,518	\$ 0	\$ 55,750 ²
2004/2005	\$ 547,518	\$ 0	\$ 547,518 ³	\$ 572,173	\$ 24,655	\$ 40,332 ⁴
2005/2006	\$ 547,518	\$ 0	\$ 547,518	\$ 607,386	\$ 59,868	\$ 103,427
2006/2007	\$ 547,518	\$ 59,868	\$ 607,386 ⁵	\$ 621,375	\$ 0	\$ 17,974
2007/2008	\$ 607,386	\$ 0	\$ 607,386	\$ 644,602	\$ 37,216	\$ 56,628
2008/2009	\$ 607,386	\$ 0	\$ 607,386	\$ 687,558	\$ 80,172	\$ 141,330
2009/2010	\$ 607,386	\$ 0	\$ 607,386	\$ 637,164	\$ 29,778	\$ 182,273
2010/2011	\$ 607,386	\$ 98,030	\$ 705,416 ⁶	\$ 611,838	\$ 0	\$ 0
2011/2012	\$ 705,416	\$ 0	\$ 705,416	\$ 644,262	\$ 0	\$ 0
2012/2013	\$ 705,416	\$ 0	\$ 705,416	\$ 687,063	\$ 0	\$ 0
2013/2014	\$ 705,416	\$ 0	\$ 705,416	\$ 747,469	\$ 42,053	\$ 42,053
2014/2015	\$ 705,416	\$ 0	\$ 705,416	\$ 784,261	\$ 78,845	\$ 124,094
2015/2016	\$ 705,416	\$ 0	\$ 705,416	\$ 858,749	\$ 153,333	\$ 286,858
2016/2017	\$ 705,416	\$ 0	\$ 705,416	\$ 905,664	\$ 200,248	\$ 508,907

* Interest accumulation begins with the 2002/2003 plan year, and applies to the cumulative excess of actual over base amount from prior plan year. Interest at 8.0% per year through 9/30/2009, and at 7.9% per year thereafter.

¹ A one-time use in the amount of \$261,730 from the Cumulative Excess also occurred.

² The Cumulative Excess balance would have been \$579,423 without the adoption of the inclusion of overtime pay as pension earnings.

³ A one-time use in the amount of \$44,533 from the Cumulative Excess also occurred.

⁴ The Cumulative Excess balance would have been \$912,375 without the adoption of the inclusion of overtime pay as pension earnings.

⁵ A one-time use in the amount of \$99,737 from the Cumulative Excess also occurred.

⁶ A one-time use in the amount of \$182,273 from the Cumulative Excess also occurred.

Table VIII

TOWN OF DAVIE POLICE PENSION PLAN

Actuarial Gains (Losses) for Plan Year Ended September 30, 2017

A. Derivation of Actuarial Gain (Loss)

1. Town and State normal cost previous valuation	\$	3,385,375
2. Unfunded actuarial accrued liability previous valuation		36,589,839
3. Town and State contributions previous year (limited by 99-1)		7,177,416
4. Interest on:		
(a) Town normal costs	\$	257,289
(b) Unfunded actuarial accrued liability		2,780,828
(c) Town and State contributions		<u>250,403</u>
(d) Net total: (a) + (b) - (c)	\$	2,787,714
5. Increase (decrease) in unfunded actuarial accrued liability from plan amendment		0
6. Increase (decrease) in unfunded actuarial accrued liability from assumptions changes		3,193,344
7. Expected unfunded actuarial accrued liability current year: 1. + 2. - 3. + 4. + 5. + 6.		38,778,856
8. Actual unfunded actuarial accrued liability current year		<u>34,044,491</u>
9. Actuarial gain (loss): 7. - 8.	\$	4,734,365

B. Approximate Portion of Gain (Loss) Due to Investments

1. Actuarial value of assets previous year	\$	127,106,049
2. Contributions during year (unlimited by 99-1)		9,482,101
3. Disbursements during year (expenses & benefits)		7,101,911
4. Expected appreciation for period		<u>9,720,559</u>
5. Expected actuarial value of assets current year 1. + 2. - 3. + 4.		139,206,798
6. Actual actuarial value of assets current year		143,145,562
7. Approximate gain (loss): 6. - 5.	\$	3,938,764

C. Approximation Portion of Gain (Loss) Due to Liabilities: A. - B. 795,601

Table IX

TOWN OF DAVIE POLICE PENSION PLAN

Amortization of Unfunded Liability

<u>Date</u>	<u>Total Unfunded Liability</u>	<u>Amortization Payment</u>
10/1/2017	\$ 34,044,491	\$ 3,403,874
10/1/2018	\$ 32,938,663	\$ 3,403,874
10/1/2019	\$ 31,749,898	\$ 3,403,874
10/1/2020	\$ 30,471,976	\$ 3,403,874
10/1/2047	\$ 0	\$ 0

Table X

TOWN OF DAVIE POLICE PENSION PLAN

Accounting Disclosure Exhibit

I. <u>Number of Plan Participants</u>	<u>10/1/2016</u>	<u>10/1/2017</u>
1. Retirees, disabled and beneficiaries receiving benefits	103	105
2. Terminated plan participants entitled to but not yet receiving benefits	2	2
3. DROP participants	17	20
4. Active plan participants	<u>165</u>	<u>163</u>
5. Total	287	290
II. <u>Accumulated Plan Benefits as of October 1, 2017</u>		
A. <u>Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested plan benefits		
a. Participants currently receiving benefits	\$ 69,225,697	\$ 72,202,308
b. Beneficiaries due deferred benefits	0	0
c. DROP participants	18,658,875	23,444,192
d. Others	<u>52,258,033</u>	<u>60,499,236</u>
e. Total	\$ 140,142,605	\$ 156,145,736
2. Actuarial present value of accumulated non-vested plan benefits	5,568,885	4,563,387
3. Total actuarial present value of accumulated plan benefits	\$ 145,711,490	\$ 160,709,123

Table X
(continued two)

B.	<u>Statement of Change in Accumulated Plan Benefits</u>	<u>10/1/2017</u>
1.	Actuarial present value of accumulated plan benefits as of October 1, 2016	\$ 145,711,490
2.	Increase (decrease) during year attributable to:	
a.	Plan amendment	0
b.	Actuarial assumptions and method changes	2,952,786
c.	Benefits paid and contribution refunds	(5,585,284)
d.	DROP benefits credited	(1,318,895)
e.	Other, including benefits accumulated and increase for interest due to decrease in the discount period	<u>18,949,026</u>
f.	Net increase	\$ 14,997,633
3.	Actuarial present value of accumulated plan benefits as of October 1, 2017	\$ 160,709,123
C.	<u>Significant Matters Affecting Calculations</u>	
1.	Assumed rate of return used in determining actuarial present values	7.50%
2.	Plan amendments	None
3.	Change in actuarial assumptions	See Table XII
D.	<u>Required Disclosure of Accumulated Plan Benefits at Assumed Rate of Return Applied by the Florida Retirement System, Currently 7.50%</u>	<u>10/1/2017</u>
1.	Actuarial present value of accumulated vested plan benefits	
a.	Participants currently receiving benefits	\$ 72,202,308
b.	DROP participants	23,444,192
c.	Others	<u>60,499,236</u>
d.	Total	156,145,736
2.	Actuarial present value of accumulated non-vested plan benefits	<u>4,563,387</u>
3.	Total actuarial present value of accumulated plan benefits	\$ 160,709,123

Table X
(continued three)

III. Schedule of Funding Progress (As required by GASB #25)

(1) Valuation Date	(2) Actuarial Value of Assets (AVA)	(3) Actuarial Accrued Liability (AAL) – FIL / EAN AAL	(4) Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	(5) Funded Ratio (2) / (3)	(6) Annual Covered Payroll	(7) UAAL as % of Payroll (4) / (6)
October 1, 1992	\$ 8,697	\$ 10,008	\$ 1,311	86.9%	\$ 4,146	31.6%
October 1, 1993	\$ 9,931	\$ 11,163	\$ 1,232	89.0%	\$ 4,467	27.6%
October 1, 1994	\$ 10,866	\$ 14,146	\$ 3,280	76.8%	\$ 4,195	78.2%
October 1, 1995	\$ 13,918	\$ 17,163	\$ 3,245	81.1%	\$ 5,307	61.1%
October 1, 1996	\$ 17,055	\$ 20,093	\$ 3,038	84.9%	\$ 5,637	53.9%
October 1, 1997	\$ 21,590	\$ 23,994	\$ 2,404	90.0%	\$ 5,339	45.0%
October 1, 1998	\$ 24,945	\$ 27,303	\$ 2,358	91.4%	\$ 6,360	37.1%
October 1, 1999	\$ 29,881	\$ 28,994	\$ (887)	103.1%	\$ 6,070	(14.6%)
October 1, 2000	\$ 32,886	\$ 35,159	\$ 2,273	93.5%	\$ 6,309	36.0%
October 1, 2001	\$ 32,325	\$ 34,530	\$ 2,205	93.6%	\$ 7,254	30.4%
October 1, 2002	\$ 31,302	\$ 33,558	\$ 2,256	93.3%	\$ 7,975	28.3%
(all figures above are based on Frozen Initial Liability – all figures below are based on Entry Age Normal Actuarial Accrued Liability)						
October 1, 2002	\$ 31,302	\$ 38,067	\$ 6,765	82.2%	\$ 7,975	84.8%
October 1, 2003	\$ 34,845	\$ 44,993	\$ 10,148	77.4%	\$ 8,994	112.8%
October 1, 2004	\$ 39,267	\$ 49,742	\$ 10,475	78.9%	\$ 9,105	115.0%
October 1, 2005	\$ 45,283	\$ 58,779	\$ 13,496	77.0%	\$ 10,976	123.0%
October 1, 2006	\$ 50,714	\$ 69,881	\$ 19,167	72.6%	\$ 11,999	159.7%
October 1, 2007	\$ 61,125	\$ 77,471	\$ 16,346	78.9%	\$ 10,591	154.3%
October 1, 2008	\$ 59,817	\$ 85,831	\$ 26,014	69.7%	\$ 11,177	232.7%
October 1, 2009	\$ 64,425	\$ 95,058	\$ 30,633	67.8%	\$ 12,106	253.0%
October 1, 2010	\$ 73,793	\$ 100,684	\$ 26,891	73.2%	\$ 11,618	231.5%
October 1, 2011	\$ 74,252	\$ 109,037	\$ 34,785	68.1%	\$ 13,006	267.5%
October 1, 2012	\$ 86,546	\$ 114,813	\$ 28,267	75.4%	\$ 13,014	217.2%
October 1, 2013	\$ 97,981	\$ 123,723	\$ 25,742	79.2%	\$ 13,917	185.0%
October 1, 2014	\$ 106,975	\$ 136,072	\$ 29,097	78.6%	\$ 13,412	216.9%
October 1, 2015	\$ 114,496	\$ 144,947	\$ 30,451	79.0%	\$ 14,068	216.5%
October 1, 2016	\$ 127,106	\$ 163,696	\$ 36,590	77.6%	\$ 15,279	239.5%
October 1, 2017	\$ 143,146	\$ 177,190	\$ 34,044	80.8%	\$ 15,388	221.2%

Table X
(continued four)

IV. Schedule of Employer Contributions (As required by GASB #25)

Plan Year	Annual Required Contribution ¹	Percentage Contributed
(1)	(2)	(3)
1996	1,342,631	116%
1997	1,422,742	104%
1998	1,281,149	106%
1999	1,526,299	105%
2000	1,382,000	100%
2001	1,952,361	100%
2002	2,365,267	100%
2003	3,040,575	100%
2004	3,090,663	100%
2005	3,827,510	100%
2006	4,542,018	100%
2007	4,644,822	100%
2008	5,594,422	100%
2009	5,594,422	100%
2010	6,109,706	100%
2011	6,183,134	100%
2012	6,847,346	100%
2013	6,347,310	100%
2014	6,430,027 ²	100%
2015	6,361,217 ³	100%
2016	6,418,604 ⁴	100%
2017	7,272,120 ⁵	100%

V. Notes to Required Supplementary Information

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

Valuation Date	October 1, 2017
Actuarial cost method	Entry Age Normal Level Percent
Amortization method	Layered amortization
Remaining amortization period	30 years
Asset valuation method	See Table XII., Item 9.
Actuarial assumptions:	
Investment rate of return*	7.50%
Projected salary increases*	5.50%
Cost-of-living adjustments	2.0% per year with 130% cap and 5-year delay

* Includes inflation at 3.0%

¹ Determined by the prior year's actuarial valuation

² Because the Town made the entire contribution for 2013/14 in one payment on 10/21/13, the Town's funding requirement was \$ 5,503,045, not \$ 5,742,964 as shown in prior year's report.

³ Because the Town made the entire contribution for 2014/15 in one payment on 10/22/14, the Town's funding requirement was \$ 5,389,887, not \$ 5,613,748 as shown in prior year's report.

⁴ Because the Town made the entire contribution for 2015/16 in one payment on 10/20/15, the Town's funding requirement was \$ 5,480,624, not \$ 5,713,188 as shown in prior year's report.

⁵ Because the Town made the entire contribution for 2016/17 in one payment on 11/3/16, the Town's funding requirement was \$ 6,317,120, not \$ 6,566,704 as shown in prior year's report.

Table X
(continued five)

Accounting Disclosure Exhibit

VII. Revenues by Source and Expenses by Type

<u>Plan Year</u>	<u>Revenues by Source</u>				
	<u>Employee Contributions</u>	<u>Town Contributions</u>	<u>State Contributions</u>	<u>Investment Income</u>	<u>Total</u>
2017	\$ 2,104,437	\$ 6,472,000	\$ 905,664	\$ 16,082,657	\$25,564,758
2016	\$ 1,724,745	\$ 5,672,500	\$ 858,749	\$ 10,535,050	\$18,791,044
2015	\$ 1,385,542	\$ 5,797,600	\$ 784,261	\$ 844,588	\$ 8,811,991
2014	\$ 1,670,986	\$ 5,503,045	\$ 747,469	\$ 9,263,596	\$17,185,096
2013	\$ 1,008,385	\$ 5,750,247	\$ 687,063	\$ 10,729,490	\$18,175,185
2012	\$ 1,000,501	\$ 6,203,084	\$ 644,262	\$ 13,527,481	\$21,375,328
2011	\$ 1,294,997	\$ 5,571,296	\$ 611,838	\$ 712,793	\$ 8,190,924
2010	\$ 903,077	\$ 5,502,320	\$ 637,164	\$ 6,414,572	\$13,457,133
2009	\$ 942,844	\$ 4,987,036	\$ 687,558	\$ 2,109,774	\$ 8,727,212
2008	\$ 916,310	\$ 4,037,436	\$ 644,601	\$ (7,584,138)	\$ (1,985,791)
<u>Plan Year</u>	<u>Expenses by Type</u>				
	<u>Benefits & DROP Payments</u>	<u>Expenses</u>	<u>Refunds</u>	<u>Total</u>	
2017	\$ 6,867,328	\$ 866,276	\$ 36,851	\$ 7,770,455	
2016	\$ 6,637,331	\$ 653,395	\$ 42,243	\$ 7,332,969	
2015	\$ 5,883,266	\$ 628,403	\$ 13,122	\$ 6,524,791	
2014	\$ 5,400,475	\$ 746,285	\$ 31,616	\$ 6,178,376	
2013	\$ 4,850,525	\$ 697,282	\$ 9,457	\$ 5,557,264	
2012	\$ 4,817,431	\$ 646,042	\$ 45,866	\$ 5,509,339	
2011	\$ 4,591,782	\$ 638,094	\$ 0	\$ 5,229,876	
2010	\$ 4,113,866	\$ 538,422	\$ 39,152	\$ 4,691,440	
2009	\$ 3,792,087	\$ 491,239	\$ 44,162	\$ 4,327,488	
2008	\$ 3,236,303	\$ 443,745	\$ 95,132	\$ 3,775,180	

Contributions were made in accordance with actuarially determined contribution requirements.

Table XI

TOWN OF DAVIE POLICE PENSION PLAN

Outline of Principal Provisions of the Plan

1. Effective Date:

May 1, 1976. The most recent plan amendments recognized was Ordinances 2011- 18 and 2011-19. The ordinances were adopted on April 20, 2011.

2. Eligibility Requirements:

Effective August 6, 1981, all Police employees in the regular full-time service of the Town are eligible upon the attainment of age 18. Part-time employees who work less than 20 hours per week or five (5) months per year are excluded from participation in the plan.

3. Tier One and Tier Two Participants:

Police Officers hired prior to the creation of the Tier Two plan structure (April 20, 2011) are classified as Tier One Participants, otherwise, they are classified as Tier Two Participants.

4. Benefit Service:

Service of a member from employment date as a certified police officer through termination date measured in years and completed months. A member may buy back up to a total of four (4) years of prior military and sworn police service by paying the true actuarial cost of the increase service.

5. Basic Compensation:

Basic rate of salary paid to an employee including longevity pay and assignment pay but excluding overtime, bonuses and commissions. Payments for unused leave time (vacation, sick leave, etc.) are excluded. Effective October 1, 2001, basic compensation includes up to 70 hours of overtime pay per year. Effective October 1, 2003, basic compensation includes up to 120 hours of overtime pay per year. The limit on overtime hours increased to 150 hours effective October 1, 2006 and to 300 hours effective May 1, 2011.

6. Final Average Earnings (FAE):

Final Average Earnings is defined as the higher of (i) average monthly rate of basic compensation during the final thirty-six (36) successive calendar months of Benefit Service, or (ii) average monthly rate of basic compensation of the best five (5) of the last ten (10) years of Benefit Service, preceding actual retirement or termination.

7. Employee Contributions:

9.0% of basic compensation.

Table XI
(continued two)

8. Accrued Benefit

For Tier One Participants:

The monthly accrued benefit is equal to 3.0% times FAE multiplied by the years and months of Benefit Service for the first 10 years, plus 4.0% times FAE for the next five (5) years of Benefit Service, plus 5.0% times FAE for the next five (5) years of Benefit Service, plus 2.0% of FAE times the next 10 years of Benefit Service. The maximum benefit is limited to 95% of FAE. However, after 47½ years of Benefit Service, benefits shall recommence at a rate of 2.0% of FAE per year.

For Tier Two Participants:

The monthly accrued benefit is equal to 3.0% times FAE multiplied by the years and months of Benefit Service for the first 20 years, plus 2.0% times FAE for each subsequent year of Benefit Service, subject to a maximum benefit of 80% of FAE. However, after 40 years of Benefit Service, benefits shall recommence at a rate of 2.0% of FAE per year.

9. Normal Retirement Date:

The first of the month coincident with or next following the earlier of (i) completion of 20 years of Benefit Service or (ii) the attainment of age 55. For a vested terminated member with at least 15 years of Benefit Service, full deferred accrued benefit would be payable on the first of the month coincident with or next following the anniversary of the date that the member would have completed 20 years of Benefit Service.

10. Amount of Normal Retirement Income:

The monthly amount of Accrued Benefit, payable in the normal form of payment to a participant on his or her Normal Retirement Date.

11. Early Retirement Date:

Attainment of age 50 and completion of 10 years of Benefit Service.

12. Amount of Early Retirement Income:

The monthly amount of Accrued Benefit, payable in the normal form of payment to a participant on his Early Retirement Date.

The benefit will be reduced for early payment so that it is actuarially equivalent to the normal retirement benefit. Effective May 1, 2011, the early retirement reduction will be 3.0% per year for each year prior to Normal Retirement Date.

The participant also has the option of deferring the commencement of his monthly benefit to his Normal Retirement Date, the earlier of the date he would have attained 20 years of Benefit Service (provided he has completed 15 years of actual Benefit Service) or age 55. In such case, there would be no actuarial reduction to his monthly benefit.

Table XI
(continued three)

13. Delayed Retirement Date:

A member may continue to work beyond his Normal Retirement Date and retire on any subsequent first day of the month.

14. Amount of Delayed Retirement Income:

The monthly amount of Accrued Benefit, payable in the normal form of payment to a participant who retires on his Delayed Retirement Date.

15. Benefits on Termination of Service:

In the event of termination of service prior to Normal Retirement Date, for reasons other than death, early retirement or disability, a monthly benefit equal to Accrued Benefit times the vested percentage below will be payable commencing on Normal Retirement Date.

In lieu of this deferred benefit, a participant may elect to receive the return of his employee contributions.

<u>Years of Benefit Service With the Town</u>	<u>Vested Percentage</u>
Less than 10	0%
10 or more	100%

16. Permissive Service Credit Purchases:

a. A vested active participant shall be permitted to purchase permissive service credit in the form of an increased benefit accrual factor, which may be purchased in one percent (1.0%) increments above the participant's accrued benefit percentage, in an amount not to exceed twenty percent (20%) of FAE. The maximum amount of benefit accrual will remain at ninety-five percent (95%) of FAE for Tier One participants and eighty percent (80%) for Tier Two participants. The purchase cost would be the full actuarial cost of the increased benefit accrual multiplier and must be paid in full prior to the granting of the increased benefits.

b. A vested active participant shall be permitted to purchase permissive service credit expressed as an earlier normal retirement date. Under such proposal, a participant would be able to receive an unreduced normal retirement benefit as early as upon the completion of 15 years of Benefit Service (instead of 20), if a purchase of the maximum of five (5) years of permissive service credit were made. However, the participant would not accrue a higher multiplier, but would be permitted to begin receiving an unreduced retirement benefit with fewer years of actual service. The purchase cost would be the full actuarial cost of the earlier commencement of retirement benefits and must be paid in full prior to the granting of the increased benefits.

Table XI
(continued four)

- c. The cost of either purchase may be made either in one lump sum or made in payroll deductions installments for a period not to exceed five (5) years, with 7.0% per annum interest added, and must be completed prior to commencement of any enhanced benefit.

17. Disability Retirement Benefits:

For a member totally and permanently disabled where the disability is service-connected, the monthly benefit shall be equal to the greater of (i) 66-2/3% of such member's base pay at time of disability, less any benefits payable by Federal Old Age, Survivors and Disability Insurance, Worker's Compensation benefits or other disability benefits payable from Broward County or the Town because of disability, age or unemployment. Effective May 1, 2011, the benefit after offset shall in no case be less than the member's Accrued Benefit at date of disability or (ii) forty-two percent (42%) of FAE payable as a ten year certain and life annuity. The monthly non-service connected benefit is the greater of \$100 or 1.5% times FAE multiplied by the number of years of Benefit Service, less any of the offset amounts described above. Effective May 1, 2011, the minimum non-service connected disability benefit shall be the greater of the Accrued Benefit or twenty-five percent (25%) of FAE, payable as a ten year certain and life annuity. In no event will the service-connected benefit be less than the non-service connected benefit. Benefits shall be payable starting six (6) months after termination of service for disability, and will be payable for life or until recovery.

18. Death Benefits:

a. Prior to retirement: If death is non-service connected or member had no spouse to whom he had been married to for at least one (1) year prior to death, the death benefit shall be the return of accumulated employee contributions plus prior plan benefits, if any. However, if a member had at least 10 years of Benefit Service at the time of death, then his or her beneficiary will be entitled to the benefits otherwise payable to the member at Early or Normal Retirement Date.

If death is service-connected and member has an eligible spouse to whom he had been married to for at least one (1) year prior to death, such spouse shall be entitled to a monthly annuity equal to the greater of (i) 50% of base pay at his date of death, or (ii) Accrued Benefit payable to the eligible spouse on the date of what would have been the member's Normal Retirement Date. Such pension shall continue to the spouse until the spouse's death, with a guarantee that such benefits will at least equal the accumulated contributions at his date of death. If a member had no eligible spouse but had at least 10 years of Benefit Service at the time of death, then his or her beneficiary will be entitled to the benefits otherwise payable to the member at Early or Normal Retirement Date.

b. After retirement: If a member had elected a joint and survivor or a 10 year certain and life optional form of payment, the adjusted monthly benefit will be continued to the beneficiary until the appropriate annuity ending date. Total benefits payable the member and his beneficiary will not be less than the amount of accumulated contributions at date of retirement.

Table XI
(continued five)

19. Normal Form of Retirement Income:

For a married participant, the normal form of retirement income will be monthly payments for life of the member, with benefit continuing to spouse after member's death for one (1) year and 60% of benefit payable to spouse thereafter. The benefit amount is not reduced due to this form of payment. The participant may also elect to receive the benefit as an unreduced ten year certain and life annuity.

For an unmarried participant, the normal form of payment will be an unreduced ten year certain and life annuity.

20. Optional Forms of Retirement Income:

The following optional forms of retirement income may be elected by a member without presenting evidence of good health, if elected at least one year prior to his date of retirement:

Option 1 A single life annuity payable during the lifetime of the participant only.

Option 2 A retirement annuity payable to the member during the joint lifetime of the member and a joint pensioner designated by the member, and following the death of either of them, 50%, 66-2/3%, 75%, or 100% depending on the retiree's election, of such smaller monthly amount payable to the survivor for the lifetime of the survivor.

Option 3 A monthly annuity payable to the member for ten years certain and life thereafter.

21. Deferred Retirement Option Plan (DROP):

The DROP is available only if the member makes an irrevocable election to participate after meeting the eligibility for Normal Retirement Benefit. The DROP has a five (5) year maximum participation period, after which the employee is deemed separated from the Town. In no event can a member who enters the DROP exceed 30 years of total Benefit Service plus years of DROP participation. If the member dies or becomes disabled during the DROP period, the member will have presumed to have retired on a normal retirement on the day prior to disability or death.

22. Cost of Living Adjustments (COLA):

An annual COLA will be provided to retirees and beneficiaries. The amount of the COLA will be 2.0% per year. For recipients who retired prior to October 1, 1997, the monthly benefit after the yearly COLA will not exceed 115% of the original monthly benefit prior to any COLA. For post October 1, 1997 retirees, the limit for future monthly benefits after COLA will be 130% of the original benefit amounts prior to any COLA. The first annual COLA will commence on the fifth anniversary of retirement, but no earlier than November 1, 2004.

23. Changes from October 1, 2016 Valuation:

None.

Table XII

TOWN OF DAVIE POLICE PENSION PLAN

Actuarial Assumptions and Actuarial Cost Methods

1. Mortality:

Pre-Retirement:

Female Non-Disabled: RP2000 Generational, 100% Combined Healthy with White Collar Adjustment, Scale BB

Male Non-Disabled: RP2000 Generational, 10% Combined Healthy with White Collar Adjustment / 90% Combined Healthy with Blue Collar Adjustment, Scale BB

Post-Retirement:

Female Non-Disabled: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Male Non-Disabled: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB

Pre-Retirement & Post-Retirement:

Female Disabled: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

Male Disabled: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

2. Interest to be Earned by Fund:

7.50%, compounded annually, net of investment expenses.

3. Allowances for Expenses or Contingencies:

Estimated by net of investment fees paid during previous year.

4. Employee Withdrawal Rates:

Withdrawal rates were used in accordance with tables per the following illustrative example:

<u>Age</u>	<u>Withdrawal Rates</u>	
	<u>Per 100 Employees</u>	
	<u>Male</u>	<u>Female</u>
20	8.4	14.0
25	5.6	8.4
30	3.9	5.6
35	2.8	3.9
40	1.7	2.8
45	1.1	1.7
50	0.2	1.1
55 & over	0.0	0.0

Table XII
(continued two)

5. Assumptions on Pensionable Overtime Hours

Each member is assumed to continue to work the same number of overtime hours as in the most recent plan year, subject to the 300 hours maximum, for each future year.

6. Disability Rates:

The 1985 Disability Study - Class 1 with separate male and female rates were used. 75% of disabilities assumed to be service incurred, 25% assumed to be non-service incurred.

7. Salary Increase Factors:

Current salaries were assumed to increase at a rate of 5.5% per year until retirement.

8. Rates of Retirement:

The following are the retirement rates assumed for the participants eligible for retirement:

<u>Participants with 20 or more years of Benefit Service</u>		<u>Participants with less than 20 years of Benefit Service</u>	
<u>Years of Service</u>	<u>Percentage Retiring</u>	<u>Age</u>	<u>Percentage Retirement</u>
20	65%	50-54	25%
21 - 24	50%	55-59	50%
25 and over	100%	60 and over	100%

However, active participants eligible for retirement that have less than 20 years of Benefit Service as of the valuation date are assumed to have a minimum of one year future service.

9. Asset Valuation Method:

The actuarial value of assets is determined by smoothing the differences between actual investment earnings and assumed investment return over three (3) years. This method was adopted effective October 1, 2007 with no phase-in. The resulting value would then be limited to between 80% and 120% of market value.

10. Actuarial Cost Method:

Normal Retirement, Termination, Disability and Pre-Retirement Death Benefits: Entry-Age-Actuarial Cost Method.

Table XII
(continued three)

Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his date of hire to his retirement age to fund his estimated benefits, assuming the plan had always been in effect. The normal cost for the plan is the sum of the individual normal costs for all active participants. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the plan is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the actuarial value of assets of the plan.

11. Marriage Assumptions:

100% of active participants were assumed married, with husbands three (3) years older than wives.

12. Valuation of Normal Form of Payment:

The normal form of payment is valued as an unreduced joint and 60% survivor annuity benefit for married members. For unmarried members, the normal form of payment is valued as a ten year certain and life annuity.

13. Changes from October 1, 2016 Actuarial Valuation

- 1) Mortality Table changed to those described in Item 1.
- 2) The assumed fund investment return was changed from 7.60% to 7.50%.

Table XIII

TOWN OF DAVIE POLICE PENSION PLAN

Distribution of Active Participants by Age and Service Groups
as of October 1, 2017

Years of Credited Service

<u>Age</u>	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 & Over</u>	<u>Total</u>
Under 25	7	.	.	.	.	.	.	7
25 - 29	23	4	.	.	.	.	.	27
30 - 34	6	15	3	.	.	.	.	24
35 - 39	3	2	12	7	.	.	.	24
40 - 44	.	2	20	15	2	.	.	39
45 - 49	1	2	3	9	7	.	.	22
50 - 54	2	1	4	5	5	.	.	17
55 - 59	2	.	1	.	.	.	.	3
60 - 64	.	.	.	.	.	.	.	0
65 & Over	.	.	.	.	.	.	.	0
TOTAL	44	26	43	36	14	.	.	163

10/01/2016

10/01/2017

Average Attained Age

38.42 years

38.82 years

Average Pay

\$92,598

\$94,405

Percent Female

13.93%

16.56%

Table XIV

TOWN OF DAVIE POLICE PENSION PLAN

Reconciliation of Participant Data

A. Active Participants

1. Active participants previous year	165
2. Retired during year	(0)
3. Entered DROP during year	(5)
4. Died during year	0
5. Disabled during year	0
6. Terminated vested during year	(0)
7. Terminated non-vested during period	(4)
8. New active participants	7
9. Rehired	<u>0</u>
10. Active participants current year	163

B. Participants Receiving Benefits

1. Participants receiving benefits previous year	103
2. New retired participants	0
3. New terminated vested receiving benefits	0
4. New disabled receiving benefits	0
5. New beneficiaries receiving benefits	0
6. DROP participants exited and retired	2
7. Died or ceased payment during year	<u>(0)</u>
8. Retired or terminated vested receiving benefits current year	105

C. Terminated Participants Entitled to Future Benefits

1. Terminated participants entitled to future benefits previous year	2
2. Died during year	0
3. Rehired	0
4. Commenced receiving benefits during year	(0)
5. New terminated participants	<u>0</u>
6. Terminated participants entitled to future benefits current year	2

D. DROP Participants

1. DROP participants previous year	17
2. New entrants during year	5
3. Died during year	0
4. Exited and retired during year	<u>(2)</u>
5. DROP participants current year	20

Table XV

TOWN OF DAVIE POLICE PENSION PLAN

**Statistics for Participants Entitled to Deferred Vested Benefits
and Participants Receiving Payments**

A. Entitled to Deferred Benefits

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 40	0	\$ 0	\$ 0
40 - 44	1	28,155	28,155
45 - 49	0	0	0
50 - 54	1	50,874	50,874
55 - 59	0	0	0
60 - 64	0	0	0
65 & over	<u>0</u>	<u>0</u>	<u>0</u>
TOTAL	2	\$ 79,029	\$ 39,515

B. Receiving Benefits (includes DROP participants)

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 40	3	\$ 28,313	\$ 9,438
40 - 44	2	135,165	67,583
45 - 49	13	1,031,021	79,309
50 - 54	33	2,229,526	67,561
55 - 59	29	1,719,144	59,281
60 - 64	17	922,722	54,278
65 & over	<u>28</u>	<u>1,191,962</u>	<u>42,570</u>
TOTAL	125	\$ 7,257,854	\$ 58,063

Table XVI

TOWN OF DAVIE POLICE PENSION PLAN

Recent Investment, Salary Increase, and Turnover Experience

A. Investment Return

Comparison of actual to assumed investment return for the last five years:

<u>Year Ended</u>	<u>Rate of Return</u>		
	<u>Market Value</u>	<u>Actuarial Value</u>	<u>Assumed</u>
09/30/2017	11.8%	10.6%	7.60%
09/30/2016	8.4%	9.7%	7.60%
09/30/2015	0.5%	5.6%	7.60%
09/30/2014	9.1%	7.3%	7.90%
09/30/2013	10.8%	12.6%	7.90%
Last 3 Yrs.	6.8%	8.6%	7.60%
Last 5 Yrs.	8.0%	9.1%	7.72%

B. Recent Salary Increase and Turnover Experience

<u>Year Ended</u>	<u>Salary Increase</u>		<u>Ratio of Actual Turnover to Expected</u>
	<u>Actual</u>	<u>Assumed</u>	
09/30/2017	3.7%	5.50%	0.94
09/30/2016	10.8%	5.50%	0.79
09/30/2015	2.6%	5.50%	0.52
09/30/2014	2.8%	6.25%	1.54
09/30/2013	5.4%	6.25%	0.62
Last 3 Yrs.	5.6%	5.50%	0.75
Last 5 Yrs.	5.0%	5.80%	0.88

Table XVII

TOWN OF DAVIE POLICE PENSION PLAN

State Required Exhibit

	<u>10/1/2016</u>	<u>10/1/2017</u>
A. <u>Participant Data</u>		
1. Active participants	165	163
2. Retired participants and beneficiaries receiving benefits	97	99
3. Beneficiaries due deferred benefits	0	0
4. DROP participants	17	20
5. Disabled participants receiving benefits	6	6
6. Terminated vested participants	2	2
7. Total participants	287	290
8. Annual payroll of active participants	\$ 15,278,632	\$ 15,388,083
9. Annual benefits payable to those currently receiving benefits	5,431,752	5,155,236
10. Annual benefits payable to beneficiaries due deferred benefits	0	0
11. Annual benefits payable to terminated deferred benefits	79,029	79,029
12. Annual benefits payable to DROP participants	\$ 1,315,622	\$ 1,607,968
B. <u>Value of Assets</u>		
1. Actuarial value	\$ 127,106,049	\$ 143,145,562
2. Market value	\$ 125,302,200	\$ 142,750,360
C. <u>Liabilities</u>		
1. Actuarial present value of future expected benefit payments for active members		
a. Retirement benefits	\$ 102,105,309	\$ 107,446,071
b. Vesting benefits	2,926,440	2,953,019
c. Death benefits	608,544	585,045
d. Disability benefits	<u>1,266,015</u>	<u>1,244,754</u>
e. Total	\$ 106,906,308	\$ 112,228,889
2. Actuarial present value of future expected benefit payments for terminated vested members	\$ 745,210	\$ 822,836
3. Actuarial present value of future expected benefit payments for beneficiaries due deferred benefits	0	0
4. Actuarial present value of future expected benefit payments for those receiving benefits		
a. Service retired	\$ 63,872,373	\$ 66,790,489
b. DROP participants	18,658,875	23,444,192
c. Disability retired	2,404,487	2,457,514
d. Beneficiaries	<u>2,948,837</u>	<u>2,954,365</u>
e. Total	\$ 87,884,572	\$ 95,646,560

Table XVII
(continued two)

	<u>10/1/2016</u>	<u>10/1/2017</u>
5. Miscellaneous (refund unpaid)	\$ 0	\$ 0
6. Total actuarial present value of future expected benefit payments	\$ 195,536,090	\$ 208,698,225
7. Actuarial accrued liabilities	\$ 163,695,888	\$ 177,190,053
8. Unfunded actuarial accrued liabilities	\$ 36,589,839	\$ 34,044,491
D. <u>Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested plan benefits		
a. Participants currently receiving benefits	\$ 69,225,697	\$ 72,202,308
b. Beneficiaries due deferred benefits	0	0
b. DROP participants	18,658,875	23,444,192
c. Other participants	<u>52,258,033</u>	<u>60,499,236</u>
d. Total	\$ 140,142,605	\$ 156,145,736
2. Actuarial present value of accumulated non-vested plan benefits	<u>5,568,885</u>	<u>4,563,387</u>
3. Total actuarial present value of accumulated plan benefits	\$ 145,711,490	\$ 160,709,123
E. <u>Statement of Change in Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2016	\$ 145,711,490	
2. Increase (decrease) during year attributable to:		
a. Plan amendment	0	
b. Actuarial assumptions and methods changes	2,952,786	
c. Benefits paid and contribution refunds	(5,585,284)	
d. DROP benefits credited	(1,318,895)	
e. Other, including benefits accumulated and increase for interest due to decrease in the discount period	18,949,026	
f. Net increase (decrease)	<u>14,997,633</u>	
3. Actuarial present value of accumulated plan benefits as of October 1, 2017	\$ 160,709,123	

Table XVII
(continued three)

	<u>10/1/2016</u>	<u>10/1/2017</u>
F. <u>Pension Cost</u>		
1. Total normal cost including expenses	\$ 4,760,452	\$ 4,772,234
2. Expected member contribution	1,375,077	1,384,927
3. Item 2. as percentage of payroll	<u>9.0%</u>	<u>9.0%</u>
4. Net employer normal cost	\$ 3,385,375	\$ 3,387,307
5. Payment required to amortize unfunded liability	<u>3,499,995</u>	<u>3,403,874</u>
6. Total employer required contribution (including interest)	\$ 7,272,120	\$ 7,170,624
7. Item 6. as a percentage of payroll	47.6%	46.6%
8. State contributions	\$ 705,416	\$ 705,416
9. Item 8. as a percentage of payroll	4.6%	4.6%
10. Net amount payable by Town	\$ 6,566,704	\$ 6,465,208
11. Item 10. as a percentage of payroll	43.0%	42.0%
G. <u>Past Contributions</u>		
1. Total contribution required	\$ 8,647,197	\$ 8,555,551
2. Actual contributions made:		
a. Employees	\$ 2,104,437	N/A
b. Town	6,472,000*	N/A
c. State	<u>705,416</u>	<u>N/A</u>
d. Total	\$ 9,281,853	N/A
H. <u>Net Actuarial Gain (Loss)</u>	\$ (1,616,292)	\$ 4,734,365
I. <u>Disclosure of Following Items:</u>		
1. Actuarial present value of future salaries - attained age	\$ 108,454,544	\$ 105,874,230
2. Actuarial present value of future employee contributions - attained age	\$ 9,760,909	\$ 9,528,681
3. Actuarial present value of future contributions from other sources	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 9,494,283	\$ 10,266,494
5. Actuarial present value of future salaries and future benefits at entry age	Not provided by software	
6. Actuarial present value of future employee contributions at entry age	Not provided by software	

* Because the Town made the entire contribution for 2016/17 in one payment on 11/3/16, the Town's funding requirement was \$ 6,317,120, not \$ 6,566,704 as shown in prior year's report.

Table XVII
(continued four)

J. Unfunded Actuarial Accrued Liabilities

Description and Amount of Original Liability	Remaining Amortization Period	Unamortized Amount as of Valuation Date	Amortization Payment
10/01/1994 Plan Amendment	7 years	\$ 1,948,077	\$ 342,137
10/01/1996 Assumption Change	9 years	(21,396)	(3,120)
10/01/1997 Plan Amendment	10 years	(398,897)	(54,059)
10/01/1999 Assumption Change	12 years	(2,358,892)	(283,677)
10/01/2000 Plan Amendment	13 years	2,332,683	267,042
10/01/2002 Method Change	15 years	3,297,945	347,549
10/01/2003 Actuarial Loss	16 years	1,078,031	109,700
10/01/2003 Plan Amendment	16 years	1,523,175	154,997
10/01/2004 Actuarial Loss	17 years	357,492	35,250
10/01/2005 Actuarial Loss	18 years	1,596,886	153,047
10/01/2005 Plan Amendment	16 years	877,569	89,301
10/01/2006 Actuarial Loss	19 years	2,554,994	238,650
10/01/2006 Plan Amendment	19 years	2,108,433	196,939
10/01/2006 Ch. 185 Plan Amendment	19 years	227,181	21,220
10/01/2007 Actuarial (Gain)	20 years	(203,420)	(18,562)
10/01/2007 Asset Method Change	20 years	(2,063,126)	(188,257)
10/01/2008 Actuarial Loss	21 years	8,149,445	727,987
10/01/2009 Actuarial Loss	22 years	3,534,048	309,638
10/01/2009 Assumption Change	22 years	622,522	54,543
10/01/2010 Actuarial (Gain)	23 years	(2,768,371)	(238,300)
10/01/2010 Plan Amendment	23 years	316,637	27,256
10/01/2011 Actuarial Loss	24 years	7,261,938	615,070
10/01/2012 Actuarial (Gain)	25 years	(5,238,401)	(437,154)
10/01/2013 Actuarial (Gain)	26 years	(1,656,409)	(136,364)
10/01/2014 Actuarial (Gain)	27 years	(1,087,285)	(88,401)
10/01/2014 Assumption Change	17 years	4,551,981	448,847
10/01/2015 Actuarial (Gain)	28 years	2,196,832	176,575
10/01/2016 Actuarial (Gain)	29 years	1,579,440	125,618
10/01/2016 Assumption Change	19 years	5,266,400	491,911
10/01/2017 Actuarial (Gain)	30 years	(4,734,365)	(372,897)
10/01/2017 Assumption Changes	20 years	3,193,344	291,388
TOTAL:		<u>\$ 34,044,491</u>	<u>\$ 3,403,874</u>

Table XVII
(continued five)

This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.

Donald A. DuLaney, Jr. A.S.A., E.A.
Senior Consulting Actuary

Panrong Xiao, E.A., M.A.A.A.
Enrolled Actuary

Date

Date

17-04191

17-07551

Enrollment Number

Enrollment Number