



TOWN OF  
**VIENNA**  
since 1890

Purchasing Office

**August 9, 2018**

**ADDENDUM #2**

**RFP 19-02 ACTUARIAL SERVICES**

**\*\*\*\*\*ATTENTION BIDDERS\*\*\*\*\***

(To be completed and returned with bid response)

1. Q: Who is the current consultant?  
*A: Boomershine Consulting*
2. Q: How long has the incumbent consultant performed the services?  
*A: Five (5) years*
3. Q: Is the current consultant eligible to participate in this RFP process  
*A: Yes*
4. Q: Why are these services listed in the RFP out to bid? Are they due to the expiration of the current contract or for other reasons?  
*A: Contract expiration*
5. Q: Was the work required in prior years similar to that described in the current RFP?  
*A: Yes*
6. Q: Are there any improvements, or additional services that the Town of Vienna is seeking?  
*A: No*
7. Q: In order to assist us in gaining a clear understanding of the scope of work, can you provide the amount of the total level of effort (hours of work) and fees paid to the current consultant for the recent 2 years.  
*A: We did not keep track of the total number of hours, and the fees will not be released per the request of the current consultant.*
8. Q: Can you provide a copy of valuation reports and financial statements for the recent 2 years?  
*A: Attached*



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9. Section 6. Evaluation Criteria, #8 should read: Proposed total costs for the first year, second year and *subsequent* years of the contract.
10. Q: Section 7 does not include the requirement to include costs, but the evaluation criteria includes proposed total costs.  
*A: Section 7, B. Specific Requirements 1: Add d. Proposed total costs for the first year, second year, and subsequent years of the contract.*

ALL OTHER TERMS, CONDITIONS, AND SPECIFICATIONS SHALL REMAIN THE SAME.

A copy of this signed addendum must accompany your response as an acknowledgment of its receipt:

NAME AND ADDRESS OF VENDOR:

\_\_\_\_\_  
\_\_\_\_\_

PHONE #: \_\_\_\_\_ EMAIL: \_\_\_\_\_

NAME OF AUTHORIZED REPRESENTATIVE: \_\_\_\_\_  
*Please Print*

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

Town of Vienna

Other Post-Employment Benefits

Actuarial Valuation as of January 1, 2017

October, 2017

Submitted by

Boomershine Consulting Group, LLC  
Executive Center 1  
3300 North Ridge Road, Suite 300  
Ellicott City, MD 21043



October 26, 2017

Ms. Marion Serfass  
Deputy Finance Director  
Town of Vienna  
127 Center Street, South  
Vienna, VA 22180

This report presents the June 30, 2017 actuarial valuation results for the Town of Vienna (the "Town") Other Post-Employment Benefits Plan. The purposes of this report are to:

- (1) Determine the Town's January 1, 2017 OPEB obligations;
- (2) Provide information that may be helpful in future planning for the Other Post-Employment Benefit ("OPEB") Plan;
- (3) Establish the basis for GASB 74/75 implementation.

A summary of the major results is shown in the Executive Summary, while the Principal Valuation Results section provides more detail. The Accounting Information section summarizes GASB Other Post-Employment Benefit (OPEB) accounting treatment including the Annual OPEB Cost and net OPEB obligation on a pay-as-you-go basis.

The actuarial costs and liabilities summarized herein are based upon the data and plan provisions provided by the Town, as summarized in the Demographic Information and Plan Provisions Sections, respectively, and the funding method and actuarial assumptions outlined in the Methods and Assumptions Section of this report.

To the best of our knowledge, this report is complete and accurate and conforms to generally accepted actuarial principles and methodology

This report is intended for the sole use of the addressee. It is intended only to supply sufficient information for the Town to comply with the stated purposes, and may not be appropriate for other business purposes. Reliance on information contained in the report by anyone for other than the intended purposes puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the report's conclusions.

The first undersigned is a member of the American Academy of Actuaries, and is qualified to render the actuarial opinions presented herein.

Respectfully submitted,



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Gregory M. Stump, FSA, EA, MAAA, FCA  
Vice President and Chief Actuary



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Marshal Banks  
Senior Consultant

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## ***Executive Summary***

The Town of Vienna (the Town) provides healthcare, prescription drug and dental insurance benefits to retirees and their dependents. The cost of the insurance is paid fully by the retiree (or in some cases the State). Therefore the Town's liability equals the implicit subsidy. All full time active employees who retire or qualify for disability retirement directly from the Town, and meet the eligibility criteria, may participate.

The following table summarizes the valuation results. These figures have been calculated based on assumptions as to current claim cost, projected increases in health care costs, participation, turnover, and interest discount.

Information on plan provisions and participation was provided by the Town.

This summary identifies the value of benefits at January 1, 2017 and costs, reflecting the pay-as-you-go approach, utilizing a discount rate of 3.50% and amortizing the Unfunded Actuarial Accrued Liability as a level percentage of payroll.

	<b>As of January 1, 2017</b>	<b>As of June 30, 2015</b>
Present Value of all Projected Benefits (PVPB)	\$2,196,853	\$1,789,423
Actuarial Accrued Liability (AAL)	1,695,434	1,400,061
Plan Asset Value	0	0
Unfunded Actuarial Accrued Liability	1,695,434	1,400,061
Actuarially Determined Contribution (ADC)	116,580	93,582
Expected Employer Contributions (implicit subsidy)	\$43,247	\$29,661

The remainder of this report provides greater detail for the above results.

The changes since the prior valuation, include economic and healthcare assumptions.

## ***Principal Valuation Results***

This section presents detailed valuation results for the Town's OPEB program.

- The Present Value of Projected Benefits (PVPB) is the total present value of all expected future benefits, based on certain actuarial assumptions. The PVPB is a measure of total liability or obligation. Essentially, the PVPB is the value (on the valuation date) of the benefits promised to current and future retirees. The Plan's PVPB (at January 1, 2017) is \$2,196,853. About 76% (\$1,664,500) of this liability is for current active employees (future retirees), with the remainder attributable to current retirees enrolled in the Town's healthcare plans.
- The Actuarial Accrued Liability (AAL) is the liability or obligation for benefits earned through the valuation date, based on certain actuarial methods and assumptions. The Plan's AAL (at January 1, 2017) is \$1,695,434. The AAL represents approximately 77% of the PVPB.
- The Normal Cost is the value of benefits expected to be earned during the year (active employees only), again based on certain actuarial methods and assumptions. The Normal Cost for the plan is \$51,751.

The AAL and Normal Cost have been developed using the Entry Age actuarial cost method.

The following table shows results by active and retired employee groups.

	<b>As of January 1, 2017</b>	<b>As of June 30, 2015</b>
<b>Present Value of Projected Benefits</b>		
Actives	\$ 1,664,500	\$ 1,331,646
Retirees	<u>532,353</u>	<u>457,777</u>
Total	\$ 2,196,853	\$ 1,789,423
<b>Actuarial Accrued Liability (AAL)</b>		
Actives	\$ 1,163,081	\$ 942,284
Retirees	<u>532,353</u>	<u>457,777</u>
Total	\$ 1,695,434	\$ 1,400,061
<b>Assets</b>	\$ 0	\$ 0
<b>Unfunded AAL</b>	1,695,434	1,400,061
<b>Normal Cost</b>	\$ 51,751	\$ 40,048

### ***Actuarially Determined Contributions and Funding***

The Actuarially Determined Contribution (ADC) includes both the value of benefits earned during the year (Normal Cost) and an amortization of the Unfunded Actuarial Accrued Liability (AAL). The following table shows the County's ADC based on an open-period 30 year amortization of the unfunded AAL, as a level percentage of pay.

	<b>As of January 1, 2017</b>	<b>As of June 30, 2015</b>
Normal Cost	\$51,751	\$40,048
Unfunded AAL Amortization	64,829	53,534
Actuarially Determined Contribution (ADC)	\$116,580	\$93,582

### **Schedule of Funding Progress**

<b>Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b-a)</b>	<b>Funded Ration (a / b)</b>
07/01/2011	\$0	\$1,597,000	\$1,597,000	0.00%
07/01/2013	\$0	\$1,477,000	\$1,477,000	0.00%
07/01/2015	\$0	\$1,400,061	\$1,400,061	0.00%
1/1/2017	\$0	\$1,695,434	\$1,695,434	0.00%



### **Payout Projection**

Annual OPEB payments expected based on the assumptions detailed in the Methods and Assumptions section. All of the amounts below are attributable to implicit subsidies.

<b>Year Ending</b>	<b>Estimated Payout</b>
06/30/2017	\$ 43,247
06/30/2018	60,408
06/30/2019	71,020
06/30/2020	91,548
06/30/2021	110,486
06/30/2022	121,100
06/30/2023	139,830
06/30/2024	152,181
06/30/2025	153,936
06/30/2026	145,695

### ***Demographic Information***

The following Table summarizes active and retiree demographic information.

	<b>Number of Participants Valued – Medical/Drug</b>	
	<b>January 1, 2017</b>	<b>June 30, 2015</b>
Actives (with coverage)	141	133
Retiree	14	15
Spouses	5	8
Total Participants and Spouses	160	156

	<b>January 1, 2017</b>	<b>June 30, 2015</b>
Average Age (Medical/Drug/Dental) (with insurance coverage)		
• Active	44.11	42.85
• Retired	65.65	65.00
Average Service (for actives)	11.78	11.19

Note: 30% of future retirees are assumed to enroll in coverage through the Town.

## ***Plan Provisions***

### **Medical/Drug/Dental Plan**

#### **Town of Vienna Medical Plan**

### **Eligibility**

Town of Vienna employees are eligible to continue group insurance coverage after retirement provided that:

- a. Retiring employees have coverage in effect when they stop working.
- b. Retirement commences on the first of the month, following the last day they are employed.
- c. Retirement Eligibility: Public Safety – unreduced pension benefits with VRS at age 50 with 20 years of service or 20 years of service with the Town and reduced pension benefits is age 50 and 5 years of service.

General Employees – unreduced pension benefit at age 50 with 30 years of service and reduced pension benefit at age 50 with 5 years of service.

### **Retiree Payment**

All retirees pay 100% if the premium cost for their elected coverage. Two disabled retirees have their premiums reimbursed from the State.

## **Health Plan Benefits**

Retirees under 65 can choose from either BC/BS KA-250 Comp, BC/BS KA-500 Comp or Kaiser HMO. Retirees may elect to cover their spouse.

Retirees over 65 may choose from one of two Medicare Supplement plans.

Benefits are available for the lifetime of the retiree only.

It is assumed that the total cost of coverage for most pre-65 retirees is higher than the premium amount resulting in implicitly subsidized costs. It is also assumed that the total cost of coverage for post-65 retirees is equal to the premium amount. It is assumed that the total cost of the dental insurance is equal to the premium (i.e. no implicit subsidy).

**2017 Premiums (Monthly)**

	<i><b>Retiree</b></i>	<i><b>Retiree and Spouse</b></i>	<i><b>Retiree and Dependents</b></i>
BC/BS KA-250 (pre-65 retiree)	692.00	1,280.00	1,868.00
BC/BS KA-500 (pre-65 retiree)	638.00	1,180.00	1,723.00
Kaiser HMO (pre-65 retiree)	611.00	1,124.00	1,638.00

## ***Actuarial Methods and Assumptions***

**Valuation Methodology and Terminology**      GASB Statement 45 accounting methodology to determine the post-retirement medical benefit obligations.

**Amortization Period**      30 Years

**Amortization Method**      Level Percentage of Pay (payroll assumption = 2.50%/year\*)

**Actuarial Method**      Entry Age Normal Method

Discount rate      3.50%

Medical and  
Prescription Drug  
and Dental Trend\*

<b>Year</b>	<b>Annual Rate of Increase (Medical/Rx)</b>
2017	6.00%
2018	5.75%
2019	5.50%
2020	5.25%
2021	4.75%
2022	4.50%
2023 & later	4.25%

**Age Difference/  
Family Assumptions**      Males are assumed to be 3 years older than females; For current retirees and actives, actual family status, plan elections and ages were used, otherwise 30% of current actives and 90% for disabled are assumed to elect coverage, and 50% of electing retirees are assumed to cover their spouse.

Assumed Claims:\*

	<b>KA-250 (EE)</b>	<b>KA-250 (SPS )</b>	<b>Kaiser (EE)</b>	<b>Kaiser (SPS)</b>
40	6,648	5,653	5,931	4,977
45	7,521	6,589	6,711	5,630
50	8,891	7,561	7,932	6,655
55	10,870	9,244	9,697	8,135
60	13,481	11,465	12,027	10,091
64	15771	13,411	14,069	11,804

The premium amount for child coverage is larger than the expected claim, therefore family coverage is treated as dual coverage for valuation purposes.

\* Assumptions updated since prior valuation, based on economic information and recent plan experience.

## ***Actuarial Methods and Assumptions (cont.)***

### ***Mortality***

Mortality \*  
(pre and post-retirement)

RP2000 male/female tables, projected to 2027 with Scale BB

Mortality \*  
(post-disablement)

RP2000 Disabled male/female tables, projected to 2027 with Scale BB

Retirement Rates Public  
Safety

<b>Years of Service</b>	<b>Probability of Retirement</b>
20	15%
21 – 24	12%
25 – 29	16%
30 – 31	20%
31+	100%

Retirement Rates  
(representative rates)

Males Age/Svc	VRS General Employees Plan 1				
	0	5	10	20	30+
50	0.0%	5.0%	5.0%	5.0%	9.0%
51	0.0%	5.0%	5.0%	5.0%	9.0%
52	0.0%	5.0%	5.0%	5.0%	7.0%
53	0.0%	5.0%	5.0%	5.0%	7.0%
54	0.0%	5.0%	5.0%	5.0%	10.0%
55	0.0%	5.0%	5.0%	5.0%	14.0%
56	0.0%	6.0%	6.0%	6.0%	14.0%
57	0.0%	6.0%	6.0%	6.0%	10.0%
58	0.0%	6.0%	6.0%	6.0%	11.0%
59	0.0%	6.0%	6.0%	6.0%	11.0%
60	0.0%	6.0%	6.0%	6.0%	11.0%
61	0.0%	10.0%	10.0%	10.0%	25.0%
62	0.0%	17.0%	17.0%	17.0%	35.0%
63	0.0%	15.0%	15.0%	15.0%	25.0%
64	0.0%	15.0%	15.0%	15.0%	27.0%
65	0.0%	30.0%	30.0%	30.0%	33.0%
66	0.0%	30.0%	30.0%	30.0%	33.0%
67	0.0%	30.0%	30.0%	30.0%	20.0%
68	0.0%	30.0%	30.0%	30.0%	20.0%
69	0.0%	30.0%	30.0%	30.0%	20.0%
70	0.0%	100%	100%	100%	100%

\* Updated since prior valuation.

Retirement Rates (representative rates)	Females	General Employees VRS Plan 1				
	Age/Svc	0	5	10	20	30+
	50	0.0%	4.0%	4.0%	4.0%	8.0%
	51	0.0%	4.5%	4.5%	4.5%	8.0%
	52	0.0%	4.5%	4.5%	4.5%	8.0%
	53	0.0%	4.5%	4.5%	4.5%	8.0%
	54	0.0%	4.5%	4.5%	4.5%	10.0%
	55	0.0%	5.5%	5.5%	5.5%	11.5%
	56	0.0%	5.0%	5.0%	5.0%	11.5%
	57	0.0%	5.0%	5.0%	5.0%	12.5%
	58	0.0%	5.0%	5.0%	5.0%	13.0%
	59	0.0%	5.0%	5.0%	5.0%	11.5%
	60	0.0%	7.5%	7.5%	7.5%	13.0%
	61	0.0%	7.5%	7.5%	7.5%	17.5%
	62	0.0%	17.0%	17.0%	17.0%	25.0%
	63	0.0%	13.0%	13.0%	13.0%	25.0%
	64	0.0%	13.0%	13.0%	13.0%	17.5%
	65	0.0%	30.0%	30.0%	30.0%	40.0%
	66	0.0%	30.0%	30.0%	30.0%	40.0%
	67	0.0%	30.0%	30.0%	30.0%	25.0%
	68	0.0%	30.0%	30.0%	30.0%	25.0%
	69	0.0%	30.0%	30.0%	30.0%	25.0%
	70	0.0%	100%	100%	100%	100%

Retirement Rates (representative rates)	Males	General Employees VRS Plan 2				
	Age/Svc	0	10	20	30	40+
	50	0.0%	0.0%	0.0%	0.0%	9.0%
	51	0.0%	0.0%	0.0%	0.0%	9.0%
	52	0.0%	0.0%	0.0%	0.0%	7.0%
	53	0.0%	0.0%	0.0%	0.0%	7.0%
	54	0.0%	0.0%	0.0%	0.0%	7.0%
	55	0.0%	0.0%	0.0%	0.0%	10.0%
	56	0.0%	0.0%	0.0%	0.0%	14.0%
	57	0.0%	0.0%	0.0%	0.0%	14.0%
	58	0.0%	0.0%	0.0%	0.0%	10.0%
	59	0.0%	0.0%	0.0%	0.0%	11.0%
	60	0.0%	6.0%	6.0%	6.0%	11.0%
	61	0.0%	10.0%	10.0%	10.0%	25.0%
	62	0.0%	17.0%	17.0%	17.0%	35.0%
	63	0.0%	15.0%	15.0%	15.0%	25.0%
	64	0.0%	15.0%	15.0%	15.0%	25.0%
	65	0.0%	30.0%	30.0%	30.0%	25.0%
	66	0.0%	30.0%	30.0%	30.0%	27.0%
	67	0.0%	30.0%	30.0%	30.0%	33.0%
	68	0.0%	30.0%	30.0%	30.0%	33.0%
	69	0.0%	30.0%	30.0%	30.0%	20.0%
	70	0.0%	100%	100%	100%	100%

Retirement Rates (representative rates)	Females	General Employees VRS Plan 2				
	Age/Svc	0	10	20	30	40+
	50	0.0%	0.0%	0.0%	0.0%	8.0%
	51	0.0%	0.0%	0.0%	0.0%	8.0%
	52	0.0%	0.0%	0.0%	0.0%	8.0%
	53	0.0%	0.0%	0.0%	0.0%	8.0%
	54	0.0%	0.0%	0.0%	0.0%	10.0%
	55	0.0%	0.0%	0.0%	0.0%	11.5%
	56	0.0%	0.0%	0.0%	0.0%	11.5%
	57	0.0%	0.0%	0.0%	0.0%	12.5%
	58	0.0%	0.0%	0.0%	0.0%	13.0%
	59	0.0%	0.0%	0.0%	0.0%	11.5%
	60	0.0%	7.5%	7.5%	7.5%	13.0%
	61	0.0%	7.5%	7.5%	7.5%	17.5%
	62	0.0%	17.0%	17.0%	17.0%	25.0%
	63	0.0%	13.0%	13.0%	13.0%	25.0%
	64	0.0%	13.0%	13.0%	13.0%	25.0%
	65	0.0%	30.0%	30.0%	30.0%	25.0%
	66	0.0%	30.0%	30.0%	30.0%	17.5%
	67	0.0%	30.0%	30.0%	30.0%	40.0%
	68	0.0%	30.0%	30.0%	30.0%	40.0%
	69	0.0%	30.0%	30.0%	30.0%	25.0%
	70	0.0%	100%	100%	100%	100%

## Disability

## Representative Rates – General Employees

Age	Rate of Disability (Male)	Rate of Disability (Female)
25	0.012%	0.006%
30	0.060%	0.024%
35	0.114%	0.048%
40	0.144%	0.078%
45	0.186%	0.126%
50	0.312%	0.270%
55	0.510%	0.450%
60	0.764%	0.696%
65	0.558%	0.552%



Representative Rates – Public Safety

<b>Age</b>	<b>Rate of Disability Unisex</b>
25	0.000%
30	0.030%
35	0.068%
40	0.113%
45	0.285%
50	0.383%
55	0.480%
60	0.638%
65	0.278%

Withdrawal (M) - General Employees VRS Plan 1

Representative Rates

<b>Age/Service</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>10+</b>
25	23.5%	23.5%	14.0%	0.0%
30	21.0%	21.0%	12.5%	6.0%
35	18.5%	18.5%	10.5%	5.5%
40	16.5%	16.5%	9.0%	4.0%
45	15.5%	15.5%	8.0%	3.0%
50	13.0%	13.0%	6.5%	2.5%
55	12.0%	12.0%	6.5%	1.0%
60	12.0%	12.0%	7.0%	1.0%
65	12.0%	12.0%	8.0%	0.0%

Withdrawal (F) – General Employees VRS Plan 1

Representative Rates

<b>Age/Service</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>10+</b>
25	25.5%	25.5%	16.5%	0.0%
30	22.0%	22.0%	14.0%	6.0%
35	19.0%	19.0%	11.5%	6.0%
40	16.5%	16.5%	10.0%	4.5%
45	15.0%	15.0%	8.0%	3.5%
50	13.5%	13.5%	7.0%	3.0%
55	12.5%	12.5%	6.5%	0.0%
60	12.0%	12.0%	7.0%	0.0%
65	13.0%	13.0%	9.0%	0.0%

Withdrawal (M) – General Employees VRS Plan 2      Representative Rates

Age/Service	0	1	5	10+
25	23.5%	23.5%	14.0%	0.0%
30	21.0%	21.0%	12.5%	6.0%
35	18.5%	18.5%	10.5%	5.5%
40	16.5%	16.5%	9.0%	4.0%
45	15.5%	15.5%	8.0%	3.0%
50	13.0%	13.0%	6.5%	2.5%
55	12.0%	12.0%	6.5%	1.0%
60	12.0%	12.0%	7.0%	1.0%

Withdrawal (F) – General Employees VRS Plan 2      Representative Rates

Age/Service	0	1	5	10+
25	25.5%	25.5%	16.5%	0.0%
30	22.0%	22.0%	14.0%	6.0%
35	19.0%	19.0%	11.5%	6.0%
40	16.5%	16.5%	10.0%	4.5%
45	15.0%	15.0%	8.0%	3.5%
50	13.5%	13.5%	7.0%	3.0%
55	12.5%	12.5%	6.5%	0.0%
60	12.0%	12.0%	7.0%	0.0%

Withdrawal (M) – Public Safety      Representative Rates

Age/Service	0	1	5	10+
25	13.0%	13.0%	8.5%	0.0%
30	11.0%	11.0%	7.5%	5.0%
35	11.0%	11.0%	7.0%	3.8%
40	10.0%	10.0%	6.0%	2.8%
45	13.0%	13.0%	6.0%	2.4%
50	11.0%	11.0%	6.0%	3.2%
55	15.0%	15.0%	8.0%	0.5%
60	11.0%	11.0%	10.0%	0.5%

Withdrawal (F) – Public Safety      Representative Rates

Age/Service	0	1	5	10+
25	13.0%	13.0%	10.0%	0.0%
30	12.0%	12.0%	8.0%	4.5%
35	14.0%	14.0%	8.0%	4.5%
40	14.0%	14.0%	7.0%	3.5%
45	12.0%	12.0%	6.0%	3.5%
50	12.0%	12.0%	6.0%	3.5%
55	12.0%	12.0%	5.0%	0.5%
60	12.0%	12.0%	5.0%	0.5%

## ***GLOSSARY OF ACTUARIAL TERMS***

### Actuarial Accrued Liability

A plan's actuarial accrued liability is the level of assets estimated by the system actuary to be needed as of the valuation date to

Finance all previously earned benefits for actively employed members of the plan (and their beneficiaries, if applicable) for when they eventually retire, die or terminate with deferred vested benefits, and

Finance all currently payable benefits of current pensioners and their beneficiaries (if applicable).

The Actuarial Accrued Liability is not a debt; instead, it is an asset target set by the actuarial cost method to produce an orderly accumulation of assets to pay for the plan's obligations.

### Actuarially Defined Contribution (ADC)

The annual cost of the plan, on an actuarial basis. The ADC is the sum of the Normal Cost and the amortization of unfunded actuarial accrued liability.

### Implicit Subsidy

A retiree only population would require a much higher premium to account for higher expected claims at older ages. By offering retirees coverage at the same (lower) premium rate as active employees, employers are providing an additional benefit. This is known as an implicit rate subsidy under GASB 45.

### Normal Cost

The Normal Cost is calculated as the annual amount necessary to fund each member's benefits from that member's Plan entry date to the end of his or her projected working life.

### Other Postemployment Benefits (OPEB)

Postemployment benefits other than pensions. OPEB generally takes the form of health insurance and dental, vision, prescription drugs or other healthcare benefits.

### Unfunded Actuarial Accrued Liability

When the actuarial value of assets is below the Actuarial Accrued Liability, there is an Unfunded Actuarial Accrued Liability which must be paid off or amortized on a schedule. When the actuarial value of assets is in excess of the Actuarial Accrued Liability, this can lead to a reduction in future contributions on an amortization schedule.

Town of Vienna

Other Post-Employment Benefits

Actuarial Valuation Information for  
Financial Reporting under  
Governmental Accounting Standards Board  
Statements 74 and 75

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as of June 30, 2017 (Fiscal Year 2017)

October, 2017

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## Executive Summary

The purpose of this report is to provide the information needed for financial reporting and accounting for the Retiree Healthcare Plan (the Plan) of the Town of Vienna (the Town), in accordance with Governmental Accounting Standards Board (GASB) Statements 74 and 75.

The funding report for this plan was sent under separate cover, and serves a separate purpose. All of the figures presented in this report are to be used for accounting/financial reporting purposes only.

The Town implements GASB Statement 74 in fiscal year 2017, based on the information in this report. Statement 75 will be implemented for fiscal year 2018.

This report is prepared in accordance with generally accepted actuarial principles and practices. In the opinion of the Employer and its actuaries, the actuarial assumptions used are reasonable related to Plan experience and expectations.

The Net OPEB Liability as of January 1, 2017 is \$1,719,493 (page 5). The ratio of the Plan's Fiduciary Net Position to the Total OPEB Liability is 0%.

GASB 45 still applies to fiscal year 2017 (transition year). The Annual OPEB Cost for 2017 is \$114,890; and the Net OPEB Obligation is \$593,651 (page 11).

The undersigned is a member of the American Academy of Actuaries, and is qualified to render the actuarial opinions presented in this report.

Respectfully Submitted,

BOOMERSHINE CONSULTING GROUP, L.L.C.



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Gregory M. Stump, FSA, EA, MAAA, FCA  
Chief Actuary

## **GASB 74: Plan Reporting**

The measurement date for GASB 74 is the Town's fiscal year end, June 30, 2017. Plan assets (Fiduciary Net Position) are measured as of this date. The Total OPEB Liability (TOL) as of this date is based on an actuarial valuation as of January 1, 2017, with adjustments made for the one-half year difference. Adjustments include Service Cost, Interest on Total OPEB Liability, and expected benefit payments during the year. This is also known as a roll-forward.

Under GASB 74, the Net OPEB Liability (NOL) is established as the difference between the Total OPEB Liability and the Plan Fiduciary Net Position. The NOL is very much like the unfunded actuarial accrued liability that is developed for the funding valuation, with adjustments for the six months between the valuation date and the measurement date.

### Relevant Dates

Valuation Date: January 1, 2017

Measurement Date: June 30, 2017

Reporting Date: June 30, 2017

## Net OPEB Liability

The components of the net OPEB liability are as follows:

	<b><i>June 30, 2017</i></b>
Total OPEB Liability	\$1,719,493
Plan Fiduciary Net Position	0
Net OPEB Liability	\$1,719,493
Plan Fiduciary Net Position as a percentage of Total OPEB Liability	0%

### Sensitivity of the net OPEB liability to changes in the discount rate

The following presents the net OPEB liability of the plans, calculated using the discount rate of 3.56%, as well as what each plan's net OPEB liability would be if it were calculated using a discount rate that is 1.00% lower or 1.00% higher than the current rate:

	<b>1% Decrease</b>	<b>Current Discount Rate</b>	<b>1% Increase</b>
	<u>2.56%</u>	<u>3.56%</u>	<u>4.56%</u>
Total OPEB Liability	\$1,884,213	\$1,719,493	\$1,566,115
Plan Net Position	0	0	0
Net OPEB Liability	\$1,884,213	\$1,719,493	\$1,566,115
Ratio of Plan Net Position to Total OPEB Liability	0%	0%	0%

### Sensitivity of the net OPEB liability to changes in the trend rate

The following presents the net OPEB liability of the plans, calculated using the healthcare trend rate of from 6.00% to an ultimate rate of 4.25%, as well as what each plan's net OPEB liability would be if it were calculated using trend rates for each year that are 1.00% lower or 1.00% higher than the current rates:

	<b>1% Decrease</b>	<b>Current Ultimate Trend Rate</b>	<b>1% Increase</b>
	<u>3.25%</u>	<u>4.25%</u>	<u>5.25%</u>
Total OPEB Liability	\$1,534,476	\$1,719,493	\$1,928,612
Plan Net Position	0	0	0
Net OPEB Liability	\$1,534,476	\$1,719,493	\$1,928,612
Ratio of Plan Net Position to Total OPEB Liability	0%	0%	0%



### Changes in Net OPEB Liability

	Fiscal Year
<u>Total OPEB Liability</u>	<u>2017</u>
Service Cost	\$50,240
Interest	59,861
Changes in benefit terms	0
Difference between expected and actual experience	0
Changes in assumptions	0
<u>Benefit payments (implicit subsidy)</u>	<u>(43,247)</u>
Net Change in Total OPEB Liability	\$ 66,854
 Total OPEB Liability - Beginning of Year	 \$1,652,639
Total OPEB Liability - End of Year	\$1,719,493
 <u>Plan Fiduciary Net Position</u>	
Contributions - employer	\$ 43,247
Contributions - member	0
Net investment income	0
Benefit payments (implicit subsidy)	(43,247)
Admin. expenses	0
<u>Other</u>	<u>0</u>
Net Change in Plan Fiduciary Net Position	\$ 0
 Plan Fiduciary Net Position - Beginning of Year	 \$ 0
Plan Fiduciary Net Position - End of Year	\$ 0
 Net OPEB Liability - Beginning of Year	 \$1,652,639
Net OPEB Liability - End of Year	\$1,719,493
Plan Fiduciary Net Position as a percentage of Total OPEB Liability	0%
Covered Employee Payroll	\$12,801,489
Net OPEB Liability as a percentage of Covered Payroll	13.4%

## Employer Contributions

Year	Actuarially Determined Employer Contribution	Actual Employer Contribution	Contribution Deficiency/(Excess)	Covered Payroll	Contribution as a Percent of Payroll
2010	\$121,528	\$54,688	\$66,840		
2011	\$127,093	\$59,734	\$67,359	\$11,077,000	0.5%
2012	\$127,461	\$70,104	\$57,357		
2013	\$105,404	\$54,718	\$50,686	\$11,276,000	0.5%
2014	\$107,420	\$59,369	\$48,051		
2015	\$92,218	\$54,100	\$38,118	\$12,589,810	0.4%
2016	\$92,094	\$29,661	\$62,433		
2017	\$116,850	\$43,247	\$73,603	\$12,801,489	0.3%

The employer contributions above represent amount paid in OPEB to retirees, including an estimate of the implicit subsidy.

## Actuarial Information

### Actuarial assumptions

The total OPEB liability was determined by an actuarial valuation as of January 1, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Investment Return: 3.56%, net of investment expense and including inflation

Salary Increases: 2.50% per year

Healthcare Trend: 6.00% initially, grading down to 4.25% ultimate

Mortality rates RP 2000 table projected to 2027 with scale BB.

*Changes in Actuarial assumptions.* There were no changes in actuarial assumptions during fiscal year 2017.

### Actuarial Methods for Determining Employer Contributions

The same economic and demographic assumptions are used for both funding and financial reporting purposes under GASB 74/75.

The Entry Age method is used for accounting/GASB purposes, therefore all of the actuarial figures within this Report are based on it. Although there is no prefunding of benefits at this time, an actuarially determine contribution is computed based on a 30 year amortization of the unfunded actuarial liability (as of January 1, 2017).

## Discount Rate

The discount rate used to measure the total OPEB liability is 3.56%. There is no prefunding of benefits in an OPEB trust for this plan, therefore the discount rate is equal to the yield on a 20 year municipal bond Aa index as of June 30, 2017.

Source: Fidelity general obligation municipal bond index.

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## **GASB 75: Employer Reporting**

The Net OPEB Liability as of June 30, 2017 was established under GASB 74. The purpose of GASB 75 is to outline the changes in the NOL over time, via the OPEB Expense.

The OPEB Expense under GASB 75 will include the cost of benefits accrued, interest cost for elapsed time, administrative expenses, decreases for benefits paid and for employee contributions, differences between actual and assumed experience, and other adjustments resulting from changes in assumptions or plan provisions.

GASB 75 will be implemented as of June 30, 2018, and will include information on the OPEB Expense, Deferred Inflows and Outflows of Resources, and recognition schedules for such.

Investment gains and losses for each year, beginning with FY2018, will be recognized over five years. Demographic gains and losses as well as assumption changes will be recognized over the average remaining working lifetimes of all plan participants, which could vary from year to year. In general, the impact of any plan changes will be recognized immediately.

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## Transition Year Information (GASB 45)

### Annual OPEB Cost

GASB 45 sets the method for determining the Town's retiree Post-Retirement Benefits accrual to include both the value of benefits earned during the year (Normal Cost) and an amortization of the Unfunded Actuarial Accrued Liability (AAL). Accordingly, the following table shows the Town's Annual Required Contribution (ARC) based on a 30 year amortization of the unfunded AAL, as a level percentage of pay.

	Fiscal Year 2017
Normal Cost	\$51,751
Unfunded AAL Amortization	64,829
Annual Required Contribution (ARC)	\$116,580

The following illustrates the Town's Annual OPEB Cost, which is equal to the ARC plus adjustments due to the prior year's Net OPEB Obligation.

	FY 2017
Annual Required Contribution (ARC)	\$116,580
Interest on NOO	18,270
Adjustment to ARC	(19,960)
Annual OPEB Cost (AOC)	\$114,890

### Net OPEB Obligation (NOO)

Based on the AOC developed above, the following is the June 30, 2017 Net OPEB Obligation

	FY 2017
Net OPEB Obligation (NOO) – Beginning of Year	\$522,008
Annual OPEB Cost (AOC)	114,890
Employer Contributions (implicit subsidy)	43,247
Change in Net OPEB Obligation	71,643
Net OPEB Obligation (NOO) – End of Year	\$593,651

## Plan Membership

The following is a summary of plan membership as of January 1, 2017.

Number of Participants	Total
Active	141
Retired	14
Spouse	5
Total Participants	160

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## Plan Descriptions

### Medical/Drug/Dental Plan

#### Town of Vienna Medical Plan

### Eligibility

Town of Vienna employees are eligible to continue group insurance coverage after retirement provided that:

- a. Retiring employees have coverage in effect when they stop working.
- b. Retirement commences on the first of the month, following the last day they are employed.
- c. Retirement Eligibility: Public Safety – unreduced pension benefits with VRS at age 50 with 20 years of service or 20 years of service with the Town and reduced pension benefits is age 50 and 5 years of service.

General Employees – unreduced pension benefit at age 50 with 30 years of service and reduced pension benefit at age 50 with 5 years of service.

### Retiree Payment

All retirees pay 100% if the premium cost for their elected coverage. Two disabled retirees have their premiums reimbursed from the State.

### Health Plan Benefits

Retirees under 65 can choose from either BC/BS KA-250 Comp, BC/BS KA-500 Comp or Kaiser HMO. Retirees may elect to cover their spouse.

Retirees over 65 may choose from one of two Medicare Supplement plans.

Benefits are available for the lifetime of the retiree only.

It is assumed that the total cost of coverage for most pre-65 retirees is higher than the premium amount resulting in implicitly subsidized costs. It is also assumed that the total cost of coverage for post-65 retirees is equal to the premium amount. It is assumed that the total cost of the dental insurance is equal to the premium (i.e. no implicit subsidy).



## Glossary of Terms

Actuarial Accrued Liability (AAL)*:	The portion of benefits deemed to be accrued by participants based on past service. The AAL serves as the asset <b>funding</b> target, when annual contributions are determined.
Actuarial Value of Assets (AVA)*:	The smoothed value of assets, used to compute the Unfunded AAL. The purpose of the AVA is to control volatility in annual <b>cash contributions</b> .
Amortization of Unfunded Liability*:	The portion of the <b>annual cash contribution</b> that represents a portion of the Unfunded AAL. The amortization can be positive or negative.
Actuarially Determined Employer Contribution (ADEC):	The contribution determined by the actuary for <b>funding purposes</b> .
Employer's Contributions:	Contributions made in relation to the ADEC. An employer has made a contribution in relation to the ARC if the employer has (a) made payments of benefits directly to or on behalf of a retiree or beneficiary, (b) made premium payments to an insurer, or (c) irrevocably transferred assets to a trust, or an equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employers(s) or plan administrator.
Deferred Inflow of Resources:	An acquisition of net assets by the government that is applicable to a future reporting period.
Deferred Outflow of Resources:	A consumption of net assets by the government that is applicable to a future reporting period.
Discount Rate:	The rate used to adjust future benefit payments or a stream of payments, to reflect the time value of money. This rate may be different for accounting purposes versus plan funding.
Market Value of Assets (MVA):	The total value of Plan assets available to pay benefits.
Net OPEB Liability:	The difference between the Total OPEB Liability and the Plan Fiduciary Net Position. Can be positive or negative.
OPEB Expense:	The change in Net OPEB Liability during the fiscal year, with partial recognition of deferred inflows/outflows.
Plan Fiduciary Net Position:	The fair market value of assets on the measurement date, for accounting purposes. It is often equal to the MVA.

\* actuarial **funding** terminology

Service Cost:	That portion of the annual contribution that represents one year's accrual of benefits. In funding calculations, this is known as the Normal Cost.
Total OPEB Liability:	The present value of past service benefits for all plan members, as determined for accounting purposes.
Unfunded Actuarial Accrued Liability*:	The difference between the Actuarial Value of Assets and the Actuarial Accrued Liability, used for <b>funding purposes</b> .

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# **Retirement Plan for Employees of the Town of Vienna**

## **Actuarial Valuation for Funding and Contributions**

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**as of July 1, 2017**

January, 2018

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## Executive Summary

The following report sets forth the Actuarial Valuation of the Retirement Plan for Employees of the Town of Vienna, Virginia (the Plan) as of July 1, 2017 for the Fiscal Year July 1, 2018 through June 30, 2019. This report is based on participant data as of July 1, 2017 and Assets as of June 30, 2017 as submitted by the Town. We relied on this information without auditing it.

### **INVESTMENT PERFORMANCE** (page 4)

The Market Value of Plan Assets for the plan year ending June 30, 2017 was \$2,413,075. The total yield of the fund for the plan year ending June 30, 2017 was 0.74%.

### **FUNDING PROGRESS** (page 6)

The ratio of plan assets to actuarial liability has increased by 8% since the prior valuation. This is due to a lower than expected actuarial liability.

### **FUNDING RECOMMENDATION** (page 7)

The recommended Town contribution for the fiscal year ending June 30, 2019 is \$159,987, a decrease of about \$34,000 since the prior valuation. This decrease is a result of the lower actuarial liability and corresponding amortization payment.

This report is prepared in accordance with generally accepted actuarial principles and practices. The actuarial assumptions used in this Study are reasonably related to Plan experience and expectations, and represent the actuary's best estimate of anticipated Plan experience. The first undersigned is a member of the American Academy of Actuaries, and is qualified to render the actuarial opinions presented in this report.

Respectfully Submitted,

BOOMERSHINE CONSULTING GROUP, L.L.C.



Gregory M. Stump, FSA, EA, MAAA, FCA



Kelly A. Carver, Senior Consultant

## Plan Asset Information

### TRUST FUND STATEMENT FOR THE YEAR ENDING JUNE 30, 2017

Market Value of Fund as of July 1, 2016	\$2,368,624
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**Receipts:**

Employer Contributions	194,186
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Member Contributions	0
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Interest Revenue	17,518
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Total Operating Revenue	\$211,704
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**Operating Expenses:**

Distributions to Participants/ Beneficiaries	\$163,028
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Other Charges	4,225
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Total Operating Expenses	\$167,253
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Net Increase/(Decrease) in Assets	<u>\$44,451</u>
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Market Value of Fund as of June 30, 2017	\$2,413,075
--	-------------

Estimated Rate of Return for fiscal year 2017:	0.74%
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## Demographic Summary

### INACTIVE PARTICIPANTS

Age	Retired	Terminated Vested	Disabled	Beneficiaries	Total Benefit (Annual)
40-44	\$ 0	\$ 338	\$ 0	\$ 0	\$ 338
45-49	0	3,225	0	0	3,225
50-54	0	9,718	0	0	9,718
55-59	24,616	14,429	3,337	0	42,381
60-64	14,278	12,699	0	0	26,977
65-69	27,146	4,845	0	5,339	37,329
70-74	30,326	4,648	0	3,661	38,635
75-79	18,876	816	0	7,103	26,795
80 & over	30,208	1,817	0	2,485	34,510
<b>Total</b>	<b>\$145,449</b>	<b>\$52,533</b>	<b>\$3,337</b>	<b>\$18,588</b>	<b>\$219,908</b>

### CHANGES IN PLAN POPULATION

	Active Participants	Terminated w/Deferred Benefits	Receiving Benefits	Total
Participants as of July 1, 2015	17	59	44	120
Retired	(2)		2	
Terminated Vested				
Terminated Non-Vested				
Disabled				
Deceased	(1)		(3)	(4)
New Beneficiary / QDRO				
New Hires				
Data Adjustments		11		11
Participants as of June 30, 2017	14	70	43	127

## Actuarial Computations

### Summary of Actuarial Liability

	<u>7/1/2015</u>	<u>7/1/2017</u>
Number of Participants		
Active	17	14
Retirees/Beneficiaries	42	42
Deferred Vested	59	70
Disabled	<u>2</u>	<u>1</u>
Total	120	127
Covered Payroll		
Actual Pay Rate on valuation date	\$ 1,127,008	\$ 967,718
Projected Payroll	955,626	632,098
Actuarial Accrued Liability (AAL)		
Active	\$ 1,154,167	\$ 1,051,000
Retirees/Beneficiaries	2,449,125	2,070,547
Deferred Vested	515,754	606,825
Disabled	<u>49,745</u>	<u>40,973</u>
Total AAL	\$ 4,168,791	\$ 3,769,345
Plan Assets	2,352,718	2,413,075
Unfunded Actuarial Liability	1,816,073	1,356,270
Ratio of Plan Assets to Actuarial Liability	56.4%	64.0%



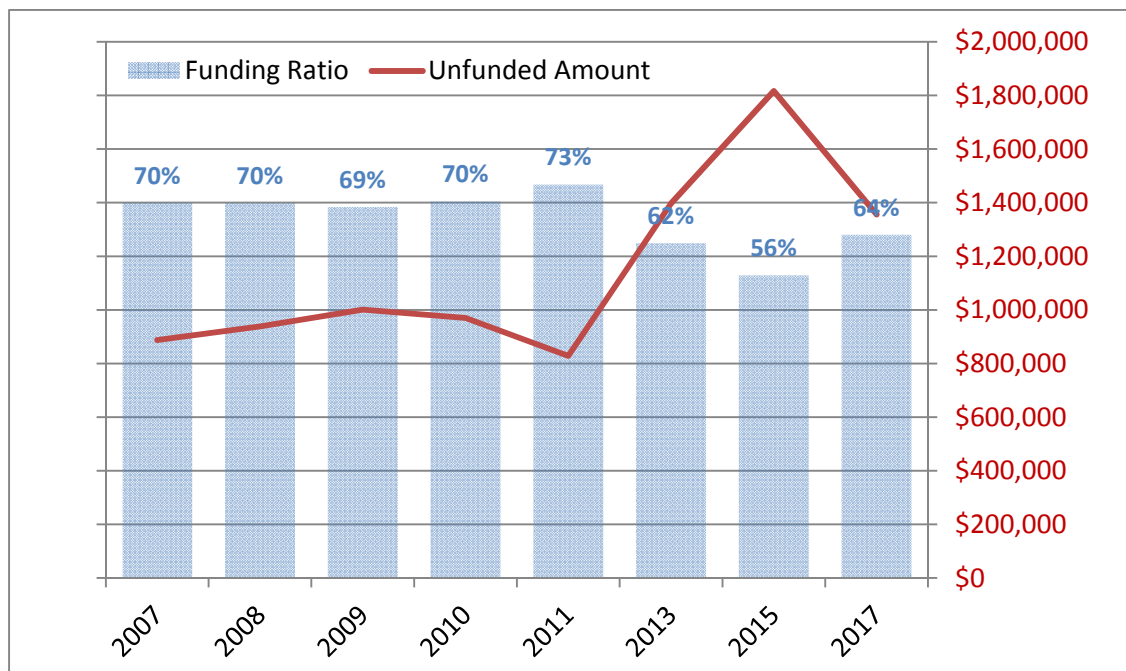
## Development of Town Contribution

Valuation Date	7/1/2015	7/1/2017
Fiscal Years	<u>2017 &amp; 2018</u>	<u>2019 &amp; 2020</u>
Normal Cost (beginning of year)	\$ 26,838	\$ 21,151
Percentage of Valuation Pay	2.4%	2.2%
Actuarially Determined Contribution (ADC)		
Normal Cost	26,838	21,151
Amortization of Unfunded Liability	159,432	132,314
	(15 years)	(13 years)
<u>Interest to End of Year</u>	<u>7,916</u>	<u>6,522</u>
<b>Total ADC</b>	<b>\$ 194,186</b>	<b>\$ 159,987</b>
Projected Payroll	955,626	632,098
Contribution as a Percentage of Pay*	20.3%	25.3%

\* for informational purposes only

## History of Funding Progress

<u>Valuation Date</u>	<u>Actuarial Value of Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Unfunded Actuarial Accrued Liability</u>	<u>Percentage Funded</u>
1/1/2006	\$ 1,975,919	\$ 2,891,396	\$ 915,477	68.3%
1/1/2007	2,067,554	2,955,390	887,836	70.0%
1/1/2008	2,182,001	3,120,154	938,153	69.9%
1/1/2009	2,250,356	3,251,130	1,000,774	69.2%
1/1/2010	2,288,525	3,258,352	969,827	70.2%
7/1/2011	2,285,660	3,113,956	828,296	73.4%
7/1/2013	2,322,568	3,719,245	1,396,677	62.4%
7/1/2015	2,352,718	4,168,791	1,816,073	56.4%
7/1/2017	2,413,075	3,769,345	1,356,270	64.0%



## Actuarial Assumptions and Methods

Funding Method:	Individual Entry Age
Amortization of Unfunded Liability:	Level Dollar Amortization, 13 years remaining
Mortality:	Combined Annuitant/Non-Annuitant RP-2000 tables for Males/Females, projected to 2020 with Scale AA; Disabled Retirees RP-2000 tables for Males/Females
Investment Return/Discount Rate:	4.25% per year
Inflation/Cost-of-living-adjustments:	2.50% per year, subject to terms of the Plan
Retirement from Town:	Retirements are assumed to occur at the earlier of age 65, or age 55 with 30 years of service.
Salary Increases:	Promotion and longevity increases are assumed to be 4.1% annually for the first 20 years of service, and 0% per year thereafter, in addition to cost of living increases (currently assumed to be 2.5% per year).
Withdrawal:	Rates based on age as shown below (representative rates):

Age	Probability of Termination
25	5.35%
35	4.61%
45	3.57%
55	1.38%
65+	0.00%

Terminated employees who are vested are assumed to commence benefits at age 65.

### Changes in Assumptions and Methods

One change in methodology was made since the last valuation: the inclusion of all prior terminated vested records, whereas older records were previously excluded.

## Outline of Plan Provisions

Membership:	All full-time employees hired before January 1, 2006 (other than the Town Manager and Police Officers) whose customary employment is for more than forty hours per week and for more than five months per year become participants on the first day of the month coinciding with or following date of employment. The Plan was closed to those hired on or after 1/1/2006.
Contributions:	The Town pays the entire cost of the Plan.
Service Retirement Eligibility:	
(a) Normal Retirement:	The earlier of attainment of age 65 or attainment of age 50 and 30 years of service.
(b) Early Retirement:	First day of the month after attainment of age 50 with less than 30 years of service.
Service Retirement Allowance:	
(a) Normal Retirement:	Lifetime benefit of one quarter of one percent of highest three-year average salary for each year of credited service.
(b) Early Retirement:	Accrued benefit, reduced by one half of one percent per month for the first 60 months by which early retirement date precedes 65 or the date on which the member would have completed 30 years of service, and reduced by four tenths of one percent for all additional months.
Disability Retirement Eligibility:	Five years of credited service and totally and permanently disabled prior to age 65, or compensable by Workers Compensation.
Disability Retirement Allowance:	Lifetime benefits of one quarter of one percent of the participant's average final compensation at his date of disability retirement multiplied by his "Disability Credited Service." "Disability Credited Service" equals the lesser of (a) twice the participant's actual period of credited service or (b) the credited service he would have had at age 60 except that for persons becoming disabled after 60, "Disability Credited Service" equals actual credited service.
Deferred Vested Benefit:	A participant whose employment terminates after age 60 or after completion of 5 years of credited service is entitled to his accrued benefit at age 65. Reduced benefits are payable for early retirements as described above.

Optional Modes of Payment:	Actuarially equivalent Joint and Survivor or Social Security options are available.
Survivor's Death Benefit:	<p>If a participant dies in service after attaining age 60 or after completing 30 years of credited service, a retirement allowance will be paid to his surviving spouse, if any, in the amount that would have been paid to such spouse if the participant had retired on the first day of the month coinciding with or next following his date of death after having elected payment under a joint and last survivor optional payment form, with spouse named as contingent annuitant.</p> <p>If the participant's death occurs prior to Normal Retirement Date (NRD), election of a 50% continuation to the contingent annuitant is assumed when determining the amount payable to the spouse. If death occurs at or after NRD, a 100% continuation is assumed.</p> <p>If payable as the result of the death of a participant before attaining age 60, the allowance described in the preceding paragraph is reduced by one half of one percent for each complete month in the period between the benefit commencement date and the date the participant would have attained age 60.</p>
Cost-of-Living Adjustment:	Each allowance in course of payment is adjusted annually as of July 1 <sup>st</sup> to reflect changes in the Consumer Price Index between its value for the month the allowance began and its value for the month of March prior to computation of the adjustment. Such adjustment will not exceed 5% annually. No benefits are reduced below their initial amount.

There have been no changes in Plan provisions since the prior valuation.

## Glossary of Terms

Actuarial Accrued Liability (AAL):	The portion of benefits deemed to be accrued by participants based on past service. The AAL serves as the asset <b>funding</b> target, when annual contributions are determined.
Actuarial Value of Assets (AVA):	The smoothed value of assets, used to compute the Unfunded AAL. The purpose of the AVA is to control volatility in annual <b>cash contributions</b> .
Amortization of Unfunded Liability:	The portion of the <b>annual cash contribution</b> that represents a portion of the Unfunded AAL. The amortization can be positive or negative.
Actuarially Determined Employer Contribution (ADEC):	The contribution determined by the actuary for <b>funding purposes</b> .
Discount Rate:	The rate used to adjust future benefit payments or a stream of payments, to reflect the time value of money. This rate may be different for accounting purposes versus plan funding.
Market Value of Assets (MVA):	The total value of Plan assets available to pay benefits.
Normal Cost:	That portion of the annual contribution that represents one year's accrual of benefits. In financial reporting, this is known as the Service Cost.
Unfunded Actuarial Accrued Liability:	The difference between the Actuarial Value of Assets and the Actuarial Accrued Liability, used for <b>funding purposes</b> .



# **Retirement Plan for the Law Enforcement Employees of the Town of Vienna**

## **Actuarial Valuation for Funding and Contributions**

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**as of July 1, 2017**

January, 2018

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## Executive Summary

The following report sets forth the Actuarial Valuation of the Retirement Plan for the Law Enforcement Employees of the Town of Vienna, Virginia (the Plan) as of July 1, 2017 for the Fiscal Year July 1, 2018 through June 30, 2019. This report is based on participant data as of July 1, 2017 and Assets as of June 30, 2017 as submitted by the Town. We relied on this information without auditing it.

### INVESTMENT PERFORMANCE (page 4)

The Market Value of Plan Assets for the plan year ending June 30, 2017 was \$3,150,907. The total yield of the fund for the plan year ending June 30, 2017 was 0.75%.

### FUNDING PROGRESS (page 6)

The ratio of plan assets to actuarial liability has decreased by 1.7% since the prior valuation. This is due to a lower than expected return on plan assets, as well as one retirement.

### FUNDING RECOMMENDATION (page 7)

The total contribution rate (Employer plus Employee) based on this valuation is 10.50%. We recommend that the contribution for the fiscal year ending June 30, 2019 be determined by applying this rate to the fiscal year payroll and reducing the result by the member contributions during the fiscal year. This will result in an expected Town contribution of \$298,271 or 9.00% of covered payroll. While the percentage of pay cost remains relatively level, the dollar amount is higher due to a higher payroll.

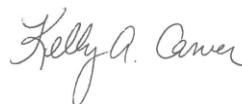
This report has been prepared in accordance with generally accepted actuarial principles and practices. The actuarial assumptions used in this Study are reasonably related to Plan experience and expectations, and represent the actuary's best estimate of anticipated Plan experience. The first undersigned is a member of the American Academy of Actuaries, and is qualified to render the actuarial opinions presented in this report.

Respectfully Submitted,

BOOMERSHINE CONSULTING GROUP, L.L.C.



Gregory M. Stump, FSA, EA, MAAA, FCA



Kelly A. Carver, Senior Consultant

## Plan Asset Information

### TRUST FUND STATEMENT FOR THE YEAR ENDING JUNE 30, 2017

Market Value of Fund as of July 1, 2016	\$3,101,501
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**Receipts:**

Employer Contributions	208,791	
Member Contributions	46,296	
Interest Revenue	23,417	
Total Operating Revenue		\$278,504

**Operating Expenses:**

Distributions to Participants/ Beneficiaries	\$175,167	
Other Charges	7,585	
Contribution Refunds	27,823	
Interest on Contribution Refunds	18,524	
Total Operating Expenses		\$229,099

Net Increase/(Decrease) in Assets	\$49,406
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Market Value of Fund as of June 30, 2017	\$3,150,907
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Estimated Rate of Return for fiscal year 2017:	0.75%
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Source: Town's unaudited financials

## Demographic Summary

### INACTIVE PARTICIPANTS

<b>Age</b>	<b>Number of Members Receiving Town Benefit</b>	<b>Permanent Benefit</b>	<b>Temporary Prior to VRS Retirement</b>
50-54	4	\$ 32,978	0
55-59	4	13,630	0
60-64	2	13,459	0
65-69	4	27,151	0
70-74	3	29,044	0
75-79	6	43,848	0
80 & over	2	27,812	0
<b>Total</b>	<b>25</b>	<b>\$ 187,922</b>	<b>\$0</b>

### CHANGES IN PLAN POPULATION

	<b><u>Active Participants</u></b>	<b><u>Terminated w/Deferred Benefits</u></b>	<b><u>Receiving Benefits</u></b>	<b><u>Total</u></b>
Participants as of July 1, 2015	41	0	24	65
Retired	(1)		1	0
Terminated Vested				0
Terminated Non-Vested	(6)			(6)
Disabled				
Deceased/Payments Expired				
New Beneficiary / QDRO				
Rehired				
New Hires	5			5
Data Adjustments				
Participants as of June 30, 2017	39	0	25	64

## Actuarial Computations

### Summary of Actuarial Liability

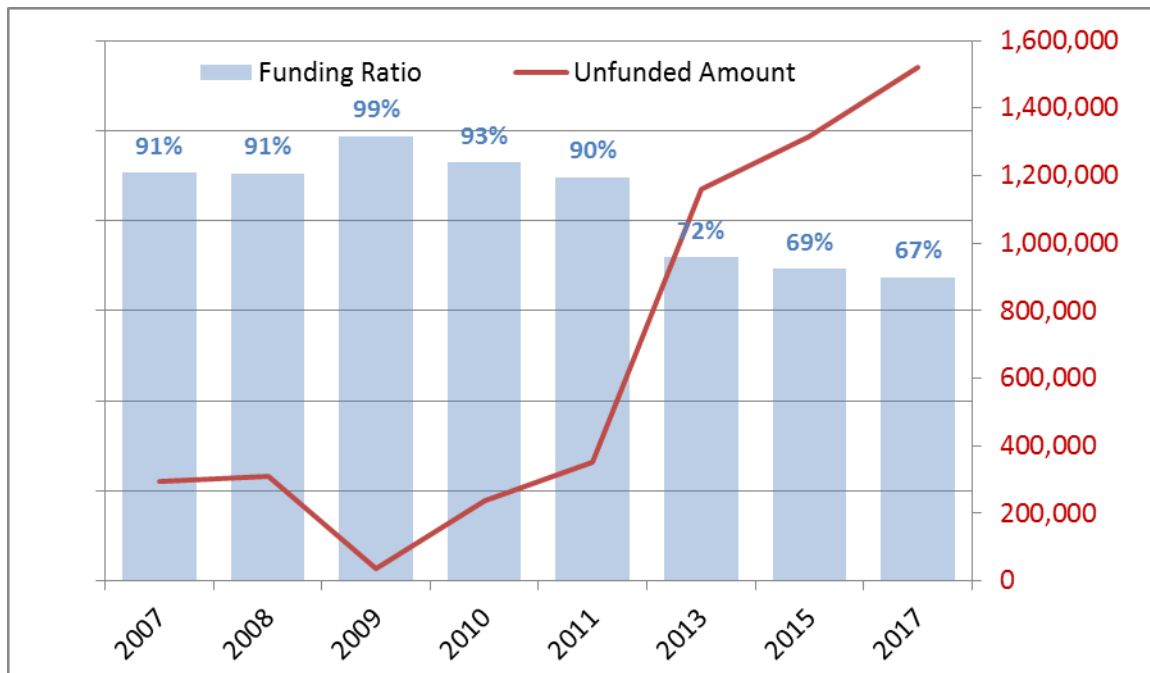
	<u>7/1/2015</u>	<u>7/1/2017</u>
Number of Participants		
Active	41	39
Retirees/Beneficiaries	24	25
Deferred Vested	0	0
Disabled	<u>0</u>	<u>0</u>
Total	65	64
Covered Payroll		
Actual Pay Rate on valuation date	\$ 3,217,368	\$ 3,223,095
Projected Payroll	3,297,802	3,303,672
Actuarial Accrued Liability (AAL)		
Active	\$ 1,716,459	\$ 1,960,992
Retirees/Beneficiaries	2,558,542	2,709,587
Deferred Vested	0	0
Disabled	<u>0</u>	<u>0</u>
Total AAL	\$ 4,275,002	\$ 4,670,580
Plan Assets	2,959,976	3,150,907
Unfunded Actuarial Liability	1,315,026	1,519,673
Ratio of Plan Assets to Actuarial Liability	69.2%	67.5%

## Development of Town Contribution

Valuation Date	<b>7/1/2015</b>	<b>7/1/2017</b>
Fiscal Years	<b><u>2017 &amp; 2018</u></b>	<b><u>2019 &amp; 2020</u></b>
Normal Cost (beginning of year)	\$ 202,475	\$ 206,069
Normal Cost rate (percentage of pay)	6.29%	6.38%
Actuarially Determined Contribution (ADC)		
Normal Cost	\$ 202,475	\$ 206,069
<u>15 Year Amortization of Unfunded Liability</u>	<u>115,445</u>	<u>133,411</u>
Total ADC	\$ 317,920	\$ 339,480
Total Contribution Rate, Percentage of Payroll	9.88%	10.50%
Member Contribution Rate, Percentage of Payroll	-1.50%	-1.50%
<b>Town Contribution Rate as Percentage of Payroll</b>	<b>8.38%</b>	<b>9.00%</b>
Projected Payroll	\$ 3,297,802	\$3,303,672
<b>Total Estimated Town Contribution</b>	<b>\$ 276,356</b>	<b>\$ 298,271</b>

## History of Funding Progress

<u>Valuation Date</u>	<u>Actuarial Value of Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Unfunded Actuarial Accrued Liability</u>	<u>Percentage Funded</u>
1/1/2006	\$ 2,744,895	\$ 2,857,574	\$ 112,679	96.1%
1/1/2007	2,830,414	3,124,663	294,249	90.6%
1/1/2008	2,958,622	3,266,674	308,052	90.6%
1/1/2009	3,035,785	3,072,196	36,411	98.8%
1/1/2010	3,073,793	3,310,083	236,290	92.9%
7/1/2011	3,013,064	3,362,964	349,900	89.6%
7/1/2013	2,952,020	4,112,478	1,160,458	71.8%
7/1/2015	2,959,976	4,275,002	1,315,026	69.2%
7/1/2017	3,150,907	4,670,580	1,519,673	67.5%



## Actuarial Assumptions and Methods

Funding Method:	Individual Entry Age
Amortization:	15 Years, Level Dollar, Open
Mortality:	Retired Pensioners 2000 tables for Male, Female and Disabled, with Blue Collar adjustments and projected to 2020 with Scale AA.
Investment Return/Discount Rate:	4.25% per year
Inflation/Cost-of-living-adjustments:	2.50% per year, subject to terms of the Plan.
Retirement from Town:	Retirements are assumed to vary by service, according to the following:

Years of Service	Probability of Retirement
20	15%
21-24	12%
25-29	16%
30-31	20%
32+	100%

VRS Retirement:	Members are assumed to commence Virginia Retirement System (VRS) benefits at the later of current age or age 50. VRS benefits are estimated using the same pay and service as used for Town benefits.
Salary Increases:	Promotion and longevity increases are assumed to be 5.0% per year for the first 10 years and 1.0% per year thereafter in addition to cost of living increases equal to inflation (assumed to be 2.5% per year), resulting in a combined 7.5% per year for the first 10 years, and 3.5% thereafter.
Withdrawal:	Rates based on age as shown below:

Age	Probability of Termination
Under 25	4%
25-29	3%
30-34	2%
35-39	1%
40+	0%

### Changes in Assumptions and Methods

No changes since prior valuation.

## Outline of Plan Provisions

Contribution by Members:	Each member contributes one and one-half of one percent of their pay.
Contribution by Town:	The Town contributes the remaining portion of the total contribution.
Retirement Eligibility:	20 years of creditable service.
Retirement Allowance:	<p>Lifetime benefit of 2% of highest consecutive three-year average salary for each of the first 25 years of service, offset by the Virginia Retirement System (VRS) benefit described below.</p> <p>If, at the time the officer retires from service as a member of the Police Department of the Town, he is entitled to receive from the VRS monthly periodic retirement payments (exclusive of the Social Security supplement) that are greater than provided for him under the Town plan, he shall receive a refund of his previous contributions.</p>
Cost-of-Living Adjustments:	Commencing at the earlier of (i) the retired member's attainment of age 55 or (ii) his qualifying for disability benefits under Social Security, each allowance being paid is increased on July 1 of each year by the smaller of (i) 5% or (ii) the increase in the Consumer Price Index over the 12-month period ending on the prior March 31.
Death Benefits:	Refund of contributions if not eligible to retire. Beneficiary can elect an annuity in lieu of refund if participant was eligible for retirement.
Optional Modes of Payment:	Actuarially equivalent Joint and Survivor benefit.
Benefits upon Termination of Employment, Other than by Retirement:	Refund of employee contributions.
Virginia Retirement System (VRS) Benefit:	<p>VRS allows early retirement at age 50 with 5 years of service. The benefit is a lifetime benefit of 1.7% of highest three-year average salary multiplies by years of service. The benefit is reduced for the time by which retirement precedes the date on which the member would have reached the earlier of age 60 and age 50 with 25 years of service. The reduction is one-half of one percent for each month prior to full eligibility up to 60 months, and four tenths of one percent for each additional month.</p> <p>This benefit is subject to cost-of-living increases. If a member has 25 or more years of service and has not attained age 53 at retirement, cost-of-living increases will not start until the calendar year of attainment of age 55.</p>

There have been no changes in Plan provisions since the prior valuation.



## Glossary of Terms

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