October 19, 2018

Village of Grosse Pointe Shores, a Michigan City
Grosse Pointe Shores, Michigan 48236

Attention: Mr. Mark Wollenweber, City Manager

This report contains the results of an actuarial valuation of the liabilities associated with retiree health benefits provided by the Village of Grosse Pointe Shores Retiree Health Care Fund, together with computed contributions to systematically finance these benefits.

The date of the valuation was June 30, 2018.

The purpose of the actuarial valuation is to:

- Compute the liabilities associated with post- employment health benefits likely to be paid on behalf of current retired, inactive vested and active employees, and

- Compute a pre-funding contribution rate to finance post-employment health benefits as they accrue.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices. Data concerning active members, retirees and beneficiaries was provided by the City. This data has been reviewed for reasonableness, but no attempt has been made to audit such information.

Respectfully submitted,

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Village of Grosse Pointe Shores Retiree Health Care Fund

Actuarial Valuation as of June 30, 2018

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Section One:

Valuation Summary

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Purpose of Valuation

The purpose of the annual actuarial valuation of the Village of Grosse Pointe Shores Retiree Health Care Fund as of June 30, 2018 is to:

- ❖ Compute the liabilities associated with post-employment health benefits likely to be paid on behalf of current retired, inactive vested and active participants,
- ❖ Compute a pre-funding contribution rate to finance the benefits as they accrue.

Assumptions Used in the Valuation

The liabilities and pre-funding contribution rate are very sensitive to the long-term assumptions used in making the valuation. The assumptions used in making this valuation, summarized in Section Four, are only one reasonable set out of a large number of possibilities. To the extent that actual experience differs from the long-term assumptions, the liabilities and contribution rates will be greater or less than those indicated in this report. The assumptions having the greatest impact are the rate of medical care inflation and the investment return rate. We have assumed a 6.0% annual increase for medical care inflation in the first year, decreasing in increments of 0.1% over the next 10 years to the ultimate 5.0% assumption. The assumed investment return rate was 7.00%. Please refer to Comments 2 and 3 on pages 4 and 5. Liabilities and computed contributions can change significantly in future years depending upon the actual and assumed rates of medical care inflation, investment return, benefit provisions and demographics of the participant group.

Actuarial Accrued Liabilities

Accrued liabilities of the post-employment health benefits as of June 30, 2018, were computed to be $10,979,664. Of this amount, $4,853,503 was attributable to current active employees, $1,443,479 was attributable to inactive vested participants and $4,682,681 was attributable to current retirees.

Funding Value of Assets

As of June 30, 2018 the asset balance (market value) was reported to be $1,763,333. This amount was used as the funding value of assets for the purpose of this actuarial valuation.

Computed Annual Required Contribution Rate

The total employer contribution rate computed to pre-fund the benefits expressed as a percent of active employee payroll was computed to be 44.59%. There are two components of this rate, the normal cost and an amortization payment for unfunded actuarial accrued liability. The normal cost contribution rate was computed to be 11.92% of active payroll. The amortization payment was computed to be 32.67% of active payroll. The amortization period used was 30 years.

Participants

Active Employees	21
Active Participant Payroll	$1,577,861
Retirees	28
Inactive Vested Participants	7

Post-Retirement Health Care Rates

Illustrative rates for BCBS, Medicare Advantage and Prescription Drugs, together with current enrollment information, were submitted for current active, retired and deferred vested members.

Section Two:

Actuarial Calculations – Funding

Actuarial Accrued Liabilities

The actuarial accrued liabilities as of June 30, 2018 were computed to be the following:

Active participants	$4,853,503
Vested inactive participants	1,443,479
Retirees and beneficiaries	4,682,681
Total	10,979,664
Less: Valuation Assets	1,763,333
Unfunded Actuarial Accrued Liabilities	$9,216,331
Funded Ratio	16.1%

Computed Annual Required Contribution (ARC) – Fiscal Year Beginning July 1, 2018

The computed contribution rate consists of two components: normal cost and amortization of unfunded actuarial accrued liability. Normal cost was computed to be a level percent of payroll from date of hire to date of termination. The normal cost can be considered to be the ongoing cost of the Plan.

The portion of the total present value of future benefits allocated to service already rendered is the actuarial accrued liability. Deducting the valuation assets produces the unfunded actuarial accrued liability. We have amortized the unfunded actuarial accrued liability (UAAL) over 30 years. The amortization payments were computed to remain level as percents of payroll.

The contribution rates shown below are expressed as level percents of active employee payroll. The annual dollar amounts of contributions are assumed to increase as payroll increases. Actual benefits paid on behalf of retirees may be treated as employer contributions for purposes of the Annual Required Contribution.

	Annual Required Contribution As a Level % of Payroll
Normal Cost – Total	12.42%
- Employee Contribution	0.50
- Net	11.92
Unfunded Actuarial Accrued Liability	32.67
Total Computed Contribution Rate	44.59%
Annual Required Contribution	$703,602

Comments

Comment 1: For purposes of this valuation we have assumed a rate of investment return (7.00%) based upon the assumption that the employer will contribute the actuarially determined annual required contribution. If a lower rate of investment return is assumed, the liabilities and ARC would be greater. If a higher rate of investment return is assumed the liabilities and ARC would be lower.

Comment 2: Liabilities for health benefits are highly dependent upon the underlying assumptions concerning medical care inflation and the investment return rate. For the purposes of this valuation, we assumed a 7.00% investment return rate and a 6.00% annual medical care inflation rate in the first year, decreasing in 0.1% increments over the following 10 years to the ultimate assumed rate of 5.0%. Liabilities and computed contributions would be greater if a higher medical care inflation rate is assumed or a lower investment return rate. Liabilities and computed contributions would be less if a lower medical care inflation rate is assumed or a higher investment return rate. If the employer does not plan to contribute the Annual Required Contribution, the assumed rate of investment return would be lower.

To show the sensitivity of results to the assumed investment return rate we also performed the valuation assuming an annual rate of investment return of 4.0%. The results based on this investment return assumption are shown below.

Actuarial Accrued Liabilities Based on Alternate 4.0% Investment Return Assumption

Active participants	$7,705,505
Vested participants	2,618,982
Retirees and Beneficiaries	6,797,096
Total Actuarial Accrued Liability	17,121,584
Funding Value of Assets	1,763,333
Unfunded Actuarial Accrued Liability	$15,358,251

Computed Employer Contribution Rates as Level %'s of Payroll Based on Alternate 4.0% Investment Return Assumption

Normal Cost	27.33%
Unfunded Actuarial Accrued Liability	37.37
Total Computed Contribution Rate	64.70%
Dollar Contribution	$1,020,945

Comment 3: The unfunded actuarial accrued liabilities were amortized over a 30 year period.

Comment 4: In order for assets to be considered in determining the unfunded actuarial accrued liability, the assets must be a) irrevocably held in a trust or equivalent arrangement, b) dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan, and c) legally protected from creditors of the employer or plan.

Section Three:

Benefit Provisions

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Benefit Provision Summary

The City provides employer financed medical, prescription drug, dental and vision benefits to retirees and beneficiaries in receipt of pension benefits from the Village of Grosse Pointe Shores Employees Retirement System, pursuant to the provisions of the labor agreements.

Eligibility for General and DPW is age 50 with 25 or more years of service or age 55 with 10 or more years of service.

Eligibility for Public Safety is age 50 with 25 years or more of service.

The City pays a percentage of the total cost of providing post-retirement health care, depending on the benefit group. Those percentages are as follows:

Admin

Years of service:	25%	15-24	0-14
	100%	50%	0%

DPW

Years of service:	15+	14	13	12	11	10	0-9
	100%	90%	80%	70%	60%	50%	0%

Public Safety – Hired before June 1, 2012: 4.0% times years of service earned as of May 31, 2012, plus the applicable percent at time of retirement times years of service earned after May 31, 2012 (currently 3.4%).

Public Safety – Hired on or after June 1, 2012: No City paid coverage provided.

Benefits are paid for retired employees and spouses and are continued to surviving spouses receiving pension benefits from the Retirement System.

Non-retired participants contribute 0.5% of pay to the Fund.

Section Four:

Actuarial Assumptions And Methods

Actuarial Assumptions

Economic Assumptions

(i) Interest Rate	7.00% (net of expenses)
(ii) Medical Inflation Rate	6.0%, graded down to 5.0% in 0.1% increments over 10 years
(iii) Salary Increases	
Across-the-Board	3.0%
Merit and Longevity	Age related rates

Sample Annual Rates of Salary Increase

Age	Across-the-Board	Merit and Longevity	Total
20	3.0%	3.8%	6.8%
25	3.0	3.1	6.1
30	3.0	2.7	5.7
35	3.0	2.4	5.4
40	3.0	2.1	5.1
45	3.0	1.7	4.7
50	3.0	1.1	4.1
55	3.0	0.7	3.7
60	3.0	0.2	3.2
65	3.0	-	3.0

Demographic Assumptions

(i) Mortality RP-2014 Healthy Annuitant

Sample Ages	Future Life Expectancy (Years)	
	Men	Women
55	28.2	30.7
60	24.1	26.3
65	20.1	22.0
70	16.2	18.0
75	12.7	14.3
80	9.5	10.9

(ii) Disability

Sample Ages	Percent Becoming Disabled Within Next Year		
	General		
	Men	Women	Public Safety
20	0.07%	0.03%	0.10%
25	0.09	0.05	0.15
30	0.10	0.07	0.20
35	0.14	0.13	0.25
40	0.21	0.19	0.50
45	0.32	0.28	0.65
50	0.52	0.45	0.80
55	0.92	0.76	0.95

(iii) Termination of Employment Service related rates for first 5 years of employment. Age related rates after first 5 years of employment

		Percent Terminating	
Sample Ages	**Years of Service**	**General**	**Public Safety**
All	0	20.00%	12.00%
	1	15.00	9.00
	2	10.00	7.00
	3	8.00	5.00
	4	7.00	4.50
20	5 & Over	6.00	4.50
25		6.00	4.50
30		5.50	3.90
35		4.40	2.30
40		1.85	0.90
45		1.25	0.50
50		1.25	0.50
55		1.25	0.50
60		1.25	0.50
65		1.25	0.50

(iv) Retirement Rates Age-related rates

Active Members Retiring within Year
Following Attainment of Indicated Retirement Age

Retirement Ages	General	Retirement Ages	Public Safety
50	15%		
51	10		
52	10		
53	10		
54	10		
55	10	50	35%
56	10	51	25
57	10	52	20
58	10	53	15
59	10	54	15
60	10	55	15
61	10	56	15
62	30	57	15
63	20	58	25
64	20	59	30
65	70	60 & Over	100
66	30		
67	40		
68	50		
69	60		
70 and Over	100		

Actuarial Method Used for the Valuation

Normal Cost. Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry age actuarial cost method having the following characteristics:

- The annual normal costs for each individual active participant, payable from date of hire to date of retirement, are sufficient to accumulate the value of the participant's benefit at the time of retirement;

- Each annual normal cost is a constant percentage of the participant's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liability. Unfunded actuarial accrued liability was amortized as a level percent of payroll over 30 years.

Section Five:

Valuation Data

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Financial Information

The net market value of assets was reported to be $1,763,333 as of June 30, 2018. This amount was used as the funding value of assets for the purpose of this actuarial valuation as of June 30, 2018. Reported revenues and expenditures for fiscal year ended June 30, 2018 are as follows:

Market Value 6/30/2017	$1,894,714
Revenues	
Member Contributions	8,598
Employer Contributions	130,000
Investment Income	109,453
Total Revenues	248,051
Expenditures	
Retiree Health Care Benefits	379,432
Administrative Expenses	0
Total Expenditures	379,432
Market Value 6/30/2018	$1,763,333

Participant Summary

Retirees and Beneficiaries

As of June 30, 2018, there were 28 retirees included in the valuation.

Retirees and Beneficiaries
June 30, 2018

Attained Age	Total
53	1
55	1
56	2
58	2
60	3
61	1
66	1
70	1
73	2
74	1
75	3
76	1
77	1
79	1
82	1
86	1
87	2
89	1
92	1
93	1
Totals	28

Active Participants

As of June 30, 2018, there were 21 active employees.

Number	21
Payroll	$1,577,.861
Averages	
Age	50.8
Service	20.6
Salary	$75,136

Total Active Members - June 30, 2018
Age and Service Distribution

Attained Age	**10-14**	**15-19**	**20-24**	**25-29**	**Totals No.**	**Totals Payroll**
35-39	1				1	$ 55,830
40-44		1			1	92,210
45-49	3	2	1		6	500,908
50-54		2	2	4	8	603,747
55-59		1	1	1	3	221,048
60-64			2		2	104,119
Totals	**4**	**6**	**6**	**5**	**21**	**$ 1,577,861**

Group Averages:

Age: 50.8 years
Service: 20.6 years
Annual Pay: $75,136