Agenda
Village of Arlington Heights
Board of Trustees of the Firefighters Pension Fund
Fire Station #2, Training Room

August 9, 2021
9:00 AM

I. CALL TO ORDER

II. ROLL CALL

III. APPROVAL OF MINUTES

A. Approval of Minutes - May 3, 2021 Regular Meeting

IV. PUBLIC COMMENTS

V. CLOSED SESSION

VI. TREASURER'S REPORT

A. Financials - Q2-2021
B. 2021 Actuary Report

VII. PAYMENT OF BILLS

A. Check Register - June 2021

VIII. REPORTS

A. Report from Fund Consultant - Marquette Associates

IX. OLD BUSINESS

A. FPIF Transfer of Assets - Board Resolution
B. Annual Medical Evaluation Retired Disabled FF Under Age 50 - Heidi Arndorer
C. Application for Duty Disability of B/C William Essling - update
D. Application for Non-Duty Disability from FF Daniel Bennett - update
E. Disability Pension 3% Increase - Retired FF Victor Tamosaitis - update
F. Retired FF Bryan Smith - Medical Evaluation update

X. NEW BUSINESS

A. Applications for Membership - FF Michael Graf, FF Brian Walsh and FF Jacob Witkowski, newly hired 7/06/2021

B. Illinois Public Pension Advisor Committee - Membership Renewal pending approval

C. Death of Retired FF Larry Brown on 6/15/2021 - Survivor Benefits

D. Death of Retired FF David Oglesby on 07/13/21 - Survivor Benefits

E. Military Service Credit Buyback - Div. Chief David Roberts

F. The Illinois Funds - Closing of Former Portfolio Account

XI. OTHER BUSINESS

XII. ADJOURNMENT

Persons with disabilities requiring auxiliary aids or services, such as an American Sign Language interpreter or written materials in accessible formats, should contact David Robb, Disability Services Coordinator, at 33 S. Arlington Heights Road, Arlington Heights, Illinois 60005, (847)368-5793 (Voice), (847)368-5980 (Fax) or drobb@vah.com.

Board of Trustees of the Firefighters Pension Fund
8/9/2021

Item: minutes

Department: fire

Approval of Minutes - May 3, 2021 Regular Meeting

ATTACHMENTS:

Description	**Type**
Minutes - May 3, 2021	Minutes

ARLINGTON HEIGHTS
FIREFIGHTERS' PENSION BOARD

Minutes of the Regular Meeting held on May 3, 2021

Arlington Heights Fire Department Administrative Headquarters
1150 No. Arlington Heights Road – Arlington Heights IL 60004

Members in Attendance:	Andrew Larson Tom Kuehne (remote) Mark Aleckson Kert Evans Carl Brandon (remote)
Others in Attendance:	David Mejia, Collins & Radja (remote) Thomas Hartwell, Collins & Radja (remote) Michael Spychalski, Marquette & Associates (remote) Melissa Cayer, Public Observer (remote)

NOTE – Due to the COVID-19 restrictions, some individuals attended the virtual meeting remotely and others attended on site, while maintaining social distancing.

CALL TO ORDER

Mark Aleckson called the meeting to order at 9:03 AM. Roll was called with board members Mark Aleckson, Andrew Larson, Tom Kuehne, Kert Evans and Carl Brandon present.

Also present were David Mejia and Thomas Hartwell, attorneys from Collins & Radja; Michael Spychalski representing Marquette Associates; and Melissa Cayer, Public Observer.

APPROVAL OF MINUTES

Minutes from the last regular Board meeting held on March 1, 2021 were reviewed.
A motion was made and seconded (A. Larson/K. Evans) to approve the minutes from the March 1, 2021 Regular meeting. All voted in favor, motion carried.

PUBLIC COMMENTS

Melissa Cayer expressed appreciation for posting the Marquette fund report along with the on-line agenda.

CLOSED SESSION

Motion was made and seconded (A. Larson/K. Evans) to table the Closed Session to the end of the regular pension board meeting.

Roll was called.
Ayes: A. Larson, T. Kuehne, M. Aleckson, K. Evans, C. Brandon
Ayes – 5; Nays - 0.
Motion carried.

TREASURER'S REPORT / DISBURSEMENTS

Tom Kuehne reviewed the Financial Report ending March 2021 and indicated we are about 25% into the year and right on schedule.

Projected Cash Flow – things are going well. Once again, the Village funneled money into the Fire Pension Fund last year and this has really helped us on a cash flow basis.

Mark Aleckson raised the question of having additional cash funds available due to the Consolidation and not knowing how the rhythm will proceed when transferring funds. Mike Spychalski agrees we should have an extra amount of cash to accommodate consolidation transfers and recommends property taxes be placed into the money market account, rather than into the portfolio fund. Tom agreed that would be a good strategy.

PAYMENT OF BILLS

The Check Register was reviewed and Tom asked for approval of check #680 (journal voucher 006) through check #687 (journal voucher 067).

Motion was made and seconded (A. Larson/K. Evans) to approve payments of check 680 (JV 006) through check 687 (JV 067).

Roll was called.
Ayes: A. Larson, T. Kuehne, M. Aleckson, K. Evans, C. Brandon
Ayes – 5; Nays - 0.
Motion carried.

REPORT

Marquette Associates

Mike Spychalski reviewed the Executive Summary as of March 31, 2021.
Total Fund Composite (page 2) shows the market value of the portfolio to be at $137.8 (million) with a breakdown as follows: Fixed Income $40.4; U.S. Equity $46.5; International Equity $31.6; Real Estate $15.7; and Cash at $3.6 (million).

He does not recommend making any changes to the portfolio at this time. Our portfolio is a little more conservative but the result of $137.8 million is an all-time high and doing very well, especially over the last five years. This past year has been fantastic, up 28.7% (page 5) for the overall portfolio.

Things are beginning to stabilize in the stock market.

Carl Brandon expressed appreciation for the excellent handling of the portfolio, especially Mike Spychalski's management of the funds. Everyone on the Board agreed Mike has been doing a great job.

OLD BUSINESS

- **Annual Medical Evaluation Retired Disabled FF Under Age 50 – Heidi Arndorfer**
  Tom Hartwell indicated he's working on setting up an evaluation for Heidi Arndorfer, especially since the pandemic has improved in the U.S. Scheduling an appointment in Tennessee where Heidi lives will now be easier. Heidi is recently passed age 50, but we want to be consistent and the requirement for a medical evaluation was made prior to her 50th birth date. She is agreeable to proceeding with the physical and Tom will follow through with scheduling.

- **Application for Duty Disability Pension – B/C William Essling**
  Will be reviewed at the Closed Session today.

- **Application for Non-Duty Disability Update – FF Daniel Bennett**
  Dan Bennett's ongoing medical condition has been thoroughly examined and diagnosed by gastroenterologists. Tom Hartwell received notification from INSPE, which recommends having a "records review" to determine a disability, rather than having individual medical examinations by outside physicians. Board members agreed that viewing the documents would be sufficient. Tom Hartwell will request the medical records.

- **Disability Pension 3% Increase Update – Retired FF Victor Tamosaitis**
  Tom Hartwell was unaware of this request but will review the 3% COLA increase details with Cary Collins to determine if an adjustment is needed for Victor Tamosaitis.

- **Retired FF Bryan Smith – Medical Evaluation Update**
  Tom Hartwell indicated that Retiree Bryan Smith continues to refuse to take a medical examination, insisting it's not a requirement. The matter will be reviewed in Court on May 19.

NEW BSINESS

- **Death of Retiree Lt. Roger Behrens on 4/10/21 – Survivor Benefits**
  Retiree Roger Behrens passed away on April 10, and his spouse, Janet Behrens, has submitted the application to receive Survivor Benefits. We have received all the required documents to proceed and she has been notified that her monthly benefit of $6,299 will continue without future increase.

  Motion was made and seconded (A. Larson/K. Evans) to approve Survivor Benefits to Janet Behrens in the amount of $6,299 monthly.

  Roll was called.
  Ayes: A. Larson, T. Kuehne, k. M. Aleckson, K. Evans and C. Brandon
  Ayes – 5; Nays -0.
  Motion carried.

- **Review Changes to Rules & Regulations for Approval**

  Amended Rules & Regulations document contains the following adjustments:
  - Section 2.05.3 has been added to allow for remote meeting attendance in accordance with the Open Meetings Act.

- Section 2.13.3 and 2.13.4 have been revised to reflect changes of reduction in required Trustee training hours. Current Trustees reduce from 16 hours to 8 hours. New Trustees require certification training of 16 accredited hours. All Trustees are required to complete 4 hours of training related to the Illinois Consolidation of Articles 3 and 4 pension funds.

Motion was made and seconded (K. Evans/C. Brandon) to approve the updated Rules & Regulations document effective May 3, 2021.

Roll was called.
Ayes: A. Larson, T. Kuehne, k. M. Aleckson, K. Evans and C. Brandon
Ayes – 5; Nays -0.
Motion carried.

- **Trustee Election – Certify Results**

Mark Aleckson's term as Trustee ended April 30, 2021. An election of the active firefighter ranks was held with Mark Aleckson and Adam Sielig names placed on the ballot. Village Clerk, Becky Hume, canvassed the results on April 27 with a total of 65 ballots received as follows: 43 votes for Mark Aleckson and 22 votes for Adam Sielig. As a result, Mark Aleckson has been elected as Trustee to the Firefighters Pension Board for a three year term beginning May 1, 2021.

Motion was made and seconded (A. Larson/K. Evans) to certify the election results, with Mark Aleckson as Board Trustee for a three year term beginning May 1, 2021.

Roll was called.
Ayes: A. Larson, T. Kuehne, k. M. Aleckson, K. Evans and C. Brandon
Ayes – 5; Nays -0.
Motion carried.

- **Trustee Nominations**

Carl Brandon nominated Mark Aleckson for Board President and Kert Evans for Board Secretary. Andrew Larson seconded both nominations as stated.

Roll was called.
Ayes: A. Larson, T. Kuehne, k. M. Aleckson, K. Evans and C. Brandon
Ayes – 5; Nays -0.
Motion carried.

- **FPIF Rule 2021-01: Appointment of Authorized Agent – Board Resolution**

Rule 2021-01 was approved by the FPIF Board on March 19, 2021. The Rule requires two Authorized Agents for each pension fund for the purpose of facilitating communications and information sharing. Under the rule, the Board President and Board Secretary will act as Authorized Agents and contact information is needed (form to be completed and returned to FPIF). It is recommended to have a Board resolution, approving them as Authorized Agents.

A motion was made and seconded (M. Aleckson/T. Kuehne) to appoint Mark Aleckson and Kert Evans as Authorized Agents as required by FPIF Rule 2021-01.

Roll was called.

Ayes: A. Larson, T. Kuehne, k. M. Aleckson, K. Evans and C. Brandon
Ayes – 5; Nays -0.
Motion carried.

CLOSED SESSION

At 9:32 AM, the motion was made and seconded (T. Kuehne/A. Larson) to enter into a Closed Session for the purpose of reviewing evidence related to the Duty Disability Pension Application submitted by B/C Bill Essling.

Attendance was limited to the five Board Trustees and the pension board attorneys, David Mejia and Tom Hartwell.

At 10:30 AM, motion was made and seconded (A. Larson/K. Evans) to exit the Closed Session and return to the Regular Meeting.

OTHER BUSINESS

None.

ADJOURNMENT

As there was no other business to present before the Board, a motion was made and seconded (K. Evans/C. Brandon) to adjourn the meeting.
All voted in favor, motion carried.

Meeting adjourned at 10:35 AM.

NEXT REGULAR MEETING – Scheduled for Monday, August 9, 2021 at 9:00 AM

Respectfully submitted,

____
Laura Potts
Recording Secretary

____
Kert Evans
Board Secretary

Board of Trustees of the Firefighters Pension Fund
8/9/2021

Item: financials

Department: fire

Financials - Q2-2021

ATTACHMENTS:

Description	Type
FF Pension - Q2 2021 Financials	Report

Arlington Heights Firefighters' Pension Fund

June 2021 Financial Report

CY 2021 BALANCE SHEET
June 30, 2021
FIREFIGHTERS' PENSION FUND

ASSETS	YTD ACTUAL
Cash and Investments	
Cash and Equivalents	5,883,636
Pension Investments	139,132,653
Illinois Funds	0
	145,016,289
Receivables	
Accrued Interest	218,487
Other	0
Due From Other Funds	0
TOTAL ASSETS	145,234,776
LIABILITIES	
Accounts Payable	0
Deferred Portability Payment	0
Due To Other Funds	1
TOTAL LIABILITIES	1
NET ASSETS	145,234,775

BUDGET COMPARISON REPORT CALENDAR YEAR 2021
June 30, 2021 — **FIREFIGHTERS' PENSION FUND** — **50% of the Calendar Year**

REVENUES	2021 BUDGET	MTD BUDGET	MTD ACTUAL	YTD BUDGET	YTD ACTUAL	UNREALIZED DOLLARS	PERCENT RECEIVED
Interest on Investments	900,000	75,000	71,472	450,000	499,907	400,093	56%
Market Value Adjustments	2,000,000	166,666	793,170	999,996	8,836,107	(6,836,107)	442%
Dividend Income	900,000	75,000	329,518	450,000	526,024	373,976	58%
Contributions - Participants	1,100,000	91,666	87,421	549,996	522,375	577,625	47%
Contributions - R/E Tax	4,913,000	0	0	2,751,300	2,753,993	2,159,007	56%
Portability Payments	0	0	0	0	0	0	N/A
Other Income	0	0	1,279	0	1,357	(1,357)	N/A
TOTAL	9,813,000	408,332	1,282,860	5,201,292	13,139,764	(3,326,764)	134%

EXPENDITURES	2021 BUDGET	MTD BUDGET	MTD ACTUAL	YTD BUDGET	YTD ACTUAL	AVAILABLE DOLLARS	PERCENT SPENT
Service Pensions	5,844,100	487,008	439,755	2,922,048	2,657,429	3,186,671	45%
Non-Duty Disability Pensions	31,800	2,650	2,652	15,900	15,914	15,886	50%
Duty Disability Pensions	1,272,400	106,033	106,037	636,198	636,221	636,179	50%
Surviving Spouse Pensions	958,400	79,866	92,127	479,196	504,057	454,343	53%
Occupational Disease Pensions	239,800	19,983	14,025	119,898	113,954	125,846	48%
Legal Services	17,000	1,416	7,487	8,496	21,900	(4,900)	129%
Investment Manager Services	210,000	17,500	15,000	105,000	129,890	80,110	62%
Investment Custodian	11,000	916	1,135	5,496	6,569	4,431	60%
Bank Services	300	25	0	150	0	300	0%
Examinations	10,000	833	5,097	4,998	7,681	2,319	77%
Other Services	20,000	1,666	0	9,996	9,940	10,060	50%
Dues	1,500	125	0	750	0	1,500	0%
Training	2,000	166	0	996	0	2,000	0%
Postage	400	33	0	198	54	346	14%
Publications/Periodicals	500	41	0	246	0	500	0%
Office Supplies & Equip	300	25	0	150	49	251	16%
Pension Refunds	25,000	2,083	0	12,498	0	25,000	0%
Foreign Taxes Paid	1,000	83	142	498	142	858	14%
TOTAL	8,645,500	720,452	683,457	4,322,712	4,103,799	4,541,701	47%
REVENUE OVER (UNDER) EXPENDITURES	1,167,500	(312,120)	599,404	878,580	9,035,964	(7,868,464)	774%
BEG. FUND BALANCE	136,198,811				136,198,811		
ENDING FUND BALANCE	137,366,311				145,234,775		

FIRE PENSION

Projected Cash Flow by Month 2021

	January 2021	February 2021	March 2021	April 2021	May 2021	June 2021	Projected July 2021	Projected August 2021	Projected September 2021	Projected October 2021	Projected November 2021	Projected December 2021	Projected 2021 Total
Cash In													
Contribution Participant	86,638	86,870	87,093	87,002	87,351	87,421	128,027	87,093	87,093	87,093	87,093	128,027	1,126,801
Contribution Tax		559,978	1,743,809	217,586	232,621	0	0	0	0	800,000	1,275,800	83,207	4,913,000
From the Village General Fund				0	0	0	0	0	0			0	0
Other	1,000,000			0	0	0	0	0	0	0	0	0	1,000,000
Total In	1,086,638	646,848	1,830,902	304,588	319,972	87,421	128,027	87,093	87,093	887,093	1,362,893	211,234	7,039,801
Cash Out													
Pensions	654,596	654,960	654,596	654,952	654,951	654,955	654,596	654,596	654,596	654,596	654,596	654,596	7,856,584
Legal Services	4,233			10,180	0	6,467	1,000	0	0	4,058			25,937
Investment Manager	55,843		15,000	0	44,047	15,000	35,000	0	0	50,000		15,000	229,890
Investment Custodian	362		363	0	0	0		0	0		333	332	1,389
Examinations		1,600		984			0	0	0			2,000	4,584
Other Services			144	1,470	8,104	271	0	183	0	5,125	684		15,981
Dues							0	500	0	970			1,470
Training							0	0	0				0
Foreight Taxes Paid							0	0	0				0
Total Out	715,033	656,560	670,103	667,586	707,102	676,693	690,596	655,279	654,596	714,748	655,613	671,928	8,135,836
Change in Cash	371,604	(9,712)	1,160,799	(362,999)	(387,130)	(589,272)	(562,569)	(568,186)	(567,503)	172,345	707,280	(460,694)	(1,096,036)
Beg Cash Balance	1,128,921	1,500,525	1,490,813	2,651,612	2,288,614	1,901,484	1,312,212	749,643	181,457	(386,046)	(213,701)	493,579	1,128,921
Ending Cash Balance	**1,500,525**	**1,490,813**	**2,651,612**	**2,288,614**	**1,901,484**	**1,312,212**	**749,643**	**181,457**	**(386,046)**	**(213,701)**	**493,579**	**32,885**	**32,885**

*** The 2nd Installment payments of Property Taxes are anticipated to be due October 1, 2021.**

**** Pension Fund will need to do a transfer for September payments.**

Board of Trustees of the Firefighters Pension Fund
8/9/2021

Item: financials

Department: fire

2021 Actuary Report

ATTACHMENTS:

Description	**Type**
2021 Actuary Report	Report

Actuarial Valuation

Village of Arlington Heights
Arlington Heights Firefighters' Pension Fund

As of January 1, 2021
For the Year Ending December 31, 2021

MWM Consulting Group
Taking Measure of Tomorrow

Table of Contents

MWM Consulting Group
Taking Measure of Tomorrow

Section 1: Summary of Principal Valuation Results

MWM Consulting Group was retained to prepare an actuarial valuation as of January 1, 2021 for the Arlington Heights Firefighters' Pension Fund. The purpose of the actuarial valuation was to determine the financial position and the annual actuarial requirements of the pension fund under Illinois statute 40 ILCS 5/4, Section 118, and to develop a recommended minimum contribution amount.

For quick reference, some of the key results of the valuation, along with selected financial and demographic information for the year ending December 31, 2021 are summarized in this overview section along with (for comparison) the results from the prior year.

CONTRIBUTIONS

The plan sponsor must contribute at least the statutorily required minimum contribution under Illinois statutes equal to the normal cost plus the amount necessary to amortize the unfunded accrued liability such that by 2040, the liabilities will be 90% funded.

Other contribution amounts are shown including Funding Policy Contribution and the contribution required to prevent negative funding.

Item	Current Valuation as of 1/1/2021	Prior Year Valuation as of 1/1/2020
Contribution Required To Prevent Negative Funding	$4,778,353 (40.3%)	$5,046,934 (44.7%)
Actuarially Determined Funding Policy Contribution	$4,828,817 (40.7%)	$4,912,161 (43.5%)
Statutory Minimum Contribution per 40 ILCS 5/3 Section 125	$3,779,638 (31.9%)	$3,981,942 (35.3%)

() amounts expressed as a percentage of payroll

STATUTORY MINIMUM FUNDING COST ELEMENTS

Illinois statutes require employers to contribute at least the amount necessary such that assets will equal at least 90% of the accrued liability by 2040. The minimum amount is determined under the Projected Unit Credit funding method, with smoothed assets, and is equal to the normal cost plus the amortization amount.

Item	Current Valuation as of 1/1/2021	Prior Year Valuation as of 1/1/2020
Accrued Liability	$ 164,720,547	$ 159,587,032
Market Value of Assets	$ 136,198,812	$ 123,883,698
Actuarial (Smoothed) Value of Assets	$ 131,084,082	$ 122,886,218
Normal Cost (employer)	$ 2,359,708	$ 2,423,659
Amortization Amount	$ 1,110,084	$ 1,239,052
Statutory Minimum Contribution	$ 3,779,638	$ 3,981,942

FUNDING POLICY CONTRIBUTION COST ELEMENTS

The funding policy contribution amount is determined under the Entry Age Normal funding method, with smoothed assets, and is equal to the normal cost plus the amortization amount. 100% of the unfunded liability is amortized as a level percentage of pay over 20 years on a closed basis.

Item		Current Valuation as of 1/1/2021		Prior Year Valuation as of 1/1/2020
Accrued Liability	$	163,873,563	$	159,001,921
Market Value of Assets	$	136,198,812	$	123,883,698
Actuarial (Smoothed) Value of Assets	$	131,084,082	$	122,886,218
Normal Cost (employer)	$	2,332,016	$	2,376,699
Amortization Amount	$	2,120,613	$	2,157,411
Actuarially Determined Funding Policy Contribution	$	4,828,817	$	4,912,161

FUNDING POLICY CONTRIBUTION AMOUNT REQUIRED TO AVOID NEGATIVE FUNDING

The funding policy contribution amortization amount is based upon a percentage of increasing payroll and, in the early years of funding, may not be sufficient to cover the interest cost on the unfunded liability. In order to avoid an increase in the unfunded liability (known as negative funding), the minimum amortization amount must be adjusted to be at least equal to the interest on the unfunded liability. The amount shown in the table as "Contribution to Avoid Negative Funding" provides for interest on 100% of the unfunded liability.

Item		Current Valuation as of 1/1/2021		Prior Year Valuation as of 1/1/2020
Accrued Liability	$	163,873,563	$	159,001,921
Market Value of Assets	$	136,198,812	$	123,883,698
Actuarial (Smoothed) Value of Assets	$	131,084,082	$	122,886,218
Normal Cost (employer)	$	2,332,016	$	2,376,699
Amortization Amount	$	2,213,290	$	2,437,810
Amount of Contribution Needed to Avoid Negative Funding	$	4,778,353	$	5,046,934

FINANCIAL THUMBNAIL RATIOS

This chart summarizes traditional financial ratios as applied to the pension plan. This liquidity ratio relates the cash flow position of the Fund by comparing the investment income plus employer and employee contributions to the annual benefit payments. Maintaining a ratio well above 100% prevents the liquidation of assets to cover benefit payments. The increase in benefits paid over the years is generally a result of the maturing of the pension plan.

Coverage of the Accrued Liabilities by the Assets is the Coverage Ratio and is one indication of the long term funding progress of the plan.

Tests		1/1/2021 Valuation		1/1/2020 Valuation
Liquidity Ratio (based upon year ended)		261%		337%
Coverage Ratio (Market Value Assets)		83.11%		77.91%
Annual Benefit Payments (expected)	$	8,031,774	$	7,770,016
Annual Contributions (expected)				
Members	$	1,120,525	$	1,066,641
Village	$	4,828,817	$	4,912,161

PLAN MATURITY MEASURES

This chart includes financial relationship measures which are meant to help understand the risks associated with the plan.

The ratio of Market Value of Assets to Active Payroll is measure of volatility risk associated with asset losses. The higher the ratio, the greater the volatility in contribution risks.

The Ratio of Accrued Liability to Payroll is a measure of the volatility risk associated with assumption or other changes in liabilities. The higher the ratio, the greater the volatility in contribution risks.

The Ratio of retired life actuarial accrued liability to total actuarial accrued liability is a measure of the maturity of the Plan. A mature plan will have a ratio above 60%.

The Support Ratio (Actives: Retirees). A number less than 1 indicates a more mature plan.

Tests	1/1/2021 Valuation	1/1/2020 Valuation
Ratio of Market Value of Assets to Active Participant Payroll is a measure of volatility risk associated with asset losses	11.49	10.98
Ratio of Accrued Liability to Payroll is a measure of volatility risk associated with changes in assumptions	13.84	14.09
Ratio of retired life Actuarial Accrued Liability to total Actuarial Accrued Liability	0.58	0.60
Percentage of Contributions less Benefit Payments to Market Value of Assets	-1.08%	6.84%
Ratio of Benefit Payments to Contributions	1.21	0.00
Support Ratio: Ratio of Active Participants to Retired Participants	0.96	0.93

PARTICIPANT DATA SUMMARY

The Actuarial Valuation takes into account demographic and benefit information for active employees, vested former employees, and retired pensioners and beneficiaries. The statistics for the past two years are compared in the chart.

Item	Current Year Valuation as of 1/1/2021			Prior Year Valuation as of 1/1/2020		
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total
Active Members						
Vested	76	7	83	75	0	75
Non-Vested	1	22	23	3	25	28
Total Active	77	29	106	78	25	103
Terminated entitled to future benefits	1	2	3	2	3	5
Retired	63	0	63	62	0	62
Surviving Spouse	17	0	17	16	0	16
Minor Dependent	2	0	2	2	0	2
Disabled	25	0	25	26	0	26
Total	185	31	216	186	28	214

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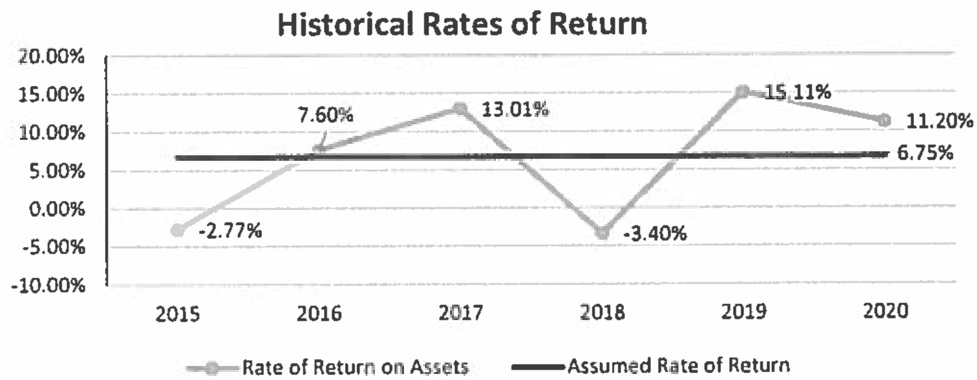
SECTION 2: VALUATION RESULTS

Significant Events, Disclosure Risks and Issues Influencing Valuation Results

Actuarial valuations are snapshot calculations which incorporate and reflect the experience and events of the past year such as changes in the demographics of the plan participants, gains and losses in the plan assets, changes in actuarial assumptions about future experience and outside influences such as legislation. Some of the more significant issues affecting the Plan's contribution level are described here.

Asset Performance for yearend 12/31/2020

The approximate 11.20% return (not time weighted) on net assets was above the actuarial assumption of 6.75% in effect for the 2020 year.



Change in Assumptions

The RP2014 (BCA) mortality table was updated by scale MP2020 to the valuation date. The assumed payroll growth changed from 4.25% per annum to 3.75% per annum.

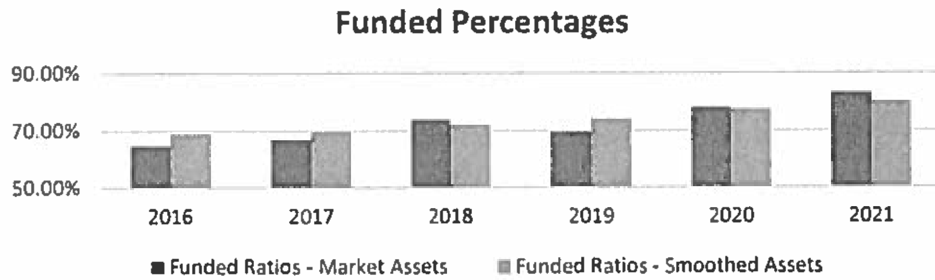
Funded Status

The funded ratio measurement presented in the Actuarial Valuation Report for the Fund is the ratio of the actuarial value of fund assets available for benefits compared to the actuarial accrued liability. By monitoring changes in the funding ratio each year, one can determine whether or not funding progress is being made. Please understand that:

- The funded ratio measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations by transferring the obligations to a unrelated third party in an arm's length market value type transaction, such as purchasing annuities from an insurance company.

- The funded ratio measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. Attainment of a funded status measurement in the Actuarial Valuation of 90% or 100% is not synonymous with no required future annual contributions. Even if the funded status attained is 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the annual cost of the active membership accruing an additional year of service credit).

• The funded ratio measurement is a different result depending upon whether the market value of assets or the actuarial value of assets is used.



Employer Contributions

The employer contribution is expected to be paid according to the Funding Policy, and exceeds the required Statutory Minimum contribution. An additional funding contribution amount is included which determines the amount necessary to prevent negative funding (also known as "treading water" funding). This year, the Funding Policy contribution slightly exceeds the treading water funding contribution. This is because the percentage of payroll amortization (with interest to end of year) that is determined under the Funding Policy exceeds 6.75% of the unfunded liability. That is, the amortization under the Funding Policy covers interest on the unfunded liability and thus helps to reduce the unfunded.

Assuming the Funding Policy contributions are received (and the actuarial assumptions are met) each year through 2040, the Fund's funded ratio is projected to increase to 100% by 2040. If only the Statutory Minimum contributions are made, the Fund's funded ratio would be projected to increase to 90% by 2040.

However, the ability of the fund to reach 100% funding by 2040 is heavily dependent on the Village contributing the Funding Policy employer contribution each and every year until 2040. Actuarial standards do not require the actuary to evaluate the ability of the Village or other contributing entity to make such required contributions to the Fund when due. Such an evaluation is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

The current Funding Policy amortizes the unfunded amount based upon a level percentage of payroll. This amortization method develops dollar amounts which increase as payroll increases. The dollar amounts towards the end of the closed amortization period are necessarily much larger, and if payroll does not increase as expected, the amortization amount can dramatically increase the contribution as a percentage of payroll.

ACTUARIAL CERTIFICATION

This is to certify that MWM Consulting Group has prepared an Actuarial Valuation of the Plan as of January 1, 2021 for the purposes of determining statutory contribution requirements for the Fund in accordance with the requirements of 40 ILCS 5/4, Section 118, of determining the funding policy contribution amount (the Actuarially Determined Contribution). The funding policy is selected by the Village. The contributions determined are net of contributions made by active members during the year.

The results shown in this report have been calculated under the supervisions of a qualified Actuary as defined in appropriate State statutes. All results are based upon demographic data submitted by the Fund / Village, financial data submitted by the Fund, applications of actuarial assumptions, and generally accepted actuarial methods.

This valuation report has been prepared at the request of Village of Arlington Heights to assist in administering the Plan and meeting specified financial and accounting requirements. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Fund sponsor and may only be provided to other parties in its entirety. The information and valuation results shown in this report are prepared with reliance upon information and data provided to us, which we believe to the best of our knowledge to be complete and accurate and include:

- Employee census data submitted by the Village of Arlington Heights. This data was not audited by us but appears to be consistent with prior information, and sufficient and reliable for purposes of this report.
- Financial data submitted by the Village of Arlington Heights.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Actuarial valuations involve calculations that require assumptions about future events. Certain of the assumptions or methods are mandated for specific purposes. Future actuarial measurements may differ significantly from the current measurements presented in the report due to such factors as experience that deviates from the assumptions, changes in assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contributions based on the Plan's funded status) and changes in plan provisions or applicable law. This report does not include an analysis of the potential range of such future measurements.

We believe the assumptions and methods used are within the range of possible assumptions that are reasonable and appropriate for the purposes for which they have been used. In our opinion, all methods, assumptions and calculations are in accordance with requirements and the procedures followed and presentation of results are in conformity with generally accepted actuarial principles and practices. The undersigned actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. There is no relationship between the Village of Arlington Heights and MWM Consulting Group that impacts our objectivity. I certify that the results presented in this report are accurate and correct to the best of my knowledge.

MWM CONSULTING GROUP

Kathleen E. Manning

Karl K. Oman

March 16, 2021

Kathleen E. Manning, FSA, EA, FCA, MAAA Managing Principal and Consulting Actuary	Karl K. Oman, ASA, EA, FCA, MAAA Consulting Actuary	Date

SECTION 3 - FINANCIAL AND ACTUARIAL EXHIBITS

Exhibit 1 - Statement of Market Value of Assets

Item	Plan Year Ending 12/31/2020	Plan Year Ending 12/31/2019
1. Investments at Fair Value:		
a. Cash and Cash equivalents	$ 1,865,528	$ 2,317,674
b. Money Market Mutual Funds	0	0
c. Municipal Bonds	0	0
d. Corporate Bonds	0	0
e. US Government and Agency Bonds	0	0
f. Common and Preferred Stocks	3,623,827	2,405,816
g. Illinois Funds Invesment Pool:	0	0
h. Pension Investments	130,476,424	117,526,479
i. Accrued Interest and receivables	233,033	1,633,723
j. Other	0	648
k. Subtotal Assets (a + b + c + d + e + f + g + h + i + j)	$ 136,198,812	$ 123,884,340
2. Liabilities:		
a. Expenses Payable	$ 0	$ 332
b. Liability for benefits due and unpaid	0	0
c. Other Liabilities	0	310
d. Total Liabilities	$ 0	$ 642
3. Net Market Value of Assets Available for Benefits: (1k – 2d)	$ 136,198,812	$ 123,883,698

Exhibit 2 - Statement of Change in Net Assets

Item	Plan Year Ending	
	12/31/2020	12/31/2019
Additions		
Contributions		
Employer	$ 5,130,000	$ 6,203,000
Plan Member	1,141,126	1,097,478
Other	6,208	1,299
Total Contributions	$ 6,277,334	$ 7,301,777
Investment Income		
Net realized and unrealized appreciation in fair value of investments	$ 11,745,221	$ 14,962,234
Interest	2,155,407	2,341,242
Dividends	0	0
Other Income	0	0
Investment Expenses	(216,909)	(212,818)
Net Investment Income	$ 13,683,719	$ 17,090,658
Total additions	$ 19,961,053	$ 24,392,435
Deductions		
Benefits	$ 7,608,141	$ 7,210,277
Refunds	9,682	0
Administrative Expenses	28,116	28,405
Total deductions	$ 7,645,939	$ 7,238,682
Total increase (decrease)	$ 12,315,114	$ 17,153,753
Net Market Value of Assets Available for Benefits:		
Beginning of year	$ 123,883,698	$ 106,729,945
End of year	$ 136,198,812	$ 123,883,698

Exhibit 3 – Actuarial Value of Assets

Under 40 ILCS 5/4, the statutory minimum required contribution is to be determined based upon **Actuarial Value of Assets**, which are asset values which have been smoothed over a three-year period, beginning with the year 2011. The **Actuarial Value of Assets** has been calculated below based upon the market value of assets at January 1, 2021 with adjustments for the preceding year's gains/losses, which are reflected at the rate of 33-1/3% per year.

1. Expected Return on Assets	
a. Actuarial Value of Assets as of Beginning of Year	$ 122,886,218
b. Income and Disbursements During the year	
i. Contributions Received (weighted 50%)	$ 3,138,667
ii. Benefit Payments and Expenses (weighted 50%)	3,822,970
iii. Weighted net income (other than investment income) (i) – (ii)	(684,303)
c. Actuarial Value adjusted for income and disbursements	$ 122,201,915
d. Expected Return on Assets at assumed rate of 6.75%	**$ 8,248,629**
2. Actual Return on Assets for year	
a. Market Value of Assets (Beginning of Year)	$ 123,883,698
b. Income (less investment income)	6,277,334
c. Disbursements	7,645,939
d. Market Value of Assets (End of Year)	136,198,812
e. Actual Return on Assets (d) – (a) – (b) + (c)	13,683,719
f. Investment Gain/(Loss) for year 2(e) - 1(d)	**$ 5,435,090**
3. Actuarial Value of Assets	
a. Expected Actuarial Value of Assets as of End of Year	$ 129,766,241
b. Deferred Investment gains/(losses)	
i. 1/3 of 2020 gain of $5,435,090	1,811,697
ii. 1/3 of 2019 gain of $9,453,993	3,151,331
iii. 1/3 of 2018 loss of ($10,935,562)	(3,645,187)
iv. Total	1,317,841
c. Actuarial Value of Assets as of December 31, 2020 3(a) + 3(b)(iv)	**$ 131,084,082**

The Chart Below shows the comparison of smoothed to market assets over the past six years.

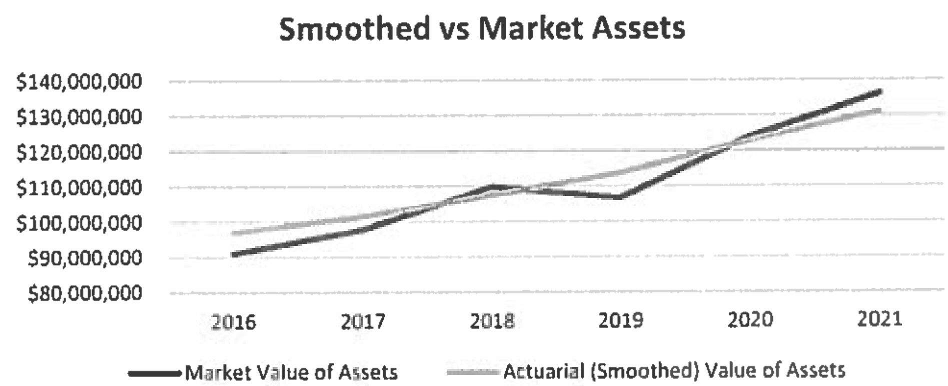


Exhibit 4- Determination of the Statutory Minimum Required Annual Contribution

Under 40 ILCS 5/4, the statutory minimum required contribution is to be determined based upon the Projected Unit Credit actuarial funding method, where the unfunded liability is amortized such that 90% of the liability will be funded as of 2040. Under the statute, 90% of the unfunded liability is to be amortized as a level percentage of payroll over the period through 2040. The mandated funding method, the Projected Unit Credit funding method, requires the annual cost of the plan to be developed in two parts: that attributable to benefits allocated to the current year (the normal cost); and that allocated to benefits attributable to prior service (the accrued liability).

Funding Elements for 40 ILCS 5/4

	Present Value of Benefits as of 1/1/2021	Projected Unit Credit (PUC) Normal Cost as of 1/1/2021	PUC Actuarial Accrued Liability as of 1/1/2021
1. Actives			
a) Normal & Early Retirement	$ 86,108,850	$ 2,955,060	$ 61,272,091
b) Vested Withdrawal	1,436,646	79,365	970,827
c) Pre-Retirement Death	2,006,971	90,112	1,386,364
d) Disability	7,841,650	355,696	5,259,094
e) Total Actives	$ 97,394,117	$ 3,480,233	$ 68,888,376
2. Inactives and Survivors:			
a) Normal Retirees	$ 67,104,080		$ 67,104,080
b) Widows (survivors)	8,572,029		8,572,029
c) Deferred Vested	61,183		61,183
d) Disabled	20,094,879		20,094,879
e) Total - Nonactive	$ 95,832,171		$ 95,832,171
3. Total – All	$ 193,226,288		$ 164,720,547

Minimum Statutory Contribution under 40 ILCS 5/4

Item	Amount
1. Annual Payroll	$ 11,851,132
2. Normal Cost (net of employee/member contributions)	2,359,708
3. Employee Contributions (expected)	1,120,525
4. Funding Actuarial Liability	164,720,547
5. 90% of Funding Actuarial Liability	148,248,492
6. Actuarial Value of Assets (Exhibit 3)	131,084,082
7. Unfunded Actuarial Balance	17,164,410
8. Amortization of Unfunded Balance over 20 years as a level percentage of payroll	1,110,084
9. Interest on (2), (3) and (8)	309,846
10. Minimum statutory tax levy contribution per 40 ILCS 5/4 – (2) + (8) + (9)	$3,779,638 (31.9%)

*() amount as a percent of payroll

Exhibit 5- Determination of the Funding Policy Annual Contribution

The Tax Levy has been based upon the funding policy actuarially determined contribution, rather than the amount determined as the minimum under 40 ILCS 5/3. The funding policy contribution is developed below, based upon the Projected Unit Creidt Funding Method, with 90% of the unfunded accrued liability amortized as a level percentage of payroll amount over the 20 years through 2040. The contribution is then the sum of the Normal Cost (developed under the entry age method, but where the total normal cost is not less than 17.5% of Annual Payroll) plus the amortization payment.

Funding Elements for Funding Policy Contribution

	Present Value of Benefits as of 1/1/2021	Entry Age Normal Cost as of 1/1/2021	Entry Age Accrued Liability as of 1/1/2021
1. Actives			
a) Normal & Early Retirement	$ 86,108,850	$ 2,630,985	$ 63,652,160
b) Vested Withdrawal	1,436,646	183,810	235,074
c) Pre-Retirement Death	2,006,971	146,884	726,718
d) Disability	7,841,650	490,862	3,427,440
e) Total Actives	$ 97,394,117	$ 3,452,541	$ 68,041,392
2. Inactives and Survivors:			
a) Normal Retirees	$ 67,104,080		$ 67,104,080
b) Widows (survivors)	8,572,029		8,572,029
c) Deferred Vested	61,183		61,183
d) Disabled	20,094,879		20,094,879
e) Total - Nonactive	$ 95,832,171		$ 95,832,171
3. Total – All	$ 193,226,288		$ 163,873,563

Actuarially Determined Funding Policy Contribution for Tax Levy

Item	Amount
1. Normal Cost (net of employee/member contributions)	$ 2,332,016
2. Employee Contributions (expected)	1,120,525
3. Funding Actuarial Liability	163,873,563
4. 100% of Funding Actuarial Liability	163,873,563
5. Actuarial Value of Assets (Exhibit 3)	131,084,082
6. Unfunded Actuarial Balance	32,789,481
7. Amortization of Unfunded Balance over 20 years as a level percentage of payroll	2,120,613
8. Interest on (1), (2) and (7)	376,188
9. Actuarially Determined Funding Policy Contribution for Tax Levy (1) + (7) + (8)	$4,828,817 (40.7%)

Exhibit 6- Contribution Required to Prevent Negative Funding

Item	Amount
1. Normal Cost (net of employee/member contributions)	$ 2,332,016
2. Employee Contributions (expected)	1,120,525
3. 100% of Funding Actuarial Liability	163,873,563
4. Actuarial Value of Assets (Exhibit 3)	131,084,082
5. Unfunded Actuarial Balance	32,789,481
6. Interest on Unfunded Liability	2,213,290
7. Interest on (1), (2)	233,047
8. Contribution Necessary to Prevent Negative Funding (1) + (6) + (7)	$4,778,353 (40.3%)

Exhibit 7 – Summary of Participant Data as of January 1, 2021

Participant Data

Item	As of 1/1/2021		
	Tier 1	Tier 2	Total
Active Members			
Vested	76	7	83
Non-Vested	1	22	23
Total Actives	77	29	106
Terminated Members entitled to future benefits	1	2	3
Retired Members	63	0	63
Surviving Spouses	17	0	17
Minor Dependents	2	0	2
Disabled Participants	25	0	25
Total	185	31	216

AGE AND SERVICE DISTRIBUTION AS OF JANUARY 1, 2021

Active Employee Participants

Age Group	Service									Total
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
Under 20										0
20 - 24	2									2
25 - 29	2	1								3
30 - 34	9	5	1							15
35 - 39	3	3	8							14
40 - 44		4	5	5	1					15
45 - 49		1	4	8	14					27
50 - 54				3	15	4				22
55 - 59					2	2	2			6
60 - 64						1	1			2
75 & Over										0
Total	16	14	18	16	32	7	3	0	0	106

Average Age: 44.2 years
Average Length of Service: 15.9 years

SECTION 4 - SUMMARY OF PRINCIPAL PLAN PROVISIONS

This summary provides a general description of the major eligibility and benefit provisions of the pension fund upon which this valuation has been based. It is not intended to be, nor should it be interpreted as, a complete statement of all provisions

Definitions

Tier 1 – For Firefighters first entering Article 4 prior to January 1, 2011

Tier 2 – For Firefighters first entering Article 4 after December 31, 2010

Firefighter (4-106): Any person employed in the municipality's fire service as a firefighter, fire engineer, marine engineer, fire pilot, bomb technician or scuba diver.

Creditable Service (4-108): Time served by a firefighter, excluding furloughs and leaves of absence in excess of 30 days, but including leaves of absence for illness or accident and periods of disability where no disability pension payments are received and also including up to 3 years during which disability payments have been received provided contributions are made.

Creditable Service from other specified agencies is also included. Combined service credit option is available on a voluntary basis.

Pension (4-109)

Normal Pension Age

Tier 1 - Age 50 with 20 or more years of creditable service.

Tier 2 - Age 55 with 10 or more years of creditable service.

Normal Pension Amount

Tier 1 - 50% of the greater of the annual salary held in the year preceding retirement or the annual salary held on the last day of service, plus 2½% of such annual salary for service from 20 to 30 year (maximum 25%)].

Tier 2 - 2½% of Final Average salary for each year of service. Final Average Salary is the highest salary based on the highest consecutive 48 months of the final 60 months of service.

Early Retirement at age 50 with 10 or more years of service but with a penalty of ½% for each month prior to age 55.

Annual Salary capped at $106,800 increased yearly by the lesser of the Consumer Price Index- Urban (CPI-U) or 3%. The Salary cap for valuations beginning in 2021 is $116,740.

Minimum Monthly Benefit: $1,000

Maximum Benefit Percentage: 75% of salary

Termination Pension Amount

Any firefighter who retires or is separated from service with at least 10, but less than 20 years of credited service, shall be entitled to a monthly pension commencing at age 60 equal to the monthly rate of compensation based on rank at separation multiplied by the applicable percentage below:

Years of Credited Service	Applicable Percentage
10	15.0%
11	17.6%
12	20.4%
13	23.4%
14	26.6%
15	30.0%
16	33.6%
17	37.4%
18	41.4%
19	45.6%

Pension Increase Non-Disabled

Tier 1 - 3% increase of the original pension amount after attainment of age 55 for each year elapsed since retirement, followed by an additional 3% of the original pension amount on each January 1 thereafter. Effective July 1, 1993, 3% of the amount of pension payable at the time of the increase including increases previously granted, rather than 3% of the originally granted pension amount.

Tier 2 - The lesser of ½ of the Consumer Price Index-Urban (CPI-U) or 3% increase of the original pension amount after attainment of age 60 and an additional such increase of the original pension amount on each January 1 thereafter.

Disabled

3% increase of the original pension amount after attainment of age 60 for each year he or she received pension payments, followed by an additional 3% of the original pension amount on each January 1 thereafter.

Pension to Survivors (4-114)

Death Benefit

Tier 1 - 54% of annual salary based on attained rank at date of separation of service to surviving spouse, plus 12% of such salary to dependent children under 18.

Tier 2 - 66 2/3% of pension amount to surviving spouse (or dependent children), subject to the following increase: The lesser of ½ of the Consumer Price Index-Urban (CPI-U) or 3% increase of the original pension amount after attainment of age 60 and an additional such increase of the original pension amount on each January 1 thereafter.

Tier 1 / Tier 2 - Greater of 100% of monthly retirement benefit or 54% of annual salary if completed 20 years of service or on disability retirement.

Tier 1 / Tier 2 - 100% of annual salary if death occurs in the line of duty.

Minimum Survivor Pension
$1,159.27 per month.

Disability Pension - Line of Duty (4-110)

Eligibility
Suspension or retirement from fire service due to sickness, accident or injury while on duty.

Pension
Greater of 65% of salary attached to rank at date of suspension or retirement and the retirement pension available. Minimum Benefit: $1,159.27 per month.

Disability Pension - Not on Duty (4-111)

Eligibility
Suspension or retirement from fire service for any cause other than while on duty.

Pension
50% of salary attached to rank at date of suspension or retirement.

Disability Pension - Occupational Disease (4-110.1)

Eligibility
Suspension or retirement from service after 5 years of service from causes of heart disease, cancer, tuberculosis or other lung disease.

Pension
Greater of 65% of salary attached to rank at date of suspension or retirement and the retirement pension available. Minimum Benefit: $1,159.27 per month.

Other Provisions

Refund (4-116)
At death with no survivors, contributions are returned to estate.

At termination with less than 20 years of service, contributions are refunded upon request.

Contributions by Firefighters (4-118.1)
9.455% of salary including longevity, but excluding overtime pay, holiday pay, bonus pay, merit pay or other cash benefit. Additional 1% of salary if combined service credit option is selected.

Actuarial Accrued Liability
See ***Entry Age Normal Cost*** *Method and* ***Projected Unit Credit Cost*** *Method.*

Actuarial Assumptions
The economic and demographic predictions used to estimate the present value of the plan's future obligations. They include estimates of investment earnings, salary increases, mortality, withdrawal and other related items. The *Actuarial Assumptions* are used in connection with the *Actuarial Cost Method* to allocate plan costs over the working lifetimes of plan participants.

Actuarial Cost Method
The method used to allocate the projected obligations of the plan over the working lifetimes of the plan participants. Also referred to as an *Actuarial Funding Method.*

Actuarial Funding Method
See *Actuarial Cost Method*

Actuarial Gain (Loss)
The excess of the actual *Unfunded Actuarial Accrued Liability* over the expected *Unfunded Actuarial Accrued Liability* represents an *Actuarial Loss.* If the expected *Unfunded Actuarial Accrued Liability* is greater, an *Actuarial Gain* has occurred.

Actuarial Present Value
The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of *Actuarial Assumptions* .

Actuarial Value of Assets
The asset value derived by using the plan's *Asset Valuation Method.*

Asset Valuation Method
A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an asset valuation method is to provide for the long-term stability of employer contributions.

Employee Retirement Income Security Act of 1974 (ERISA)
The primary federal legislative act establishing funding, participation, vesting, benefit accrual, reporting, and disclosure standards for pension and welfare plans.

Entry Age Normal Cost Method
One of the standard actuarial funding methods in which the *Present Value of Projected Plan Benefits* of each individual included in the *Actuarial Valuation* is allocated on a level basis over the earnings of the individual between entry age and assumed exit age(s). The portion of this *Actuarial Present Value* allocated to a valuation year is called the *Normal Cost* . The portion of this *Actuarial Present Value* not provided for at a valuation date by the *Actuarial Present Value* of future *Normal Costs* is called the *Actuarial Accrued Liability* .

Normal Cost
The portion of the *Present Value of Projected Plan Benefits* that is allocated to a particular plan year by the *Actuarial Cost Method*. See *Entry Age Normal Cost Method* for a description of the Normal Cost under the *Entry Age Normal Cost Method.* See *Projected Unit Credit Cost Method* for a description of the Normal Cost under the *Projected Unit Credit Cost Method.*

Present Value of Future Normal Costs
The present value of future normal costs determined based on the *Actuarial Cost Method* for the plan. Under the *Entry Age Normal Cost Method*, this amount is equal to the excess of the *Present Value of Projected Plan Benefits* over the sum of the *Actuarial Value of Assets* and *Unfunded Actuarial Accrued Liability.*

Present Value of Projected Plan Benefits
The present value of future plan benefits reflecting projected credited service and salaries. The present value is determined based on the plan's actuarial assumptions.

Projected Unit Credit Cost Method
One of the standard actuarial funding methods in which the *Present Value of Projected Plan Benefits* of each individual included in the *Actuarial Valuation* is allocated by a consistent formula to valuation years. The *Actuarial Present Value* allocated to a valuation year is called the *Normal Cost*. The *Actuarial Present Value* of benefits allocated to all periods prior to a valuation year is called the *Actuarial Accrued Liability*.

Unfunded Actuarial Accrued Liability
The excess of the *Actuarial Accrued Liability* over the *Actuarial Value of Assets.*

SECTION 5 - SUMMARY OF ACTUARIAL ASSUMPTIONS AND COST METHODS

Nature of Actuarial Calculations

The results documented in this report are estimates based on data that may be imperfect and on assumptions about future events, some of which are mandated assumptions. Certain provisions may be approximated or deemed immaterial and therefore are not valued. Assumptions may be made about participant data or other factors. A range of results, different from those presented in this report could be considered reasonable. The numbers are not rounded, but this is for convenience and should not imply precisions, which is not inherent in actuarial calculations.

Actuarial Assumption	Annual Actuarial Valuation Statutory Minimum	Annual Actuarial Valuation Funding Policy Amount for Tax Levy
Interest	6.75% per annum	6.75% per annum
Mortality	RP2014 Base Rates with Blue Collar Adjustments Projected to 2021 with Scale MP2020	RP2014 Base Rates with Blue Collar Adjustments Projected to 2021 with Scale MP2020
Retirement	Rates of retirement for all ages are: Tier 1 / Tier 2 Age / Age 50 10.00% 61 25.00% 51 10.00% 62 25.00% 52 12.00% 63 33.00% 53 12.00% 64 33.00% 54 15.00% 65 100% 55 15.00% 66 100% 56 20.00% 67 100% 57 20.00% 68 100% 58 20.00% 69 100% 59 20.00% 70 100% 60 25.00%	Rates of retirement for all ages are: Tier 1 / Tier 2 Age / Age 50 10.00% 61 25.00% 51 10.00% 62 25.00% 52 12.00% 63 33.00% 53 12.00% 64 33.00% 54 15.00% 65 100% 55 15.00% 66 100% 56 20.00% 67 100% 57 20.00% 68 100% 58 20.00% 69 100% 59 20.00% 70 100% 60 25.00%
Withdrawal	Rates of termination are based upon age only. Sample rates for selected ages are: Age 25 5.80% 40 1.10% 50 1.00% 55 1.00%	Rates of termination are based upon age only. Sample rates for selected ages are: Age 25 5.80% 40 1.10% 50 1.00% 55 1.00%
Disability	Rates of disability are based upon age only. Sample rates for selected ages are: Age 25 0.02% 40 0.42% 50 0.90% 55 1.24% *80% of disablities are assumed to occur in the line of duty*	Rates of disability are based upon age only. Sample rates for selected ages are: Age 25 0.02% 40 0.42% 50 0.90% 55 1.24% *80% of disablities are assumed to occur in the line of duty*

Actuarial Assumption	Annual Actuarial Valuation Statutory Minimum	Annual Actuarial Valuation Funding Policy Amount for Tax Levy
Salary Increase	Graded by service from 13.25% to ultimate of 4.25%.	Graded by service from 13.25% to ultimate of 4.25%.
Payroll Growth	3.75% per annum	3.75% per annum
Percentage Married	85% are married, females are assumed to be 3 years younger	85% are married, females are assumed to be 3 years younger
Asset Valuation Method	Assets are valued at fair market value and smoothed over three years, reflecting gains and losses at 33-1/3% per year.	Assets are valued at fair market value and smoothed over three years, reflecting gains and losses at 33-1/3% per year.
Actuarial Cost Methods	Projected Unit Credit Cost Method This is the mandated actuarial method to be used in determining the statutory contribution requirements and under PA 096-1495. This method determines the present value of projected benefits and prorates the projected benefit by service to date to determine the accrued liability. Amounts attributable to past service are amortized as a level percentage of pay with the goal of reaching 90% of the accrued liability by 2040.	Entry Age Normal Cost Method This method projects benefits from entry age to retirement age and attributes costs over total service, as a level percentage of pay. Amounts attributable to past service have been amortized over 20 years on a closed basis as a level percentage of pay.

SECTION 6 - TWENTY YEAR CASH FLOW PROJECTION

The information contained in the following charts are estimates only, intended to illustrate patterns of funding and cash flows rather than absolute values. These estimates are based upon the actuarial assumptions and funding methods outlined in the January 1, 2021 actuarial valuation report. The values are illustrated predicated upon a diversified portfolio according to the current investment policy and asset allocations. Any changes in the investment policy or asset allocation may affect the results and nullify the contribution patterns illustrated. Actual experience may differ significantly from that assumed and produce significantly different results than those presented in the charts. Many factors may change which affect results and therefore these projections should not be relied upon as other than estimates depicting trends. The projections are based upon an "open group" methodology which replaces active members expected to leave the group with hypothetical new employees with characteristics as assumed in the new entrant profile.

Fiscal Year	Accrued Liability			Actuarial Value of Assets	Unfunded Liability	Annual Payroll	Employer Contributions	Employer Contribution as a Percent of Payroll	Employee Contributions	Investment Income	Total Revenue	Benefit Payments	Excess of Revenue over Payments
	Current Members	Future New Entrants	Total										
2021	163,873,563	-	163,873,563	131,084,082	32,789,481	11,851,132	4,828,817	40.75%	1,120,525	8,558,913	14,508,255	8,031,774	6,476,481
2022	170,283,328	-	170,283,328	137,560,563	32,722,765	12,172,553	4,881,874	40.11%	1,150,915	8,977,059	15,009,848	8,559,784	6,450,064
2023	176,495,867	81,828	176,577,695	144,010,627	32,567,068	12,490,129	4,917,567	39.37%	1,180,942	9,391,115	15,489,624	9,151,856	6,337,768
2024	182,394,847	265,844	182,660,691	150,348,395	32,312,296	12,835,138	4,933,537	38.44%	1,213,562	9,797,232	15,944,331	9,753,917	6,190,414
2025	187,912,539	569,718	188,482,257	156,538,809	31,943,448	13,199,088	4,964,656	37.61%	1,247,974	10,194,702	16,407,332	10,319,853	6,087,479
2026	193,074,428	1,012,215	194,086,643	162,626,288	31,460,355	13,629,865	4,990,252	36.61%	1,288,704	10,583,372	16,862,328	10,937,259	5,925,069
2027	197,788,610	1,604,670	199,393,280	168,551,357	30,841,923	14,086,701	5,025,866	35.68%	1,331,898	10,962,667	17,320,431	11,510,549	5,809,882
2028	202,076,439	2,365,366	204,441,805	174,361,239	30,080,566	14,601,049	5,062,271	34.67%	1,380,529	11,334,858	17,777,658	12,065,220	5,712,438
2029	205,925,711	3,306,173	209,231,884	180,073,677	29,158,207	15,148,003	5,108,782	33.73%	1,432,244	11,702,151	18,243,177	12,573,232	5,669,945
2030	209,366,469	4,440,572	213,807,041	185,743,622	28,063,419	15,738,307	5,154,312	32.75%	1,488,057	12,066,782	18,709,151	13,075,550	5,633,601
2031	212,364,279	5,788,026	218,152,305	191,377,223	26,775,082	16,346,421	5,215,233	31.90%	1,545,554	12,429,784	19,190,571	13,554,957	5,635,614
2032	214,929,716	7,367,417	222,297,133	197,012,837	25,284,296	17,005,304	5,279,253	31.04%	1,607,851	12,794,096	19,681,200	14,001,783	5,679,417
2033	217,069,801	9,190,994	226,260,795	202,692,254	23,568,541	17,692,008	5,350,796	30.24%	1,672,779	13,162,584	20,186,159	14,414,750	5,771,409
2034	218,798,510	11,276,703	230,075,213	208,463,663	21,611,550	18,418,921	5,433,007	29.50%	1,741,509	13,537,474	20,711,990	14,822,344	5,889,646
2035	220,107,840	13,641,489	233,749,329	214,353,309	19,396,020	19,182,038	5,511,853	28.73%	1,813,662	13,920,936	21,246,451	15,213,542	6,032,909
2036	220,981,611	16,303,252	237,284,863	220,386,218	16,898,645	19,968,126	5,591,509	28.00%	1,887,986	14,313,823	21,793,318	15,611,568	6,181,750
2037	221,387,166	19,282,033	240,669,199	226,567,968	14,101,231	20,770,195	5,672,414	27.31%	1,963,822	14,717,325	22,353,561	15,993,795	6,359,766
2038	221,315,811	22,601,141	243,916,952	232,927,734	10,989,218	21,608,685	5,755,406	26.63%	2,043,101	15,133,991	22,932,498	16,344,164	6,588,334
2039	220,790,005	26,281,898	247,071,903	239,516,068	7,555,835	22,495,489	5,814,971	25.85%	2,126,948	15,565,515	23,507,434	16,710,372	6,797,062
2040	219,768,077	30,346,901	250,114,978	246,313,130	3,801,848	23,416,522	5,783,278	24.70%	2,214,032	16,011,203	24,008,513	17,074,480	6,934,033

Board of Trustees of the Firefighters Pension Fund
8/9/2021

Item: Check Register - June 2021

Department: fire

Check Register - June 2021

ATTACHMENTS:

Description	Type
Check Register - June 2021	Report

FIREFIGHTERS' PENSION FUND
CALENDAR YEAR ENDING 12 / 31 / 2021
CHECK REGISTER AND JOURNAL VOUCHER PAYMENTS

Check Number	JV or Group Number	Date	Payee	Description	Expense	MONTHLY TOTAL
	JV 006	01/26/21	Village of Arlington Heights	Postage Reimbursement	0.50	
	JV 002	01/31/21	US Bank	Administrative Services	361.98	
	JV 002	01/31/21	Marquette Associates	Management Fee	15,000.00	
680	JV 002	01/31/21	Collins Radja & Hartwell	Legal Services	1,000.00	
681	JV 002	01/31/21	Collins Radja & Hartwell	Legal Services	3,232.94	
	JV 002	01/31/21	Segall Bryant Hamill	Management Fee	25,622.80	
	JV 002	01/31/21	Segall Bryant Hamill	Management Fee	15,219.72	
	JV 031	02/12/21	Village of Arlington Heights	Postage Reimbursement	0.50	**60,438.44**
682	JV 028	02/28/21	Theodore J Suchy, DO	Medical Exam	1,600.00	
683	JV 028	02/28/21	VOID		0.00	
	JV 028	02/28/21	US Bank	Administrative Services	363.79	**1,963.79**
	JV 067	03/31/21	US Bank	Administrative Services	362.63	
684	JV 067	03/31/21	Laura Potts	Secretarial Services	144.38	
685	JV 067	03/31/21	1099 Pro	1099 Services	104.12	
	JV 067	03/31/21	Marquette Associates	Management Fee	15,000.00	
686	JV 067	03/31/21	Theodore J Suchy, DO	Medical Exam	450.00	
687	JV 067	03/31/21	Barrington Orthopedic Specialists	Medical Exam	534.00	**16,595.13**
	JV 112	04/30/21	US Bank	Administrative Services	356.74	
688	JV 112	04/30/21	Kathleen Bono, CSR	Court Reporting Services	1,469.90	
689	JV 112	04/30/21	Collins Radja & Hartwell	Legal Services	10,179.89	**12,006.53**
	JV 146	05/31/21	US Bank	Administrative Services	354.98	
	JV 146	05/31/21	Segall Bryant Hamill	Management Fee	18,894.34	
	JV 146	05/31/21	Segall Bryant Hamill	Management Fee	25,153.10	
690	JV 146	05/31/21	Illinois Department of Insurance	Compliance Fee	8,000.00	
691	JV 146	05/31/21	Laura Potts	Secretarial Services / Supplies	270.83	**52,673.25**
	JV 184	06/30/21	US Bank	Administrative Services	359.30	
692	JV 184	06/30/21	Collins Radja & Hartwell	Legal Services	6,467.06	
693	JV 184	06/30/21	INSPE Associates	Medical Exam	4,185.00	
694	JV 184	06/30/21	Collins Radja & Hartwell	Legal Services	1,020.00	
695	JV 184	06/30/21	INSPE Associates	Medical Exam	912.00	
	JV 184	06/30/21	Marquette Associates	Management Fee	15,000.00	**27,943.36**
					$ 171,620.50	

Board of Trustees of the Firefighters Pension Fund
8/9/2021

Item: marquette

Department: fire

Report from Fund Consultant - Marquette Associates

ATTACHMENTS:

Description	**Type**
Q2-2021 Performance Report	Report

Arlington Heights Firefighters

Village of Arlington Heights

Firefighters' Pension Fund

Executive Summary

June 30, 2021

Total Fund Composite

Manager Status

Market Value: $143.9 Million and 100.0% of Fund

Investment Manager	Ticker	Asset Class	Status	Reason
Segall Bryant & Hamill Interm Fixed Income	---	Int. Fixed Income	In Compliance	---
Vanguard Total Stock Market	VITSX	All-Cap Core	In Compliance	---
Segall Bryant & Hamill Equity	---	Small-Cap Core	In Compliance	---
Vanguard Total Int'l Stock	VTIAX	Non-U.S. Large-Cap Core	In Compliance	---
Invesco Oppenheimer	ODVYX	Emerging Markets	In Compliance	---
Principal	---	Core Real Estate	In Compliance	---

Investment Manager Evaluation Terminology

The following terminology has been developed by Marquette Associates to facilitate efficient communication among the Investment Manager, Investment Consultant, and the Plan Sponsor. Each term signifies a particular status with the Fund and any conditions that may require improvement. In each case, communication is made only after consultation with the Trustees and/or the Investment Committee of the Plan.

In Compliance – The investment manager states it is acting in accordance with the Investment Policy Guidelines.

Alert – The investment manager is notified of a problem in performance (usually related to a benchmark or volatility measure), a change in investment characteristics, an alteration in management style or key investment professionals, and/or any other irregularities.

On Notice – The investment manager is notified of continued concern with one or more Alert issues. Failure to improve upon stated issues within a specific time frame justifies termination.

Termination – The Trustees have decided to terminate the investment manager. The investment manager is notified and transition plans are in place.

Total Fund Composite

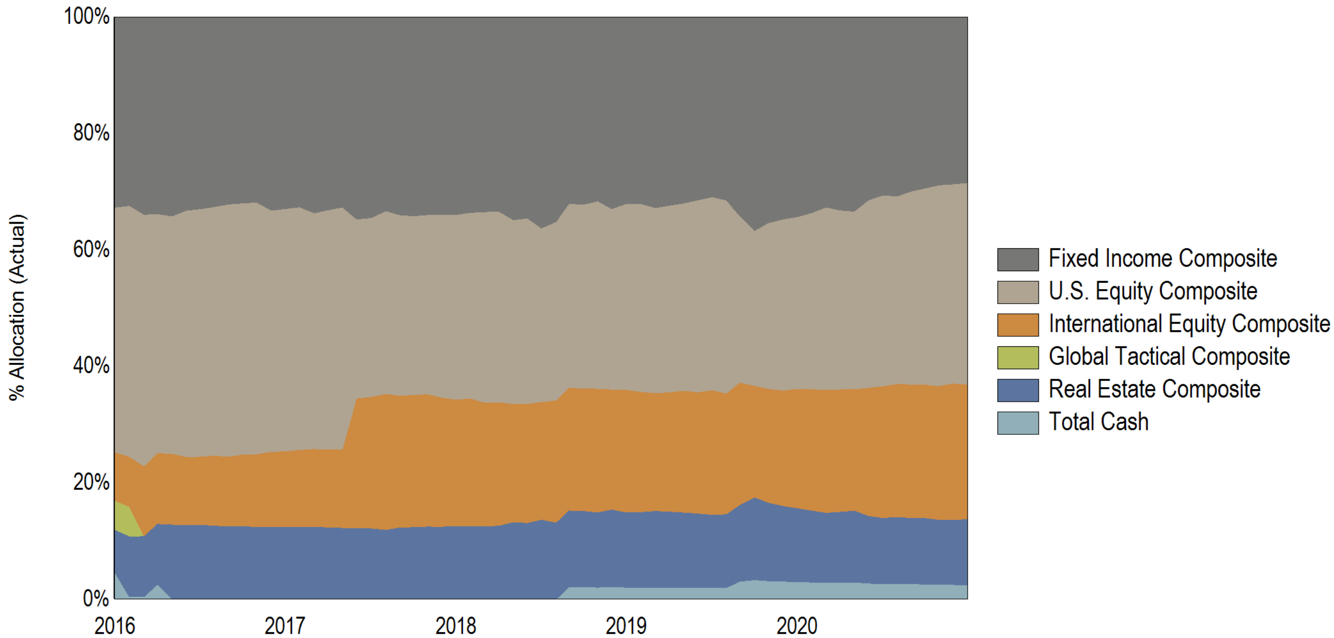
Market Value: $143.9 Million and 100.0% of Fund

Ending June 30, 2021

	Asset Class	Market Value	% of Portfolio	Policy %	Policy Difference	3 Mo Net Cash Flows
Total Fund Composite		**$143,932,961**	**100.0%**	**100.0%**	**$0**	**-$2,290**
Fixed Income Composite		**$40,884,342**	**28.4%**	**32.0%**	**-$5,174,206**	**$0**
Segall Bryant & Hamill Interm Fixed Income	Int. Fixed Income	$40,884,342	28.4%	32.0%	-$5,174,206	$0
U.S. Equity Composite		**$49,836,695**	**34.6%**	**30.0%**	**$6,656,807**	**-$353**
Vanguard Total Stock Market	All-Cap Core	$40,080,186	27.8%	25.0%	$4,096,946	$0
Segall Bryant & Hamill Equity	Small-Cap Core	$9,756,509	6.8%	5.0%	$2,559,861	-$353
International Equity Composite		**$33,318,475**	**23.1%**	**22.5%**	**$933,559**	**$0**
Vanguard Total Int'l Stock	Non-U.S. Large-Cap Core	$25,933,591	18.0%	17.5%	$745,323	$0
Invesco Oppenheimer	Emerging Markets	$7,384,884	5.1%	5.0%	$188,236	$0
Real Estate Composite		**$16,272,161**	**11.3%**	**12.5%**	**-$1,719,459**	**$0**
Principal	Core Real Estate	$16,272,161	11.3%	12.5%	-$1,719,459	$0
Total Cash		**$3,621,287**	**2.5%**	**3.0%**	**-$696,702**	**-$1,937**

Market Value: $143.9 Million and 100.0% of Fund

Historic Asset Allocation

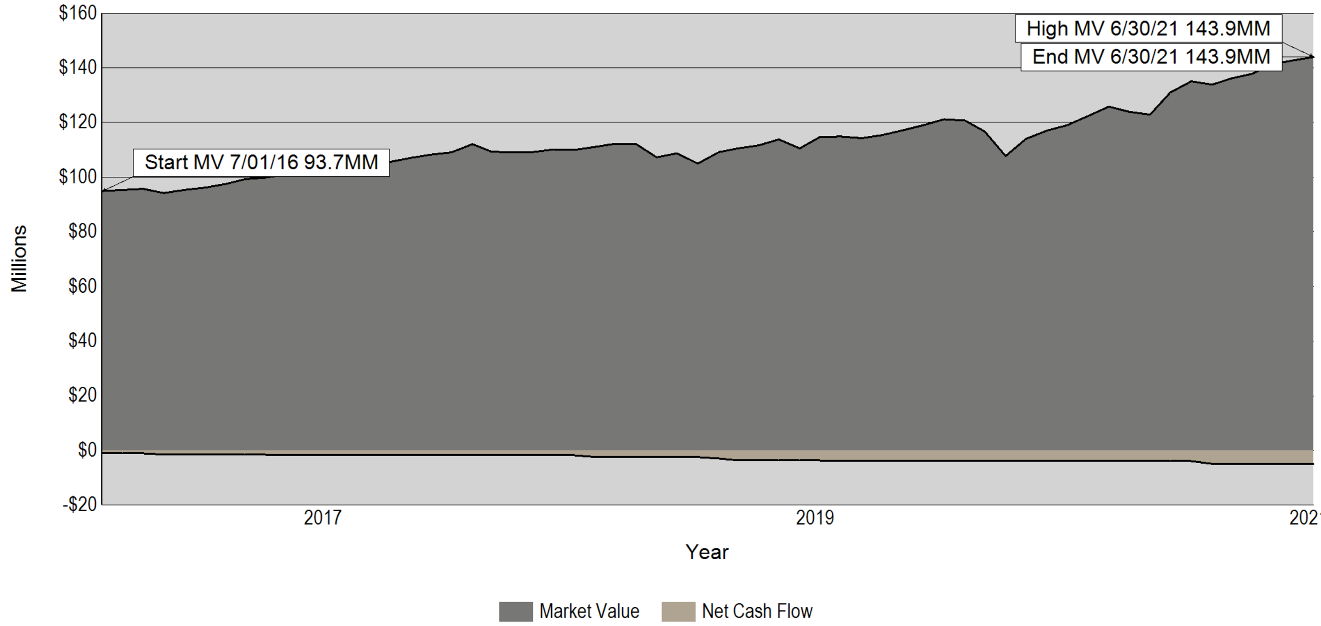


	Current	Policy	Difference	%
Fixed Income Composite	$40,884,342	$46,058,547	-$5,174,206	-3.6%
U.S. Equity Composite	$49,836,695	$43,179,888	$6,656,807	4.6%
International Equity Composite	$33,318,475	$32,384,916	$933,559	0.6%
Real Estate Composite	$16,272,161	$17,991,620	-$1,719,459	-1.2%
Total Cash	$3,621,287	$4,317,989	-$696,702	-0.5%
Total	**$143,932,961**			

Total Fund Composite

Market Value History

Market Value: $143.9 Million and 100.0% of Fund



Summary of Cash Flows

	Last Month	Year-To-Date	One Year	Three Years	Five Years
Beginning Market Value	**$142,729,113.59**	**$135,070,571.92**	**$119,005,424.61**	**$109,934,327.79**	**$93,734,124.64**
Net Cash Flow	-$775.73	-$1,004,409.69	-$1,008,088.04	-$2,774,836.27	-$4,187,039.69
Net Investment Change	$1,204,622.83	$9,866,798.46	$25,935,624.12	$36,773,469.17	$54,385,875.74
Ending Market Value	**$143,932,960.69**	**$143,932,960.69**	**$143,932,960.69**	**$143,932,960.69**	**$143,932,960.69**

Total Fund Composite

Annualized Performance (Net of Fees)

Market Value: $143.9 Million and 100.0% of Fund

Ending June 30, 2021

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	**0.8%**	**4.4%**	**7.3%**	**21.7%**	**12.3%**	**10.1%**	**9.4%**	**9.6%**	**7.5%**	**8.2%**
Policy Benchmark	*0.8%*	*4.6%*	*7.0%*	*21.1%*	*12.3%*	*10.3%*	*9.4%*	*9.6%*	*7.8%*	*8.3%*
Actuarial Rate	*0.5%*	*1.6%*	*3.3%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.8%*
Fixed Income Composite	**0.0%**	**1.0%**	**-1.0%**	**0.0%**	**3.3%**	**4.5%**	**3.2%**	**2.4%**	**2.6%**	**2.7%**
Custom Fixed Income Benchmark	*0.1%*	*1.0%*	*-0.9%*	*0.2%*	*3.6%*	*4.7%*	*3.4%*	*2.6%*	*2.7%*	*2.8%*
U.S. Equity Composite	**2.0%**	**7.2%**	**15.0%**	**45.0%**	**23.8%**	**18.4%**	**17.5%**	**17.7%**	**13.5%**	**14.1%**
Wilshire 5000 Total Market	*2.5%*	*8.4%*	*15.4%*	*44.2%*	*24.1%*	*18.9%*	*17.8%*	*18.0%*	*14.1%*	*14.8%*
International Equity Composite	**-0.4%**	**5.5%**	**9.0%**	**36.7%**	**14.7%**	**10.0%**	**9.6%**	**11.8%**	**5.1%**	**5.8%**
MSCI ACWI ex USA	*-0.6%*	*5.5%*	*9.2%*	*35.7%*	*13.7%*	*9.4%*	*8.9%*	*11.1%*	*5.3%*	*5.4%*
Real Estate Composite	**2.2%**	**3.6%**	**6.1%**	**7.9%**	**4.8%**	**5.5%**	**6.1%**	**6.6%**	**8.3%**	**--**
NFI	*1.2%*	*3.7%*	*5.7%*	*7.1%*	*4.2%*	*4.6%*	*5.3%*	*5.6%*	*7.4%*	*8.6%*

Calendar Performance (Net of Fees)

Market Value: $143.9 Million and 100.0% of Fund

	Calendar Year										
	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Fund Composite	**11.3%**	**16.5%**	**-3.4%**	**13.2%**	**7.8%**	**-0.2%**	**6.4%**	**17.0%**	**9.9%**	**2.2%**	**11.2%**
Policy Benchmark	*11.7%*	*16.9%*	*-3.5%*	*12.9%*	*7.7%*	*1.4%*	*7.1%*	*15.8%*	*10.1%*	*1.5%*	*11.6%*
Actuarial Rate	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.8%*	*6.8%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*
InvMetrics Public DB Net Rank	*72*	*88*	*24*	*82*	*36*	*43*	*27*	*27*	*80*	*14*	*73*
Fixed Income Composite	**6.1%**	**6.4%**	**1.0%**	**2.0%**	**1.8%**	**1.1%**	**3.5%**	**-1.2%**	**3.7%**	**6.3%**	**5.6%**
Custom Fixed Income Benchmark	*6.4%*	*6.8%*	*0.9%*	*2.1%*	*2.1%*	*1.1%*	*3.1%*	*-0.9%*	*3.9%*	*5.5%*	*5.5%*
InvMetrics Public DB Total Fix Inc Net Rank	*79*	*87*	*17*	*91*	*88*	*21*	*57*	*46*	*92*	*44*	*85*
U.S. Equity Composite	**21.4%**	**30.3%**	**-5.1%**	**19.7%**	**13.1%**	**-0.3%**	**10.9%**	**33.7%**	**14.9%**	**0.8%**	**18.8%**
Wilshire 5000 Total Market	*20.8%*	*31.0%*	*-5.3%*	*21.0%*	*13.4%*	*0.7%*	*12.7%*	*33.1%*	*16.1%*	*1.0%*	*17.2%*
InvMetrics Public DB US Eq Net Rank	*8*	*42*	*26*	*65*	*43*	*55*	*52*	*67*	*75*	*41*	*36*
International Equity Composite	**12.5%**	**22.1%**	**-13.9%**	**29.5%**	**3.3%**	**-9.4%**	**-3.6%**	**17.9%**	**20.5%**	**-13.5%**	**15.5%**
MSCI ACWI ex USA	*10.7%*	*21.5%*	*-14.2%*	*27.2%*	*4.5%*	*-5.7%*	*-3.9%*	*15.3%*	*16.8%*	*-13.7%*	*11.2%*
InvMetrics Public DB ex-US Eq Net Rank	*47*	*61*	*23*	*31*	*67*	*96*	*45*	*41*	*22*	*51*	*10*
Real Estate Composite	**0.6%**	**6.0%**	**8.0%**	**8.0%**	**8.9%**	**13.4%**	**12.6%**	**13.4%**	**--**	**--**	**--**
NFI	*0.3%*	*4.4%*	*7.4%*	*6.7%*	*7.8%*	*13.9%*	*11.5%*	*12.9%*	*9.8%*	*15.0%*	*15.3%*
InvMetrics Public DB Real Estate Priv Net Rank	*41*	*43*	*19*	*23*	*15*	*28*	*35*	*30*	*--*	*--*	*--*

Annualized Performance (Net of Fees)

Market Value: $143.9 Million and 100.0% of Fund

Ending June 30, 2021

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	**0.8%**	**4.4%**	**7.3%**	**21.7%**	**12.3%**	**10.1%**	**9.4%**	**9.6%**	**7.5%**	**8.2%**
Policy Benchmark	*0.8%*	*4.6%*	*7.0%*	*21.1%*	*12.3%*	*10.3%*	*9.4%*	*9.6%*	*7.8%*	*8.3%*
Actuarial Rate	*0.5%*	*1.6%*	*3.3%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.8%*
Fixed Income Composite	**0.0%**	**1.0%**	**-1.0%**	**0.0%**	**3.3%**	**4.5%**	**3.2%**	**2.4%**	**2.6%**	**2.7%**
Custom Fixed Income Benchmark	*0.1%*	*1.0%*	*-0.9%*	*0.2%*	*3.6%*	*4.7%*	*3.4%*	*2.6%*	*2.7%*	*2.8%*
Segall Bryant & Hamill Interm Fixed Income	0.0%	1.0%	-1.0%	0.0%	3.3%	4.5%	3.2%	2.4%	2.6%	2.7%
Custom Fixed Income Benchmark	*0.1%*	*1.0%*	*-0.9%*	*0.2%*	*3.6%*	*4.7%*	*3.4%*	*2.6%*	*2.7%*	*2.8%*
U.S. Equity Composite	**2.0%**	**7.2%**	**15.0%**	**45.0%**	**23.8%**	**18.4%**	**17.5%**	**17.7%**	**13.5%**	**14.1%**
Wilshire 5000 Total Market	*2.5%*	*8.4%*	*15.4%*	*44.2%*	*24.1%*	*18.9%*	*17.8%*	*18.0%*	*14.1%*	*14.8%*
Vanguard Total Stock Market	2.6%	8.3%	15.3%	44.3%	24.0%	18.8%	17.8%	17.9%	14.0%	14.7%
Vanguard Total Stock Benchmark	*2.6%*	*8.3%*	*15.2%*	*44.3%*	*24.0%*	*18.8%*	*17.8%*	*17.9%*	*14.0%*	*14.6%*
Segall Bryant & Hamill Equity	-0.4%	3.0%	14.7%	49.4%	23.4%	17.0%	16.7%	17.0%	12.1%	12.3%
Custom Segall Bryant Benchmark	*1.9%*	*4.3%*	*17.5%*	*62.0%*	*23.0%*	*13.5%*	*14.6%*	*15.6%*	*11.2%*	*12.5%*
International Equity Composite	**-0.4%**	**5.5%**	**9.0%**	**36.7%**	**14.7%**	**10.0%**	**9.6%**	**11.8%**	**5.1%**	**5.8%**
MSCI ACWI ex USA	*-0.6%*	*5.5%*	*9.2%*	*35.7%*	*13.7%*	*9.4%*	*8.9%*	*11.1%*	*5.3%*	*5.4%*
Vanguard Total Int'l Stock	-0.5%	5.5%	9.7%	36.5%	14.4%	9.6%	9.0%	--	--	--
FTSE Global All Cap ex US	*-0.6%*	*5.8%*	*9.9%*	*37.6%*	*14.8%*	*9.9%*	*9.4%*	*11.6%*	*6.0%*	*6.1%*
Invesco Oppenheimer	-0.2%	5.6%	6.5%	37.2%	16.0%	11.5%	11.7%	13.8%	6.3%	--
MSCI Emerging Markets	*0.2%*	*5.0%*	*7.4%*	*40.9%*	*16.7%*	*11.3%*	*10.5%*	*13.0%*	*6.4%*	*4.3%*
Real Estate Composite	**2.2%**	**3.6%**	**6.1%**	**7.9%**	**4.8%**	**5.5%**	**6.1%**	**6.6%**	**8.3%**	**--**
NFI	*1.2%*	*3.7%*	*5.7%*	*7.1%*	*4.2%*	*4.6%*	*5.3%*	*5.6%*	*7.4%*	*8.6%*
Principal	2.2%	3.6%	6.1%	7.9%	4.8%	5.5%	6.1%	6.6%	8.3%	--
NFI	*1.2%*	*3.7%*	*5.7%*	*7.1%*	*4.2%*	*4.6%*	*5.3%*	*5.6%*	*7.4%*	*8.6%*

Market Value: $143.9 Million and 100.0% of Fund

	Calendar Year										
	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Fund Composite	**11.3%**	**16.5%**	**-3.4%**	**13.2%**	**7.8%**	**-0.2%**	**6.4%**	**17.0%**	**9.9%**	**2.2%**	**11.2%**
Policy Benchmark	*11.7%*	*16.9%*	*-3.5%*	*12.9%*	*7.7%*	*1.4%*	*7.1%*	*15.8%*	*10.1%*	*1.5%*	*11.6%*
Actuarial Rate	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.7%*	*6.8%*	*6.8%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*
InvMetrics Public DB Net Rank	*72*	*88*	*24*	*82*	*36*	*43*	*27*	*27*	*80*	*14*	*73*
Fixed Income Composite	**6.1%**	**6.4%**	**1.0%**	**2.0%**	**1.8%**	**1.1%**	**3.5%**	**-1.2%**	**3.7%**	**6.3%**	**5.6%**
Custom Fixed Income Benchmark	*6.4%*	*6.8%*	*0.9%*	*2.1%*	*2.1%*	*1.1%*	*3.1%*	*-0.9%*	*3.9%*	*5.5%*	*5.5%*
InvMetrics Public DB Total Fix Inc Net Rank	*79*	*87*	*17*	*91*	*88*	*21*	*57*	*46*	*92*	*44*	*85*
Segall Bryant & Hamill Interm Fixed Income	6.1%	6.4%	1.0%	2.0%	1.8%	1.1%	3.5%	-1.2%	3.7%	6.3%	5.5%
Custom Fixed Income Benchmark	*6.4%*	*6.8%*	*0.9%*	*2.1%*	*2.1%*	*1.1%*	*3.1%*	*-0.9%*	*3.9%*	*5.5%*	*5.5%*
eV US Interm Duration Fixed Inc Net Rank	*70*	*74*	*19*	*81*	*75*	*45*	*40*	*81*	*81*	*14*	*74*
U.S. Equity Composite	**21.4%**	**30.3%**	**-5.1%**	**19.7%**	**13.1%**	**-0.3%**	**10.9%**	**33.7%**	**14.9%**	**0.8%**	**18.8%**
Wilshire 5000 Total Market	*20.8%*	*31.0%*	*-5.3%*	*21.0%*	*13.4%*	*0.7%*	*12.7%*	*33.1%*	*16.1%*	*1.0%*	*17.2%*
InvMetrics Public DB US Eq Net Rank	*8*	*42*	*26*	*65*	*43*	*55*	*52*	*67*	*75*	*41*	*36*
Vanguard Total Stock Market	21.0%	30.8%	-5.2%	21.2%	12.7%	0.4%	12.6%	33.5%	16.4%	--	--
Vanguard Total Stock Benchmark	*21.0%*	*30.8%*	*-5.2%*	*21.2%*	*12.7%*	*0.4%*	*12.6%*	*33.2%*	*15.7%*	*0.5%*	*16.6%*
All Cap MStar MF Rank	*39*	*35*	*36*	*39*	*47*	*32*	*21*	*58*	*36*	*--*	*--*
Segall Bryant & Hamill Equity	23.4%	27.6%	-4.6%	14.9%	14.5%	-2.9%	4.7%	34.4%	11.0%	3.1%	22.6%
Custom Segall Bryant Benchmark	*20.0%*	*25.5%*	*-11.0%*	*15.9%*	*17.6%*	*-2.9%*	*7.1%*	*36.8%*	*17.9%*	*-2.5%*	*26.7%*
eV US Small-Mid Cap Core Equity Net Rank	*27*	*60*	*7*	*79*	*64*	*65*	*73*	*57*	*85*	*17*	*86*
International Equity Composite	**12.5%**	**22.1%**	**-13.9%**	**29.5%**	**3.3%**	**-9.4%**	**-3.6%**	**17.9%**	**20.5%**	**-13.5%**	**15.5%**
MSCI ACWI ex USA	*10.7%*	*21.5%*	*-14.2%*	*27.2%*	*4.5%*	*-5.7%*	*-3.9%*	*15.3%*	*16.8%*	*-13.7%*	*11.2%*
InvMetrics Public DB ex-US Eq Net Rank	*47*	*61*	*23*	*31*	*67*	*96*	*45*	*41*	*22*	*51*	*10*
Vanguard Total Int'l Stock	11.3%	21.5%	-14.4%	27.6%	--	--	--	--	--	--	--
FTSE Global All Cap ex US	*11.5%*	*22.2%*	*-14.4%*	*27.8%*	*5.0%*	*-4.0%*	*-3.1%*	*15.9%*	*17.9%*	*-14.0%*	*13.2%*
Foreign Large Blend MStar MF Rank	*39*	*60*	*42*	*31*	*--*	*--*	*--*	*--*	*--*	*--*	*--*
Invesco Oppenheimer	17.5%	24.3%	-11.9%	35.1%	7.2%	-13.8%	-4.6%	8.7%	--	--	--
MSCI Emerging Markets	*18.3%*	*18.4%*	*-14.6%*	*37.3%*	*11.2%*	*-14.9%*	*-2.2%*	*-2.6%*	*18.2%*	*-18.4%*	*18.9%*
Diversified Emerging Mkts MStar MF Rank	*51*	*26*	*11*	*60*	*56*	*52*	*76*	*13*	*--*	*--*	*--*
Real Estate Composite	**0.6%**	**6.0%**	**8.0%**	**8.0%**	**8.9%**	**13.4%**	**12.6%**	**13.4%**	**--**	**--**	**--**
NFI	*0.3%*	*4.4%*	*7.4%*	*6.7%*	*7.8%*	*13.9%*	*11.5%*	*12.9%*	*9.8%*	*15.0%*	*15.3%*
InvMetrics Public DB Real Estate Priv Net Rank	*41*	*43*	*19*	*23*	*15*	*28*	*35*	*30*	*--*	*--*	*--*
Principal	0.6%	6.0%	8.0%	8.0%	8.9%	13.4%	12.6%	13.4%	--	--	--
NFI	*0.3%*	*4.4%*	*7.4%*	*6.7%*	*7.8%*	*13.9%*	*11.5%*	*12.9%*	*9.8%*	*15.0%*	*15.3%*

Market Value: $143.9 Million and 100.0% of Fund

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee [1]	Industry Average [2]
Int. Fixed Income	Segall Bryant & Hamill Interm Fixed Income	0.25% on the Balance	0.25% $102,211	0.30%
All-Cap Core	Vanguard Total Stock Market	0.04% on the Balance	0.04% $16,032	0.11%
Small-Cap Core	Segall Bryant & Hamill Equity	0.80% on the Balance	0.80% $78,052	0.80%
Non-U.S. Large-Cap Core	Vanguard Total Int'l Stock	0.12% on the Balance	0.12% $31,120	0.85%
Emerging Markets	Invesco Oppenheimer	1.03% on the Balance	1.03% $76,064	1.15%
Core Real Estate	Principal	1.10% on investments under $10 million 1.00% on investments from $10-25 million 0.95% on investments from $25-75 million 0.80% on investments above $75 million	1.00% $162,722	1.00%
Total Investment Management Fees			**0.32%** **$466,201**	**0.49%**
Custodian	U.S. Bank	0.04% on the first $1 million 0.01% on the Balance	0.01% $14,393	
Total Fund			**0.33%** **$480,595**	

[1] Expense Ratio & Estimated Annual Fee are Based on Market Value at Month End.
[2] Source: Marquette Associates Investment Management Fee Study.

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