# SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

December 31, 2020



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### Mayer Hoffman McCann P.C.

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#### **INDEPENDENT AUDITORS' REPORT**

The Board of Trustees
Public School Retirement System of the School District of Kansas City, Missouri

#### Report on Schedules

We have audited the accompanying schedule of employer allocations of the Public School Retirement System of the School District of Kansas City, Missouri (the "Retirement System") as of and for the year ended December 31, 2020, and the related notes. We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense (specified column totals) as of and for the year ended December 31, 2020 included in the accompanying schedule of pension amounts by employer of the Retirement System, and the related notes.

### Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedules that are free from material misstatement, whether due to fraud or error.

#### Auditors' Responsibility

Our responsibility is to express opinions on the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedule of employer allocations and specified column totals included in the schedule of pension amounts by employer.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



### **Opinion**

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations and net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities for the Retirement System as of and for the year ended December 31, 2020, in accordance with accounting principles generally accepted in the United States of America.

#### Other Matter

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the Retirement System as of and for the year ended December 31, 2020, and our report thereon, dated June 7, 2021, expressed an unmodified opinion on those financial statements.

#### Restriction of Use

Our report is intended solely for the information and use of the Retirement System management, the Board of Trustees of the Retirement System, the Retirement System employers and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

Kansas City, Missouri September 20, 2021

Mayer Hoffman McCann P.C.

### **SCHEDULE OF EMPLOYER ALLOCATIONS**

As of and for the year ended December 31, 2020

Employer	2020 Employer ontributions	Employer Allocated Proportion
Academie Lafayette	\$ 713,684	2.776522%
Academy for Integrated Arts	168,092	0.653947%
Allen Village Charter	347,548	1.352104%
Brookside Charter School	615,764	2.395574%
Citizens of the World Kansas City	297,383	1.156941%
Crossroads Charter Schools	777,693	3.025544%
DeLaSalle Charter School 2.0	115,726	0.450221%
Ewing Marion Kauffman School	860,961	3.349490%
Frontier Schools	1,389,109	5.404202%
Genesis Schools, Inc.	216,786	0.843386%
Gordon Parks Elementary	201,391	0.783493%
Guadalupe Centers Schools	1,038,187	4.038972%
Hogan Preparatory Academy	720,911	2.804638%
Hope Leadership Academy	82,366	0.320437%
Kansas City Girl's Preparatory	119,827	0.466176%
Kansas City International Academy	644,511	2.507411%
Kansas City Public Library	999,344	3.887856%
Kansas City Public Schools	14,436,195	56.162697%
KIPP Endeavor Academy	490,433	1.907985%
Lee A. Tolbert Community Academy	335,600	1.305621%
Scuola Vita Nuova	278,728	1.084366%
University Academy	 854,002	3.322417%
Total	\$ 25,704,241	100.000000%

NOTE: The Retirement System had contributions of \$67,613 for 2020; however, this amount was not used in determining the Schedule of Employer Allocations.

### SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

As of and for the year ended December 31, 2020

		Deferred Outflows of Resources					Deferred Inflows of Resources				
Employer	12/31/2020 Net Pension Liability	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Earnings on Pension Plan	Changes in Assumptions	Changes in Proportion	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Earnings on Pension Plan Investments	Changes in Assumptions	Changes in Proportion	Total Deferred Inflows of Resources
Academie Lafayette	\$ 8,580,668	\$ 16,980	\$ 938,545	\$ 10,235	\$ 128,481	\$ 1,094,241	\$ 1,475	\$ 1,846,615	\$ 81,972	s -	\$ 1,930,062
Academy for Integrated Arts	2,020,982	3,999	221,053	2,411	216,997	444,460	347	434,928	19,307	· -	454,582
Allen Village Charter	4,178,593	8,269	457,050	4,984	210,001	470,303	718	899,260	39,918	504,326	1,444,222
Benjamin Banneker Charter Academy	4,170,000	0,200		-,004	_	470,000	7.10	000,200	-	341,681	341,681
Brookside Charter School	7,403,372	14,650	809,774	8,831	152,412	985,667	1,273	1,593,253	70,725	341,001	1,665,251
Citizens of the World Kansas City	3,575,454	7,075	391.080	4.265	682,031	1,084,451	615	769,461	34,157	_	804.233
Crossroads Charter Schools	9,350,255	18,503	1,022,722	11,153	973,758	2,026,136	1,608	2,012,235	89,324	_	2,103,167
DeLaSalle Charter School	-	.0,000	.,022,122	,	-	2,020,100	- 1,000	2,012,200	-	_	2,100,101
DeLaSalle Charter School 2.0	1,391,380	2,753	152,188	1.660	164,411	321,012	239	299,434	13,292	104,902	417,867
Ewing Marion Kauffman School	10,351,389	20,484	1,132,225	12,347	158,754	1,323,810	1,780	2,227,685	98,888	55,685	2,384,038
Frontier Schools	16,701,348	33,050	1,826,777	19,922	260,699	2,140,448	2,871	3,594,237	159,550	545,198	4,301,856
Genesis Schools, Inc.	2,606,432	5,158	285,089	3,109	-	293,356	448	560,921	24,899	317,889	904,157
Gordon Parks Elementary	2,421,336	4,792	264,843	2,888	5,520	278,043	416	521,087	23,131	113,268	657,902
Guadalupe Centers Schools	12,482,190	24,701	1,365,290	14,889	734,756	2,139,636	2,146	2,686,247	119,244		2,807,637
Hogan Preparatory Academy	8,667,558	17,152	948,049	10,339	111,837	1,087,377	1,490	1,865,314	82,802	261,895	2,211,501
Hope Leadership Academy	990,291	1,960	108,317	1,181	42,065	153,523	170	213,117	9,460	23,950	246,697
Kansas City Girl's Preparatory	1,440,688	2,851	157,581	1,718	562,075	724,225	248	310,045	13,763		324,056
Kansas City International Academy	7,748,997	15,334	847,578	9,243	257,388	1,129,543	1,332	1,667,634	74,027	-	1,742,993
Kansas City Neighborhood Academy	-	· -			· •	-				549,781	549,781
Kansas City Public Library	12,015,176	23,777	1,314,208	14,332	475,880	1,828,197	2,066	2,585,743	114,782	15,721	2,718,312
Kansas City Public Schools	173,567,305	343,468	18,984,622	207,036	204,585	19,739,711	29,843	37,352,798	1,658,104	1,501,206	40,541,951
KIPP Endeavor Academy	5,896,508	11,668	644,954	7,034	147,614	811,270	1,014	1,268,966	56,330	-	1,326,310
Lee A. Tolbert Community Academy	4,034,940	7,985	441,338	4,813	4,033	458,169	694	868,345	38,546	292,105	1,199,690
Pathway Academy	-	-	-	-	-	-	-	-	-	492,833	492,833
Scuola Vita Nuova	3,351,165	6,632	366,547	3,997	91,078	468,254	576	721,192	32,014	16,961	770,743
University Academy	10,267,722	20,319	1,123,073	12,248		1,155,640	1,765	2,209,680	98,089	236,973	2,546,507
Total	\$ 309,043,749	\$ 611,560	\$ 33,802,903	\$ 368,635	\$ 5,374,374	\$ 40,157,472	\$ 53,134	\$ 66,508,197	\$ 2,952,324	\$ 5,374,374	\$ 74,888,029

### SCHEDULE OF PENSION AMOUNTS BY EMPLOYER (continued)

For the year ended December 31, 2020

	Pension Expense					
Employer		Proportionate Share of Plan Pension Expense	A	Net Recognition of Deferred amounts from Changes in Proportionate Share		Total Employer Pension Expense
Academie Lafayette	\$	300,750	\$	153,728	\$	454,478
Academy for Integrated Arts		70,835		178,518		249,353
Allen Village Charter		146,458		(414,065)		(267,607)
Benjamin Banneker Charter Academy		_		(997,521)		(997,521)
Brookside Charter School		259,486		285,105		544,591
Citizens of the World Kansas City		125,318		644,651		769,969
Crossroads Charter Schools		327,723		915,390		1,243,113
DeLaSalle Charter School		-		(524,997)		(524,997)
DeLaSalle Charter School 2.0		48,767		182,596		231,363
Ewing Marion Kauffman School		362,813		520,176		882,989
Frontier Schools		585,377		475,251		1,060,628
Genesis Schools, Inc.		91,355		(242,136)		(150,781)
Gordon Parks Elementary		84,867		(66,774)		18,093
Guadalupe Centers Schools		437,497		1,077,824		1,515,321
Hogan Preparatory Academy		303,795		(577,027)		(273,232)
Hope Leadership Academy		34,709		(57,658)		(22,949)
Kansas City Girl's Preparatory		50,496		603,434		653,930
Kansas City International Academy		271,600		343,160		614,760
Kansas City Neighborhood Academy		-		(990,209)		(990,209)
Kansas City Public Library		421,128		175,143		596,271
Kansas City Public Schools		6,083,475		(553,301)		5,530,174
KIPP Endeavor Academy		206,671		189,473		396,144
Lee A. Tolbert Community Academy		141,423		(178,410)		(36,987)
Pathway Academy		-		(1,089,132)		(1,089,132)
Scuola Vita Nuova		117,457		221,472		338,929
University Academy		359,880		(274,691)		85,189
Total	\$	10,831,880	\$	-	\$	10,831,880

## NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (1) <u>Description of plan</u>

General - The Retirement System is a cost-sharing multiple-employer defined benefit pension plan (the "Plan"), which was established by the General Assembly of the State of Missouri and is exempt from the provisions of the Employee Retirement Income Security Act of 1974. The Board of Trustees of the Retirement System (the "Board") administers and operates the Plan in accordance with the statutes of the State of Missouri. During the year ended December 31, 2020, participating employers consisted of the School District of Kansas City, Missouri; the Kansas City, Missouri Public Library District; the Retirement System; and the following charter schools: Academie LaFayette, Academy for Integrated Arts, Allen Village Charter School, Brookside Charter School, Citizens of the World Kansas City, Crossroads Charter Schools, DeLaSalle Charter School, Ewing Marion Kauffman School, Frontier Schools, Genesis School, Inc., Gordon Parks Elementary, Guadalupe Center Schools, Hogan Preparatory Academy, Hope Leadership Academy, Kansas City Girl's Preparatory Academy, Kansas City International Academy, Kansas City Neighborhood Academy (closed June 30, 2019), KIPP Endeavor Academy, Lee A. Tolbert Community Academy, Pathway Academy (closed June 30, 2019), Scuola Vita Nuova, and University Academy.

**Eligibility** - All regular, full-time employees of the participating employers become members of the Plan as a condition of employment if they are in a position requiring at least 25 hours of work per week and nine calendar months per year. Employees who retire after June 30, 1999 and were hired after 1961, but before January 1, 2014 are members of Plan B. Employees hired after January 1, 2014 are members of Plan C. At January 1, 2020, the Plan's membership consisted of:

	2020
Active Plan members	4,074
Retirees and beneficiaries receiving benefits	4,145
Terminated Plan members, vested entitled to but not yet	
receiving benefits	529
Terminated Plan members, nonvested entitled to a refund of	
contributions plus accrued interest	2,631
Total Plan membership	11,379

Contributions - For the year beginning January 1, 2020, members were required to contribute 9% of their annual covered salary. During 2018, the Missouri General Assembly passed legislation that increased the employer contribution rate to 10.50% of annual covered salary effective January 1, 2019, and then to 12.00% of annual covered salary effective January 1, 2020. Beginning July 1, 2021, the employer contribution rate will be the greater of (1) the actuarial required contribution rate less the member contribution rate, or (2) 12.00% of annual covered salary, until the Retirement System is fully funded. Once the Retirement System is fully funded, the employer contribution rate may increase or decrease, in subsequent years, depending on valuation results and the employee contribution rate may decrease from 9% depending on valuation results. However, such changes are subject to statutory limitations.

The contribution rate is set each year by the Board of the Kansas City Public School Retirement System upon the recommendation of the Retirement System's actuary within the contribution restrictions of RSMo Section 169.350 subsections 5 and 6.

## NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (1) <u>Description of plan</u> (continued)

**Service** - Creditable service is membership service. This is service for which required contributions have been made. Members of Plan B are effectively limited to 30 years of creditable service, regardless of the number of years actually worked, unless the member earned more than 30 years prior to August 28, 1993. Members of Plan C are effectively limited to 34.25 years of creditable service, regardless of the number of years actually worked.

#### Compensation

Annual compensation - Compensation in excess of the limitations set forth in Section 401(a)(17) of the Internal Revenue Code will be disregarded for purposes of determining contributions and benefits for members of Plan B and C. A member's annual compensation is the member's regular compensation.

Average final compensation - For members of Plan B and C, the average final compensation is the highest average compensation paid during any four consecutive years of creditable service.

#### **Normal retirement**

Eligibility - A member of Plan B may retire (a) after the completion of five years of creditable service, provided such member has attained at least the age of 60 or (b) after the member has accumulated a minimum of 75 credits (effective August 28, 1998), where each year of creditable service plus a member's age equals 75 credits. A member of Plan C may retire (a) after the completion of five years of creditable service, provided such member has attained at least the age of 62 or (b) after the member has accumulated a minimum of 80 credits, where each year of creditable service plus a member's age equals 80 credits.

Benefit - For a member of Plan B, the normal monthly retirement benefit equals the product of one-twelfth of 2.00% (1.75% for members who retired prior to June 30, 1999) of the member's average final compensation and years of creditable service, subject to a maximum of 60% of their average final compensation. The normal monthly retirement benefit for a member of Plan B whose years of creditable service exceeded 34.25 years on August 28, 1993, shall equal the product of 1.75% and the member's years of creditable service on August 28, 1993. For a member of Plan C, the normal monthly retirement benefit equals the product of one-twelfth of 1.75% of the member's average final compensation and years of creditable service, subject to a maximum of 60% of their average final compensation.

Minimum benefit - Effective January 1, 1996, any member with at least ten years of service, but less than twenty years, is entitled to a minimum monthly retirement benefit equal to the sum of \$150 and \$15 for each full year of creditable service in excess of ten years or the actuarial equivalent if an option is elected. Any member with at least twenty years of creditable service at retirement is entitled to a minimum monthly retirement benefit of \$300 or the actuarial equivalent of \$300 if an option is elected. Beneficiaries of deceased members who retired with at least ten years of creditable service and elected one of the optional plans for payment of benefits may receive the actuarial equivalent of the minimum monthly retirement benefit available for the option chosen.

#### Early retirement

*Eligibility* - A member with at least five years of creditable service and a minimum age of fifty-five is eligible for early retirement.

Benefit - A member eligible for early retirement will receive a reduced benefit, calculated as for normal retirement, which recognizes service and compensation to the actual retirement date. The reduction in benefit will provide a benefit which is actuarially equivalent to the normal retirement benefit that would be payable at the member's normal retirement date.

## NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (1) <u>Description of plan</u> (continued)

#### **Disability retirement**

*Eligibility* - A member with at least five years of creditable service who is certified to be totally incapacitated for performance of duty by the Medical Board (as designated by the Board) is eligible for disability retirement.

Benefit - A disabled member will receive a benefit calculated as for normal retirement, based on credible service and average final compensation at the actual disability retirement date, or the minimum disability benefit whichever is greater. The minimum disability retirement benefit shall be the lesser of:

- 1. 25% of the member's average final compensation; or
- 2. The member's service retirement benefit is calculated on the member's average final compensation and the maximum number of years of creditable service the member would have earned had the member remained an employee until age 60.

#### Termination benefits - vested

*Eligibility* - A member who has at least five years of creditable service earns a vested interest in their accrued benefit, provided the member leaves their contributions in the Plan.

Benefit - The vested benefit is calculated as a normal retirement benefit based on a member's creditable service and average final compensation on the termination date. The benefit is payable, at minimum, on the member's normal retirement date.

### Termination benefits - non-vested

If the member's termination is for reasons other than death or retirement, and if the member has not met the vesting or retirement requirements, the member's contributions with interest will be refunded.

#### Death benefit

*Prior to retirement* - For a member who passes away while actively employed, the member's accumulated contributions with interest will be paid to the member's beneficiary. Certain beneficiaries of a member of Plan B or C have the option to receive a monthly retirement benefit or a refund of the member's contributions with interest. All beneficiaries are guaranteed to receive at least the member's accumulated contributions at retirement, if a member passes away before electing an option.

*Post retirement* - The optional form of benefit payment selected under either Plan B or Plan C will determine what, if any, benefits are payable upon death after retirement.

Option 1 - The retiree's designated survivor will receive, for life, the same level of monthly retirement benefit. In the event that the retiree's designated survivor predeceases the retiree, the retiree's monthly retirement benefit will be adjusted to the amount it would have been, had the retiree not elected Option 1.

Option 2 - The retiree's designated survivor will receive, for life, a monthly retirement benefit equal to one-half the retiree's benefit. In the event the retiree's designated survivor predeceases the retiree, the retiree's monthly benefit will be adjusted to the amount it would have been, had the retiree not elected Option 2.

Option 3 - No benefits are payable to the retiree's estate or any beneficiary. Retirement benefits payable under this option will be actuarially increased from the normal formula.

## NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (1) <u>Description of plan</u> (continued)

#### Death benefit (continued)

If the death of any retiree who has not elected an option occurs before they have received total benefits at least as large as their accumulated contributions and interest, the difference shall be paid to the deceased's beneficiary, if living, or to their estate.

**Benefit increase adjustments** - The Board shall determine annually whether or not the Retirement System can provide an increase in benefits for those retirees who, as of January 1 preceding the date of such increase, have been retired at least one year (three years prior to January 1, 2002). Any increase also applies to optional retirement allowances paid to a retiree's beneficiary. Before any increases are made, the following requirements must be satisfied:

- 1. The Retirement System funded ratio as of January 1<sup>st</sup> of the preceding year of the proposed increase must be at least 100% after adjusting for the effect of the proposed increase. The funded ratio is the ratio of assets to the pension benefit obligation.
- 2. The actuarially required contribution rate, after adjusting for the effect of the proposed increase, may not exceed the statutory contribution rate.
- 3. The actuary must certify that the proposed increase will not impair the actuarial soundness of the Retirement System.

In accordance with the Benefit Increase Adjustments Policy, if an increase is permissible, the amount of the increase will be equal to the lesser of 3% or the percentage increase in the CPI for the preceding year, subject to a cumulative increase of 100% subsequent to December 31, 2000.

The Board reserves the right, at its sole discretion, not to award any Benefit Increase Adjustment or other supplements for any year, even if the statutory requirements for an increase are satisfied, or to provide increases in greater or lesser amounts than prescribed by this policy. For the year ended December 31, 2020 there was no Benefit Increase Adjustment or an extra check issued to eligible retirees.

Administration of the Retirement System - The Board is responsible for the general administration and proper operation of the Retirement System. The Board consists of twelve members: four members appointed by the Kansas City Public Schools Board of Directors, one member appointed by the Board of Trustees of the Library District, four members elected by and from the members of the Retirement System, two members elected by and from the retirees of the Retirement System, and the Superintendent of Schools of the School District of Kansas City, Missouri. The Board hires an Executive Director to manage the day-to-day operations and implement policies as set by the Board.

### (2) <u>Summary of significant accounting policies</u>

**Basis of accounting** - The schedule of employer allocations and the schedule of pension amounts by employer present amounts that are elements of the financial statements of the Retirement System or of its participating employers. Accordingly, they do not purport to be a complete presentation of the financial position or changes in financial position of either the Retirement System or its participating employers.

**Use of estimates** - The amounts reported in the schedule of employer allocations and the schedule of pension amounts by employer were prepared in accordance with accounting principles generally accepted in the United States of America. Such preparation requires management to make estimates and assumptions related to the reported amounts. Accordingly, actual results may differ from those estimates.

## NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (3) Net pension liability

The components of the net pension liability of the participating employers as of December 31, 2020 were as follows:

Total pension liability \$ 1,003,281,489 Less: Fiduciary net position 694,237,740 Net pension liability \$ 309,043,749

Plan fiduciary net position as a percentage of total pension liability

69.20%

#### (4) Actuarial assumptions

Valuation Date
Actuarial Cost Method
Amortization Method
Remaining Amortization Period
Asset Valuation Method
Actuarial Assumptions:
Investment Rate of Return
Projected Salary Increases
Inflation

Mortality:

January 1, 2020 Entry Age Normal Level Percent of Pay, Layered 27 years 5-year Smoothed Market Value

7.25%, including inflation Rates vary by years of service 2.25%

Pre-retirement mortality rates were based on Pub-2010 General Members (Below Median) Retiree Mortality Table with a one-year age setback for males and a one-year age set forward for females, projected 15 years from valuation date using Scale MP-2019. Postretirement mortality rates were based on Pub-2010 General Members (Below Median) Retiree Mortality Tables with a one-year age setback for males and a one-year age set forward for females, projected 7 years from valuation date using Scale MP-2019. Disability mortality rates were based on Pub-2010 Disabled Mortality Table. Beneficiaries mortality rates were based on Pub-2010 General Members (Below Median) Contingent Survivor Mortality Tables with a oneyear age setback for males and a one-year age set forward for females, projected 7 years from valuation date using Scale MP-2019.

The actuarial assumptions used in the January 1, 2020 valuation were adopted by the Board from the results of an actuarial experience study covering the four-year period ended December 31, 2019 (dated October 5, 2020).

### NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (4) <u>Actuarial assumptions</u> (continued)

The long-term expected rate of return on pension plan investments is reviewed as part of the regular experience study prepared by the Retirement System. Several factors are considered in evaluating the long-term rate of return assumption, including long-term historical data, estimates inherent in current market data, and an analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation), along with estimates of variability and correlations for each asset class, were developed by the Retirement System's investment consultant. These ranges are combined to produce the 10-year long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Retirement System's target asset allocation as of December 31, 2020 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Asset Class	Target Allocation	1	10-Year Long-term Expected Real Rate of Return				
US Large Cap Equity	10.50	%	6.20	%			
US Mid Cap Equity	6.00	%	6.80	%			
US Small Cap Equity	6.00	%	7.20	%			
International Developed Equity	12.00	%	7.10	%			
Emerging Market Equity	10.00	%	9.00	%			
Core Fixed Income	10.00	%	1.20	%			
Global Fixed Income	5.00	%	1.20	%			
High Yield Bonds	2.50	%	3.70	%			
Multi-Asset Class	13.50	%	4.70	%			
Hedge Fund of Funds	5.00	%	3.30	%			
Private Equity	7.50	%	10.40	%			
Real Estate - Core	6.00	%	4.50	%			
Real Estate - Value Add	3.00	%	7.00	%			
Real Estate - Opportunistic	3.00	%	9.10	%			
	100.00	-					
		-					

**Discount rate** - The discount rate used to measure the total pension liability as of December 31, 2020 was 7.25%. The projection of cash flows used to determine the discount rate assumed that contributions from the Plan members will be made at the current contribution rate and that contributions from employers will be made at contractually required rates, actuarially determined. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current Plan members. Therefore, the long-term expected rate of return on Plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

## NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (4) <u>Actuarial assumptions</u> (continued)

Sensitivity of the net pension liability to changes in the discount rate - The following represents the net pension liability of participating entities as of December 31, 2020, calculated using the discount rate assumption, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current assumption.

	Discount Rate	Participating entities' net pension liability
1% decrease	6.25%	\$407,607,785
Current discount rate	7.25%	309,043,749
1% increase	8.25%	225,504,370

## NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (5) Collective deferred outflows of resources and deferred inflows of resources

A summary of the collective deferred outflows of resources and deferred inflows of resources as of December 31, 2020 are included below. The actual experience and assumption change impacts are recognized over the average expected remaining service life of active and inactive Plan members at the beginning of the measurement period, while investment gains/losses are recognized equally over five years.

	Deferred Outflows of Resources							
	ı	December 31, 2019		Additions		Recognition		December 31, 2020
Differences between expected	_		_		-		•	
and actual experience								
2016 Base	\$	_	\$	-	\$	-	\$	_
2017 Base		-		-		-		-
2018 Base		-		-		-		-
2019 Base		-		-		-		-
2020 Base		-		943,930		332,370		611,560
Total		-		943,930		332,370		611,560
Changes of assumptions								
2016 Base	\$	-	\$	-	\$	-	\$	-
2017 Base		-		-		-		-
2018 Base		3,771,622		-		3,771,622		-
2019 Base		-		-		-		-
2020 Base		-		568,980		200,345		368,635
Total		3,771,622		568,980		3,971,967		368,635
Differences between projected								
and actual earnings								
2016 Base	\$	925,701	\$	-	\$	925,701	\$	-
2017 Base		-		-		-		-
2018 Base		50,704,355		-		16,901,452		33,802,903
2019 Base		-		-		-		-
2020 Base		-						
Total		51,630,056		-		17,827,153		33,802,903
Changes in proportion								
2016 Base	\$	-	\$	-	\$	-	\$	-
2017 Base		-		-		-		-
2018 Base		1,548,843		-		1,548,843		-
2019 Base		5,677,790		-		3,735,388		1,942,402
2020 Base		-		5,297,173		1,865,201		3,431,972
Total		7,226,633		5,297,173		7,149,432		5,374,374
Total	\$	62,628,311	\$	6,810,083	\$	29,280,922	\$	40,157,472

# NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (5) <u>Collective deferred outflows of resources and deferred inflows of resources</u> (continued)

	Deferred Inflows of Resources							
	ı	December 31,						December 31,
	_	2018	_	Additions	_	Recognition		2019
Differences between expected								
and actual experience								
2016 Base	\$	-	\$	-	\$	-	\$	-
2017 Base		-		-		-		-
2018 Base		2,440,990		-		2,440,990		-
2019 Base		155,315		-		102,181		53,134
2020 Base					_			-
Total		2,596,305		-		2,543,171		53,134
Changes of assumptions								
2016 Base	\$	-	\$	-	\$	-	\$	-
2017 Base		-		-		-		-
2018 Base		-		-		-		-
2019 Base		8,629,871		-		5,677,547		2,952,324
2020 Base					_			-
Total		8,629,871		-		5,677,547		2,952,324
Differences between projected								
and actual earnings								
2016 Base	\$	-	\$	-	\$	-	\$	-
2017 Base		22,076,246		-		11,038,124		11,038,122
2018 Base		-		-		-		-
2019 Base		48,876,704		-		12,219,176		36,657,528
2020 Base		-		23,515,684		4,703,137		18,812,547
Total		70,952,950		23,515,684		27,960,437		66,508,197
Changes in proportion								
2016 Base	\$	-	\$	-	\$	-	\$	-
2017 Base		-		-		-		-
2018 Base		1,548,843		-		1,548,843		-
2019 Base		5,677,790		-		3,735,388		1,942,402
2020 Base				5,297,173	_	1,865,201	_	3,431,972
Total		7,226,633		5,297,173		7,149,432		5,374,374
Total	\$	89,405,759	\$	28,812,857	\$	43,330,587	\$	74,888,029

## NOTES TO SCHEDULE OF EMPLOYER ALLOCATIONS AND SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

### (5) <u>Collective deferred outflows of resources and deferred inflows of resources</u> (continued)

The following provides the net deferred outflows/(inflows) of resources as of December 31, 2020, that will be recognized in pension expense in future years:

Year Ending December 31:	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
2021	\$ 17,434,167	\$ 30,965,893	\$ (13,531,726)
2022	17,348,931	16,922,313	426,618
2023	-	16,922,313	(16,922,313)
2024	-	4,703,136	(4,703,136)
2025	-	-	-
Thereafter	-	-	-

### (6) <u>Collective pension expense</u>

Collective pension expense for the year ended December 31, 2020 is as follows:

Service cost	\$ 18,724,006
Interest on the total pension liability	73,812,430
Expensed portion of current-period difference between expected and actual experience in the total pension	
liability	332,370
Expensed portion of current-period assumption changes	200,345
Member contributions	(19,531,341)
Projected earnings of plan investments	(49,748,285)
Expenses portion of current-period difference between projected and actual earnings on plan investments	(4,703,137)
Administrative expenses	1,614,905
Other	9,830
Recognition of beginning deferred outflows resources	21,598,775
Recognition of beginning deferred inflows resources	(31,478,018)
Total pension expense	\$ 10,831,880