

DALLAS AREA RAPID TRANSIT
(DART)
EMPLOYEES' DEFINED BENEFIT RETIREMENT PLAN

ACTUARIAL VALUATION REPORT
AS OF OCTOBER 1, 2018

CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2019

March 13, 2019

Retirement Committee
Dallas Area Rapid Transit
1401 Pacific Avenue
Dallas, TX 75201

Re: DART Employees' Defined Benefit Retirement Plan

Dear Committee Members:

We are pleased to present to the Committee this report of the annual actuarial valuation of the DART Employees' Defined Benefit Retirement Plan. Included are the related results for GASB Statements No. 67 and No. 68. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Committee, and reflects the financing objectives of the Employer, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Retirement Committee, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the DART faculty, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of October 1, 2018. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 67 and No. 68.


The undersigned is familiar with the immediate and long-term aspects of pension valuations and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in DART, nor does anyone at Foster & Foster, Inc. act as a member of the Retirement Committee of the DART Employees' Defined Benefit Retirement Plan. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By: 
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SUMMARY OF REPORT

The annual actuarial valuation of the DART Employees' Defined Benefit Retirement Plan, performed as of October 1, 2018, has been completed, and the results are presented in this Report. The contribution amounts developed in this valuation are applicable to the plan/fiscal year ended September 30, 2019.

The contribution requirements, compared with amounts developed in the October 1, 2017 actuarial valuation report, are as follows:

Valuation Date	10/1/2018	10/1/2017
Applicable Plan/Fiscal Yr. End	<u>9/30/2019</u>	<u>9/30/2018</u>
Minimum Required Contribution ¹ (Payable on September 30)	\$6,927,879	\$7,235,354

¹ Reflects minimum required contribution payable at end of plan year.

As can be seen, the Minimum Required Contribution has decreased by approximately \$307,500 since the previous valuation. This decrease in contribution requirements is primarily due to a larger than expected decrease in the Unfunded Actuarial Accrued Liability (UAAL) as a result of contributions in excess of the minimum required contribution. Additionally, an amortization charge base was fully paid off and there was a decrease in the Normal Cost due to a reduction in the active membership.

These sources of contribution requirement reductions were partially offset by the addition of amortization charge bases due to unfavorable actuarial experience during the year and a change to the assumed rates of mortality. The principal components of actuarial loss included unfavorable retirement and mortality experience.

CHANGES SINCE PRIOR VALUATION

Plan Changes

There have been no changes in benefits since the prior valuation.

Actuarial Assumption/Method Changes

In conjunction with this valuation, the assumed rates of mortality have been amended to adopt the Pub-2010 Public Retirement Plan Mortality Tables for General Employees (Below-Median, Amount-Weighted) which were released with an exposure draft based on a comprehensive review of recent mortality experience of public retirement plans in the United State as performed by The Society of Actuaries' Retirement Plans Experience Committee.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Assump <u>10/1/2018</u>	Old Assump <u>10/1/2018</u>	<u>10/1/2017</u>
A. Participant Data			
Number Included			
Actives	212	212	245
Service Retirees	570	570	547
Beneficiaries	206	206	201
Disability Retirees	20	20	20
Terminated Vested	141	141	150
	<hr/>	<hr/>	<hr/>
Total	1,149	1,149	1,163
Total Annual Payroll	\$14,707,784	\$14,707,784	\$16,590,425
Payroll Under Assumed Ret. Age	14,257,163	14,257,163	16,061,514
Annual Rate of Payments to:			
Service Retirees	10,594,751	10,594,751	9,587,611
Beneficiaries	2,162,763	2,162,763	2,051,749
Disability Retirees	285,095	285,095	280,229
Terminated Vested	1,212,659	1,212,659	1,314,786
B. Assets			
Actuarial Value	185,524,973	185,524,973	177,697,590
Market Value	186,844,635	186,844,635	180,354,549
C. Liabilities			
Present Value of Benefits			
Actives			
Retirement/Vested Benefits	83,074,632	80,534,224	88,951,558
Disability Benefits	1,186,184	894,350	1,037,423
Death Benefits	999,361	1,341,527	1,530,101
Service Retirees	118,119,233	115,657,944	104,742,884
Beneficiaries	19,673,922	19,297,528	18,171,853
Disability Retirees	3,078,827	2,697,115	2,719,010
Terminated Vested	13,149,427	13,482,891	14,103,614
	<hr/>	<hr/>	<hr/>
Total	239,281,586	233,905,579	231,256,443

C. Liabilities - (Continued)	New Assump <u>10/1/2018</u>	Old Assump <u>10/1/2018</u>	<u>10/1/2017</u>
Present Value of Future Salaries	69,740,995	69,544,649	82,307,701
Normal Cost (Retirement/Vesting)	976,318	974,709	1,099,207
Normal Cost (Disability)	36,053	28,151	31,766
Normal Cost (Death)	42,046	44,085	50,307
Total Normal Cost	<u>1,054,417</u>	<u>1,046,945</u>	<u>1,181,280</u>
Present Value of Future Normal Costs	5,105,483	5,055,708	6,002,414
Accrued Liability (Retirement/Vesting)	78,355,620	75,834,709	83,374,605
Accrued Liability (Disability)	1,009,849	756,938	874,285
Accrued Liability (Death)	789,225	1,122,746	1,267,778
Accrued Liability (Inactives)	154,021,409	151,135,478	139,737,361
Total Actuarial Accrued Liability (AL)	<u>234,176,103</u>	<u>228,849,871</u>	<u>225,254,029</u>
Unfunded Actuarial Accrued Liability (UAAL)	48,651,130	43,324,898	47,556,439
Funded Ratio (AVA / AL)	79.2%	81.1%	78.9%
D. Actuarial Present Value of Accrued Benefits			
Accrued Benefits			
Inactives	154,021,409	151,135,478	139,737,361
Actives	68,738,971	66,838,686	72,727,403
Total (PVAB)	<u>222,760,380</u>	<u>217,974,164</u>	<u>212,464,764</u>
Funded Ratio (MVA / PVAB)	83.9%	85.7%	84.9%

Valuation Date	New Assump 10/1/2018	Old Assump 10/1/2018	10/1/2017
Applicable to Fiscal Year Ending	<u>9/30/2019</u>	<u>9/30/2019</u>	<u>9/30/2018</u>

E. Development of Actuarial Required Contribution

(1) Total Normal Cost	\$1,054,417	\$1,046,945	\$1,181,280
(2) Expected Employee Contributions	3,529	3,529	3,428
(3) Net Amortization Requirement	5,438,928	5,046,897	5,599,997
(4) Interest at Funding Rate to End of Year	<u>438,063</u>	<u>411,096</u>	<u>457,505</u>
(5) Minimum Required Contribution (End of Year) (1)-(2)+(3)+(4)	\$6,927,879	\$6,501,409	\$7,235,354
% of Covered Payroll	48.6%	45.6%	45.0%

(6) Minimum Required Contribution			
a. If paid on September 30	\$6,927,879	\$6,501,409	\$7,235,354
b. If paid on April 1	\$6,708,847	\$6,295,861	\$7,006,601

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2017	\$47,556,439
(2)	Employer Normal Cost developed as of October 1, 2017	1,177,852
(3)	Expected interest on (1) and (2)	3,289,565
(4)	Employer contributions to the System during the year ended September 30, 2018	10,000,000
(5)	Expected interest on (4)	337,500
(6)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2018 (1)+(2)+(3)-(4)-(5)	41,686,356
(7)	Change to UAAL due to Assumption/Method Changes	5,326,232
(8)	Change to UAAL due to Actuarial (Gain)/Loss	1,638,542
(9)	Unfunded Accrued Liability as of October 1, 2018	48,651,130

MAINTENANCE SCHEDULE OF MINIMUM CONTRIBUTION AMORTIZATION BASES

Charge Bases

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2018 <u>Amount</u>	Amortization <u>Amount</u>
Assum Change	10/1/2001	13	\$8,632,579	\$953,918
Actuarial Loss	10/1/2004	1	97,826	97,826
Actuarial Loss	10/1/2005	2	686,330	354,369
Assum Change	10/1/2005	17	276,633	26,085
Actuarial Loss	10/1/2008	5	1,216,528	276,081
Actuarial Loss	10/1/2009	6	5,075,143	989,733
Actuarial Loss	10/1/2010	7	285,091	49,124
Actuarial Loss	10/1/2011	8	4,156,383	645,744
VRIP Amendment	10/1/2011	23	1,505,407	122,447
Assum Change	10/1/2011	23	12,198,086	992,172
Actuarial Loss	10/1/2012	9	7,074,273	1,006,357
Actuarial Loss	10/1/2013	10	179,973	23,727
Method Change	10/1/2015	27	2,494,461	190,362
Assum/Method Change	10/1/2016	28	6,504,776	489,994
Actuarial Loss	10/1/2017	14	1,077,249	113,665
Actuarial Loss	10/1/2018	15	1,638,542	165,876
Assum Change	10/1/2018	30	<u>5,326,232</u>	<u>392,031</u>
<i>Total Charge Bases</i>			\$58,425,512	\$6,889,511

Credit Bases

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2018 <u>Amount</u>	Amortization <u>Amount</u>
Actuarial Gain	10/1/2006	3	(\$579,181)	(\$205,799)
Actuarial Gain	10/1/2007	4	(1,430,688)	(393,441)
Assum Change	10/1/2012	24	(1,371,508)	(109,572)
Actuarial Gain	10/1/2014	11	(2,732,195)	(337,080)
Actuarial Gain	10/1/2015	12	(27,743)	(3,229)
Actuarial Gain	10/1/2016	13	<u>(3,633,067)</u>	<u>(401,462)</u>
<i>Total Credit Bases</i>			(\$9,774,382)	(\$1,450,583)
Net Charge			\$48,651,130	\$5,438,928

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2017	\$47,556,439
(2) Expected UAAL as of October 1, 2018	41,686,356
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(76,318)
Salary Increases	(107,543)
Active Decrements	1,004,273
Inactive Mortality	685,751
Other	<u>132,379</u>
Increase in UAAL due to (Gain)/Loss	1,638,542
Assumption/Method Changes	<u>5,326,232</u>
(4) Actual UAAL as of October 1, 2018	\$48,651,130

ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

Active Lives: PubG-2010 (Below-median, amount-weighted) employee rates with mortality improvement projections to the valuation date using Scale MP-2018.

Retiree and Vested Terminated Lives: PubG-2010 (Below-median, amount-weighted) healthy retiree rates with mortality improvement projections to the valuation date using Scale MP-2018.

Contingent Survivor Lives: PubG-2010 (Below-median, amount-weighted) contingent survivor rates with mortality improvement projections to the valuation date using Scale MP-2018.

Disabled Lives: PubG-2010 (amount-weighted) disabled retiree rates with mortality improvement projections to the valuation date using Scale MP-2018.

We feel the above rates are reasonable based on the covered classification of employees in the plan. We feel that the projection of mortality rates to the valuation date is sufficient.

Previously, the RP-2000 Combined Healthy Table with rates increased by 8.59% and with mortality improvement projections to the valuation date using Scale AA was used for healthy lives and the RP-2000 Disabled Mortality Table was used for disabled lives.

Interest Rate

6.75% per year compounded annually, net of all expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.

Salary Increases

3.00% per year until the assumed retirement age. The assumed rate of salary increases was approved in conjunction with an actuarial experience study performed in 2016.

Valuation Compensation

Future compensation utilized for valuation purposes is developed as the sum of:

- 1) Base pay (projected with salary increases)
- 2) Bonus pay (projected with salary increases)
- 3) Service-Incentive pay (projected assuming payment of \$6 per month of service (maximum of \$150 per month))

Payroll Growth

None

Retirement Age

<u>Age</u>	<u>Rate</u>
55	7.5%
56	5.0
57	5.0
58	10.0
59	10.0
60	10.0
61	10.0
62	25.0
63	25.0
64	25.0
65	25.0
66	25.0
67	25.0
68	25.0
69	25.0
70	100.0

The assumed rates of retirement were approved in conjunction with an actuarial experience study performed in 2016.

.Inflation / COLA

2.50% per year. This is reasonable based on long-term historical increases.

Termination Rate

1.50% per year prior to age 54, and 1.00% per year on and after attainment of age 54.

These rates were approved in conjunction with an actuarial experience study performed in 2016.

Disability Rate

Members are assumed to become disabled prior to retirement at varying rates based on age. Sample rates are as follows:

<u>Age</u>	<u>Rate</u>
45	0.06%
50	0.12
55	0.21
60	0.30

These rates were approved in conjunction with an actuarial experience study performed in 2016.

Marital Status

85% of male participants and 65% of female participants are assumed to be married. Additionally, male spouses are assumed to be three years older than female spouses.

Form of Payment

50% of participants are assumed to elect the 20% lump-sum option. 10% of participants are assumed to elect the leveling option. 40% of participants are assumed to elect neither the lump-sum nor the leveling option. The annuity elections are assumed to be as follows: 45% Life Annuity, 40% Joint and Full Survivor, 10% Joint and Fractional Survivor, 5% 10-Year Certain & Life.

Actuarial Cost Method

Entry Age Normal Actuarial Cost Method.

Actuarial Asset Method

All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period.

VALUATION NOTES

Total Annual Payroll is the annual rate of valuation compensation as of the valuation date of all covered Members.

Payroll Under Assumed Retirement Age is the annual rate of valuation compensation for all Members who are not subject to a 100% probability of retirement as of the valuation date.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Normal (Current Year's) Cost is determined for each participant as the present value of future benefits, determined as of the member's entry age, amortized as a level percentage of compensation over the anticipated number of years of participation, determined as of the entry age.

Individual Entry Age Normal Actuarial Cost Method (Level Percent of Compensation) is the method used to determine required contributions under the Plan. The use of this method involves the systematic funding of the Normal Cost (described above) and the Unfunded Accrued (Past Service) Liability. The actuarial accrued liability for active participants is the difference between the present value of future benefits and the present value of future Normal Costs. The actuarial accrued liability for inactive participants is the present value of future benefits.

Unfunded Actuarial Accrued Liability (UAAL) is the difference between the actuarial accrued liability (described above) and the actuarial value of assets. Under the Entry Age Normal Actuarial Cost Method, an actuarial gain or loss, based on actual versus expected UAAL, is determined in conjunction with each valuation of the plan.

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2018

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Cash	7,170,117
Total Cash and Equivalents	7,170,117
Receivables:	
Other	3,435
Total Receivable	3,435
Investments:	
Fixed Income	68,630,075
Equity	93,260,095
Real Estate	18,487,507
Total Investments	180,377,677
Total Assets	187,551,229
<u>LIABILITIES</u>	
Payables:	
Accounts Payable, Expenses and Benefits	180,985
To Broker for Investments Purchased	525,609
Total Liabilities	706,594
NET POSITION RESTRICTED FOR PENSIONS	186,844,635

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2018
Market Value Basis

ADDITIONS

Contributions:

Member	1,882
Employer	10,000,000

Total Contributions 10,001,882

Investment Income:

Net Increase in Fair Value of Investments	7,584,469
Interest & Dividends	3,570,397
Less Investment Expense ¹	(475,371)

Net Investment Income 10,679,495

Total Additions 20,681,377

DEDUCTIONS

Distributions to Members:

Benefit Payments	14,106,861
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Total Distributions 14,106,861

Administrative Expense 84,430

Total Deductions 14,191,291

Net Increase in Net Position 6,490,086

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year 180,354,549

End of the Year 186,844,635

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION
September 30, 2018

Actuarial Assets for funding purposes are developed by recognizing the total actuarial investment gain or loss for each Plan Year over a five year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Plan Year Ending	Gain/Loss	<u>Gains/(Losses) Not Yet Recognized</u>				
		Amounts Not Yet Recognized by Valuation Year				
		2018	2019	2020	2021	2022
09/30/2014	2,159,773	0	0	0	0	0
09/30/2015	(10,584,350)	(2,116,870)	0	0	0	0
09/30/2016	5,105,376	2,042,151	1,021,076	0	0	0
09/30/2017	4,244,400	2,546,640	1,697,760	848,880	0	0
09/30/2018	(1,440,324)	(1,152,259)	(864,194)	(576,129)	(288,064)	0
Total		1,319,662	1,854,642	272,751	(288,064)	0

<u>Development of Investment Gain/(Loss)</u>	
Market Value of Assets, 09/30/2017	180,354,549
Contributions Less Benefit Payments	(4,104,979)
Expected Investment Earnings*	12,035,389
Actual Net Investment Earnings	10,595,065
2018 Actuarial Investment Gain/(Loss)	<u>(1,440,324)</u>

*Expected Investment Earnings = 0.0675 * [180,354,549 + 0.5 * (4,104,979)]

<u>Development of Actuarial Value of Assets</u>	
(1) Market Value of Assets, 09/30/2018	186,844,635
(2) Gains/(Losses) Not Yet Recognized	1,319,662
(3) Actuarial Value of Assets, 09/30/2018, (1) - (2)	<u>185,524,973</u>
(A) 09/30/2017 Actuarial Assets:	177,697,590
(I) Net Investment Income:	
1. Interest and Dividends	3,570,397
2. Change in Actuarial Value	8,921,766
3. Investment & Administrative Expenses	(559,801)
Total	<u>11,932,362</u>
(B) 09/30/2018 Actuarial Assets:	185,524,973
Actuarial Asset Rate of Return = 2I/(A+B-I):	6.79%
Market Value of Assets Rate of Return:	5.94%
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)	76,318
10/01/2018 Limited Actuarial Assets:	185,524,973

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
 SEPTEMBER 30, 2018
 Actuarial Asset Basis

REVENUES

Contributions:		
Member	1,882	
Employer	10,000,000	
Total Contributions		10,001,882
Earnings from Investments:		
Interest & Dividends	3,570,397	
Change in Actuarial Value	8,921,766	
Total Earnings and Investment Gains		12,492,163
EXPENDITURES		
Distributions to Members:		
Benefit Payments	14,106,861	
Total Distributions		14,106,861
Expenses:		
Investment related ¹	475,371	
Administrative	84,430	
Total Expenses		559,801
Change in Net Assets for the Year		7,827,383
Net Assets Beginning of the Year		177,697,590
Net Assets End of the Year ²		185,524,973

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

²Net Assets may be limited for actuarial consideration.

STATISTICAL DATA

	<u>10/1/2015</u>	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>
<u>Actives</u>				
Number	298	288	245	212
Average Current Age	57.6	58.4	59.0	59.6
Average Age at Employment	25.3	25.1	24.7	24.5
Average Past Service	32.3	33.3	34.3	35.1
Average Annual Salary	\$63,550	\$65,675	\$67,716	\$69,376
<u>Service Retirees</u>				
Number	509	507	547	570
Average Current Age	71.7	71.9	71.7	71.6
Average Annual Benefit	\$16,757	\$16,756	\$17,528	\$18,587
<u>Beneficiaries</u>				
Number	210	205	201	206
Average Current Age	74.4	73.9	73.9	73.7
Average Annual Benefit	\$9,966	\$10,093	\$10,208	\$10,499
<u>Disability Retirees</u>				
Number	36	35	20	20
Average Current Age	67.5	67.9	66.7	67.7
Average Annual Benefit	\$12,570	\$12,663	\$14,011	\$14,255
<u>Terminated Vested</u>				
Number	163	155	150	141
Average Current Age	55.8	56.6	57.4	58.3
Average Annual Benefit	\$8,622	\$8,514	\$8,765	\$8,600

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/2017	245
b. Terminations	
i. Vested (partial or full) with deferred benefits	0
ii. Non-vested or full lump sum distribution received	0
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	<u>(34)</u>
f. Continuing participants	211
g. Rehires	<u>1</u>
h. Total active life participants in valuation	212

2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, Vested Receiving <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested <u>Deferred</u>	<u>Total</u>
a. Number prior valuation	547	201	20	150	918
Retired	41	0	0	(7)	34
Vested Deferred	0	0	0	0	0
Death, With Survivor	(9)	9	0	0	0
Death, No Survivor	(9)	(12)	0	(1)	(22)
Disabled	0	0	0	0	0
QDRO	0	6	0	0	6
Rehires	0	0	0	(1)	(1)
Expired Annuities	0	0	0	0	0
Data Corrections	0	2	0	0	2
b. Number current valuation	570	206	20	141	937

SUMMARY OF PLAN PROVISIONS

<u>Eligibility</u>	Participants who on September 30, 1995 were covered under one of the Former Plans (DTS Employees' Retirement Plan, DTS Retirement Plan A, DTS Retirement Plan B). The current plan is closed to future new entrants.
<u>Credited Service</u>	All service as a Participant until the termination of employment.
<u>Compensation</u>	Actual or equivalent hourly base pay rate in effect on October 1 st of any year multiplied by 2,080 plus the Service-Incentive Pay (SIP) and Operator's Performance Bonus paid in that year.
<u>Final Average Compensation</u>	Average Compensation for the 3 best consecutive calendar years immediately preceding retirement or termination.
<u>Member Contributions</u>	Those electing to contribute under the Prior Plan contribute 3.0% of base pay.
<u>Normal Retirement</u>	
Date	Attainment of Age 60.
Benefit	<i>Non-Contributory Members:</i> 2.0% of Final Average Compensation per year of service through October 1, 1983 plus 1.5% of Final Average Compensation per year of service thereafter. <i>Contributory Members:</i> 2.0% of Final Average Compensation per year of service.
Form of Benefit	Actuarially equivalent 50% Joint & Contingent Survivor Annuity (married) or Life Annuity (single). Options available.
<u>Early Retirement</u>	
Date	Age 55 and 10 years of Credited Service.
Benefit	Accrued benefit, reduced 5.0% per year that the benefit commencement date precedes Age 60.

Vesting

All members are currently 100% vested in their accrued benefit. If a member terminates employment prior to retirement eligibility, the member will receive their accrued benefit payable at Early (reduced) or Normal Retirement Age.

Disability

Eligibility

Service Incurred

Covered from Date of Employment.

Non-Service Incurred

10 years of Credited Service.

Benefit

Accrued Benefit.

Death Benefits

Pre-Retirement

Eligibility

10 years of Credited Service.

Benefit

Accrued Benefit (using service assuming member continued employment to age 60) multiplied by 46.0%

Post-Retirement

Benefits payable in accordance with option selected at retirement.

COLA

Equal to the percentage increase (up or down) in the average consumer price index as of September 30, not in excess of 5% in any one year, with such excess held in reserve. The annual adjustment is payable on January 1st of each year and is based on the original annuity at commencement. In no event shall any adjustment downward result in a benefit less than that to which the member was originally entitled.

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2018

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Cash	7,170,117
Total Cash and Equivalents	7,170,117
Receivables:	
Other	3,435
Total Receivable	3,435
Investments:	
Fixed Income	68,630,075
Equity	93,260,095
Real Estate	18,487,507
Total Investments	180,377,677
Total Assets	187,551,229
<u>LIABILITIES</u>	
Payables:	
Accounts Payable, Expenses and Benefits	180,985
To Broker for Investments Purchased	525,609
Total Liabilities	706,594
NET POSITION RESTRICTED FOR PENSIONS	186,844,635

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2018
Market Value Basis

ADDITIONS

Contributions:

Member	1,882	
Employer	10,000,000	
Total Contributions		10,001,882
Investment Income:		
Net Increase in Fair Value of Investments	7,584,469	
Interest & Dividends	3,570,397	
Less Investment Expense ¹	(475,371)	
Net Investment Income		10,679,495
Total Additions		20,681,377

DEDUCTIONS

Distributions to Members:

Benefit Payments	14,106,861	
Refunds of Member Contributions	0	
Total Distributions		14,106,861
Administrative Expense		84,430
Total Deductions		14,191,291
Net Increase in Net Position		6,490,086

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		180,354,549
End of the Year		186,844,635

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended September 30, 2018)

Plan Description

Plan Administration

The DART Employees Defined Benefit Retirement Plan and Trust (the DB Plan) is a single employer defined benefit pension plan that was designed to provide retirement, death, and disability benefits to certain employees of DART. On October 1, 1995, the DTS Employees Retirement Plan (Plan A) was amended to become the DB Plan. Participants of the DB Plan are those employees who were members of the former plan on September 30, 1995. Those employees who elected to be covered under Plan A have eligibility, vesting, and benefit provisions different from those who elected the DB Plan. Participants who on September 30, 1995 were covered under one of the Former Plans (DTS Employees' Retirement Plan, DTS Retirement Plan A, DTS Retirement Plan B). The current plan is closed to future new entrants.

Plan Membership as of October 1, 2018:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	796
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	141
Active Plan Members	212
	1,149

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

Normal Retirement:

Date: Attainment of Age 60.

Benefit Non-Contributory Members:

2.0% of Final Average Compensation per year of service through October 1, 1983 plus 1.5% of Final Average Compensation per year of service thereafter.

Benefit Contributory Members:

2.0% of Final Average Compensation per year of service.

Early Retirement:

Date: Age 55 and 10 years of Credited Service.

Benefit: Accrued benefit, reduced 5.0% per year that the benefit commencement date precedes Age 60.

Vesting:

All members are currently 100% vested in their accrued benefit. If a member terminates employment prior to retirement eligibility, the member will receive their accrued benefit payable at Early (reduced) or Normal Retirement Age.

Disability:

Eligibility Service Incurred: Covered from Date of Employment.

Eligibility Non-Service Incurred: 10 years of Credited Service.

Death Benefits Pre-Retirement:

Eligibility: 10 years of Credited Service.

Benefit Accrued Benefit (using service assuming member continued employment to age 60) multiplied by 46.0%.

COLA:

Equal to the percentage increase (up or down) in the average consumer price index as of September 30, not in excess of 5% in any one year, with such excess held in reserve. The annual adjustment is payable on January 1st of each year and is based on the original annuity at commencement. In no event shall any adjustment downward result in a benefit less than that to which the member was originally entitled.

Contributions

Member Contributions: Those electing to contribute under the Prior Plan contribute 3.0% of base pay.

The minimum required contribution is based upon DART's agreement to contribute an amount at least equal to the minimum funding standard under Section 412 of the Internal Revenue Code of 1986, as if the Plan were subject to Section 412, per the stipulation of the "Sale, Purchase and Transfer contract between the City of Dallas and Dallas Area Rapid Transit.

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Investments

Investment Policy:

The following was the Board's adopted asset allocation policy as of September 30, 2018:

<u>Asset Class</u>	<u>Target Allocation</u>
U.S. Market Equities	39%
Global Bonds	40%
International Equities	10%
Real Estate	10%
Cash	1%
<u>Total</u>	<u>100%</u>

Concentrations:

The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan's Fiduciary Net Position.

Rate of Return:

For the year ended September 30, 2018, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 5.99 percent.

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

NET PENSION LIABILITY OF THE SPONSOR

(Amounts in Thousands)

The components of the Net Pension Liability of the Sponsor on September 30, 2018 were as follows:

Total Pension Liability	\$ 234,176
Plan Fiduciary Net Position	\$ (186,845)
Sponsor's Net Pension Liability	<u>\$ 47,331</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	<u>79.79%</u>

Actuarial Assumptions:

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	3.00%
Discount Rate	6.75%
Investment Rate of Return	6.75%

Mortality Rate Active Lives:

PubG-2010 (Below-median, amount-weighted) employee rates with mortality improvement projections to the valuation date using Scale MP-2018.

Mortality Rate Retiree and Vested Terminated Lives:

PubG-2010 (Below-median, amount-weighted) healthy retiree rates with mortality improvement projections to the valuation date using Scale MP-2018.

Mortality Rate Contingent Survivor Lives:

PubG-2010 (Below-median, amount-weighted) contingent survivor rates with mortality improvement projections to the valuation date using Scale MP-2018.

Mortality Rate Disabled Lives:

PubG-2010 (amount-weighted) disabled retiree rates with mortality improvement projections to the valuation date using Scale MP-2018.

The most recent actuarial experience study used to review the other significant assumptions was dated August 19, 2016.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2018 the inflation rate assumption of the investment advisor was 2.20%.

These ranges are combined to produce the 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 geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2018 are summarized in the following table:

<u>Asset Class</u>	<u>Long Term Expected Real Rate of Return¹</u>
U.S. Market Equities	3.60%
Global Bonds	1.90%
International Equities	5.30%
Real Estate	6.10%
Cash	0.30%

¹ Rates are based on a 3 year outlook. The Real Estate rate is based on a 10 year outlook.

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Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 6.75 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension 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 Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability. For purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 4.18% (based on the weekly rate closest to but not later than the measurement date of the Bond Buyer 20-Bond Index as published by the Bond Buyer); and the resulting single discount rate is 6.75%.

	1% Decrease 5.75%	Current Discount Rate 6.75%	1% Increase 7.75%
Sponsor's Net Pension Liability	\$ 70,952	\$ 47,331	\$ 27,056

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years
(Amounts in Thousands)

	09/30/2018	09/30/2017
Total Pension Liability		
Service Cost	988	1,107
Interest	14,795	14,501
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	1,920	2,655
Changes of assumptions	5,326	-
Benefit Payments, including Refunds of Employee Contributions	(14,107)	(13,471)
Net Change in Total Pension Liability	8,922	4,792
Total Pension Liability - Beginning	225,254	220,462
Total Pension Liability - Ending (a)	<u>\$ 234,176</u>	<u>\$ 225,254</u>
Plan Fiduciary Net Position		
Contributions - Employer	10,000	10,000
Contributions - Employee	2	2
Net Investment Income	10,679	15,590
Benefit Payments, including Refunds of Employee Contributions	(14,107)	(13,471)
Administrative Expense	(84)	(100)
Net Change in Plan Fiduciary Net Position	6,490	12,021
Plan Fiduciary Net Position - Beginning	180,355	168,334
Plan Fiduciary Net Position - Ending (b)	<u>\$ 186,845</u>	<u>\$ 180,355</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 47,331</u>	<u>\$ 44,899</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	79.79%	80.07%
Covered Payroll	\$ 14,333	\$ 15,642
Net Pension Liability as a percentage of Covered Payroll	330.22%	287.04%

Notes to Schedule:

¹For the 2014 Fiscal year the information was taken over from the prior actuary, Buck Consultants.

Changes of assumptions:

For measurement date 09/30/2018, the assumed rates of mortality have been amended to adopt the Pub-2010 Public Retirement Plan Mortality Tables for General Employees (Below-Median, Amount-Weighted) which were released with an exposure draft based on a comprehensive review of recent mortality experience of public retirement plans in the United States as performed by The Society of Actuaries' Retirement Plans Experience Committee.

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years
(Amounts in Thousands)

	09/30/2016	09/30/2015	09/30/2014 ¹
Total Pension Liability			
Service Cost	1,282	954	502
Interest	14,969	14,644	14,674
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(2,815)	(5,082)	-
Changes of assumptions	63	-	-
Benefit Payments, including Refunds of Employee Contributions	(11,203)	(11,369)	(11,364)
Net Change in Total Pension Liability	2,296	(853)	3,812
Total Pension Liability - Beginning	218,166	219,019	215,207
Total Pension Liability - Ending (a)	<u>\$ 220,462</u>	<u>\$ 218,166</u>	<u>\$ 219,019</u>
Plan Fiduciary Net Position			
Contributions - Employer	9,217	8,706	9,122
Contributions - Employee	2	2	2
Net Investment Income	16,067	520	12,698
Benefit Payments, including Refunds of Employee Contributions	(11,203)	(11,369)	(11,364)
Administrative Expense	(218)	(219)	(415)
Net Change in Plan Fiduciary Net Position	13,866	(2,361)	10,042
Plan Fiduciary Net Position - Beginning	154,468	156,829	146,787
Plan Fiduciary Net Position - Ending (b)	<u>\$ 168,334</u>	<u>\$ 154,468</u>	<u>\$ 156,829</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 52,128</u>	<u>\$ 63,698</u>	<u>\$ 62,190</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	76.35%	70.80%	71.61%
Covered Payroll	\$ 18,914	\$ 19,129	\$ 19,438
Net Pension Liability as a percentage of Covered Payroll	275.60%	332.99%	319.94%

Notes to Schedule:

¹For the 2014 Fiscal year the information was taken over from the prior actuary, Buck Consultants.

Changes of assumptions:

For measurement date 09/30/2016, amounts reported as changes of assumptions resulted from an actuarial experience study dated August 19, 2016, the Retirement Committee approved a number of changes to the actuarial assumptions and methods, as outlined below:

- The actuarial cost method was changed from The Projected Unit Credit to The Entry Age Normal actuarial cost method.
- The outdated funding method of developing the minimum required contribution as if the plan were subject to Section 412 of the Internal Revenue Code of 1986 was removed. Beginning with this valuation, the minimum required contribution will be developed to be consistent with the methodology utilized for other public pension plans.
- The assumed rate of investment return was lowered from 7.00% to 6.75% per year, net of all expenses.
- The salary increase assumption was lowered from 3.25% to 3.00% per year until the assumed retirement age.
- The assumed rates of mortality were amended to remove incorporating fully generational mortality improvements and implement projecting mortality improvements to the valuation date.
- The assumed rates of retirement were amended at certain ages.
- The assumed rates of termination were amended at certain ages and to eliminate varying rates by gender.
- The assumed rates of disablement were reduced in half.

SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years
(Amounts in Thousands)

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
09/30/2018	\$ 7,235	\$ 10,000	\$ (2,765)	\$ 14,333	69.77%
09/30/2017	\$ 7,755	\$ 10,000	\$ (2,245)	\$ 15,642	63.93%
09/30/2016	\$ 9,217	\$ 9,217	\$ -	\$ 18,914	48.73%
09/30/2015	\$ 8,706	\$ 8,706	\$ -	\$ 19,129	45.51%
09/30/2014 ¹	\$ 9,122	\$ 9,122	\$ -	\$ 19,438	46.93%
09/30/2013	\$ 9,074	\$ 9,074	\$ -	\$ 19,467	46.61%
09/30/2012	\$ 8,045	\$ 8,045	\$ -	\$ 19,306	41.67%
09/30/2011	\$ 6,266	\$ 6,266	\$ -	\$ 23,727	26.41%
09/30/2010	\$ 6,212	\$ 6,212	\$ -	\$ 23,904	25.99%
09/30/2009	\$ 5,036	\$ 5,036	\$ -	\$ 24,721	20.37%

¹For the 2014 Fiscal year and older the information was taken over from the prior actuary, Buck Consultants.

Notes to Schedule

Valuation Date: 10/01/2017

Contractually Required contribution rates are calculated as of October 1 of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rate:

Healthy Lives

RP-2000 Combined Healthy Table (sex distinct) with rates increased by 8.59% and with mortality improvement projections to the valuation date (previously fully generational) using Scale AA.

Disabled Lives:

RP-2000 Disabled Mortality Table (sex distinct).

The assumed rates of mortality are reasonable as they sufficiently accommodate expected future mortality improvements. The rates were approved in conjunction with an actuarial experience study performed in 2016.

Interest Rate:

6.75% per year compounded annually, net of all expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.

Retirement Age:

Age	Rate
55	7.5%
56	5.0%
57	5.0%
58	10.0%
59	10.0%
60	10.0%
61	10.0%
62	25.0%
63	25.0%
64	25.0%
65	25.0%
66	25.0%
67	25.0%
68	25.0%
69	25.0%
70	100.0%

The assumed rates of retirement were approved in conjunction with an actuarial experience study performed in 2016.

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Salary Increases:	3.00% per year until the assumed retirement age. The assumed rate of salary increase was approved in conjunction with an actuarial experience study performed in 2016.
Payroll Growth:	None.
Inflation:	2.50% per year. This is reasonable based on long-term historical increases.
Valuation Compensation:	Future compensation utilized for valuation purposes is developed as the sum of: <ol style="list-style-type: none"> 1) Base pay (projected with salary increases) 2) Bonus pay (projected with salary increases) 3) Service-Incentive pay (projected assuming payment of \$6 per month of service (maximum of \$150 per month))
Termination Rate:	1.50% per year prior to age 54, and 1.00% per year on and after attainment of age 54. These rates were approved in conjunction with an actuarial experience study performed in 2016.
Disability Rates:	Members are assumed to become disabled prior to retirement at varying rates based on age. Sample rates are as follows:

<u>Age</u>	<u>Rate</u>
45	0.06%
50	0.12%
55	0.21%
60	0.30%

	These rates were approved in conjunction with an actuarial experience study performed in 2016.
Martial Status:	85% of male participants and 65% of female participants are assumed to be married. Additionally, male spouses are assumed to be three years older than female spouses.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method.
Actuarial Asset Method:	All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five year period.

SCHEDULE OF INVESTMENT RETURNS
Last 10 Fiscal Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return
09/30/2018	5.99%
09/30/2017	9.36%
09/30/2016	10.48%
09/30/2015	0.33%
09/30/2014 ¹	8.27%

¹For the 2014 Fiscal year the information was taken over from the prior actuary, Buck Consultants.

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended September 30, 2019)

General Information about the Pension Plan

Plan Description

The DART Employees Defined Benefit Retirement Plan and Trust (the DB Plan) is a single employer defined benefit pension plan that was designed to provide retirement, death, and disability benefits to certain employees of DART. On October 1, 1995, the DTS Employees Retirement Plan (Plan A) was amended to become the DB Plan. Participants of the DB Plan are those employees who were members of the former plan on September 30, 1995. Those employees who elected to be covered under Plan A have eligibility, vesting, and benefit provisions different from those who elected the DB Plan.

Participants who on September 30, 1995 were covered under one of the Former Plans (DTS Employees' Retirement Plan, DTS Retirement Plan A, DTS Retirement Plan B). The current plan is closed to future new entrants.

Plan Membership as of October 1, 2018:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	796
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	141
Active Plan Members	212
	1,149

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

Normal Retirement:

Date: Attainment of Age 60.

Benefit Non-Contributory Members:

2.0% of Final Average Compensation per year of service through October 1, 1983 plus 1.5% of Final Average Compensation per year of service thereafter.

Benefit Contributory Members:

2.0% of Final Average Compensation per year of service.

Early Retirement:

Date: Age 55 and 10 years of Credited Service.

Benefit: Accrued benefit, reduced 5.0% per year that the benefit commencement date precedes Age 60.

Vesting:

All members are currently 100% vested in their accrued benefit. If a member terminates employment prior to retirement eligibility, the member will receive their accrued benefit payable at Early (reduced) or Normal Retirement Age.

Disability:

Eligibility Service Incurred: Covered from Date of Employment.

Eligibility Non-Service Incurred: 10 years of Credited Service.

Death Benefits Pre-Retirement:

Eligibility: 10 years of Credited Service.

Benefit Accrued Benefit (using service assuming member continued employment to age 60) multiplied by 46.0%.

COLA:

Equal to the percentage increase (up or down) in the average consumer price index as of September 30, not in excess of 5% in any one year, with such excess held in reserve. The annual adjustment is payable on January 1st of each year and is based on the original annuity at commencement. In no event shall any adjustment downward result in a benefit less than that to which the member was originally entitled.

Contributions

Member Contributions: Those electing to contribute under the Prior Plan contribute 3.0% of base pay.

The minimum required contribution is based upon DART's agreement to contribute an amount at least equal to the minimum funding standard under Section 412 of the Internal Revenue Code of 1986, as if the Plan were subject to Section 412, per the stipulation of the "Sale, Purchase and Transfer contract between the City of Dallas and Dallas Area Rapid Transit.

Net Pension Liability

The measurement date is September 30, 2018.

The measurement period for the pension expense was October 1, 2017 to September 30, 2018.

The reporting period is October 1, 2018 through September 30, 2019.

The Sponsor's Net Pension Liability was measured as of September 30, 2018.

The Total Pension Liability used to calculate the Net Pension Liability was determined as of that date.

Actuarial Assumptions:

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	3.00%
Discount Rate	6.75%
Investment Rate of Return	6.75%

Mortality Rate Active Lives:

PubG-2010 (Below-median, amount-weighted) employee rates with mortality improvement projections to the valuation date using Scale MP-2018.

Mortality Rate Retiree and Vested Terminated Lives:

PubG-2010 (Below-median, amount-weighted) healthy retiree rates with mortality improvement projections to the valuation date using Scale MP-2018.

Mortality Rate Contingent Survivor Lives:

PubG-2010 (Below-median, amount-weighted) contingent survivor rates with mortality improvement projections to the valuation date using Scale MP-2018.

Mortality Rate Disabled Lives:

PubG-2010 (amount-weighted) disabled retiree rates with mortality improvement projections to the valuation date using Scale MP-2018.

The most recent actuarial experience study used to review the other significant assumptions was dated August 19, 2016.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, Net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2018 the inflation rate assumption of the investment advisor was 2.20%.

These ranges are combined to produce the 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 geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2018 are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long Term Expected Real Rate of Return¹</u>
U.S. Market Equities	39%	3.6%
Global Bonds	40%	1.9%
International Equities	10%	5.3%
Real Estate	10%	6.1%
Cash	1%	0.3%
<u>Total</u>	<u>100%</u>	

¹ Rates are based on a 3 year outlook. The Real Estate rate is based on a 10 year outlook.

Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 6.75 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension 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 Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability. For purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 4.18% (based on the weekly rate closest to but not later than the measurement date of the Bond Buyer 20-Bond Index as published by the Bond Buyer); and the resulting single discount rate is 6.75%.

CHANGES IN NET PENSION LIABILITY
(Amounts in Thousands)

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Reporting Period Ending September 30, 2018	\$ 225,254	\$ 180,355	\$ 44,899
Changes for a Year:			
Service Cost	988	-	988
Interest	14,795	-	14,795
Differences between Expected and Actual Experience	1,920	-	1,920
Changes of assumptions	5,326	-	5,326
Changes of benefit terms	-	-	-
Contributions - Employer	-	10,000	(10,000)
Contributions - Employee	-	2	(2)
Net Investment Income	-	10,679	(10,679)
Benefit Payments, including Refunds of Employee Contributions	(14,107)	(14,107)	-
Administrative Expense	-	(84)	84
Net Changes	8,922	6,490	2,432
Reporting Period Ending September 30, 2019	\$ 234,176	\$ 186,845	\$ 47,331

Sensitivity of the Net Pension Liability to changes in the Discount Rate.

	Current Discount		
	1% Decrease	Rate	1% Increase
	5.75%	6.75%	7.75%
Sponsor's Net Pension Liability	\$ 70,952	\$ 47,331	\$ 27,056

Pension Plan Fiduciary Net Position.

Detailed information about the pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

**FINAL PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED
INFLOWS OF RESOURCES RELATED TO PENSIONS**

FISCAL YEAR SEPTEMBER 30, 2018

(Amounts in Thousands)

For the year ended September 30, 2018, the Sponsor has recognized a Pension Expense of \$4,048.

On September 30, 2018, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	1,328	-
Changes of assumptions	-	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	3,037
Employer contributions subsequent to the measurement date	10,000	-
Total	\$ 11,328	\$ 3,037

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer contributions subsequent to the measurement date has been recognized as a reduction of the Net Pension Liability in the year ended September 30, 2018.

Other amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:		
2019	\$	961
2020	\$	136
2021	\$	(1,936)
2022	\$	(870)
2023	\$	-
Thereafter	\$	-

**PRELIMINARY PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND
DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS**

FISCAL YEAR SEPTEMBER 30, 2019

(Amounts in Thousands)

For the year ended September 30, 2019, the Sponsor will recognize a Pension Expense of \$12,309.

On September 30, 2019, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
	<u> </u>	<u> </u>
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	1,586
Employer contributions subsequent to the measurement date	TBD	-
Total	<u>TBD</u>	<u>\$ 1,586</u>

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Liability in the year ended September 30, 2019.

Other amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:	
2020	\$ 407
2021	\$ (1,665)
2022	\$ (599)
2023	\$ 271
2024	\$ -
Thereafter	\$ -

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years
(Amounts in Thousands)

Reporting Period Ending	09/30/2019	09/30/2018
Measurement Date	09/30/2018	09/30/2017
Total Pension Liability		
Service Cost	988	1,107
Interest	14,795	14,501
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	1,920	2,655
Changes of assumptions	5,326	-
Benefit Payments, including Refunds of Employee Contributions	(14,107)	(13,471)
Net Change in Total Pension Liability	8,922	4,792
Total Pension Liability - Beginning	225,254	220,462
Total Pension Liability - Ending (a)	\$ 234,176	\$ 225,254
Plan Fiduciary Net Position		
Contributions - Employer	10,000	10,000
Contributions - Employee	2	2
Net Investment Income	10,679	15,590
Benefit Payments, including Refunds of Employee Contributions	(14,107)	(13,471)
Administrative Expense	(84)	(100)
Net Change in Plan Fiduciary Net Position	6,490	12,021
Plan Fiduciary Net Position - Beginning	180,355	168,334
Plan Fiduciary Net Position - Ending (b)	\$ 186,845	\$ 180,355
Net Pension Liability - Ending (a) - (b)	\$ 47,331	\$ 44,899
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	79.79%	80.07%
Covered Employee Payroll	\$ 14,333	\$ 15,642
Net Pension Liability as a percentage of Covered Employee Payroll	330.22%	287.04%

Notes to Schedule:*Changes of assumptions:*

For measurement date 09/30/2018, the assumed rates of mortality have been amended to adopt the Pub-2010 Public Retirement Plan Mortality Tables for General Employees (Below-Median, Amount-Weighted) which were released with an exposure draft based on a comprehensive review of recent mortality experience of public retirement plans in the United States as performed by The Society of Actuaries' Retirement Plans Experience Committee.

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years
(Amounts in Thousands)

Reporting Period Ending Measurement Date	09/30/2017 09/30/2016	09/30/2016 09/30/2015	09/30/2015 09/30/2014 ¹
Total Pension Liability			
Service Cost	1,282	954	502
Interest	14,969	14,644	14,674
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(2,815)	(5,082)	-
Changes of assumptions	63	-	-
Benefit Payments, including Refunds of Employee Contributions	(11,203)	(11,369)	(11,364)
Net Change in Total Pension Liability	2,296	(853)	3,812
Total Pension Liability - Beginning	218,166	219,019	215,207
Total Pension Liability - Ending (a)	<u>\$ 220,462</u>	<u>\$ 218,166</u>	<u>\$ 219,019</u>
Plan Fiduciary Net Position			
Contributions - Employer	9,217	8,706	9,122
Contributions - Employee	2	2	2
Net Investment Income	16,067	520	12,698
Benefit Payments, including Refunds of Employee Contributions	(11,203)	(11,369)	(11,364)
Administrative Expense	(218)	(219)	(415)
Net Change in Plan Fiduciary Net Position	13,866	(2,361)	10,042
Plan Fiduciary Net Position - Beginning	154,468	156,829	146,787
Plan Fiduciary Net Position - Ending (b)	<u>\$ 168,334</u>	<u>\$ 154,468</u>	<u>\$ 156,829</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 52,128</u>	<u>\$ 63,698</u>	<u>\$ 62,190</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	76.35%	70.80%	71.61%
Covered Employee Payroll	\$ 18,914	\$ 19,129	\$ 19,438
Net Pension Liability as a percentage of Covered Employee Payroll	275.60%	332.99%	319.94%

Notes to Schedule:

¹For the 2014 Fiscal year the information was taken over from the prior actuary, Buck Consultants.

Changes of assumptions:

For measurement date 09/30/2016, amounts reported as changes of assumptions resulted from an actuarial experience study dated August 19, 2016, the Retirement Committee approved a number of changes to the actuarial assumptions and methods, as outlined below:

- The actuarial cost method was changed from The Projected Unit Credit to The Entry Age Normal actuarial cost method.
- The outdated funding method of developing the minimum required contribution as if the plan were subject to Section 412 of the Internal Revenue Code of 1986 was removed. Beginning with this valuation, the minimum required contribution will be developed to be consistent with the methodology utilized for other public pension plans.
- The assumed rate of investment return was lowered from 7.00% to 6.75% per year, net of all expenses.
- The salary increase assumption was lowered from 3.25% to 3.00% per year until the assumed retirement age.
- The assumed rates of mortality were amended to remove incorporating fully generational mortality improvements and implement projecting mortality improvements to the valuation date.
- The assumed rates of retirement were amended at certain ages.
- The assumed rates of termination were amended at certain ages and to eliminate varying rates by gender.
- The assumed rates of disablement were reduced in half.

SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years
(Amounts in Thousands)

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
09/30/2018	\$ 7,235	\$ 10,000	\$ (2,765)	\$ 14,333	69.77%
09/30/2017	\$ 7,755	\$ 10,000	\$ (2,245)	\$ 15,642	63.93%
09/30/2016	\$ 9,217	\$ 9,217	\$ -	\$ 18,914	48.73%
09/30/2015	\$ 8,706	\$ 8,706	\$ -	\$ 19,129	45.51%
09/30/2014 ¹	\$ 9,122	\$ 9,122	\$ -	\$ 19,438	46.93%
09/30/2013	\$ 9,074	\$ 9,074	\$ -	\$ 19,467	46.61%
09/30/2012	\$ 8,045	\$ 8,045	\$ -	\$ 19,306	41.67%
09/30/2011	\$ 6,266	\$ 6,266	\$ -	\$ 23,727	26.41%
09/30/2010	\$ 6,212	\$ 6,212	\$ -	\$ 23,904	25.99%
09/30/2009	\$ 5,036	\$ 5,036	\$ -	\$ 24,721	20.37%

¹For the 2014 Fiscal year and older the information was taken over from the prior actuary, Buck Consultants.

Notes to Schedule

Valuation Date: 10/01/2017

Contractually Required contribution rates are calculated as of October 1 of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rate:

Healthy Lives

RP-2000 Combined Healthy Table (sex distinct) with rates increased by 8.59% and with mortality improvement projections to the valuation date (previously fully generational) using Scale AA.

Disabled Lives:

RP-2000 Disabled Mortality Table (sex distinct).

The assumed rates of mortality are reasonable as they sufficiently accommodate expected future mortality improvements. The rates were approved in conjunction with an actuarial experience study performed in 2016.

Interest Rate:

6.75% per year compounded annually, net of all expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.

Retirement Age:

Age	Rate
55	7.5%
56	5.0%
57	5.0%
58	10.0%
59	10.0%
60	10.0%
61	10.0%
62	25.0%
63	25.0%
64	25.0%
65	25.0%
66	25.0%
67	25.0%
68	25.0%
69	25.0%
70	100.0%

The assumed rates of retirement were approved in conjunction with an actuarial experience study performed in 2016.

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Salary Increases:	3.00% per year until the assumed retirement age. The assumed rate of salary increase was approved in conjunction with an actuarial experience study performed in 2016.
Payroll Growth:	None.
Inflation:	2.50% per year. This is reasonable based on long-term historical increases.
Valuation Compensation:	Future compensation utilized for valuation purposes is developed as the sum of: <ol style="list-style-type: none"> 1) Base pay (projected with salary increases) 2) Bonus pay (projected with salary increases) 3) Service-Incentive pay (projected assuming payment of \$6 per month of service (maximum of \$150 per month))
Termination Rate:	1.50% per year prior to age 54, and 1.00% per year on and after attainment of age 54. These rates were approved in conjunction with an actuarial experience study performed in 2016.
Disability Rates:	Members are assumed to become disabled prior to retirement at varying rates based on age. Sample rates are as follows:

Age	Rate
45	0.06%
50	0.12%
55	0.21%
60	0.30%

Martial Status:	These rates were approved in conjunction with an actuarial experience study performed in 2016. 85% of male participants and 65% of female participants are assumed to be married. Additionally, male spouses are assumed to be three years older than female spouses.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method.
Actuarial Asset Method:	All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five year period.

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

The following information is not required to be disclosed but is provided for informational purposes.

FINAL COMPONENTS OF PENSION EXPENSE
FISCAL YEAR SEPTEMBER 30, 2018
(Amounts in Thousands)

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Reporting Period Ending September 30, 2017	\$ 52,128	\$ 6,678	\$ 16,246	\$ -
Employer contributions made after 09/30/2017			\$ 10,000	
Total Pension Liability Factors:				
Service Cost	1,107	-	-	1,107
Interest	14,501	-	-	14,501
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	2,655	-	2,655	-
Current year amortization of experience difference	-	(1,408)	(1,327)	(81)
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(32)	32
Benefit Payments, including Refunds of Employee Contributions	(13,471)	-	-	-
Net change	<u>4,792</u>	<u>(1,408)</u>	<u>11,296</u>	<u>15,559</u>
Plan Fiduciary Net Position:				
Contributions - Employer	10,000	-	(10,000)	-
Contributions - Employee	2	-	-	(2)
Projected Net Investment Income	11,242	-	-	(11,242)
Difference between projected and actual earnings on Pension Plan investments	4,348	4,348	-	-
Current year amortization	-	(2,438)	(2,071)	(367)
Benefit Payments, including Refunds of Employee Contributions	(13,471)	-	-	-
Administrative Expenses	(100)	-	-	100
Net change	<u>12,021</u>	<u>1,910</u>	<u>(12,071)</u>	<u>(11,511)</u>
Reporting Period Ending September 30, 2018	<u>\$ 44,899</u>	<u>\$ 7,180</u>	<u>\$ 15,471</u>	<u>\$ 4,048</u>

PRELIMINARY COMPONENTS OF PENSION EXPENSE
FISCAL YEAR SEPTEMBER 30, 2019
(Amounts in Thousands)

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Reporting Period Ending September 30, 2018	\$ 44,899	\$ 7,180	\$ 15,471	\$ -
Employer contributions made after 09/30/2018			TBD*	
Total Pension Liability Factors:				
Service Cost	988	-	-	988
Interest	14,795	-	-	14,795
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	1,920	-	1,920	-
Current year amortization of experience difference	-	-	(3,248)	3,248
Change in assumptions about future economic or demographic factors or other inputs	5,326	-	5,326	-
Current year amortization of change in assumptions	-	-	(5,326)	5,326
Benefit Payments, including Refunds of Employee Contributions	(14,107)	-	-	-
Net change	<u>8,922</u>	<u>-</u>	<u>(1,328)</u>	<u>24,357</u>
Plan Fiduciary Net Position:				
Contributions - Employer	10,000	-	(10,000)	-
Contributions - Employee	2	-	-	(2)
Projected Net Investment Income	12,033	-	-	(12,033)
Difference between projected and actual earnings on Pension Plan investments	(1,354)	-	1,354	-
Current year amortization	-	(2,438)	(2,341)	(97)
Benefit Payments, including Refunds of Employee Contributions	(14,107)	-	-	-
Administrative Expenses	(84)	-	-	84
Net change	<u>6,490</u>	<u>(2,438)</u>	<u>(10,987)</u>	<u>(12,048)</u>
Reporting Period Ending September 30, 2019	<u>\$ 47,331</u>	<u>\$ 4,742</u>	<u>TBD</u>	<u>\$ 12,309</u>

* Employer Contributions subsequent to the measurement date made after September 30, 2018 but made on or before September 30, 2019 need to be added.

AMORTIZATION SCHEDULE - INVESTMENTS

(Amounts in Thousands)

Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments

Plan Year Ending	Differences Between		Recognition Period (Years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Projected and Actual Earnings													
2014	\$	(2,514)	5	\$ (503)	\$ (502)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$	10,357	5	\$ 2,071	\$ 2,071	\$ 2,072	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$	(5,332)	5	\$ (1,067)	\$ (1,066)	\$ (1,066)	\$ (1,066)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$	(4,348)	5	\$ (868)	\$ (870)	\$ (870)	\$ (870)	\$ (870)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$	1,354	5	\$ -	\$ 270	\$ 271	\$ 271	\$ 271	\$ 271	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense				\$ (367)	\$ (97)	\$ 407	\$ (1,665)	\$ (599)	\$ 271	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS
(Amounts in Thousands)

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Plan Year Ending	Changes of Assumptions	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2016	\$ 63	2	\$ 32	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 5,326	1	\$ -	\$ 5,326	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 32	\$ 5,326	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - EXPERIENCE
(Amounts in Thousands)

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Plan Year Ending	Differences Between Expected and Actual Experience	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2016	\$ (2,815)	2	\$ (1,408)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 2,655	2	\$ 1,327	\$ 1,328	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 1,920	1	\$ -	\$ 1,920	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (81)	\$ 3,248	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -