Maryland Transit Administration Pension Plan

GASB68 Actuarial Information for the Measurement Period Ending June 30, 2017

BOLTON PARTNERS

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Submitted by:

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BOLTON PARTNERS

November 22, 2017

Heidi Tarleton
Deputy Chief Financial Officer
Maryland Transit Administration
6 St. Paul Street, 8th floor
Baltimore, MD 21202

Re: MTA Pension Plan – GASB68 Actuarial Information for the Measurement Period Ending June 30, 2017

Dear Heidi,

The following report contains the GASB67 and GASB68 actuarial information to be included with the MTA's financial statements for FYE 2017. The GASB68 information has been provided as of the June 30, 2017 measurement date for FYE 2017.

The Net Pension Liability (NPL) has decreased by $154.3 million from FY16. The largest cause of the decrease were the changes in assumptions, which included the increase in the blended discount rate from 3.50% in FY16 to 4.32% in FY17. The total effect of all assumption changes decreased the NPL by $162.6 million.

Methodology, Reliance and Certification

This report is prepared for the Maryland Transit Administration (MTA). The report contains the actuarial information to be included with the MTA's financial statements for the year ending June 30, 2017 (the MTA's fiscal year end date) as required by GASB68. This information has been prepared for use in the financial statements of the MTA. This information is not intended for, nor should it be used for, any additional purposes.

The total pension liability is based on the July 1, 2016 actuarial valuation data and assumptions and rolled forward to June 30, 2017. The methods, assumptions, and participant data used are detailed in the July 1, 2016 actuarial valuation report with the exception of the actuarial cost method, the discount rate and the rates of expected future increases to the benefits for pensioners and beneficiaries. These calculations are based on the Level Percent of Pay Entry Age Normal cost method as required by GASB68.

The included calculations are based on a blended discount rate of 4.32%. The plan's expected rate of investment return of 8.20% has been blended with the Bond Buyer GO 20-year Bond Municipal Bond Index of 3.58% as of June 30, 2017. The development of the blended discount rate is included within this report. The projected benefits for purpose of this report include expected Cost-of-Living Adjustments (COLAs) for benefits for pensioners and beneficiaries of 2.50% per year. Although there is not a firm promise to provide COLAs, there is a pattern of providing annual increases and have been included as part of the substantive plan. For purpose of this report, the employer is assumed to make future contributions based on their actual contributions relative to the Actuarially Determined Contribution (ADC) over the prior three fiscal years.

Methodology, Reliance and Certification (cont.)

The new CBA removed the dollar cap on the benefit multiplier. However, the MTA historically has updated the dollar caps with each CBA, so that the substantive plan was effectively without a dollar cap for most participants. The increase in liability due to the new CBA of $2,132,647 is recognized immediately. It is due to the difference between the uncapped plan and the substantive plan prior to the new CBA and is due to a few participants who were projected to have benefits exceeding the indexed dollar caps. This is a much smaller increase than the funding report's increase in liability due to the new CBA because the funding report valued the actual plan not the substantive plan.

The calculation of the actuarially determined contribution (ADC) for the fiscal year ended June 30, 2017 is contained in the July 1, 2016 actuarial valuation report. The included calculations assume MTA will continue to make contributions based on the FY17 results and are not adjusted to reflect any future increases in benefits for pensioners and beneficiaries (COLAs) beyond FY17. Accordingly, the plan's fiduciary net position is not expected to be available to make all future benefit payments of current plan members.

The long-term nominal expected rate of return on pension plan investments was determined using a building-block method where return expectations are established for each asset class. The building-block approach uses the current underlying fundamentals, not historical returns. For example, spread and the risk free rate are used for fixed income; and dividends, earnings growth, and valuation are used for equity. These return expectations are weighted based on asset/target amounts.

These calculations and comparisons with assets are applicable for the valuation date only. The future is uncertain, and the plan may become better funded or more poorly funded in the future. This valuation does not provide any guarantee that the plan will be able to provide the promised benefits in the future.

This is a deterministic valuation in that it is based on a single set of assumptions. This set of assumptions is one possible basis for our calculations. Other assumptions may be equally valid. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions. We may consider that some factors are not material to the valuation of the plan and may not provide a specific assumption for those factors. We will likely consider changes in assumptions at a future date.

The MTA is responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in this report. The MTA is solely responsible for communicating to Bolton Partners, Inc. any changes required thereto.

The MTA could reasonably ask how the valuation would change if we used a different assumption set or if plan experience exhibited variations from our assumptions. This report does not contain such an analysis. This type of analysis would be a separate assignment.

Methodology, Reliance and Certification (cont.)

The cost of this plan is determined by the benefits promised by the plan, the plan's participant population, the investment experience of the plan and many other factors. An actuarial valuation is a budgeting tool for the MTA or in this case a measure of accounting expense. It does not affect the cost of the plan. As the experience of the plan evolves, it is normal for the level of contributions and expense of the plan to change. If a contribution is not made for a particular year, either by deliberate choice or because of an error in a calculation, that contribution can be made in later years. We will not be responsible for contributions that are made at a future time rather than an earlier time. The plan sponsor is responsible for funding the cost of the plan.

We make every effort to ensure that our calculations are accurately performed. These calculations are complex. Despite our best efforts, we may make a mistake. We reserve the right to correct any potential errors by amending the results of this report or by including the corrections in a future valuation report.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

This report is based on plan provisions, census data, and asset data submitted by the MTA. We have relied on this information for purposes of preparing this report, but have not performed an audit. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information. The plan sponsor is solely responsible for the validity and completeness of this information.

The MTA is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Bolton Partners, Inc.'s actuaries have not provided any investment advice to the MTA.

The information in this report was prepared for the internal use of the MTA, the plan and their auditors in connection with our actuarial valuations of the pension plan as required by GASB68. This report may not be used for any other purpose; Bolton Partners, Inc. is not responsible for the consequences of any unauthorized use nor the reliance on this information by any other party.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the "present value" of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, you selected an assumption based on the expected long-term rate of return on plan investments. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

This report provides certain financial calculations for use by the auditor. These values have been computed in accordance with our understanding of generally accepted actuarial principles and practices and fairly reflect the actuarial position of the Plan. The various actuarial assumptions and methods which have been used are, in our opinion, appropriate for the purposes of this report.

Methodology, Reliance and Certification (cont.)

The report is conditioned on the assumption of an ongoing plan and is not meant to present the actuarial position of the Plan in the case of Plan termination. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status), and changes in plan provisions or applicable law.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The July 1, 2016 actuarial valuation report summarizes the data, methods, and assumptions used to prepare these results.

Sincerely,

BOLTON PARTNERS, INC.

Kevin Binder, FSA, EA, MAAA

Kristopher Seets, FSA, EA

Maryland Transit Administration Pension Plan

Actuarial Information to Include in the Financial Statements

for the June 30, 2017 Measurement Date

Net Pension Liability

The components of the net pension liability at June 30, 2017, were as follows:

Total pension liability	$ 1,233,298,843
Plan fiduciary net position	(273,000,325)
Employer's net pension liability	$ 960,298,518
Plan fiduciary net position as a percentage of the total pension liability	22.14%

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of July 1, 2016 rolled forward to June 30, 2017 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.2 percent
Salary increases	Rates vary by participant service
Investment rate of return	7.55 percent, net of pension plan investment expense, including inflation for funded benefits.
Mortality	RP-2014 Blue Collar tables with MP-2014. The RP-2014 Disabled Retiree table is used for disabled members.

The above is a summary of key actuarial assumptions. Full descriptions of the actuarial assumptions are available in the July 1, 2016 actuarial valuation report.

Sensitivity of the net pension liability to changes in the discount rate

	1% Decrease 3.32%	*Current Discount Rate* 4.32%	*1% Increase* 5.32%
Employer's net pension liability	$ 1,155,568,491	$ 960,298,518	$ 801,275,912

Changes in the Net Pension Liability

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at 6/30/16	$ 1,359,360,763	$ 244,775,653	$ 1,114,585,110
Changes for the year:			
Service cost	36,333,940		36,333,940
Interest	57,880,638		57,880,638
Changes of benefit terms	2,132,647		2,132,647
Differences between expected and actual experience	(20,741,099)		(20,741,099)
Changes of assumptions	(162,605,699)		(162,605,699)
Contributions - employer		40,997,059	(40,997,059)
Contributions - member		3,094,029	(3,094,029)
Net investment income		27,740,945	(27,740,945)
Benefit payments, including refunds of member contributions	(39,062,347)	(39,062,347)	-
Administrative expense		(1,914,322)	1,914,322
Other		(2,630,692)	2,630,692
Net Changes	(126,061,920)	28,224,672	(154,286,592)
Balances at 6/30/17	$ 1,233,298,843	$ 273,000,325	$ 960,298,518

Maryland Transit Administration Pension Plan
Actuarial Information to Include in the Financial Statements
for the June 30, 2017 Measurement Date

Components of Employer's Pension Expense for the Fiscal Year Ended June 30, 2017

Note	Description	Amount
A	Service Cost	$ 36,333,940
B	Interest on the total pension liability	57,880,638
A	Changes of benefit terms	2,132,647
C	Differences between expected and actual experience	(7,912,339)
C	Changes of assumptions	32,831,995
A	Employee contributions	(3,094,029)
D	Projected earnings on pension plan investments	(20,091,436)
C	Differences between expected and actual earnings on plan investments	(3,260,233)
A	Pension plan administrative expense	1,914,322
A	Other changes in fiduciary net position	2,630,692
	Total Pension Expense	$ 99,366,197

Notes:

A Provided in the Changes in Net Pension Liability exhibit.

B Based on the following calculation:

	Amount for Period (a)	Portion of Period (b)	Discount Rate (c)	Interest on the Pension Liabilty (a) x (b) x (c)
Beginning total pension liability	$ 1,359,360,763	100%	4.32%	$ 58,724,385
Service Cost (End of Year)	36,333,940	0%	4.32%	-
Benefit payments, including refunds of employee contributions	(39,062,347)	50%	4.32%	(843,747)
Total interest on the total pension liability				$ 57,880,638

C Provided in the Schedules of Deferrals.

D Based on the following calculation:

	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (a) x (b) x (c)
Beginning plan fiduciary net position	$ 244,775,653	100%	8.20%	$ 20,071,604
Employer contributions	40,997,059	50%	8.20%	1,680,879
Employee contributions	3,094,029	50%	8.20%	126,855
Benefit payments, including refunds of employee contributions	(39,062,347)	50%	8.20%	(1,601,556)
Administrative expense and other	(4,545,014)	50%	8.20%	(186,346)
Total Projected Earnings				$ 20,091,436

Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2017, the Employer 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	$ -	$ 39,721,670
Changes of assumptions	272,666,888	139,376,313
Net difference between projected and actual earnings on pension plan investments	-	10,522,915
Total	$ 272,666,888	$ 189,620,898

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 June 30:	
2018	$ 21,659,423
2019	21,659,421
2020	22,447,110
2021	23,389,757
2022	20,082,677
Thereafter	(26,192,398)

Maryland Transit Administration Pension Plan

Actuarial Information to Include in the Financial Statements
for the June 30, 2017 Measurement Date

Changes in the Net Pension Liability and Related Ratios
Last 10 Fiscal Years
(Dollar amounts in thousands)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total pension liability										
Service cost	$ 36,334	$ 48,499	$ 24,718	$ 19,438						
Interest	57,881	31,181	39,237	43,472						
Changes of benefit terms	2,133	82,510	-	-						
Differences between expected and actual experience	(20,741)	(15,024)	(19,621)	4,025						
Changes of assumptions	(162,606)	338,950	53,480	38,643		Information for FY2013 and earlier is not available				
Benefit payments, including refunds of member contributions	(39,062)	(35,283)	(30,636)	(32,598)						
Net change in total pension liability	(126,062)	450,833	67,177	72,980						
Total pension liability - beginning	1,359,361	908,528	841,351	768,371						
Total pension liability - ending (a)	$ 1,233,299	$ 1,359,361	$ 908,528	$ 841,351						
Plan fiduciary net position										
Contributions - employer	$ 40,997	$ 40,997	$ 35,400	$ 39,749						
Contributions - member	3,094	-	-	-						
Net investment income	27,741	12,768	14,045	15,783						
Benefit payments, including refunds of member contributions	(39,062)	(35,283)	(30,636)	(32,598)						
Administrative expense	(1,914)	(1,967)	(1,851)	(1,587)						
Other	(2,631)	-	-	-						
Net change in plan fiduciary net position	$ 28,225	$ 16,515	$ 16,958	$ 21,347						
Plan fiduciary net position - beginning	244,776	228,261	211,303	189,957						
Plan fiduciary net position - ending (b)	$ 273,000	$ 244,776	$ 228,261	$ 211,303						
Net pension liability - ending (a)-(b)	$ 960,299	$ 1,114,585	$ 680,267	$ 630,048						
Plan fiduciary net position as a percentage of the total pension liability	22.14%	18.01%	25.12%	25.11%						
Covered-employee payroll	$ 137,154	$ 137,427	$ 135,545	$ 137,596						
Net pension liability as a percentage of covered-employee payroll	700.16%	811.04%	501.88%	457.90%						
Expected average remaining service years of all participants	7	7	7	7						

Notes to Schedule:

Benefit changes: FY16 reflects the increased vesting requirement to 10 years, cap on pensionable earnings to 2,392 pay hours per year, and 2% employee contributions for Local 1300 employees hired after July 1, 2016.

Changes of assumptions: FY16 reflects an increase to the effective discount rate from 3.50% to 4.32%, a decrease to the wage growth assumption from 3.50% to 3.20%, and changes to the salary scale, retirement rates, and termination rates.

Maryland Transit Administration Pension Plan
Actuarial Information to Include in the Financial Statements
for the June 30, 2017 Measurement Date

Schedule of Employer Contributions
Last 10 Fiscal Years
(Dollar amounts in thousands)

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined contribution	$ 62,217	$ 44,736	$ 40,807	$ 39,749						
Contributions in relation to the actuarially determined contribution	40,997	40,997	35,400	39,749	Information for FY2013 and earlier is not available					
Contribution deficiency (excess)	$ 21,220	$ 3,739	$ 5,407	$ -						
Covered-employee payroll	$ 137,154	$ 137,427	$ 135,545	$ 137,596						
Contributions as a percentage of covered employee payroll	29.89%	29.83%	26.12%	28.89%						

Notes to Schedule

Valuation date:
Actuarially determined contribution amounts are calculated as of the beginning of the fiscal year (July 1) for the current fiscal year. Actuarial valuations are performed every year.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Level Dollar Entry Age Normal
Amortization method	Level Payments (Closed)
Remaining amortization period	Remaining payments range from 2 to 25 years
Asset valuation method	5-year smoothed market
Inflation	3.2 percent
Salary increases	Rates vary by participant service
Investment rate of return	7.55 percent, net of pension plan investment and administrative expenses, including inflation
Retirement age	Rates vary by participant age
Mortality	RP-2014 Blue Collar tables with MP-2014. The RP-2014 Disabled Retiree table is used for disabled members.

Schedule of Differences between Projected and Actual Earnings on Pension Plan Investments

In conformity with paragraph 33b of Statement 68, the effects of differences between projected and actual earnings on pension plan investments are recognized in pension expense using a systematic and rational method over a closed five-year period, beginning in the current reporting period. The following table illustrates the application of this requirement.

			Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Plan Investments								
Year	Differences between Projected and Actual Earnings on Pension Plan Investments	Recognition Period (Years)	2013	2014	2015	2016	2017	2018	2019	2020	2021
2013	$ -	5	$ -	-	-	-	-				
2014	-	5		$ -	-	-	-	-			
2015	(3,938,427)	5			$ (787,685)	(787,685)	(787,685)	(787,685)	(787,687)		
2016	(4,713,228)	5				$ (942,646)	(942,646)	(942,646)	(942,646)	(942,644)	
2017	(7,649,509)	5					$ (1,529,902)	(1,529,902)	(1,529,902)	(1,529,902)	(1,529,901)
Net increase (decrease) in pension expense			$ -	$ -	$ (787,685)	$ (1,730,331)	$ (3,260,233)	$ (3,260,233)	$ (3,260,235)	$ (2,472,546)	$ (1,529,901)

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Projected and Actual Earnings on Pension Plan Investments

				Balances at June 30, 2017	
Year	Investment Earnings Less than Projected (a)	Investment Earnings Greater Than Projected (b)	Amounts Recognized in Pension Expense Through June 30, 2017 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2013	$ -	$ -	$ -	$ -	$ -
2014	-	-	-	-	-
2015	-	3,938,427	2,363,055	-	1,575,372
2016	-	4,713,228	1,885,292	-	2,827,936
2017	-	7,649,509	1,529,902	-	6,119,607
				$ -	$ 10,522,915

Schedule of Differences between Expected and Actual Experience

In conformity with paragraph 33a of Statement 68, the effects of differences between projected and actual experience are recognized in pension expense, beginning in the current reporting period, using a systematic and rational method over a closed period equal to the average of the remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees), determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

			Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Expected and Actual Experience												
Year	Differences between Expected and Actual Experience	Recognition Period (Years)	Prior	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Thereafter
Prior	$ -		$ -	-	-	-	-	-	-	-	-	-	-	-	-
2012	-	1		$ -											
2013	-	1			$ -										
2014	-	7				$ -	-	-	-	-	-	-			
2015	(19,621,279)	7					$ (2,803,040)	(2,803,040)	(2,803,040)	(2,803,040)	(2,803,040)	(2,803,040)	(2,803,039)		
2016	(15,023,996)	7						$ (2,146,285)	(2,146,285)	(2,146,285)	(2,146,285)	(2,146,285)	(2,146,285)	(2,146,286)	-
2017	(20,741,099)	7							$ (2,963,014)	(2,963,014)	(2,963,014)	(2,963,014)	(2,963,014)	(2,963,014)	(2,963,015)
Net increase (decrease) in pension expense			$ -	$ -	$ -	$ -	$ (2,803,040)	$ (4,949,325)	$ (7,912,339)	$ (7,912,339)	$ (7,912,339)	$ (7,912,339)	$ (7,912,338)	$ (5,109,300)	$ (2,963,015)

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience

				Balances at June 30, 2017	
Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense Through June 30, 2017 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
Prior	$ -	$ -	$ -	$ -	$ -
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	-	-	-	-	-
2015	-	19,621,279	8,409,120	-	11,212,159
2016	-	15,023,996	4,292,570	-	10,731,426
2017	-	20,741,099	2,963,014	-	17,778,085
				$ -	$ 39,721,670

Schedule of Changes of Assumptions

In conformity with paragraph 33a of Statement 68, the effects of changes of assumptions should be recognized in pension expense, beginning in the current reporting period, using a systematic and rational method over a closed period equal to the average of the remaining service lives of all employees that are provided with pensions through the pension plan (active and inactive employees), determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

			Increase (Decrease) in Pension Expense Arising from the Effects of Changes of Assumptions												
Year	Changes of Assumptions	Recognition Period (Years)	Prior	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Thereafter
Prior	$ -		$ -	-	-	-	-	-	-	-	-	-	-	-	-
2012	-	1		$ -											
2013	-	1			$ -										
2014	-	7				$ -	-	-	-	-	-	-			
2015	53,480,106	7					$ 7,640,015	7,640,015	7,640,015	7,640,015	7,640,015	7,640,015	7,640,016		
2016	338,949,559	7						$ 48,421,366	48,421,366	48,421,366	48,421,366	48,421,366	48,421,366	48,421,363	-
2017	(162,605,699)	7							$ (23,229,386)	(23,229,386)	(23,229,386)	(23,229,386)	(23,229,386)	(23,229,386)	(23,229,383)
Net increase (decrease) in pension expense			$ -	$ -	$ -	$ -	$ 7,640,015	$ 56,061,381	$ 32,831,995	$ 32,831,995	$ 32,831,995	$ 32,831,995	$ 32,831,996	$ 25,191,977	$ (23,229,383)

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Changes of Assumptions

				Balances at June 30, 2017	
Year	Increases in the Total Pension Liability (a)	Decreases in the Total Pension Liability (b)	Amounts Recognized in Pension Expense Through June 30, 2017 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
Prior	$ -	$ -	$ -	$ -	$ -
2012	-	-	-	-	-
2013	-	-	-	-	-
2014	-	-	-	-	-
2015	53,480,106	-	22,920,045	30,560,061	-
2016	338,949,559	-	96,842,732	242,106,827	-
2017	-	162,605,699	23,229,386	-	139,376,313
				$ 272,666,888	$ 139,376,313

Maryland Transit Administration Pension Plan
Actuarial Information to Include in the Financial Statements
for the June 30, 2017 Measurement Date

Projection of Contributions
(Dollar amounts in thousands)

	Projected Covered-Employee Payroll			Projected Contributions			
Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll[1] (c) = (a) + (b)	Contributions from Current Employees (d)	Projected Total Employer Contribution[2] (e)	Service Cost for Future Employees (f)	Total Contributions (g) = (d) + (e) - (f)
1	$ 143,574	$ -	$ 143,574	$ 2,871	$ 49,439	$ -	$ 52,310
2	140,626	7,974	148,600	2,813	45,811	451	48,172
3	137,646	16,155	153,801	2,753	36,100	914	37,939
4	134,650	24,533	159,184	2,693	36,341	1,388	37,646
5	131,121	33,634	164,755	2,622	36,590	1,903	37,309
6	127,472	43,049	170,521	2,549	36,847	2,436	36,961
7	123,553	52,936	176,490	2,471	37,114	2,995	36,590
8	119,347	63,319	182,667	2,387	37,390	3,582	36,195
9	114,780	74,280	189,060	2,296	37,676	4,202	35,769
10	110,144	85,533	195,677	2,203	37,972	4,839	35,336

Note: Years subsequent to year 10 have been omitted from this table.

[1] Total covered-employee payroll increases 3.50% per year.
[2] Reflects the employer's contribution practices over the prior three fiscal years.

Maryland Transit Administration Pension Plan
Actuarial Information to Include in the Financial Statements
for the June 30, 2017 Measurement Date

Projection of Pension Plan's Fiduciary Net Position
(Dollar amounts in thousands)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions[1] (b)	Projected Benefit Payments (c)	Projected Administrative Expense[2] (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
1	$ 273,000	$ 52,310	$ 40,079	$ 1,775	$ 22,815	$ 306,272
2	306,272	48,172	42,849	1,991	25,251	334,855
3	334,855	37,939	45,681	2,177	27,051	351,988
4	351,988	37,646	48,728	2,288	28,315	366,933
5	366,933	37,309	51,810	2,385	29,396	379,443
6	379,443	36,961	54,910	2,466	30,277	389,306
7	389,306	36,590	58,146	2,530	30,936	396,155
8	396,155	36,195	61,474	2,575	31,343	399,644
9	399,644	35,769	64,825	2,598	31,473	399,464
10	399,464	35,336	68,249	2,597	31,300	395,253

Note: Years subsequent to year 10 have been omitted from this table.

[1] From Projection of Contributions table; Column (g)
[2] Pension plan administrative expense equal to 0.65% of Projected Beginning Net Position

Maryland Transit Administration Pension Plan
Actuarial Information to Include in the Financial Statements
for the June 30, 2017 Measurement Date

Actuarial Present Value of Projected Benefit Payments
(Dollar amounts in thousands)

Year (a)	Projected Beginning Fiduciary Net Position[1] (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of "Funded" Benefit Payments (f) = (d) / (1 + 8.20%)^(a)		Present Value of "Unfunded" Benefit Payments (g) = (e) / (1 + 3.58%)^(a)		Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) / (1 + 4.32%)^(a)
1	$ 273,000	$ 40,079	$ 40,079	$ -	$ 37,042		$ -		$ 38,418
2	306,272	42,849	42,849	-	36,600		-		39,370
3	334,855	45,681	45,681	-	36,062		-		40,233
4	351,988	48,728	48,728	-	35,552		-		41,137
5	366,933	51,810	51,810	-	34,936		-		41,926
6	379,443	54,910	54,910	-	34,221		-		42,592
7	389,306	58,146	58,146	-	33,491		-		43,233
8	396,155	61,474	61,474	-	32,724		-		43,813
9	399,644	64,825	64,825	-	31,893		-		44,286
10	399,464	68,249	68,249	-	31,033		-		44,692
18	127,572	92,767	92,767	-	22,454		-		43,295
19	56,669	95,089	-	95,089	-		48,740		42,539
20	-	97,153	-	97,153	-		48,077		41,661
98	-	-	-	-	-		-		-
99	-	-	-	-	-		-		-
Total					$ 554,842	+	$ 1,064,598	=	$ 1,619,440

Note: Years 11-17 and 21-97 have been omitted from this table

[1] From Projection of Pension Plan's Fiduciary Net Position table; Column (a)