

Pleasant Ridge Manor Pension Plan

Actuarial Valuation Report
as of January 1, 2019

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SECTION 1

HIGHLIGHTS

This report contains a detailed description and the results of a valuation of the Pleasant Ridge Manor Pension Plan as of January 1, 2019. The purpose of the report is to provide a summary of the funded status of the plan as of January 1, 2019 and to determine the minimum required contribution amount for the 2019 plan year.

Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose.

Information for the prior period is shown in the report for comparison purposes.

Contribution Requirements

The minimum required contribution for the plan year beginning January 1, 2019 is \$1,853,782. Any payment that is made on a date other than January 1, 2019 will be adjusted for interest accruing until the payment date at the effective rate of interest. The effective rate of interest for the 2019 plan year is 5.55%.

Quarterly Contributions

An employer that maintains a single-employer defined benefit plan with a funding shortfall in the preceding plan year is required to make quarterly contributions to the plan during the current plan year. Since the plan had a funding shortfall for the 2018 plan year, the plan is required to make quarterly contributions during the 2019 plan year. Section 3.5 summarizes the quarterly contribution requirements.

The final contribution for the 2019 plan year is due by September 15, 2020. This amount will be adjusted for interest accruing until the payment date.

In addition, since there is a funding shortfall in 2019, quarterly contributions will be required in 2020 as well. An estimate of the expected quarterly contribution for the 2020 plan year is \$706,445.

Adjusted Funding Target Attainment Percentage

The Adjusted Funding Target Attainment Percentage is the ratio of adjusted plan assets to the Funding Target. Adjusted assets are the actuarial value of assets reduced by the plan's funding standard prefunding balance unless the plan's assets are equal to or greater than 100% of the plan's funding target.

As of January 1, 2019, the Adjusted Funding Target Attainment Percentage is 85.23%. Section 3.3 summarizes the development of the AFTAP.

Changes in Plan Provisions

There were no plan changes since the last valuation of the plan.

Changes in Assumptions and Methods

The results shown in this report reflect the changes to the IRC under The Moving Ahead for Progress in the 21st Century Act (MAP-21), the Highway and Transportation Funding Act of 2014 (HATFA) and the Bipartisan Budget Act of 2015 (BBA 2015).

Effective with the 2019 plan year, the salary scale was changed from 4.0% to 3.0%.

There have been no other assumption changes or changes in actuarial methods since the last valuation of the plan. Section 4.3 summarizes the actuarial assumptions and methods used in the valuation.

Financial and Census Data

The valuation is based on participant data and asset information that was provided by PNC Bank. The data has been reviewed and determined to be reasonable and consistent with the prior year's information. An audit of the data was beyond the scope of the assignment. The results of this valuation are dependent on the accuracy of the data. Section 4.2 provides a summary of the data used in the valuation.

Pension Expense Under GASB

Net periodic pension cost for the fiscal year as required under GASB Accounting Standards Board No.67 and No. 68 is presented in a separate report.

Certification

In our opinion, this report represents fairly the financial and actuarial position for the Pleasant Ridge Manor Pension Plan as of January 1, 2019 in accordance with generally accepted actuarial principles, and on the basis of actuarial assumptions and methods which, in the aggregate, are reasonable (taking into account past experience under the Plan and reasonable expectations) and which in combination represent our best estimate of anticipated experience.


Where presented, references to "adjusted funding target attainment percentage" are measured on an actuarial value of assets basis. This percentage is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion, or all of its liabilities.

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;

and changes in plan provisions, applicable law or regulations. An analysis of the potential range of future results is beyond the scope of this valuation.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. We are available to provide further information or answer any questions with respect to this report.

March, 2019



Don J. Boetger, EA, MAAA, FSPA
Actuary and Consultant



Cynthia A. Marzka, ASA, EA, MAAA
Actuary and Consultant

SECTION 2

FINANCIAL SUMMARY

		<u>January 1, 2018</u>	<u>January 1, 2019</u>
1.	Assets		
	(a) Actuarial Value	\$ 58,427,560	\$ 54,424,955
	(b) Market Value	58,427,560	54,424,955
2.	Approximate Yield During Prior Year		
	(a) Actuarial Value Basis	13.99%	-5.10%
	(b) Market Value Basis	13.99%	-5.10%
3.	Employee Contribution Account	\$ 13,143,885	\$ 12,476,376
4.	Funding Target	\$ 57,921,025	\$ 62,715,626
5.	Prefunding Balance	\$ 0	\$ 971,999
6.	Funding Shortfall/(Excess)	\$ (506,535)	\$ 9,262,670
7.	Adjusted Funding Target Attainment Percentage	100.87%	85.23%
8.	Target Normal Cost	\$ 1,384,932	\$ 1,320,713
9.	Range of Contributions		
	(a) Maximum Deductible	\$ 50,295,460	\$ 60,156,877
	(b) Minimum Required	878,397	1,853,782
10.	Effective Interest Rate	5.72%	5.55%
11.	Number of Participants		
	(a) Active	225	209
	(b) Frozen	27	24
	(c) Terminated Vested	117	123
	(d) Retirees	256	268
	(e) Beneficiaries	<u>10</u>	<u>9</u>
	(f) Sub-Total	635	633
	(g) Ineligible	<u>23</u>	<u>27</u>
	(h) Total	658	660

SECTION 3

SUMMARY OF VALUATION RESULTS

This section sets forth the current status of the funding and develops a range of contributions for the coming year.

SECTION 3.1

ASSETS OF THE PLAN

Transactions in the fund and the assets are summarized in the following tables, based on information furnished by the Employer and PNC Bank. Assets are shown at market value.

Summary of Transactions from January 1, 2018 to December 31, 2018

	<u>Market Value</u>
Assets per Trust at Beginning of Year	\$ 58,427,560.33
Accrued Employer Contribution	<u>0.00</u>
Assets per Valuation at Beginning of Year	\$ 58,427,560.33
Less Prior Year Accrued Income	\$ (90,643.18)
Contributions by Employer	1,800,000.00
Contributions by Employees	789,122.69
Interest and Dividends	1,578,713.35
Realized Gains	598,727.99
Unrealized Appreciation/(Depreciation)	(5,191,741.53)
Benefit Payments	(2,809,433.77)
Return of Employee Contributions	(409,672.86)
PBGC Premiums	(389,210.00)
Actuarial Fees	(32,805.00)
Investment Advisory Fees	(18,500.00)
First National Fees	(32,835.46)
PNC Fees	(21,506.65)
Current Year Accrued Income	<u>227,178.81</u>
Assets per Trust at End of Year	\$ 54,424,954.72
Accrued Employer Contribution	<u>0.00</u>
Assets per Valuation at End of Year	<u>\$ 54,424,954.72</u>
Gross Rate of Return on Assets	-4.97%
Net Rate of Return on Assets	-5.10%

Summary of Assets as of December 31, 2017

	<u>Market Value</u>	<u>Percent of Total</u>
Cash & Cash Equivalents	\$ 1,230,918	2.26%
U.S. Government Securities	4,121,671	7.57%
Corporate Debt	9,815,750	18.04%
Registered Investment Companies	39,029,437	71.71%
Accrued Income	<u>227,179</u>	<u>0.42%</u>
Total Trust Account Balance	\$ 54,424,955	<u>100.00%</u>
Accrued Employer Contribution	<u>0</u>	
Total Actuarial Value of Assets	<u>\$ 54,424,955</u>	

Historical Rates of Return

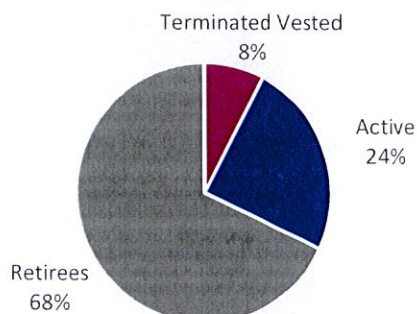
<u>Plan Year Ended</u>	<u>Market Value Approximate Rate of Return</u>	<u>Actuarial Value Approximate Rate of Return</u>
December 31, 2018	-4.97%	-4.97%
December 31, 2017	14.14%	14.14%
December 31, 2016	9.09%	4.87%
December 31, 2015	0.68%	8.32%
December 31, 2014	6.06%	12.25%
December 31, 2013	20.35%	11.27%
December 31, 2012	10.89%	6.99%
December 31, 2011	-0.01%	9.98%
December 31, 2010	12.11%	3.21%
December 31, 2009	21.53%	20.29%

SECTION 3.2

Funding Target and Target Normal Cost as of January 1, 2019

Funding Target is the Present Value of all benefits accrued or earned under the Plan as of the beginning of the Plan Year. Target Normal Cost is the present value of all benefits which are expected to accrue or be earned under the Plan during the upcoming Plan Year. Exceptions may apply when a Plan is considered to be in at-risk status. The graph illustrates employer funded liabilities and excludes member contributions.

	<u>Funding Target</u>	<u>Target Normal Cost</u>
1. Active Participants		
Retirement Benefits	\$ 10,688,344	\$ 794,637
Termination Benefits	798,069	76,327
Disability Benefits	0	0
Death Benefits	<u>118,487</u>	<u>9,234</u>
Subtotal Active	\$ 11,604,900	\$ 880,198
 Frozen	 662,210	 0
 Terminated Participants with Vested Benefits	 3,813,120	 0
 Retired Participants and Beneficiaries	 34,159,020	 0
 Accumulated Member Contributions	<u>12,476,376</u>	<u>0</u>
 Total	 \$ 62,715,626	 \$ 880,198
 2. Estimated Plan Expenses and PBGC premiums		<u>440,515</u>
 3. Total		 \$ 1,320,713



SECTION 3.3

Adjusted Funding Target Attainment Percentage

The Pension Protection Act requires underfunded plans to restrict the payment of certain benefits, restrict plan amendments increasing benefits, and restrict the accrual of benefits. A plan is considered underfunded, and thus subject to the new benefit restrictions, if its funded level is less than 80%, with more restrictions applying if the funded percentage is less than 60%.

A plan's funded level is generally determined by its "adjusted funding target attainment percentage" (AFTAP) – the ratio of adjusted assets to the funding target of the plan. Based on the adjusted funding target attainment percentage determined below, benefit restrictions do not apply for the current plan year.

1. Actuarial Value of Assets	\$ 54,424,955
2. Funding Standard Carryover Balance	0
3. Prefunding Balance	<u>971,999</u>
4. Adjusted Actuarial Value of Assets (1) - (2) - (3)	\$ 53,452,956
5. Funding Target	\$ 62,715,626
6. Non-HCE Annuity Purchases in last 2 years	0
7. Adjusted Funding Target Attainment Percentage (4+6)/(5+6)	85.23% *

* If the ratio of the actuarial value of assets to the Funding Target is at least 100%, then AFTAP is

$$[(1) + (6)] / [(5) + (6)]$$

SECTION 3.4
Funding Shortfall

1. Funding Target	\$ 62,715,626
2. Adjusted Plan Assets	
a) Actuarial Value of Assets	54,424,955
b) Funding Standard Carryover Balance	0
c) Prefunding Balance	971,999
d) Adjusted Assets: (a) - (b) - (c)	53,452,956
3. Funding Shortfall/(Excess): (1) - (2)(d)	9,262,670
4. Exemption From New Shortfall Amortization Base	
a) Target Liability Percentage	100%
b) Shortfall Funding Target (1) x (a)	62,715,626
c) Exempt if [(2)(a) – (2)(c)] ≥ (4)(b)	No
5. Shortfall Amortization Base: (4)(b) – (2)(d)	\$ 9,262,670

Shortfall Amortization Charge

<u>Date</u>	<u>Base</u>	<u>Current Amount</u>	<u>Amortization Period Remaining</u>	<u>Shortfall Amortization Charge</u>
1/1/19	\$ 9,262,670	<u>\$ 9,262,670</u>	7	<u>\$ 1,505,068</u>
		\$ 9,262,670		\$ 1,505,068

SECTION 3.5
Development of Contribution Requirements for Plan Year
January 1, 2019 to December 31, 2019

The minimum required contribution presented below is the amount as of January 1, 2019. Any payment that is made on a date other than January 1, 2019 will be adjusted for interest accruing until the payment date, at the effective rate of interest. The effective rate of interest for the 2019 plan year is 5.55%.

A. Minimum Required Contribution

1. Target Normal Cost	\$ 1,320,713
2. Shortfall Amortization Charge	1,505,068
3. Credit for Excess Assets	
(a) Adjusted Assets	53,452,956
(b) Funding Target	62,715,626
(c) Excess Assets (a) - (b), not less the \$0	0
4. Preliminary Minimum Required Contribution (1) + (2) - (3)(c)	2,825,781
5. Funding Standard Carryover Balance 12/31/2018, if eligible to apply*	0
6. Prefunding Balance, 12/31/2018, if eligible to apply*	<u>971,999</u>
7. Minimum Required Contribution as of 1/1/2019 (4) - (5) - (6)	<u><u>\$ 1,853,782</u></u>

*Eligible to apply against Minimum Required Contribution if the ratio of plan assets (reduced by the prefunding balance) to funding target for the preceding plan year is at least 80%.

B. Maximum Deductible Contribution for the 2019 Fiscal Year

1.	Funding Target	\$	72,577,617
2.	Target Normal Cost		1,634,734
3.	Cushion Amount		
	(a) 50% of Funding Target, (1) x .5	\$	36,288,809
	(b) Expected Benefit Increases		4,080,672
	(c) Total Cushion Amount		40,369,481
4.	Actuarial Value of Assets		<u>54,424,955</u>
5.	Preliminary Limit, (1) + (2) + (3) - (4)		60,156,877
6.	Minimum Required Contribution	\$	1,853,782
7.	Maximum Deductible Contribution for the Year Greater of (5) or (6)	\$	60,156,877

Quarterly Contribution Requirement

For the 2019 plan year, contributions must be made on a quarterly basis equal to the following:

1. 100% of the prior year minimum contribution (without interest and before reduction for the funding standard carryover balance or prefunding balance) \$ 878,397
2. 90% of the current year minimum contribution (without interest and before reduction for the funding standard carryover balance or prefunding balance) 2,543,203
3. Amount of each quarterly contribution requirement (25% of the lesser of (1) and (2) above) 219,599
4. Carryover Balance available to offset quarterly payment requirement 0
5. Prefunding Balance available to offset quarterly payment requirement 971,999
6. Final payment dates before an additional interest charge is assessed:

<u>Quarter</u>	<u>Date</u>
1	04/15/2019
2	07/15/2019
3	10/15/2019
4	01/15/2020

Interest rate assessed on late payment of quarterly contribution (Effective Interest Rate plus 5%) 10.55%

SECTION 3.6

ACCOUNTING INFORMATION AS OF JANUARY 1, 2018 AND JANUARY 1, 2019

This section provides actuarial present values associated with the accrued benefits of plan participants for FASB Accounting Standards Codification 960.

		Actuarial Present Value of Accumulated Plan Benefits	
		<u>January 1, 2018</u>	<u>January 1, 2019</u>
1.	Vested Benefits:		
	Active Participants	\$ 22,473,933	\$ 22,010,069
	Terminated Participants	2,582,515	3,041,706
	Retired Participants and Beneficiaries	<u>25,298,038</u>	<u>29,422,760</u>
	Total Vested Benefits	\$ 50,354,486	\$ 54,474,535
2.	Non-vested Benefits	<u>69,628</u>	<u>93,406</u>
3.	Total Accumulated Benefits	\$ 50,424,114 *	\$ 54,567,941 *
4.	Assumed Rate of Interest	7.50%	7.25%
5.	Net Assets Available for Benefits	\$ 58,427,560	\$ 54,424,955
6.	Benefit Security Ratio (5) / (3)	116%	100%

* Including accumulated member contributions of \$13,143,885 as of January 1, 2018 and \$12,476,376 as of January 1, 2019.

The changes in the actuarial present value of accumulated plan benefits for the year ended December 31, 2018 are presented below:

1.	Actuarial present value of accumulated plan benefits at beginning of year		\$ 50,424,114
2.	Increase (decrease) during the plan year attributable to:		
	Net Benefits accumulated and actuarial experience	\$ 1,612,712	
	Assumption changes	2,099,190	
	Plan changes	0	
	Increase for interest due to the decrease in the discount period	3,651,032	
	Benefits paid	<u>(3,219,107)</u>	
	Net increase (decrease)		<u>4,143,827</u>
3.	Actuarial present value of accumulated plan benefits at end of year		<u>\$ 54,567,941</u>

SECTION 3.7

PBGC INFORMATION AS OF JANUARY 1, 2018 AND JANUARY 1, 2019

This section provides information associated with the calculation of the Pension Benefit Guaranty Corporation (PBGC) premium payment.

	<u>Variable Rate Premium</u>	
	<u>January 1, 2018</u>	<u>January 1, 2019</u>
1. Vested Benefits:		
Active Participants	\$ 29,047,483	\$ 28,441,712
Terminated Participants	4,248,023	4,942,577
Retired Participants and Beneficiaries	<u>34,092,921</u>	<u>39,002,739</u>
Total Vested Benefits	\$ 67,388,427	\$ 72,387,028
2. Market Value of Assets	<u>58,427,560</u>	<u>54,424,955</u>
3. Unfunded Vested Benefits (1)-(2), rounded up to the next \$1,000	\$ 8,961,000	\$ 17,963,000
4. Variable-rate, per \$1,000	<u>38</u>	<u>43</u>
5. Variable-rate Premium before Cap = (3)/1,000 x (4)*	\$ 340,518	\$ 772,409
6. Variable-rate Premium Cap *Per participant cap	\$ 344,134 \$523	\$ 357,060 \$541
7. Variable-rate Premium after Cap = Minimum of (5) or (6)	\$ 340,518	\$ 357,060
	<u>Flat Rate Premium</u>	
8. Applicable rate per participant	\$ 74	\$ 80
9. Number of Participants	<u>658</u>	<u>660</u>
10. Flat-rate Premium, (8) x (9)	\$ 48,692	\$ 52,800
11. Total PBGC Premium (7) + (10)	\$ 389,210	\$ 409,860

SECTION 4

BASIS OF VALUATION

SECTION 4.1

SUMMARY OF PLAN PROVISIONS

The following is a summary of what we understand to be the most relevant plan provisions for purposes of the actuarial valuation. This summary should not be used for purposes of determining benefits under the plan.

1. Dates

Plan Year:	Twelve month period beginning January 1 and ending December 31.
Date Plan Established:	July 1, 1976.
Effective Date of Most Recent Amendment:	January 1, 2015.

2. Principal Definitions

Actuarial Equivalent:	For early retirement and optional benefit forms, a benefit of equivalent value based on the 1971 Group Annuity Mortality Table for males with no setback for the Participant and a six (6) year setback for any spouse and an interest rate of 6.5%.
Final Average Compensation:	<p>Final Average Compensation is equal to the average of the member's annual compensation received for the three consecutive years which produce the highest such average.</p> <p>Compensation is the total pay received as a Pleasant Ridge Manor Employee, excluding refunds for expenses.</p>
Credited Service:	One year of Credited Service is granted for each calendar year in which the participant is credited with 1,000 or more Hours of Service

3. Participant Requirements

Eligibility: An employee who is a member of the bargaining unit shall be eligible to become a participant immediately upon becoming an Employee.

The Plan was frozen to all non-bargained employees with fewer than 65 points (age + service) as of December 31, 2011.

Employee Contributions: Each member of the retirement system must contribute 6% of his salary. Currently, mandatory employee contributions will be credited with interest equal to 120% of the Federal Mid Term rate. Voluntary contributions, up to another 10% of pay, are allowed. Voluntary contributions are credited with interest at the rate earned by the Trust Account.

4. Normal Retirement

Eligibility: Age 60 or at age 55 if the participant has completed 20 years of Service.

Amount of Benefit: Sum of (a) and (b)

(a) 1.25% of Final Average Compensation multiplied by years of Credited; plus

(b) A monthly annuity based on the actuarial equivalent of the member's accumulated contributions with credited interest.

5. Late Retirement

Eligibility: Employment beyond Normal Retirement Date.

Amount of Benefit: The benefit developed under the normal retirement benefit formula based upon Credited Service and Final Average Compensation to actual retirement.

6. Deferred Vested Retirement

Eligibility: A participant is fully vested in his accrued benefit upon termination after 5 years of Service.

Amount of Benefit: The accrued benefit is based upon Final Average Compensation, Credited Service, and accumulated contributions at the time of termination. The benefit will be payable in full at normal retirement.

7. Disability Retirement

Eligibility: Total and permanent disability and 5 years of Vesting Service.

Amount of Benefit: 25% of $1/12^{\text{th}}$ of Final Average Compensation at the time of retirement. The monthly benefit shall include the monthly disability that is actuarially equivalent to the member's accumulated contributions at retirement.

8. Pre-Retirement Death Benefit

Eligibility: Attainment of age 60 or having completed ten years of credited service.

Amount of Benefit: Lump Sum equal to the actuarially determined present value of the benefits calculated based on the member's Final Average Compensation and Credited Service at time of death plus the member's accumulated contributions with interest at the time of death.

9. Post-Retirement Death Benefit

Amount of Benefit: Upon death of a terminated or retired member, his beneficiary will receive survivor benefits, if any, in accordance with the form under which benefits were being paid to the member. In any event, the total amount of benefits paid to the deceased member and beneficiary must, at least, equal the member's accumulated contributions with interest.

10. Payment Forms:

Normal: For unmarried employees: life annuity.

For married employees: the actuarial equivalent 50% joint and survivor annuity.

Optional:

Optional forms available that are the actuarial equivalent of the Normal Form are as follows:

Life Annuity.

Joint and 50% to Survivor.

Joint and 75% to Spouse.

Joint and 100% to Survivor.

SECTION 4.2

PLAN PARTICIPANTS

The table below shows the number of plan participants on January 1, 2018 and January 1, 2019 and relevant data pertaining to them.

	<u>January 1, 2018</u>	<u>January 1, 2019</u>
<u>Active Participants</u>		
Number:		
Fully Vested	184	167
Not Vested	<u>41</u>	<u>42</u>
Total	225	209
Average Age	48.8	48.9
Average Service to Date	18.7	18.8
Average Annual Compensation	\$ 40,266	\$ 40,930
<u>Frozen Participants</u>		
Number	27	24
Annual Benefit Payable at Retirement	\$ 95,728	\$ 75,394
Average Annual Benefit	\$ 3,545	\$ 3,141
<u>Refunds Payable</u>		
Number	23	27
<u>Terminated Vested Participants</u>		
Number	117	123
Annual Benefit Payable at Retirement	\$ 415,594	\$ 460,023
Average Annual Benefit	\$ 3,552	\$ 3,740
<u>Retired Participants and Beneficiaries</u>		
Number	266*	277*
Annual Benefit	\$ 2,714,152	\$ 3,020,051
Average Annual Benefit	\$ 10,204	\$ 10,903
<u>Total Participants</u>	658	660

*Includes 10 beneficiaries as of January 1, 2018 and 9 beneficiaries as of January 1, 2019.

Shown below are the changes that occurred in plan participation during the plan year.

	<u>Active</u>	<u>Frozen</u>	<u>Refunds Payable</u>	<u>Term Vested</u>	<u>Retired</u>	<u>Total</u>
Participants at Prior Valuation Date	225	27	23	117	266	658
New Participants During the Year	24	-	-	-	-	24
Rehires	1	-	-	(1)	-	-
Frozen	-	-	-	-	-	-
Terminated Not Vested Did not Withdraw Contributions	(5)	-	5	-	-	-
Terminated Without Vesting	(13)	-	-	-	-	(13)
Terminated Vested	(7)	(3)	-	10	-	-
Retired	(16)	-	-	(2)	18	-
Disabled	-	-	-	-	-	-
Deaths	-	-	-	(1)	(7)	(8)
Lump Sum Payments	-	-	(1)	-	-	(1)
Payments Ceased	-	-	-	-	-	-
Data Correction	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Participants at 12/31/18	209	24	27	123	277	660
New Participants added on 01/01/19	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total Participants as of 01/01/19	209	24	27	123	277	660

SECTION 4.3

ACTUARIAL BASIS

Method of Contribution

Contributions required to fund the plan benefits are determined according to the provisions of MAP-21, as revised by the Highway and Transportation Funding Act of 2014 (HATFA) and the Bipartisan Budget Act of 2015 (BBA 2015). The Target Normal Cost is the present value of benefits earned during the plan year plus the amount of plan-related expenses expected to be paid from plan assets during the plan year. The Funding Target is the present value of benefits earned as of the beginning of the plan year. The excess of the Funding Target over the actuarial value of assets represents the Funding Shortfall.

Method for Accrued Benefits

The actuarial present value of accumulated plan benefits is a measure of plan benefits which have been earned to date. This is not only a valuation of retirement benefits, but also of deferred vested, death, and disability benefits. Earnings and service for benefit purposes expected to be earned after the valuation date are excluded from this value.

The actuarial assumptions used to determine these values are identical to those used for the funding purposes with the exception of an interest rate of 7.25%.

Method of Asset Valuation

Plan assets are valued at fair market value.

In general, the actuarial value of assets must fall between 90% and 110% of the market value of assets.

Data

The valuation results are based upon participant census and financial data provided by the plan sponsor. The data was tested for reasonableness and consistency with the prior valuation.

Actuarial Assumptions

The following actuarial assumptions were employed in the determination of the liabilities and annual contributions of the plan as developed in accordance with the funding methods described in this report.

Mortality Decrement

Mortality for healthy participants:

2018+ Static Mortality Table for males and females as published by the IRS.

The mortality assumption for funding purposes is prescribed by IRS regulations.

Mortality for disabled participants:

The rates of mortality for disabled lives are based on the Disability Mortality Table per Revenue Ruling 96-7.

Interest Rates

Minimum Funding

The HATFA adjusted interest rates used for determining the minimum funding requirements and the plan's AFTAP are developed as follows:

Segment	25-year average As of 9/30/18	90% - 110% Corridor	September 2018 Unadjusted Rate	HATFA Adjusted Rate
1	4.15%	3.74%	2.28%	3.74%
2	5.94%	5.35%	3.81%	5.35%
3	6.79%	6.11%	4.46%	6.11%

The Effective Interest Rate is 5.55%.

Salary Increase

Salaries are assumed to increase at 3.0% per year.

Retirement

Retirement is assumed to occur at later of age 65 or 5 years of service.

Separation from Service

Withdrawal prior to retirement is assumed to occur in accordance with Crocker Sarason Straight Table T-5.

Miscellaneous

PBGC premium is calculated using the Alternative Method. (Election Year: 2009)

All plan participants have been included in the funding.

As required by Section 415 of the Internal Revenue Code, the determination of a participant's projected retirement benefit has been limited so that the amount does not exceed \$225,000 per year adjusted if necessary to recognize the participant's assumed retirement age, cost of living adjustments on the valuation date and optional forms of payment.

SECTION 5

REPORTING REQUIREMENTS AND MISCELLANEOUS INFORMATION

Filing Dates

1. Pension Benefit Guaranty Corporation

Form PBGC-1, Schedule A – Premium payments are due by the middle of the tenth month of the plan year.

2. Internal Revenue Service

Form 5500 and Applicable Schedules – Last day of the seventh month following the close of the plan year.

3. Participants and Beneficiaries

Annual Funding Notice – One hundred twenty days following the close of the plan year.