



RTA Employees Defined Benefit Plan and Trust

GASB Statement No. 67 and GASB Statement No. 68

Actuarial Report

December 31, 2018

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Certification

Background

Statement No. 25 of the Governmental Accounting Standards Board was amended by Statement No. 67 of the Governmental Accounting Standards Board. Statement No. 67 became effective for the plan's financial statements for the plan's fiscal year beginning after June 15, 2013 (i.e., the 2014 plan year). Statement No. 67 establishes financial reporting standards for state and local government pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in pension plan reports.

The Governmental Accounting Standards Board amended Statement No. 27 with Statement No. 68; the effective date for Statement No. 68 is for the fiscal year beginning after June 15, 2014. The purpose of this report is to provide pertinent disclosure information relating to the RTA Employees Defined Benefit Plan and Trust for the fiscal year ending December 31, 2018 financial statements for the Corpus Christi RTA. Statement No. 68 of the Governmental Accounting Standards Board requires the determination of the pension expense for the fiscal year beginning January 1, 2018. Statement No. 68 shows the amounts of deferred outflows and inflows of resources related to the pensions from various sources.

Purpose and Use

This report has been prepared exclusively for the Corpus Christi RTA. Actuarial computations under Statements No. 67 and No. 68 are for purposes of fulfilling pension plan and employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statements. Findley is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. 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. All of these factors can result in the risk of volatility in the Net Pension Liability over time.

Data

The calculations shown in this report have been prepared using employee data and plan documentation furnished by the Corpus Christi RTA as of December 31, 2018 and plan assets furnished by the trustee for the twelve month period ending December 31, 2018. While we have not audited the data, we have reviewed it for reasonableness and internal consistency, and to the best of our knowledge, there are no material limitations to the data provided. Summaries of the census data and plan provisions can be found in the Basis for Valuation section of this report.

For December 31, 2017 data please refer to the January 1, 2018 actuarial report prepared by PensionBenefits, Inc.

Subsequent Events

Effective January 1, 2019, the Plan adopted a 2.50% cost-of-living adjustment for all retirees whose benefits commenced on or before January 1, 2015. We have accounted for this in the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under the Statements No. 67 and No. 68. The results are based on the December 31, 2018 actuarial valuation date with a measurement date and reporting date of December 31, 2018. All actuarial assumptions are set by the plan sponsor. Statements No. 67 and No. 68 mandate the use of the Entry Age Normal actuarial funding method for the purposes of those statements.

For December 31, 2017 assumptions, methods, and procedures, please refer to the January 1, 2018 actuarial report prepared by PensionBenefits, Inc.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

The following changes were made to the actuarial assumptions and methods effective December 31, 2018.

1. Change: The mortality table was changed from the RP-2000 Mortality table for Males and Females to the RP-2014 Blue Collar Generational Mortality table for Males and Females with Improvement Scale MP-2018.

Rationale: Updated mortality tables to better recognize current and future mortality improvements.

2. Change: The investment rate of return and discount rate was changed from 7.50% to 7.40%. The Authority will review the expected rate of return annually and intends to gradually reducing the expected rate of return over the next 4 years until a rate of 7.0% is reached in order to align with future expectations.

Rationale: To better reflect the Plan's expected long term rate of return

3. Change: The withdrawal rates were changed from the Turnover Table 5 to the 2003 SOA Small Plan Service table.

Rationale: To better reflect the Plan's actual and expected experience

4. Change: The retirement rates were changed from 100% at age 62 to a graded table (see Actuarial Assumptions section for rates).

Rationale: To better reflect the Plan's actual and expected experience

Summaries of the plan provisions, actuarial assumptions and methods can be found in the Basis for Valuation section of this report.

Professional Qualifications

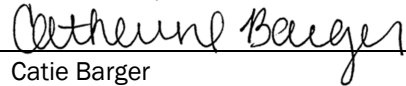
This report has been prepared under the supervision of Laura S. Stewart, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Findley, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statements No. 67 and No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned is available to provide supplemental information or explanation.



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June 6, 2019

Date



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Date

Basis for Valuation

Summary of Plan Provisions

Effective Date

The effective date of the plan is July 21, 1986.

Eligibility

Full-time employees of the Corpus Christi Regional Transportation Authority. Full-time employee is defined as any employee receiving compensation from Corpus Christi Regional Transportation Authority on the basis of an average of at least 40 hours of employment per week. Excludes independent contractors.

Year of Service

Plan Year in which an Employee completes 1,000 or more hours. If a Participant has fewer than 1,000 hours in his first and/or last Year of Service, his Years of Service shall be adjusted (to the nearest month) to reflect the number of months in his first and last Years of Service in which he completed at least 83 hours.

All Years of Service shall be aggregated for purposes of calculating a Participant's Accrued Benefit

Vesting Schedule

<u>Years of Service</u>	<u>Vested Percent</u>
Less than 3 years	0%
3 years	20%
4 years	40%
5 years	60%
6 years	80%
7 or more years	100%

Normal and Delayed Retirement

(a) Condition

The normal retirement date is the first day of the month coincident with or next following the later of the participant's attainment of age 62 or termination from employment.

(b) Benefit

The monthly benefit, payable for life and spouse's life, if applicable, is computed as 1/12 of the product of (1) and (2):

- (1) 2.0% of Final Average Compensation and
- (2) Years of Service.

"Final Average Compensation" is calculated by dividing the total Compensation received by a Participant during his final three consecutive calendar years by the number of pay periods for which he

received Compensation in such period, multiplied by the number of pay periods in a complete calendar year.

Early Retirement

(a) Condition

A participant may retire after attainment of age 55 and completion of 10 years of service.

(b) Benefit

A participant who retires early may receive his pension benefit in one of two ways:

- (1) A deferred monthly benefit commencing at age 62, computed in the manner set forth in the Normal Retirement section above.
- (2) A reduced, immediate monthly income, the amount of which is determined as the deferred benefit in the preceding paragraph, multiplied by an early retirement factor of 5% for each year by which the annuity starting date precedes Normal Retirement Date.

Disability Retirement

(a) Condition

Employees determined to be disabled under terms of the Employer's long-term disability program as of June 1, 1999 shall be entitled to benefits under the Plan to the extent that Plan provisions in place on June 1, 1999 provided for such benefits. No employees becoming disabled after June 1, 1999 will be entitled to disability retirement benefits.

Death prior to Retirement

(a) Condition

If the death of a participant occurs, if vested, his surviving spouse is eligible to receive a benefit.

(b) Benefit

The surviving beneficiary will receive a monthly income determined as if the Participant had retired and elected a 50% Joint & Survivor Annuity on the Participant's date of death (or earliest retirement date if later) and then died.

Benefits upon Termination

(a) Condition

If a participant's service terminates on or after 3 years of vesting service but before normal or early retirement and prior to death or disability, the participant is eligible for a deferred vested benefit.

(b) **Benefit**

- (1) The participant is entitled to a monthly benefit, payable at his normal retirement date, equal to his accrued benefit multiplied by the vesting percent.
- (2) If the participant has completed 10 years of vesting service, such participant may choose to receive reduced monthly income payments on or after age 55.

Options

The following options are available:

- A. Straight Life Annuity (unmarried participants only)
- B. Joint and 50% Survivor
- C. Joint and 66 2/3% Survivor
- D. Joint and 75% Survivor
- E. Joint and 100% Survivor
- F. Lump Sums under \$5,000

Cost of Living Adjustment

As elected by the plan sponsor. The last cost of living adjustment was effective as of January 1, 2019; providing a 2.5% increase for participants receiving monthly benefits whose benefits began on or prior to January 1, 2015.

Employer Contributions

The Employer contributes each year an amount required to actuarially fund expected future obligations.

Trust Fund

Assets are held in trust by Wells Fargo Bank.

Summary of Actuarial Assumptions and Methods

Investment rate of return

7.40% per annum, compounded annually

The long-term expected rate of return on pension plan investments was determined considering historical performance and using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. 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 arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return¹
Domestic Equity – Large Cap	20.0%	6.65%
Domestic Equity – Mid Cap	10.0%	7.55%
Domestic Equity – Small Cap	10.0%	8.05%
International Equity	15.0%	6.65%
Fixed Income	38.0%	0.95%
Domestic Real Estate	2.5%	6.45%
Commodities	2.5%	3.25%
Cash	2.0%	0.25%

¹Wells Fargo Capital Market Assumptions as of July 2018

The Authority will review the expected rate of return annually and intends to gradually reduce the expected rate of return over the next 4 years until a rate of 7.0% is reached in order to align with future expectations.

Inflation

2.25% per annum, compounded annually

Discount rate

7.40% per annum, compounded annually

Paragraph 43 of Statement No. 67 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. It is our understanding that the Authority's Board of Directors has approved the funding policy shown below. The Board was also aware that these amounts may not fully fund the plan, but that additional funding may be necessary. The Authority will make contributions as required to keep the plan solvent. The Authority has historically made contributions based on the funding schedule shown below. Having a formal funding policy and statutory contributions in the future supports the position that the plan's fiduciary net position will remain positive in the future.

Historical Contributions:

<u>Fiscal Year End</u>	<u>Contribution Amount</u>
2014	\$1,178,498
2015	\$985,175
2016	\$1,503,736
2017	\$1,383,969
2018	\$1,425,533
<hr/>	
Total contributions since 2014	\$6,476,911

Planned Contributions:

<u>Fiscal Year End</u>	<u>Contribution Amount</u>
2019+	Greater than or equal to amount calculated by actuary

Salary increases

3.5% per annum, compounded annually

Mortality Rates

RP-2014 Blue Collar Generational Mortality Table adjusted to 2006 and projected using scale MP-2018

Withdrawal Rates

SOA 2003 Small Plan Service Table

Disability Rates (per 1,000 lives)

None Assumed

Rates of retirement

Age	Retirement Rates
55-61	20%
62	35%
63-64	15%
65	25%
66-67	20%
68-69	50%
70	100%

Commencement dates and forms of payment

All participants are assumed to elect the normal form of payment.

Percentage married

90% of participants are assumed to be married with husbands assumed to be 3 years older than wives.

Actuarial valuation method

Entry Age Normal

Asset valuation method

Fair Market Value for Statement No. 67 and Statement No. 68

Fair Market Value is based on quoted market prices.

Amortization method

Level Dollar

Amortization period

For Statement No. 68 as of December 31, 2018:

Investment gains or losses are amortized over 5 years. Experience gains or losses are amortized over the average working lifetime of all participants which for the current period is 2 years. Plan amendments are recognized immediately. Changes in actuarial assumptions are amortized over the average working lifetime of all participants.

Additional assumptions

None

Selection of assumptions and valuation method

The actuary annually reviews the assumptions and methods for reasonableness. The Board of Directors approves the actuarial report and the assumptions and funding methods described in the report.

Summary of Participants

	Valuation Date		
	01/01/2019	01/01/2018	% Increase
Number of Active Participants	227	240	(5.42%)
Covered Payroll	\$10,668,048	\$10,677,430	(0.09%)
Average Salary	\$46,996	\$44,489	5.63%
Average Age	50.03	48.70	2.73%
Average Past Service	8.53	7.80	9.36%
Actuarially Determined Contribution	\$1,227,724	\$1,191,087	3.08%
% of Payroll	11.51%	11.16%	3.17%

Participant Data Reconciliation

	Active	Deferred Vested	Retired and Beneficiaries
01/01/2018 Participants	240	177	166
New Participants	20		
Vested Terminations	(13)	13	
Nonvested Terminations	(14)		
Retired	(6)	(3)	9
Disabled			
Rehired			
Deceased		(1)	(4)
Beneficiaries			1
Lump Sum Payments		(2)	
Transfers			
Data Corrections			
01/01/2019 Participants	227	184	172
Averages			
Attained Age	50.03	50.80	68.35
Past Service	8.53	N/A	N/A
Salary	\$46,996	N/A	N/A
Total Monthly Benefit Payments	N/A	\$63,549	\$156,153

GASB Statement No. 67

This section presents specific information required under Statement No. 67 which is not included in other sections of this report. The information in this section is to satisfy the reporting for the pension plan. This section contains the following:

- Statement of Fiduciary Net Position
- Statement of Change in Fiduciary Net Position
- Investment Information
- Net Pension Liability including discount rate sensitivity and reconciliation between years
- Schedule of Contributions
- Schedule of Investments

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability is the difference in the Total Pension Liability and the Fiduciary Net Position.

Statement of Fiduciary Net Position

	December 31, 2018
Assets	
Cash Equivalents	\$1,040,587
Total Cash	1,040,587
Receivables:	
Contributions	0
Investment Income	0
Other	0
Total Receivables	0
Investments:	
Domestic Fixed Income	12,851,629
Domestic Equities	13,255,627
International Equities	5,098,567
Commodities	836,556
Real Estate	817,213
Total Investments:	32,859,592
Total Assets	33,900,179
 Liabilities	
Payables:	
Investment Management Fees	0
Other	0
Total Liabilities	0
Net Position Restricted for Pensions	\$33,900,179

Statement of Changes in Fiduciary Net Position (unaudited)

	December 31, 2018
Additions	
Contributions:	
Employer	\$1,425,533
Employee	0
Total Contributions	1,425,533
Investment Income:	
Net Appreciation in Fair Value of Investments	(2,250,960)
Interest and Dividends	204,780
Less Investment Expense	0
Net Investment Income	(2,046,180)
Other	0
Total Additions	(620,647)
 Deductions	
Benefit Payments / Refunds	1,808,898
Administrative Expenses	110,600
Other	0
Total Deductions	1,919,498
Net Increase in Net Position	(2,540,145)
 Net Position Restricted for Pensions	
Beginning of Year	36,440,324
End of Year	\$33,900,179

Investment Information

Investment Policy

It is the policy of the Corpus Christi RTA to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the asset allocation as of December 31, 2018:

Asset Class	Target Allocation
Domestic Equity	39.1%
International Equity	15.0%
Fixed Income	37.9%
Cash	3.1%
Domestic Real Estate	2.4%
Commodities	2.5%
Total	100%

Rate of return

For the year ended December 31, 2018, the annual money-weighted rate of return based on cash flows on pension plan investments, net of pension plan investment expense, was (5.40%). The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Receivables

None

Allocated insurance contracts

None

Reserves

None

Net Pension Liability (NPL)

Determination of Net Pension Liability

The components of the net pension liability at December 31, 2018 were as follows:

Total Pension Liability	40,368,821
Plan Fiduciary Net Position	<u>(33,900,179)</u>
Net Pension Liability	<u><u>\$6,468,642</u></u>

Plan Fiduciary Net Position as a Percentage of Total Pension Liability	83.98%
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Sensitivity of Net Pension Liability to Changes in the Discount Rate

The following represents the net pension liability calculated using the stated discount rate, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease	Current Rate	1% Increase
	6.40%	7.40%	8.40%
Net Pension Liability	<u>\$11,204,915</u>	<u>\$6,468,642</u>	<u>\$2,505,002</u>

Schedule of Changes in the Net Pension Liability and Related Ratios

	Fiscal year ending December 31				
	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Total Pension Liability					
Service cost	\$695,517	\$876,806	\$941,470	\$980,740	\$1,066,449
Interest	2,254,995	2,396,547	2,521,413	2,620,680	2,780,193
Changes of benefit terms	391,915	115,478	0	0	313,503
Cost Method Change	0	0	0	0	0
Differences between expected and actual experience	784,295	(260,046)	(465,534)	335,013	(241,238)
Changes of assumptions	0	0	0	0	1,189,575
Benefit Payments / Refunds	(1,248,266)	(1,493,324)	(1,561,905)	(1,833,510)	(1,808,898)
Net Change in Total Pension Liability	2,878,456	1,635,461	1,435,444	2,102,923	3,299,584
Total Pension Liability - beginning	29,016,953	31,895,409	33,530,870	34,966,314	37,069,237
Total Pension Liability - ending (a)	\$31,895,409	\$33,530,870	\$34,966,314	\$37,069,237	\$40,368,821
Plan Fiduciary Net Position					
Contributions - employer	\$1,178,498	\$985,175	\$1,503,736	\$1,383,969	\$1,425,533
Contributions - employee	0	0	0	0	0
Net investment income	1,706,547	(348,950)	2,523,595	4,409,016	(2,046,180)
Benefit Payments / Refunds	(1,248,266)	(1,493,324)	(1,561,905)	(1,833,510)	(1,808,898)
Administrative expenses	(91,465)	(94,874)	(92,810)	(102,228)	(110,600)
Other	0	0	0	0	0
Net Change in Plan Fiduciary Net Position	\$1,545,314	(\$951,973)	\$2,372,616	\$3,857,247	(\$2,540,145)
Plan Fiduciary Net Position - beginning	29,617,120	31,162,434	30,210,461	32,583,077	36,440,324
Plan Fiduciary Net Position - ending (b)	\$31,162,434	\$30,210,461	\$32,583,077	\$36,440,324	\$33,900,179
Net Pension Liability - ending (a) - (b)	\$732,975	\$3,320,409	\$2,383,237	\$628,913	\$6,468,642
Plan Fiduciary Net Position as a % of the Total Pension Liability	97.7%	90.1%	93.2%	98.3%	84.0%
Covered-employee payroll	\$7,274,172	\$8,818,232	\$9,178,411	\$9,773,977	\$10,677,430
Net Pension Liability as a % of covered-employee payroll	10.1%	37.7%	26.0%	6.4%	60.6%

Notes to Schedule

See Summary of Plan Provisions for notes regarding benefit changes. See Summary of Actuarial Assumptions and Methods for notes regarding changes in assumptions.

Schedules for years prior to 2018 were determined by the prior actuary.

Schedule of Contributions

	Fiscal year ending December 31				
	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Actuarially determined contribution	\$695,517	\$983,696	\$1,468,804	\$1,399,307	\$1,191,087
Contributions in relation to the actuarially determined contribution	1,178,498	985,175	1,503,736	1,383,969	1,425,533
Contribution deficiency (excess)	(\$482,981)	(\$1,479)	(\$34,932)	\$15,338	(\$234,446)
Covered-employee payroll	\$7,274,172	\$8,818,232	\$9,178,411	\$9,773,977	\$10,677,430
Contributions as a percentage of covered-employee payroll	16.2%	11.2%	16.4%	14.2%	13.4%

Notes to Schedule

See summary of Actuarial Assumptions and Methods for details regarding methods and assumptions used to determine contribution rates.

Schedule of Investment Returns

	Fiscal year ending December 31				
	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Annual money-weighted rate of return, net of investment expense	5.07%	-1.42%	8.01%	13.12%	-5.40%

GASB Statement No. 68

This section presents specific information required under Statement No. 68 which is not included in other sections of this report. The information in this section is to satisfy the reporting for the pension plan on the Airport's financial statements. This section contains the following:

- Schedule of Changes in Net Pension Liability
- Schedule of Changes in Deferrals and Pension Expense
- Pension Expense and Deferred Outflows and Inflows of Resources

Schedule of Changes in Net Pension Liability

	Total Pension Liability (a)	Plan Net Position (b)	Net Pension Liability (a) - (b)
Balances--at December 31, 2016	<u>\$ 34,966,314</u>	<u>\$ 32,583,077</u>	<u>\$ 2,383,237</u>
Changes for the Year:			
Service cost	980,740		980,740
Interest	2,620,680		2,620,680
Benefit changes			
Difference between expected and actual experience	335,013		335,013
Changes of assumptions	-		-
Contributions--Employer		1,383,969	(1,383,969)
Contributions--members		-	-
Net investment income		4,409,016	(4,409,016)
Refunds of contributions		-	-
Benefits paid	(1,833,510)	(1,833,510)	-
Administrative expenses		(102,228)	102,228
Other changes		-	-
Net Changes	<u>2,102,923</u>	<u>3,857,247</u>	<u>(1,754,324)</u>
Balances--at December 31, 2017	<u>\$ 37,069,237</u>	<u>\$ 36,440,324</u>	<u>\$ 628,913</u>

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	Total Pension Liability (a)	Plan Net Position (b)	Net Pension Liability (a) - (b)
Balances--at December 31, 2017	<u>\$ 37,069,237</u>	<u>\$ 36,440,324</u>	<u>\$ 628,913</u>
Changes for the Year:			
Service cost	1,066,449		1,066,449
Interest	2,780,193		2,780,193
Benefit changes	313,503		313,503
Difference between expected and actual experience	(241,238)		(241,238)
Changes of assumptions	1,189,575		1,189,575
Contributions--Employer		1,425,533	(1,425,533)
Contributions--members		-	-
Net investment income		(2,046,180)	2,046,180
Refunds of contributions		-	-
Benefits paid	(1,808,898)	(1,808,898)	-
Administrative expenses		(110,600)	110,600
Other changes		-	-
Net Changes	<u>3,299,584</u>	<u>(2,540,145)</u>	<u>5,839,729</u>
Balances -- at December 31, 2018	<u>\$ 40,368,821</u>	<u>\$ 33,900,179</u>	<u>\$ 6,468,642</u>

Schedule of Changes in Deferrals and Pension Expense

	Deferred Pension Outflows of Resources	Deferred Pension Inflows of Resources	Pension Expense
Initial Balance at December 31, 2017	\$ 2,290,303	\$ (2,624,790)	
New loss (gain) bases recognized at beginning of year	\$ 5,221,633	\$ 379,176	
Updated Balance at December 31, 2017	<u>\$ 7,511,936</u>	<u>\$ (2,245,614)</u>	
Service cost			1,066,449
Interest expense			2,780,193
Benefit changes		-	313,503
Experience losses (gains)	83,753	(302,013)	(218,260)
Changes of assumptions	594,788	-	594,788
Contributions—members			-
Expected return on plan investments			(2,714,501)
Current expense of asset gain/loss	1,662,720	(439,024)	1,223,696
Plan administrative expenses			110,600
Net Changes	<u>2,341,261</u>	<u>(741,037)</u>	<u>3,156,468</u>
Balance at December 31, 2018	<u>\$ 5,170,675</u>	<u>\$ 1,504,577</u>	<u>\$3,156,468</u>

Pension Expense and Deferred Outflows/Inflows of Resources

For the year ended December 31, 2018, the recognized pension expense will be \$2,784,976. At December 31, 2018, the Employer reported deferred outflows of resources and deferred inflows of resources relation to pensions from the following sources:

	As of December 31, 2017		Recognized in Pension Expense	As of December 31, 2018		
	Deferred Outflows of Resources	Deferred Inflows of Resources		Deferred Outflows of Resources	Deferred Inflows of Resources	Remaining Amort. Period
Experience losses (gains)						
- 12/31/2015	-	65,010	(65,010)	-	-	0.000 years
- 12/31/2016	-	232,766	(116,384)	-	116,382	1.000 years
- 12/31/2017	251,260	-	83,753	167,507	-	2.000 years
- 12/31/2018	-	241,238	(120,619)	-	120,619	1.000 years
subtotal	251,260	539,014	(218,260)	167,507	237,001	
Change of assumptions						
- 12/31/2016	-	-	-	-	-	1.000 years
- 12/31/2017	-	-	-	-	-	2.000 years
- 12/31/2018	1,189,575	-	594,788	594,787	-	1.000 years
subtotal	1,189,575	-	594,788	594,787	-	
Net difference between projected and actual earnings on investments						
- 12/31/2015	143,602	-	143,602	-	-	0.000 years
- 12/31/2015	1,112,060	-	556,030	556,030	-	1.000 years
- 12/31/2016	-	148,488	(49,496)	-	98,992	2.000 years
- 12/31/2017	-	1,558,112	(389,528)	-	1,168,584	3.000 years
- 12/31/2018	4,815,439	-	963,088	3,852,351	-	4.000 years
subtotal	6,071,101	1,706,600	1,223,696	4,408,381	1,267,576	
Total	\$ 7,511,936	\$ 2,245,614	\$ 1,600,224	\$ 5,170,675	\$ 1,504,577	

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 December 31:	
2019	1,600,224
2020	1,521,634
2021	607,818
2022	573,560
2023	963,087