

City of Irving Supplemental Benefit Plan

Annual Financial Report

December 31, 2018



C O N T E N T S

Page

Independent Auditor's Report	1
Basic Financial Statements	
Statements of Fiduciary Net Position	3
Statements of Changes in Fiduciary Net Position	4
Notes to Financial Statements	5
Required Supplementary Information	
Schedule of Changes in Net Pension Liability and Related Ratios	18
Schedule of Contributions from the Employers and Other Contributing Sources.....	19
Ten Year Schedule of Investment Returns	20
Notes to Required Supplementary Information	21

Independent Auditor's Report

To the Members of the Administrative Board of the
City of Irving Supplemental Benefit Plan

Report on the Financial Statements

We have audited the accompanying financial statements of the City of Irving Supplemental Benefit Plan (the Plan), a fiduciary fund of the City of Irving, which comprise the statements of plan fiduciary net position as of December 31, 2018 and 2017, and the related statements of changes in plan fiduciary net position for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Plan as of December 31, 2018 and 2017, and the respective changes in financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

The Members of the Administrative Board of the
City of Irving Supplemental Benefit Plan

Emphasis of Matters

Fund Financial Statements

As discussed in Note 1, the financial statements present only the Plan, a fiduciary fund of the City of Irving (the City) and do not purport to, and do not, present fairly the financial position of the City as of December 31, 2018 and 2017 and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Investments with Values that are not Readily Determined

As discussed in Note 1, the financial statements include investments valued at \$17,305,962 and \$19,797,753 as of December 31, 2018 and 2017, respectively, whose fair values have been estimated by management in the absence of readily determinable fair values. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the schedule of changes in net pension liability and related ratios, schedule of contributions from the employers and other contributing sources and ten year schedule of investment returns be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Management has omitted the management's discussion and analysis that accounting principles generally accepted in the United States of America require to be presented to supplement the basic financial statements. Such missing information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion on the basic financial statements is not affected by this missing information.

Weaver and Tidwell, L.L.P.

WEAVER AND TIDWELL, L.L.P.

Dallas, Texas
July 15, 2019

Basic Financial Statements

City of Irving Supplemental Benefit Plan

Statements of Fiduciary Net Position

December 31, 2018 and 2017

	<u>2018</u>	<u>2017</u>
ASSETS		
Cash and cash equivalents	\$ 1,974,673	\$ 1,681,836
Total cash and cash equivalents	1,974,673	1,681,836
Investments, at fair market value		
Government security	1,343,592	2,796,995
Common stock	22,259,623	26,042,231
Mutual funds	9,124,359	4,086,200
Corporate bonds	6,104,042	5,338,445
Alternative investments/Hedge funds	17,305,962	19,797,753
Total investments, at fair market value	56,137,578	58,061,624
Other assets		
Interest receivable	108	84
TOTAL ASSETS	<u>58,112,359</u>	<u>59,743,544</u>
NET POSITION RESTRICTED FOR PENSION BENEFITS	<u>\$ 58,112,359</u>	<u>\$ 59,743,544</u>

The Notes to Financial Statements are an integral part of these statements.

City of Irving Supplemental Benefit Plan
Statements of Changes in Fiduciary Net Position
Years Ended December 31, 2018 and 2017

	2018	2017
ADDITIONS		
Contributions		
Employer contributions	\$ 2,227,913	\$ 2,083,347
Member contributions	2,596,875	2,585,695
Total contributions	4,824,788	4,669,042
Investment income		
Net (depreciation)/appreciation in fair value of investments	(6,305,742)	3,063,752
Interest	4,350,822	3,837,017
Investment expenses	(333,405)	(308,572)
Net investment income (loss)	(2,288,325)	6,592,197
TOTAL ADDITIONS	2,536,463	11,261,239
DEDUCTIONS		
Benefit payments	3,745,857	3,412,678
Refunds of members' contributions	270,957	226,329
Administrative and other expenses		
General administrative expenses	150,834	136,810
TOTAL DEDUCTIONS	4,167,648	3,775,817
Changes in pension plan net position	(1,631,185)	7,485,422
NET POSITION RESTRICTED FOR PENSION BENEFITS, beginning of year	59,743,544	52,258,122
NET POSITION RESTRICTED FOR PENSION BENEFITS, end of year	\$ 58,112,359	\$ 59,743,544

The Notes to Financial Statements are an integral part of these statements.

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Note 1. Defined Benefit Pension Plan Description

General Description

The City of Irving Supplemental Benefit Plan (the Plan) is a contributory single-employer defined benefit pension plan initially organized on March 1, 1984, under the provisions of section 401(a)(3) of the Internal Revenue Code. The Plan is administered by the Administrative Board (the Board). The Board consists of nine voting members, five of whom shall be active City of Irving (the City) employees who contribute to the Plan and who are elected at-large from among City of Irving employees, the Chair of the Audit and Finance committee of the Irving City Council, the City's Chief Financial Officer, the Human Resources Director and the City Attorney or designee. The City Council may, by resolution appoint one of its members to the Board in place of the Chair of the Audit and Finance Committee.

The Plan is a single-employer retirement system covering all employees of the City except any person who is (1) a Fire Civil Service Employee, (2) any employee who is a member of a legally recognized collective bargaining unit and who is otherwise eligible to become a participant shall be eligible to participate in the Plan only if the collective bargaining agreement expressly provides for the participation of such employee in the plan (3) in accordance with Section 410(b)(3) of the Code, any employee who is a nonresident alien and who receives no earned income from the City of Irving which constitutes income from sources within the United States. All benefits vest after five years of service.

Pension plan membership consisted of the following at December 31:

	2018	2017
Inactive plan members or beneficiaries currently receiving benefits	398	404
Inactive plan members entitled to but not yet receiving benefits	286	260
Active plan members	1,485	1,451
	2,169	2,115

Plan Benefits

The plan provides retirement, disability, and death benefits. The normal retirement age of a participant is the later of his 65th birthday or completion of a five year period of service. The participant's monthly retirement benefit with payments commencing at Normal Retirement Date under the Plan is equal to one-twelfth of six tenths of one percent of his final average earnings multiplied by his years of benefit service.

Participants who are eligible for disability retirement shall be entitled to receive a Disability Retirement Benefit equal to one-twelfth of 70% of his annualized base salary or wage rate at time of disability, less any other monthly disability income benefits as follows:

- (1) Disability retirement or service retirement under TMRS;
- (2) Disability retirement under the Federal Social Security Act, including benefits payable on account of the presence of dependents; and
- (3) Any amount payable under the Worker's Compensation Act or similar law for loss of time on account of disability.

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Death benefits are determined in the same manner as retirement benefits except the years of service shall be the time between the participant's last date of hire and his 65th birthday and the final average earnings shall be figured as the date of participant's death. A plan member whose employment is terminated, prior to having completed a five year period of service shall receive a refund of his employee contributions.

Cost-of-Living Adjustment (COLA)

The Board, with the concurrence of the actuary, may periodically recommend to the City Council for their approval an increase in the retirement benefit payable to retirees.

Contributions

The Board establishes rates based on an actuarially determined rate recommended by an independent actuary. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. For the years ended December 31, 2018 and 2017, the average active member contribution rates were 2.5% of annual pay, and the City of Irving's average contribution rates were 2.07% and 2.14% of annual payroll, respectively.

Basis of Accounting

The Plan's financial statements are presented on the accrual basis of accounting. Employer and employee contributions that should have been made in the calendar year based on the actuarial determined contribution rates or amounts are recognized as revenues of that calendar year. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan.

Note 2. Summary of Significant Accounting Policies

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand and short-term investments with original maturities of three months or less at the date of acquisition.

Method Used to Value Investments

Investments are carried at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of investments is based on market prices provided by the Plan's custodian, Morgan Stanley, where available. The fair value of alternative investments is based on information provided by the investment manager, including audited financial statements and quarterly valuation statements.

Securities Transactions and Related Investment Income

Security transactions are accounted for on a trade date basis. Interest income is recognized when earned and dividend income is recognized on the ex-dividend date. Stock dividends or stock splits are recorded as memo items and do not affect the total value of the securities.

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Realized gains and losses on investments sold during the year are not displayed separately in the financial statements. Instead, the realized gains and losses, along with the change in unrealized gains and losses on investments, are reported as net appreciation/ (depreciation) in fair value of investments.

The realized gain/(loss) on the sale of securities is computed as the difference between the proceeds of sale in 2018 and 2017 and the carrying cost of the securities at December 31, 2018 and 2017, or the original cost of the securities acquired during 2018 and 2017. The calculation of realized gains/(losses) is independent of the calculation of net appreciation/(depreciation) in the fair value of plan investments. Unrealized gain/(loss) on investments sold in the current year that had been held for more than one year are included in the net appreciation/(depreciation) reported in prior years and the current year.

Investment Expenses

Investment expenses include fees paid for investment management services, investment consulting services, fund evaluation services, securities custodian services, and interest expense and other fees incurred in security lending transactions.

Note 3. Investments

GASB Statement No. 72, *Fair Value Measurement and Application* provides a framework for measuring fair value which established three level fair value hierarchy that describes the inputs that are used to measure assets and liabilities.

- Level 1 inputs are quoted prices (unadjusted) for identical assets and liabilities in active markets that government can access at the measurement date.
- Level 2 inputs are inputs (other than quoted prices within Level 1) that are observable for an asset and liability, either directly or indirectly.
- Level 3 inputs are unobservable inputs for an asset or liability.

The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs. If a price for an identical asset or liability is not observable, a government should measure fair value using another valuation technique that maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs. If the fair value of an asset or a liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

Debt and equity securities and mutual funds classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities.

For the City, U.S. Government Agencies, U.S. Treasury Notes, U.S. Treasury Bills and for the SBP Plan, US Government Agencies, US Treasury Notes, Corporate Bonds and Municipal Obligations are classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices.

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

The Plan categorizes its fair value measurement within the fair value hierarchy established by generally accepted accounting principles. The following table sets forth by level, within the fair value hierarchy, the Plan's investments at fair value as of December 31, 2018:

	December 31, 2018	Fair Value Measurement Using			Weighted Average Maturity (Years)
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Investments by fair value					
Government security	\$ 1,343,592	\$ -	\$ 1,343,592	\$ -	7.79
Common stocks	22,259,623	22,259,623	-	-	N/A
Mutual funds	9,124,359	9,124,359	-	-	N/A
Corporate bonds	6,104,042	-	6,104,042	-	6.88
Total investments by fair value level	38,831,616	31,383,982	7,447,634	-	
Investments measured at net asset value (NAV)					
Feeder fund of master fund	1,445,388				N/A
Sector based long/short hedge fund	1,030,801				N/A
Real estate debt fund	6,235,170				N/A
Private equity hedge fund	1,692,096				N/A
Feeder fund of multi-strategy hedge fund	3,330,096				N/A
Student housing debt/equity fund	1,947,948				N/A
Sub-fund of multi-entity commodity trading fund	1,624,463				N/A
Total investments at the NAV	17,305,962				
Total investments at fair value	\$ 56,137,578				

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

The following table sets forth by level, within the fair value hierarchy, the Plan's investments at fair value as of December 31, 2017:

	December 31, 2017	Fair Value Measurement Using			Weighted Average Maturity (Years)
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Investments by fair value					
Government security	\$ 2,796,995	\$ -	\$ 2,796,995	\$ -	3.01
Common stocks	26,042,231	26,042,231	-	-	N/A
Mutual funds	4,086,200	4,086,200	-	-	N/A
Corporate bonds	5,338,445	-	5,338,445	-	9.46
Total investments by fair value level	38,263,871	30,128,431	8,135,440	-	
Investments measured at net asset value (NAV)					
Multi-entity commodity trading fund	2,584,743				N/A
Feeder fund of master fund	702,008				N/A
Sector based long/short hedge fund	2,151,968				N/A
Real estate debt fund	5,999,891				N/A
Private equity hedge fund	1,863,715				N/A
Feeder fund of multi-strategy hedge fund	3,328,963				N/A
Student housing debt/equity fund	1,556,187				N/A
Sub-fund of multi-entity commodity trading fund	1,610,278				N/A
Total investments at the NAV	19,797,753				
Total investments at fair value	\$ 58,061,624				

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Additional information related to investments measured at the net asset value (NAV) per share (or its equivalent) as of December 31, 2018 is presented on the following table:

	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Feeder fund of master fund ⁽²⁾	\$ 1,445,388	\$ 1,106,199	**	**
Sector based long/short hedge fund ⁽³⁾	1,030,801	-	Quarterly	65 days
Real estate debt fund ⁽⁴⁾	6,235,170	-	**	**
Private equity hedge fund ⁽⁵⁾	3,316,559	1,396,532	**	**
Feeder fund of multi-strategy hedge fund ⁽⁶⁾	3,330,096	-	***	***
Student housing debt/equity fund ⁽⁷⁾	1,947,948	1,377,491	**	**
Total investments measured at the NAV	<u>\$ 17,305,962</u>			

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) as of December 31, 2017 is presented on the following table:

	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Multi-entity commodity trading fund ⁽¹⁾	\$ 2,584,743	\$ -	Daily	1 day
Feeder fund of master fund ⁽²⁾	702,008	1,830,141	**	**
Sector based long/short hedge fund ⁽³⁾	2,151,968	-	Quarterly	65 days
Real estate debt fund ⁽⁴⁾	5,999,891	-	**	**
Private equity hedge fund ⁽⁵⁾	3,473,993	1,215,772	**	**
Feeder fund of multi-strategy hedge fund ⁽⁶⁾	3,328,963	-	***	***
Student housing debt/equity fund ⁽⁷⁾	1,556,187	1,507,151	**	**
Total investments measured at the NAV	<u>\$ 19,797,753</u>			

** These investments cannot be voluntarily redeemed. Instead, the nature of the investments is that distributions are received through liquidation of the underlying assets of the investment partnerships. It is estimated that the underlying assets of the investment partnerships will be liquidated between 2019 and 2026.

*** Withdrawals can be made every six months, subject to a 33 1/3% limit without notice.

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

- (1) The fund is a sub-fund of multi-entity commodity trading fund. The fund invests in a range of trading styles through its various trading advisors, including long-term trend following, short-term systematic, value, discretionary macro and specialist FX strategies. Market exposure is broadly diversified with positions in global currency, financial and commodity markets. The fair value of the investment has been determined using the NAV per share (or its equivalent) of the investment.
- (2) The fund invests all or substantially all of its investable assets in the master fund. The master fund's investment objective is to seek achieve risk-adjusted returns by investing primarily in public and/or private debt and non-controlling equity and other interests relating to real estate related investments on a global basis. The fair value of the investment has been determined using the NAV per share (or its equivalent) of the investment.
- (3) The investment objective of the fund is to use a high amount of leverage to achieve capital appreciation by utilizing a variety of investment strategies including, but not limited to, sector-based fundamental long/short equity (including, but not limited to, investments in financial, consumer/retail, technology, energy, industrial, and media sectors), short and medium term trading portfolios, global macro trading, special situations, distressed companies and arbitrage opportunities, both within and outside U.S. markets. The fund may invest in a wide range of U.S. and non-U.S. securities and other financial instruments, including, but not limited to listed and unlisted equity and fixed income securities, derivative instruments, currencies, and money market instruments, distressed another special situation securities, and investments in other investment vehicles. The fair value of the investment has been determined using the NAV per share (or its equivalent) of the investment.
- (4) This type includes investments in 2 funds that invest in real estate related loans and securities. The funds' investment objective is to seek long-term total return, with an emphasis on current income, by primarily investing in a broad range of real estate-related debt investments. The fair value of the investments have been determined using the NAV per share (or its equivalent) of the investments.
- (5) The fund generates capital appreciation through privately negotiated equity and equity-related investments alongside other private equity firms. Investments may be effected using a broad variety of investment types and transaction structures, including buyout investments, direct or indirect private equity investments, secondary transactions, strategic investments, restructurings and recapitalizations. The fair value of the investment has been determined using the NAV per share (or its equivalent) of the investment.
- (6) The fund is a feeder fund that is engaged in the business of trading equities, fixed income products, options, futures and other financial instruments. The fund's equity securities (both long positions and short positions) are primarily from Canadian and US companies across a variety of industries. A small portion of the fund's portfolio is comprised of options, corporate bonds, asset backed securities and government securities. The fair value of the investment has been determined using the NAV per share (or its equivalent) of the investment.
- (7) The fund directly or indirectly invests in equity, debt and other interests, in or relating to, student housing and university related real estate, including interests in joint ventures and real estate companies, as well as public-private partnerships. The fund intends to maximize the returns from each investment through rebranding, repurposing, redevelopment and/or improved management, development (ground-up and adaptive re-use), public-private partnerships, recapitalization of existing properties and the use of leverage. The fair value of the investment has been determined using the NAV per share (or its equivalent) of the investment.

The Plan may record changes to valuations based on the amount that it might reasonably be expected to receive for an investment upon its current sale, consistent with the fair value measurement. Each determination is based on consideration of all relevant factors, which are likely to vary from one pricing context to another. Examples of such factors may include, but are not limited to: (i) type of investment; (ii) existence of any contractual restrictions on the investment's disposition; (iii) price and extent of public trading of similar or comparable investments; (iv) quotations or evaluated prices from broker-dealers and/or pricing services; (v) information obtained from the issue, analysts, and/or the appropriate stock exchange (for exchange-traded securities); (vi) analysis of an issuer's financial statements; (vii) evaluation of the forces that influence the issuer and the market(s) in which the investment is purchased and sold and (viii) with respect to debt securities, maturity, coupon, creditworthiness, currency denomination, and the movement of the market in which the security is normally traded. Because of the inherent uncertainties of valuation, the values reflected in the financial statements may materially differ from the value determined upon sale of those investments.

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Allocation of Investments

The Plan's policy in regard to the allocation of invested assets is established and may be amended by the Board. The investment policy was revised in 2018 to reflect the Board's decision to adopt and retain discretion over long-term asset allocation. The decision aligns with the Board's investment objective, stated in the policy, with principles of prudent diversification. Consistent with this decision, the strategic asset allocation approved by the Board is outlined in Exhibit A of the Executive Summary of the Statement of Investment Policy, Guidelines, and Investment Objectives. In collaboration with the Board's investment consultant, the Plan's asset allocation is reviewed at regular intervals to reaffirm the allocation aligns with the long-term goals of the Plan. The Board has selected the strategic asset allocation based upon investment time horizon, risk tolerance, performance expectation, asset class preferences, and long-term rate of return expectations. The asset allocation is designed to achieve the long-term required return objectives. The following table displays the Board-approved asset allocation policy for 2018 and 2017:

Asset Class	2018	2017
Cash and equivalents	0%	0%
Fixed income	30%	35%
U.S. equities	23%	18%
Non-U.S. equities	17%	13%
Emerging markets	5%	4%
Real estate	5%	5%
Commodities	0%	5%
Hedge fund	10%	10%
Private equity	10%	10%

Concentration of Credit Risk

This risk represents the potential loss attributable to the magnitude of the Plan's investments in a single issuer. For the Plan, managers shall not invest more than 5% of the Funds' value in the issues of any one issuer, with the sole exceptions of the U.S. Government, its agencies, or instrumentalities. The strategic target for all fixed income investments shall range from 35% to 100%. The Plan limits this type of risk by requiring a maximum of 25% of the market value of the entire fund in an industry, and a maximum of 5% in any one company with the sole exception of the U.S. Government, its agencies or instrumentalities.

As of December 31, 2018 and 2017, for separately managed investment accounts, the Plan held the following investments that represent five percent (5%) or more of the Plan's fiduciary net position.

Investment	2018	2017
Blackstone RE Income Fund II A	\$ 6,235,170	\$ 5,999,891
Millenium Strategic Cap	3,330,096	3,328,963

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair market value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. One of the ways the City manages its exposure to interest rate risk is by purchasing a combination of shorter term and longer term investments and by timing cash flows from maturities so that a portion of the portfolio is maturing or coming close to maturity evenly over time as necessary to provide the cash flow and liquidity needed for operations. The City of Irving monitors the interest rate risk inherent in its portfolio by measuring the weighted average maturity of its portfolio on a quarterly basis.

Credit Risk

Credit Risk - Generally, this is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization. By policy, the City of Irving requires a minimum rating of AAA or its equivalent on some investments.

The investment policy of the Plan requires that the fixed income account managed by any manager shall maintain a weighted average credit rating that falls within the "A" category or better, as determined by the major credit ratings agencies at all times.

The Plan's fixed income investments are rated by Standard and Poor's as follows:

As of December 31, 2018:

Rating	Distribution by S&P Rating	
	Number	Market Value
AAA	9	1,788,726
AA+	2	126,551
AA	2	148,832
AA-	7	1,606,351
A+	4	707,413
A	2	380,847
A-	8	973,054
BBB+	8	1,141,888
BBB	5	518,820
BB	1	55,152

As of December 31, 2017:

Rating	Distribution by S&P Rating	
	Number	Market Value
AAA	9	3,268,459
AA+	4	632,921
AA-	4	916,883
A+	3	571,439
A	1	203,085
A-	3	387,719
BBB+	10	1,744,371
BBB	3	355,755
BBB-	1	54,808

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Custodial Credit Risk

The custodial credit risk represents the risk that, in the event of the failure of the counterparty of a transaction, the Plan will not be able to recover the value of deposits and investments or collateral securities that are in the possession of an outside party.

Texas State Law under section 802.205(f) states that a brokerage firm that provides custodial services to a pension plan must provide insurance against errors, omissions, mysterious disappearances, or fraud in an amount equal to the amount of the assets the firm holds in custody. The Plan's service agreement with the Plan's brokerage firm states that the brokerage firm must maintain professional and fiduciary liability insurance policies that meet the Texas State Law requirement.

Rate of Return

For the year ended December 31, 2018 and 2017, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was -3.81% and 12.51%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Note 4. Net Pension Liability

Net Pension Liability of Employers

The Plan's net pension liability was measured as of December 31, 2018, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of January 1, 2019.

The components of the net pension liability at December 31, 2018 and 2017 were as follows:

	2018	2017
Total pension liability	\$ 85,874,241	\$ 83,410,525
Plan fiduciary net position	58,112,359	59,743,544
Net pension liability	\$ 27,761,882	\$ 23,666,981
Plan fiduciary net position as a percentage of the total pension liability	67.67%	71.63%

Actuarial Assumptions

The Plan retains an independent actuarial firm to conduct actuarial valuations of the pension plan to monitor the plan's funding status and to establish the contribution rate requirements for the pension plan. Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events into the future. Examples include assumptions about future employment, mortality, and cost trends. Actuarially determined amounts are subject to continual review or modification as actual results are compared with past expectations and new estimates are made about the future. Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of benefits provided at the time of each valuation. The total pension liability was determined by an actuarial valuation as of January 1, 2019, using the following actuarial assumptions applied to all prior periods included in the measurement in accordance with the requirements of GASB Statement No. 67 and 68, *Financial Reporting for Pension Plans*.

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Key methods and assumptions used in the latest actuarial valuation are presented below:

	2018
Inflation	2.50%
Salary Increases	3.50% to 10.50 %
Investment rate of return	6.75%

Mortality rates were based on the RP-2000 Combined Healthy Mortality Tables for males and females projected on a fully generational basis by scale BB to account for future mortality improvement.

The long-term expected rate of return on pension plan investments was 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 expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2018 and 2017 (see the discussion of the Plan's investment policy) are summarized in the following tables.

As of December 31, 2018:

Asset Classification	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return	Asset Class Return
Domestic Equity	23.0%	5.34%	1.23%
International Equity	17.0%	6.73%	1.14%
Emerging Markets	5.0%	8.96%	0.45%
Fixed Income	30.0%	1.59%	0.48%
Real Estate	5.0%	4.45%	0.22%
Hedge Fund	10.0%	3.47%	0.35%
Private Equity	10.0%	9.15%	0.91%
Total	100.00%		4.78%
Inflation			2.50%
Arithmetic nominal return before adverse experience			7.28%
Margin for adverse experience			(0.53%)
Expected arithmetic nominal return			6.75%

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

As of December 31, 2017:

Asset Classification	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return	Asset Class Return
Domestic Equity	18.0%	5.47%	0.99%
International Equity	13.0%	6.04%	0.77%
Emerging Markets	4.0%	8.61%	0.34%
Fixed Income	35.0%	0.86%	0.30%
Real Estate	5.0%	4.34%	0.22%
Commodities	5.0%	2.63%	0.13%
Hedge Fund	10.0%	3.36%	0.34%
Private Equity	10.0%	8.46%	0.85%
Total	100.00%		3.94%
Inflation			2.50%
Arithmetic nominal return before adverse experience			6.44%
Margin for adverse experience			0.31%
Expected arithmetic nominal return			6.75%

Discount Rate

The discount rate used to measure the total pension liability at December 31, 2018 and 2017 was 6.75%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the Plan as of December 31, 2018 and 2017, calculated using a discount rate of 6.75%, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

Net Pension Liability	1% Decrease	Current Discount Rate	1% Increase
2018	\$ 39,689,429	\$ 27,761,882	\$ 17,954,780
2017	35,201,964	23,666,981	14,188,120

City of Irving Supplemental Benefit Plan

Notes to Financial Statements

Note 5. Contributions Required and Contributions Made

Funding Policy

The funding objective of the plan is to establish contribution rates that, over time, are likely to remain as a level percentage of payroll unless plan benefit provisions are changed. Actuarial valuations involve estimates and make assumptions about the probability of events far into the future, therefore actuarially determined rates are subject to continual revision as results are compared to past expectations and new estimates are made about the future.

Contribution rates are calculated by the actuary using the Entry Age Normal Method. The required contribution rates are expressed as a percentage of covered payroll. The 2018 and 2017 contribution rates were determined using the actuarial valuations performed as of January 1, 2019 and 2018, respectively.

Employer Contributions

The required employer contribution rates include Normal Cost and amortization of the Unfunded Actuarial Liability (UAL). The UAL is being amortized on a 30-year period as of January 1, 2018 and 2017.

Member Contributions

A participant shall make contributions to the Plan equal to 2.5% of their annual earnings. In 2018, member contributions totaled \$2,596,875, and employer contributions totaled \$2,227,913. For 2017, member contributions totaled \$2,585,695, and employer contributions totaled \$2,083,347.

Required Supplementary Information

City of Irving Supplemental Benefit Plan

Schedule of Changes in Net Pension Liability and Related Ratios*

	2018	2017	2016	2015	2014
TOTAL PENSION LIABILITY					
Service cost	\$ 3,364,800	\$ 3,086,079	\$ 3,014,502	\$ 2,975,950	\$ 2,844,836
Interest (includes interest on service cost)	5,608,564	5,273,704	4,977,651	4,528,512	4,259,329
Differences between expected and actual experience	(2,492,833)	288,848	39,934	95,587	-
Changes of assumptions	-	-	-	5,088,734	-
Benefit payments, including refunds of employee contributions	(4,016,815)	(3,639,007)	(3,733,824)	(3,572,309)	(3,086,278)
Net change in total pension liability	2,463,716	5,009,624	4,298,263	9,116,474	4,017,887
Total pension liability - beginning	83,410,525	78,400,901	74,102,638	64,986,164	60,968,277
Total pension liability - ending (a)	85,874,241	83,410,525	78,400,901	74,102,638	64,986,164
PLAN NET POSITION					
Contributions - employer	2,227,913	2,083,347	2,067,639	1,390,021	1,358,113
Contributions - employee	2,596,875	2,585,695	2,448,428	2,334,190	2,262,508
Net investment income	(2,288,326)	6,592,197	1,103,719	(350,875)	2,711,022
Benefit payments, including refunds of employee contributions	(4,016,815)	(3,639,007)	(3,733,824)	(3,572,309)	(3,086,278)
Administrative expenses	(150,832)	(136,810)	(165,946)	(123,779)	(118,500)
Net change in plan net position	(1,631,185)	7,485,422	1,720,016	(322,752)	3,126,865
Plan net position - beginning	59,743,544	52,258,122	50,538,106	50,860,858	47,733,993
Plan net position - ending (b)	58,112,359	59,743,544	52,258,122	50,538,106	50,860,858
TOTAL PENSION LIABILITY	\$ 27,761,882	\$ 23,666,981	\$ 26,142,779	\$ 23,564,532	\$ 14,125,306
Plan net position as a percentage of the total pension liability	67.67%	71.63%	66.66%	68.20%	78.26%
Covered payroll**	\$ 105,124,301	\$ 100,135,456	\$ 95,365,820	\$ 92,985,815	\$ 89,179,811
Plan net pension liability as a percentage of covered payroll	26.41%	23.63%	27.41%	25.34%	15.84%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

** Covered payroll shown in this table is the beginning of year payroll.

City of Irving Supplemental Benefit Plan
Schedule of Contributions from the Employers and
Other Contributing Sources*

Plan Year Ending December 31,	Actuarially Determined Contributions	Actual Contribution	Contribution (Excess)	Covered Payroll**	Contributions as a Percentage of Covered Payroll
2018	\$ 2,270,964	\$ 2,227,913	\$ 43,051	\$ 107,628,647	2.07%
2017	1,966,524	2,083,347	(116,823)	97,352,664	2.14%
2016	1,874,402	2,067,639	(193,237)	96,618,645	2.14%
2015	1,315,389	1,390,021	(74,632)	93,290,000	1.49%
2014	1,312,629	1,358,113	(45,574)	91,148,542	1.49%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

** The payroll shown on this table is the payroll on which contributions were made during the year. This includes payroll for members who terminated and or retired during the year.

City of Irving Supplemental Benefit Plan

Ten Year Schedule of Investment Returns

<u>December 31,</u>	<u>Annual Money-Weighted Rate of Return Net of Investment Expense</u>
2009	13.94%
2010	9.70%
2011	-2.47%
2012	8.89%
2013	9.64%
2014	5.40%
2015	-0.93%
2016	2.17%
2017	12.51%
2018	-3.81%

The Notes to Required Supplementary Financial Statements are an integral part of these statements.

City of Irving Supplemental Benefit Plan

Notes to Required Supplementary Information

Note 1. Key Methods and Assumptions Used to Determine Contribution Rates

The following actuarial methods and assumptions were used to determine contribution rates in the Schedule of Employer Contributions, for the year ended December 31, 2018 and 2017:

Valuation date	January 1, 2019	January 1, 2018
Actuarial cost method	Entry age normal	Entry age normal
Amortization method	Level percentage of payroll	Level percentage of payroll
Remaining amortization period	32 years	26 years
Asset valuation method	Smoothed actuarial value (5 years)	Smoothed actuarial value (5 years)
Actuarial assumptions		
Nominal rate of return	6.75%	6.75%
Projected salary increases	3.50% - 10.50%	3.50% - 10.50%
General inflation rate	2.50%	2.50%
Cost-of-living adjustments	None	None
Payroll growth rate	3.00%	3.00%
Retirement age	Varying rates of retirement based on member's age were established based on plan's experience as determined by the TMRS experience study.	Varying rates of retirement based on member's age were established based on plan's experience as determined by the TMRS experience study.
Mortality	The RP-2000 tables for males and females, projected on a fully generational basis by scale BB to account for future mortality improvement.	The RP-2000 tables for males and females, projected on a fully generational basis by scale BB to account for future mortality improvement.

A complete description of the methods and assumptions used to determine contribution rates for the year ending December 31, 2018, can be found in the January 1, 2019 actuarial valuation report.