



CONSULTING GROUP



## A DEFINED BENEFIT ACTUARIAL VALUATION

*For:*

### **Defined Benefit Pension Plan for Employees of the Orange County Library District**

*As of:*

January 1, 2021

*Issued:* March 12, 2021

*Prepared by:*  
USI Consulting Group



USI Consulting Group  
95 Glastonbury Boulevard  
Suites 102, 406  
Glastonbury, CT 06033  
www.usi.com  
Tel: 860.633.5283

March 12, 2021

**CONFIDENTIAL**

Mr. Kristopher Shoemaker  
Orange County Library District  
101 East Central Blvd.  
Orlando, FL 32801

**Re: Defined Benefit Pension Plan for Employees of the Orange County Library District**

Dear Kris,

We are pleased to present our actuarial valuation report for the plan year beginning January 1, 2021. A summary of the principal results of the report is provided for your convenience on page one. Other information designed to assist you and your accountant in preparing your reports is also included.

The actuarially determined contribution for the 2021 plan year is \$427,748, and was developed as follows:

Normal Cost (end of year) plus	\$ 427,748
<u>Amortization Payment (end of year)</u>	<u>-</u>
Total Contribution Requirement	\$ 427,748

We would be happy to answer any questions you may have regarding this report. We will forward a copy of the valuation report to the State of Florida for review upon your approval.

Sincerely,

USI CONSULTING GROUP

Frederica S. Daniels, FCA, EA, MAAA  
Vice President and Managing Actuary

# **DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

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**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**PRINCIPAL RESULTS OF THE VALUATION**

Below is a summary of the principal results of this year's valuation compared with the previous valuation. Amounts for each valuation period reflect the actuarial cost method, assumptions and plan benefits in effect at that time.

	<u>2020</u>	<u>2021</u>
<b>(A) Actuarially Determined Contribution</b>		
(1) As of January 1	\$ 428,240	\$ 400,701
(2) As of December 31	\$ 457,146	\$ 427,748
(3) Covered Payroll	\$ 3,880,611	\$ 4,125,334
(4) Normal Cost	\$ 428,240	\$ 400,701
(5) Normal Cost as a Percentage of Covered Payroll	11.04%	9.71%
<b>(B) Supporting Information</b>		
(1) Market Value of Assets	\$ 51,618,578	\$ 58,269,718
(2) Actuarial Value of Assets	\$ 51,618,578	\$ 58,269,718
(3) Present Value of Accumulated Benefits	\$ 39,059,292	\$ 40,287,413
(4) Funding Ratio - Market Value (1) ÷ (3)	132.15%	144.64%
(5) Funding Ratio - Actuarial Value (2) ÷ (3)	132.15%	144.64%
(6) Funding Ratio Discount Rate	6.75%	6.75%
(7) Number of Lives Included in the Valuation	281	276
(8) EAN Accrued Liability	\$ 44,466,563	\$ 45,274,368
(9) Present Value of all Future Benefits	\$ 48,119,338	\$ 48,572,451

# **DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

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## **VALUATION AS OF JANUARY 1, 2021**

### **EXECUTIVE SUMMARY**

#### **Purpose and Scope**

The principal purposes of this actuarial valuation report are:

1. To present our calculations of the Actuarially Determined Contribution for the Plan Year beginning January 1, 2021,
2. To review Plan experience during the year ended December 31, 2020 and the funded status of the Plan as of January 1, 2021,
3. To provide an assessment and disclosure of risk with respect to pension obligations and contributions,
4. To provide information required by the reporting and disclosure requirements of the State of Florida and the Internal Revenue Code.

The valuation is based upon employee data and financial information provided by Orange County Library District. This data was not audited or otherwise verified by us other than for tests of reasonable consistency with prior year data.

The actuarial liabilities shown in this report are determined using software purchased from an outside vendor which was developed for this purpose. Certain information is entered into this model in order to generate the liabilities specific to your pension plan. These inputs include economic and non-economic assumptions, plan provisions and census information. We rely on the coding within the software to value the liabilities using the actuarial methods and assumptions selected. Both the input to and the output from the model is checked for accuracy and reviewed for reasonableness.

#### **Risk Assessment**

This report includes information related to Actuarial Standards of Practice Number 51 (ASOP 51), Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Contributions.

Traditionally, the focus of valuation reports has centered around the current funded status of the Plan, experience during the prior year, and contribution requirements for the current year. This is now supplemented with additional information regarding risks that plan sponsors face as well as more historical information and measurements. The report does not provide: risk assessments related to potential legislative and regulatory changes, investment advice, or assessments of the ability or willingness of plan sponsors to make contributions to the Plan.

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

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**VALUATION AS OF JANUARY 1, 2021**

**EXECUTIVE SUMMARY**

**(Continued)**

**Actuarial Methods, Assumptions and Provisions**

This valuation report is based on the cost method, assumptions, and Plan provisions outlined at the end of this report, starting on page 18. The Actuarially Determined Contribution is calculated in accordance with the plan's funding policy.

All other methods and assumptions remain the same as the 2020 Valuation Report.

In our opinion, all costs, liabilities, rates of interest and other factors under the Plan have been determined on the basis of actuarial assumptions and methods, which are each reasonable, taking into account the experience of the Plan in addition to future expectations and which, when combined, represent our best estimate of anticipated experience under the Plan.

**Plan Experience**

During the plan year ended December 31, 2020, the number of active participants decreased from 70 to 63. As of the valuation date, there are 61 deferred vested employees, 12 remaining employees who transferred to the Money Purchase Plan on January 1, 2007, and 140 retirees and beneficiaries.

During 2020, the market value of Plan assets increased from \$51,618,578 to \$58,269,718, with a net investment return of 16.28%. The investment performance is greater than the 6.75% assumption, creating a market value gain. On a net return basis, the gain is approximately \$4,859,000.

The Plan also experienced a liability gain of approximately \$223,000 due to mortality, retirement experience and other data changes.

## **DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

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### **VALUATION AS OF JANUARY 1, 2021**

#### **EXECUTIVE SUMMARY**

**(Continued)**

##### **Contribution Requirements**

The actuarially determined contribution is \$427,748, calculated as payable on December 31, 2021. Please see page 12 for more details.

##### **Funding Policy**

Actuarially determined contributions to the Plan are determined each year as part of the Actuarial Valuation process. These contributions are determined according to the following funding policy:

Actuarial Cost Method: Entry Age Normal

Asset Valuation Method: The actuarial value of assets is equal to market value.

Amortization Method: The amortization period for experience gains and losses shall be 10 years from the date of the actuarial valuation.

##### **Funding Status**

The Plan's funding ratio, on an actuarial value of assets basis, as shown on Page 1, increased from 132.15% in 2020 to 144.64% in 2021.

The funding ratio is appropriate for assessing the need for or the amount of future contributions, based on the assumptions stated in this report.

Future measurements may differ significantly from the information contained within this report. These measurements will be based on the market value of assets, which varies based on the underlying portfolio experience, as well as Plan Sponsor contributions, benefit payments and expenses paid from Plan assets. Liability calculations will be produced in accordance with current census data, as well as the interest rates and mortality tables in effect at that time. There has been no analysis of potential future impacts associated with this report.

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

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**VALUATION AS OF JANUARY 1, 2021**

**EXECUTIVE SUMMARY**

**(Continued)**

This report has been prepared in accordance with generally accepted actuarial standards and procedures and conforms to the Guidelines for Professional Conduct of the American Academy of Actuaries. It is based upon the employee and financial data submitted to USI Consulting Group by the Plan Sponsor and the retirement Plan provisions as outlined herein.

I, Frederica S. Daniels, FCA, EA, am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

USI CONSULTING GROUP

Frederica S. Daniels, FCA, EA, MAAA  
Vice President and Managing Actuary

Diane Padernacht  
Associate Vice President and Actuarial Account  
Manager

Anthony Citerella  
Actuarial Consultant

## **DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

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### **VALUATION AS OF JANUARY 1, 2021**

#### **FLORIDA STATE REQUIREMENTS**

Florida requires that the funding of pension plans take into account:

1. Subsidized early retirement benefits.
2. Benefits continuing to accrue subsequent to expected retirement.
3. A current mortality table assumption with life expectancies and mortality improvement scales used in either of the two most recently published valuation reports for the FRS pension plan. However, the collar and risk class factors must be representative of the current plan's population.

Early retirement generally produced an actuarial gain for this plan based on the use of a uniform age 65 retirement assumption for everyone. With retirement rates now updated to a graded scale based on age, early retirements can create a loss for the plan. Benefits are reduced 5% per year for each year that early retirement precedes normal retirement.

The Late Retirement Benefit is the accrued benefit at the Late Retirement Date. The benefit forgone for the year that retirement is delayed is more valuable than the additional accrual.

Overtime pay in excess of 300 hours per plan year cannot be included in the definition of yearly compensation used for determining average compensation under the plan's benefit formula. Compensation must also exclude payments for accrued unused sick or annual leave. This rule is effective for non-collectively bargained service earned on/after 7/1/2011 or for service earned under collectively bargained agreements entered into on/after 7/1/2011.

A Summary Plan Description is to be distributed to each new member of the Plan, and to all other members, on a biennial basis.

The remainder of this report covers detailed actuarial valuation results, financial information, census information and statistics, and a summary of plan provisions.

A copy of this Report is to be furnished to the Division of Retirement within 60 days of the date the Pension Board of Trustees approves the report presented by the actuary, at the following address:

Division of Retirement  
Bureau of Local Retirement Systems  
Post Office Box 9000  
Tallahassee, Florida 32315-9000

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

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**VALUATION AS OF JANUARY 1, 2021**

**FLORIDA STATE REQUIREMENTS  
(continued)**

**STATEMENT BY ENROLLED ACTUARY**

This Actuarial Valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of part VII, Chapter 112, Florida Statutes and Chapter 60T-1 of F.A.C. There is no benefit or expense to be provided by the Plan and/or paid from the Plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the Valuation. All known events or trends which may require a material increase in Plan costs or contribution rates have been taken into account in the Valuation.

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Frederica S. Daniels, FCA, EA, MAAA  
EA # 20-07137

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Date

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**FINANCIAL STATEMENT AS OF 1/1/2021**

<b>I. Statement of Assets and Liabilities</b>	<u>1/1/2020</u>	<u>1/1/2021</u>
<b>(A) Assets</b>		
(1) Cash (and Money Market Funds)	\$ 124,642	\$ 635,638
(2) Receivables		
(a) Employer Contribution Receivable	\$ 0	\$ 0
(b) Participant Contribution Receivable	0	0
(c) Interest Receivable	0	0
(d) Investment Receivable	0	0
(e) Other	0	0
(g) Total Receivables	<u>\$ 0</u>	<u>\$ 0</u>
(3) Investments		
(a) Fixed Income	\$ 12,562,234	\$ 14,723,292
(b) Equities	35,512,845	40,270,418
(c) Alternative Investments (Real Estate)	3,441,367	2,664,512
(d) US Treasuries	0	0
(e) Other	0	0
(f) Total Investments	<u>\$ 51,516,446</u>	<u>\$ 57,658,222</u>
(4) Other Assets		
(a) Insurance Contracts	\$ 0	\$ 0
(b) Other	0	0
(c) Total Other Assets	<u>\$ 0</u>	<u>\$ 0</u>
(5) Total Assets	\$ 51,641,088	\$ 58,293,860
<b>(B) Liabilities</b>		
(1) Payables	\$ 22,510	\$ 24,142
(2) Other Liabilities	0	0
(3) Other Liabilities	0	0
(4) Total Liabilities	<u>\$ 22,510</u>	<u>\$ 24,142</u>
<b>(C) Net Assets</b>	\$ 51,618,578	\$ 58,269,718

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**FINANCIAL STATEMENT AS OF 1/1/2021**

**(Continued)**

**II. Statement of Receipts and Disbursements**

<b>(A) Net Assets at Beginning of Year</b>	\$	51,618,578
<b>(B) Receipts</b>		
(1) Contributions Received or Receivable		
(a) Employers	\$	710,835
(b) Employees		0
(c) Other		0
(d) Total Contributions	\$	710,835
(2) Income		
(a) Dividends and Interest	\$	889,549
(b) Net Realized Gain (Loss)		1,513,082
(c) Net Unrealized Gain (Loss)		5,975,524
(d) Other		0
(e) Total Income	\$	8,378,155
<b>(C) Disbursements</b>		
(1) Distribution of Benefits		
(a) Directly to Participants or Beneficiaries	\$	2,331,144
(b) Other to participants		0
(c) Other		0
(d) Total Distribution of Benefits	\$	2,331,144
(2) Expenses		
(a) Administrative and Professional Fees	\$	17,709
(b) Other Investment Expenses		88,997
(c) Total Expenses	\$	106,706
<b>(D) Net Income (loss)</b>	\$	6,651,140
<b>(E) Net Assets at Year End</b>	\$	58,269,718
<b>(F) Returns</b>		
(1) Net Investment Return		16.28%
(2) Gross Investment Return		16.51%

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**VALUATION RESULTS AS OF 1/1/2021**

**(A) Present Value of Future Benefits**

The value of all projected retirement, death, disability, and vested termination benefits expected to be paid to all current plan participants, discounted to the valuation date with interest, mortality, withdrawal, and disability decrements.

Active	\$	18,769,459
Terminated Vested		2,648,384
Retired		27,154,608
Total	\$	<u>48,572,451</u>

**(B) Entry Age Accrued Liability**

The portion of the present value of future benefit attributable to prior normal costs.

Active	\$	15,471,376
Terminated Vested		2,648,384
Retired		27,154,608
Total	\$	<u>45,274,368</u>

**(C) Valuation Assets** 58,269,718

**(D) Unfunded Accrued Liability** (12,995,350)

**(E) Entry Age Normal Cost**

The amount required to fund the present value of benefits as a level percent of pay from entry age to retirement age.

(1) Total EAN Normal Cost	\$	382,701
(2) Expected Employee Contributions		0
(3) Expected Expenses		18,000
(4) Total Employer Normal Cost	\$	<u>400,701</u>

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**DETERMINATION OF GAIN/(LOSS) AS OF 1/1/2021**

**(A) ASSET GAIN/(LOSS) AS OF 1/1/2021**

(1) Expected valuation assets as of 1/1/2021		
(a) Valuation assets as of 1/1/2020	\$	51,618,578
(b) Expected return on assets at 6.75%		3,484,254
(c) Expenses		(17,709)
(d) Contributions, including receivable		710,835
(e) Benefit Payments		(2,331,144)
(f) Net interest on (d) + (e), weighted for timing		(53,792)
(g) Total	\$	53,411,022
(2) Actual valuation assets as of 1/1/2021	\$	58,269,718
(3) Asset gain/(loss) as of 1/1/2021: (2) - (1)(g)	\$	4,858,696

**(B) LIABILITY GAIN/(LOSS) AS OF 1/1/2021**

(1) Expected EAN Accrued Liability as of 1/1/2021		
(a) EAN accrued liability as of 1/1/2020	\$	44,466,563
(b) Total normal cost		410,240
(c) Expected return at 6.75%		3,029,184
(d) Benefit Payments		(2,331,144)
(e) Net interest on (d), weighted for timing		(77,391)
(f) Total	\$	45,497,452
(2) Actual EAN accrued liability as of 1/1/2021	\$	45,274,368
(3) Liability gain/(loss) as of 1/1/2021: (1)(g) - (2)	\$	223,084
(4) Liability gain/(loss) due to assumption change	\$	0
(5) Liability gain/(loss) due to plan change	\$	0
(6) Liability experience gain/(loss): (3) - (4) - (5)	\$	223,084

**(C) TOTAL GAIN/(LOSS) AS OF 1/1/2021**

(1) Expected UAL as of 1/1/2021		
(a) UAL as of 1/1/2020	\$	(7,152,015)
(b) Total normal cost		410,240
(c) Expenses		17,709
(d) Expected return at 6.75%		(455,070)
(e) Contributions, including receivables		(710,835)
(f) Net interest on (e), weighted for timing		(23,599)
(g) Total	\$	(7,913,570)
(2) Actual UAL as of 1/1/2021	\$	(12,995,350)
(3) Total gain/(loss) as of 1/1/2021: (1)(g) - (2)	\$	5,081,780
(4) Total Experience gain/(loss) as of 1/1/2021: C(3) - B(4) - B(5)	\$	5,081,780
(5) Gain/(loss) due to contribution policy	\$	277,288
(6) Net total gain/(loss): (4) + (5)	\$	5,359,068

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**CONTRIBUTION REQUIREMENTS FOR PLAN YEAR ENDING DECEMBER 31, 2021**

The Plan has an Unfunded Accrued Liability using the Individual Entry Age Normal cost method. The Actuarially Determined Employer Contribution (ADC) will be the Plan's Normal Cost reduced by Expected Employee Contributions plus the sum of the amortization bases calculated below.

**I. Actuarially Determined Employer Contribution**

**(A) Charges**

(1) Employer Normal Cost		\$	400,701
(2) Outstanding Charge Base	\$	0	
(3) Amortization of Outstanding Charge Base			0
(4) Total Charges as of 1/1/2021: (1) + (3)		\$	400,701
(5) Total Interest on (4) to 12/31/2021		\$	27,047

**(B) Summary of the Annual Contributions**

(1) Total ADC as of 1/1/2021	\$	400,701
(2) Total ADC as of 12/31/2021	\$	427,748
(3) Expected Employee Contributions for the Plan Year	\$	0
(4) Expected Total Contributions as of 12/31/2021	\$	427,748

**II. Amortization Schedule**

None. The Plan's Unfunded Accrued Liability is \$0.

Description	Year Est.	Initial Amount	Outstanding Balance	Amortization Payment	Years Rem.
Unfunded Accrued Liability	2021	\$ -	-	\$ -	10.0

## DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT

### VALUATION AS OF JANUARY 1, 2021

#### ASOP 51 ASSESSMENT AND DISCLOSURE OF RISK

##### Additional Information Regarding Assessment and Disclosure of Risks

The valuation of pension liabilities requires the use of certain assumptions to estimate events that are expected to occur in the future. These events can be economic, non-economic and demographic in nature. When actual experience in the future differs from the expected experience there is a direct effect on future pension liabilities. This in turn can impact both the funded position of the pension plan as well as the actuarially determined contribution amount.

Certain variables carry more risk than others. Included below is a brief explanation of those variables that can potentially have a significant effect on the plan's future financial condition.

##### Actuarially Determined Contribution Compared to Actual Contribution

The ADC is calculated using an actuarial funding method. The ADC can vary from year to year as actual experience differs from that expected. The funding method's intent is that if the ADC is deposited by the plan sponsor each year, then the plan would be sufficiently funded over the life of the plan so that promised benefits could be paid to all participants. A comparison of the ADC vs. contributions deposited by the plan sponsor for the most recent plan years are as follows:

Fiscal Year	ADC	Contribution
1/1/2020 - 12/31/2020	\$ 457,146	\$ 710,835
1/1/2019 - 12/31/2019	\$ 1,128,340	\$ 1,128,340
1/1/2018 - 12/31/2018	\$ 498,028	\$ 498,025

The Sponsor currently contributes at least 100% of the ADC. However, if actual contributions deposited are consistently lower than the ADCs then, barring unexpected actuarial gains, future contributions will need to be greater. However, if actual contributions exceed the ADC, then the plan's funded status will improve.

##### Risk Assessments

###### Investment Volatility Risk

There is an expectation that the assets of the pension plan will return an average long-term rate each year. If the actual annual net return on plan assets is consistently below the expected return, then both the funded ratio and ADC would be negatively impacted – the funded ratio would be lower than expected and the ADC would be higher. For example, an asset "loss" (where loss is the value relative to expected growth) of 10% (about \$5,827,000 based on current values) in a given year would hypothetically cause the amortization portion of the ADC to increase on average by about \$820,000 for each of the next 10 years. Also, the funded ratio would decrease by about 12.9 percentage points. An asset "gain" of 10% would result in a decrease in the amortization of \$820,000 for 10 years and the funded ratio would increase by 12.9%.

**VALUATION AS OF JANUARY 1, 2021**

**ASOP 51 ASSESSMENT AND DISCLOSURE OF RISK  
(Continued)**

**Investment Return Risk**

The interest rate (which is equal to the Plan's expected return on assets rate) is used to discount the projected benefit payments from the Plan to calculate the present value of the liabilities (Accrued Liability). Decreases in the interest rate (as noted above) will lead to increases in the Accrued Liability and the Normal Cost, which may increase contribution requirements. As an example, a decrease of 25 basis points would lead to an increase in Accrued Liability of about 2.9% and in Employer Normal Cost of about 7.0%, yielding an increase in the ADC of about \$214,000, presuming the plan is not fully-funded.

**Longevity Risk**

To the extent participants live longer than expected relative to the mortality assumptions, liabilities (and, thus, the ADC) will increase. The Florida Retirement System ("FRS") Plan adopted new mortality table and projection assumptions a few years ago that are required to be used for other defined benefit pension plans in the State of Florida for funding valuations. The FRS Plan will likely update and adopt new tables every five years as data is collected. Future improvements in mortality could further increase the accrued liability.

**Demographic Risk**

Several other assumptions are made with respect to anticipated plan experience, including rates of termination, disability, and the retirement age. To the extent actual experience differs from expected, plan liabilities and normal cost can vary up or down.

**Salary Increases**

Salary increases impact the cost of the plan and are reflected in the liabilities and the normal cost. Increases above that which are assumed will result in experience losses in the following year, while the inverse is true – lower than expected raises can lead to a decrease in normal costs. For example, if the annual salary increase assumption of 4.50% was increased to 5.50%, the Accrued Liability would increase 1.4% and the Employer Normal Cost would increase about 18.0%, adding another \$162,000 to the ADC. If instead, the assumption was decreased to 3.50%, the Accrued Liability would decrease by 1.5% and the Employer Normal Cost would decrease by 15.9%.

As a reminder, the liabilities included in the actuarial valuation report are based on those participants covered under the pension plan as of the valuation date. No assumption is included for employees expected to enter the pension plan in the future. To the extent you expect a significant increase or decrease in the future participant population, the pension plan liability and annual normal cost would be expected to fluctuate in a similar manner.

**Expense Load**

Certain expenses related to the administration of the plan are often paid out of plan assets (to the extent allowed by law). As a way to ensure plan assets are not depleted over time due to administrative costs, an expense load (usually a flat dollar amount or a small % of plan assets) may be added to the plan's normal cost,

## DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT

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### VALUATION AS OF JANUARY 1, 2021

#### ASOP 51 ASSESSMENT AND DISCLOSURE OF RISK (Continued)

which is part of the contribution made by the plan sponsor each year. When actual administrative expenses for a given year are different from the assumed load amount, the plan will experience gains or losses that will be factored into the following year's contribution levels. The Plan's current expense load is prior year administrative expenses rounded up to the nearest thousand.

#### Plan Maturity Measures

Certain statistics can help to gauge the financial strength of the pension plan as well as to help identify risk that the plan might be subject to as it matures over time. Certain plan maturity statistics for the current valuation year are included below for your review and analysis. Historical statistics incorporating some of the prior year results may be found in the Executive Summary section of this report.

#### Ratio of Retiree Liability to Total Plan Liability

**Ratio = \$27,155,000 / \$45,274,000 = 60.0%**

A pension plan with a high ratio (for example, more than 50%) is considered to be a relatively mature plan since the primary liability is associated with former employees who are now in pay status. As a result, a large amount of plan assets is disbursed to retired participants to satisfy the monthly payments due to this group. Plan sponsors should consult with the investment advisors to the pension plan to determine whether plan assets are invested accordingly to account for the benefit outflows.

#### Duration of the Actuarial Accrued Liability

The duration for your pension plan is approximately: 11.4, representing the average percentage change in the plan's actuarial accrued liability for a 100bp change in the interest rates used to measure plan liabilities. In general, pension plans with a younger participant group tend to have a larger duration than pension plans with an older population. Plans with a larger duration have liabilities that change more than pension plans with smaller duration when interest rates change. Also, changes in plan liabilities when interest rates drop will be larger than the changes in plan liabilities when interest rates rise by similar amounts. For example, a 100-basis point decrease in interest rates will increase your plan's actuarial accrued liability by 12.4% while a 100-basis point increase in interest rates will decrease your plan's actuarial accrued liability by -10.4%.

#### Ratio of Actuarially Determined Contribution to Total Covered Payroll

**Ratio = \$428,000 / \$4,125,000 = 10.0%**

Many plan sponsors find it helpful to look at the cost of the pension plan (on a cash basis) as a percentage of total covered payroll. Covered payroll is generally intended to mean total compensation for those employees actively accruing plan benefits during the year plan. An increase in this ratio (ADC/payroll) could be due to various different factors which may require further analysis. For example, the increase could be a result of a decline in the active population of a plan where participation for new employees is frozen - as the active group decreases over time, compensation for the remaining population increases due to service/raises/promotions.

## DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT

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### VALUATION AS OF JANUARY 1, 2021

#### ASOP 51 ASSESSMENT AND DISCLOSURE OF RISK (Continued)

##### Ratio of Expected Outflows to Plan Assets

$$\text{Ratio} = \$2,538,000 / \$58,270,000 = 4.4\%$$

Outflows are defined as: Benefit Payments + Investment Expenses + Administrative Expenses. This ratio measures the liquidity and time-horizon of the plan's assets. It can be used as one of the considerations of how much of the plan's assets should be allocated to short-term fixed income (or cash). Having sufficient amounts of cash on-hand within plan assets better allows for monthly benefit payments (and expenses, if applicable) to be made throughout the year without having to liquidate funds for cash flow at unexpected points in time.

##### Ratio of Expected NET Outflows to Plan Assets

$$\text{Ratio} = (\$2,110,000) / \$58,270,000 = -3.6\%$$

Net Outflows are defined as: Contributions – Outflows. This ratio represents the net cash flow of the Plan. A positive ratio means more cash is coming into plan assets than being paid out during the plan year, which is referred to as 'positive cash flow'. Thus, the opposite is true – a negative ratio means 'negative cash flow'. As a defined benefit plan matures, it (by its nature) becomes a negative net cash flow vehicle, so this ratio can be a measure of plan maturity.

##### Funded Status

$$\text{Ratio} = \$58,270,000 / \$45,274,000 = 128.7\%$$

This statistic measures how well funded the pension plan is as of January 1, 2021 and is based on the ratio of the plan's market value of assets to the actuarial accrued liability. The funded status is impacted primarily by investment returns, interest rate changes, and pension plan funding policies. Additional factors, such as plan benefit or assumption changes, plan demographics and actual experiences, can also impact the funded status from year to year. Investment returns lower than expected may result in a ratio decrease. A drop in the interest rate would result in liability increases and the opposite occurs when interest rates increase. To the extent that more or less than the actuarially determined contribution is deposited to plan assets during the year, then the plan would be better or worse funded than expected.

##### Summary of Risk Assessments and Maturity Measures

While the risk due to some variables may easily be understood or predictable, there are many risks that are much more variable in nature, making it quite difficult to hedge against drastic changes in the plan's funded status. While past actuarial and demographic experience is not a perfect indicator of what the future will bring, it does provide a strong foundation for setting assumptions related to risk.

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**PARTICIPANT DATA AS OF 1/1/2021**

**(A) Active Employees Under Retirement Age**

(1) Number		56
(2) Total Annual Compensation	\$	4,125,334
(3) Average Monthly Accrued Benefit	\$	2,216.21
(4) Average Monthly Projected Benefit	\$	4,482.39
(5) Average Attained Age		54.41
(6) Average Prior Credited Service		23.68

**(B) Other Active and Inactive Employees**

(1) Number		7
(2) Average Monthly Accrued Benefit	\$	2,573.51
(3) Average Attained Age		69.71
(4) Average Prior Credited Service		27.17

**(C) Employees Transferred to the Money Purchase Plan**

(1) Number		12
(2) Average Monthly Accrued Benefit	\$	125.07
(3) Average Attained Age		46.65

**(D) Terminated deferred vested, deceased, and disabled employees**

(1) Number		61
(2) Average Monthly Accrued Benefit	\$	505.66
(3) Average Attained Age		50.93

**(E) Retired employees, beneficiaries, and contingent annuitants**

(1) Number		140
(2) Average Monthly Accrued Benefit	\$	1,421.98
(3) Average Attained Age		71.72

**(F) Reconciliation of Participant Status**

	<u>Active</u>	<u>Inactive</u>	<u>Transfer to MP Plan</u>	<u>Deferred Vested</u>	<u>In Pay Status</u>	<u>Total</u>
As of 1/1/2020	70	0	12	63	136	281
Death without beneficiary					(5)	(5)
Death with beneficiary					(1)	(1)
Beneficiary					1	1
Retired	(7)			(2)	9	
As of 1/1/2021	63	0	12	61	140	276

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**SUMMARY OF PLAN PROVISIONS**

<u>Effective Date:</u>	July 1, 1952
<u>Plan Year Beginning:</u>	January 1, 2021
<u>Plan Sponsor:</u>	Orange County Library District
<u>Eligibility</u>	
<u>Requirements:</u>	Minimum Age: 0; Minimum months of service: 12
<u>Entry Dates:</u>	Date of meeting the requirements for employees hired on or before 12/31/2006. No participants will be allowed to enter the Plan after 1/1/2008.
<u>Year of Service:</u>	All days worked as a full-time employee. Measured as elapsed time from Date of Participation.
<u>Year of Vesting Service:</u>	All days worked as a full-time employee. Measured as elapsed time from date of hire as a full-time employee.
<u>Normal Retirement Date:</u>	Day participant turns 65 or, if later, completion of 4 Years of Vesting Service in the Plan.
<u>Normal Retirement Benefit</u>	
<u>Benefit Formula:</u>	2% of average monthly compensation times Years of Service up to 30 years.
<u>Average Monthly Compensation:</u>	Monthly average of compensation for the 5 years of highest compensation of the last 10 years. Maximum annual compensation: \$290,000 for 2021.
<u>Maximum Annual Benefit:</u>	\$235,000 as adjusted per IRC Sec. 415 for retirement age other than Social Security Retirement Age and annuity form.
<u>Normal Form of Benefit:</u>	Life Annuity with modified cash refund.
<u>Accrued Benefit:</u>	Normal Retirement Benefit based on earnings and Years of Service to date.
<u>Cost of Living</u>	2% per year following year of retirement (prorated for partial year in initial year of retirement).
<u>Early Retirement Benefit:</u>	Minimum Age: 55 Minimum Service: 9 Years of Service Benefit Amount: Accrued Benefit, reduced by 0.417% for each month by which early retirement precedes normal retirement.
<u>Pre-Retirement Death Benefit:</u>	Return of employee contributions with interest.
<u>Vested Termination Benefit:</u>	Upon termination after 4 Years of Vesting Service, 100% of the Accrued Benefit, deferred to Normal Retirement Date.

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

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**VALUATION AS OF JANUARY 1, 2021**

**SUMMARY OF PLAN PROVISIONS**  
**(Continued)**

	A)
	(1)
	(a)

**VALUATION AS OF JANUARY 1, 2021**

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS**

**Actuarial Cost Method**

Individual entry age normal, level percent of pay. Under this method the annual cost is equal to the normal cost plus an amortization of unfunded accrued liabilities over an open period of 10 years.

The normal cost is the sum of individual normal costs, determined as a level percentage of compensation which would have been necessary to fund the employee's projected retirement, death and withdrawal benefits, from entry age (the age at which the employee would have entered the plan had it been in effect on his employment date), to his retirement age. Thus, the dollar normal cost is expected to increase with the salary projection assumption.

The actuarial accrued liability is the accumulation, based on the actuarial assumptions, of all assumed prior normal costs. Thus, it represents the amount of reserves, which would be held by the Plan, had it always been in effect for the present group of participants and had Plan experience followed that predicted by the actuarial assumptions. The unfunded accrued liability is the excess, if any, of the accrued liability over the Plan assets.

Actuarial gains and losses arising from differences between Plan experience and that predicted by the actuarial assumptions, as measured by the difference between actual and expected unfunded accrued liabilities, will be recognized over 10 years as part of the unfunded accrued liability amortization payment.

**Attribution Parameters**

Attribution parameters determine how growth in the benefit formula is allocated to years of service.

Accrual rate proration, by component – This method attributes the benefit separately for each component of the benefit formula, based on the credited service. If there are no accrual definitions in the benefit formula, then the entire projected benefit is assigned to past service (and considered fully accrued as of the valuation date). This results in "natural" or "direct differencing" attribution.

**Asset Valuation Method**

The asset valuation method measures the current market value of assets, as reported by the Trustee, plus any accrued contributions.

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS**

**(Continued)**

Interest Rate: 6.75%

This return reflects the anticipated gross long-term rate of return on plan assets based on the plan's current and expected future asset portfolio, as supported by the plan's investment advisor. The Plan Administrators have determined that a 6.75% rate of return is reasonable for the current year, each of the next several years, and for the long term thereafter. This rate is reasonable in our opinion.

Mortality: PubG-2010, Below-Median, Amounts-Weighted Mortality Tables (by gender), with generational improvement scale MP2018 (adopted with the 1/1/2020 valuation)

Retirement Age: The retirement assumptions are now graded rates by age, shown in the chart below, and were updated effective with the 1/1/2020 valuation based on the experience study completed in April of 2019. The average age at commencement among all current retirees is 61. The average age at commencement for those individuals who retired in the past 5 years is about 63. In addition, there are currently 7 actives and 1 terminated vested participant who are past age 65 and have yet to commence payments.

Age	Rate	Age	Rate	Age	Rate
55	15%	61-63	10%	66-6	25%
56-59	5%	64	20%	68-74	20%
60	15%	65	40%	75	100%

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS  
(Continued)**

Withdrawal Rates: The assumption currently incorporates rates from the Hartford Life Turnover Table 1. The actual experience of the Plan has generally been in-line with the assumption, as reviewed with the experience study completed in April of 2019.

Age	<u>Sample Pre-Retirement Withdrawal Rates</u>	
	Male	Female
20	10.000%	15.000%
25	10.000%	15.000%
30	7.500%	10.000%
35	5.000%	7.500%
40	3.000%	5.000%
45	1.500%	2.500%
50	0.000%	0.000%
55	0.000%	0.000%
60	0.000%	0.000%

The assumption is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Salary Scale Projections 4.5% per annum  
The assumption selected is consistent with the plan sponsor’s current compensation practice, as discussed and analyzed with the experience study completed in April of 2019. No significant changes are expected in the near future.

Disability Rates: None

Expense Loading: \$18,000, for prior year administrative expenses, rounded up to the nearest \$1,000

Payroll Growth Rate: None (for amortization purposes)

Cost of Living Increases: The Plan provides for an annual COLA of 2.0% per annum. The valuation reflects an assumption of 2.0% per annum, as an estimate of the long-term COLA increases.

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS**

**(Continued)**

<u>Long-Term Inflation:</u>	The assumption of 2.0% follows the current plan provisions.
<u>Maximum Compensation:</u>	Increases in this assumption correspond to the expectation in inflation.
<u>Maximum Benefit:</u>	Increases in this assumption correspond to the expectation in inflation.
<u>Marital Assumption:</u>	A. 80% of population is married B. 80% of married participants elect a 50% Joint & Survivor annuity payment upon retirement C. Spouses are assumed to be of the opposite gender of the participant D. Husbands are assumed to be 3 years older than wives
<u>Plan Provisions Not Valued:</u>	None
<u>Additional Disclosure Items:</u>	<p>These assumptions are reflective of the participant data. We will continue to periodically review the population and retirement elections and make any appropriate updates to these assumptions.</p> <p>Vested benefits are based on the Plan document's vesting schedule based on Years of Vesting Service. Please refer to the Summary of Plan Provisions section of this report for requirements for particular benefits.</p> <p>Early retirement subsidies are only valued once participants become eligible by meeting the specified requirements. Please refer to the Summary of Plan Provisions section of this report for such requirements.</p> <p>Death benefits are treated as vested benefits for liability calculation purposes.</p>

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS**

This exhibit is intended to satisfy Section 112.63 of the Florida Statutes. Please note that some of the information required by Chapter 22D-1 rules governing actuarial reports is located in attached Exhibits.

**I. Participant Data**

	<u>1/1/2020</u>	<u>1/1/2021</u>
<b>(A) Number included</b>		
(1) Active	70	63
(2) Inactive	12	12
(3) Vested Terminations	63	61
(4) Retirees (inc. Beneficiaries)	136	140
(5) Total	<u>281</u>	<u>276</u>
<b>(B) Total annual payroll of active employees included</b>	\$ 3,880,611	\$ 4,125,334
<b>(C) Balance of employee contributions</b>	\$ 56,136	\$ 46,240

**II. Assets**

<b>(A) Actuarial Value</b>	\$ 51,618,578	\$ 58,269,718
<b>(B) Market Value</b>	\$ 51,618,578	\$ 58,269,718

**III. Liabilities**

<b>(A) Present Value of Accrued Benefits</b>		
(1) Total Accrued	\$ 39,059,292	\$ 40,287,413
(2) Total Vested	\$ 39,059,292	\$ 40,287,413
<b>(B) Unfunded Actuarial Accrued Liability</b>	\$ 0	\$ 0
<b>(C) Present Value of Active Members</b>		
(1) Future Salaries at Present Age	\$ 47,248,463	\$ 44,036,451
(2) Future Employee Contributions at Present Age	\$ 0	\$ 0
<b>(D) Breakdown of the Present Value of Future Benefits</b>		
(1) Active Participants	\$ 19,700,663	\$ 18,769,459
(2) Retired Members	25,767,438	27,154,608
(3) Terminated Vested / Inactive	2,651,237	2,648,384
(4) Total	<u>\$ 48,119,338</u>	<u>\$ 48,572,451</u>
<b>(E) PV of Future Contributions from the Library</b>	\$ 0	\$ 0

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS  
(Continued)**

	1/1/2020	1/1/2021
<b>(F) Present Value of Benefits for Active Members</b>		
(1) Retirement Decrement	\$ 19,630,674	\$ 18,716,723
(2) Termination/Vesting	63,821	47,680
(3) Death Decrement	6,168	5,056
(4) Disability	0	0
(5) Return of Contributions	0	0
(6) Total	\$ 19,700,663	\$ 18,769,459
<b>(G) Accrued Liability for Active Members</b>		
(1) Retirement Decrement	\$ 16,021,070	\$ 15,451,823
(2) Termination/Vesting	21,717	15,337
(3) Death Decrement	5,101	4,217
(4) Disability	0	0
(5) Return of Contributions	0	0
(6) Total	\$ 16,047,888	\$ 15,471,377
<b>(H) Normal Cost for Active Members</b>		
(1) Retirement Decrement	\$ 397,521	\$ 372,759
(2) Termination/Vesting	12,577	9,826
(3) Death Decrement	142	116
(4) Disability	0	0
(5) Return of Contributions	0	0
(6) Total	\$ 410,240	\$ 382,701
<b>IV. Pension Cost</b>		
<b>(A) Actuarially Determined Contribution (ADC)</b>		
(1) Normal Cost	\$ 428,240	\$ 400,701
(2) Amortization Payment	0	0
(3) Interest on (1) + (2)	28,906	27,047
(4) Total	\$ 457,146	\$ 427,748
<b>(B) ADC as a percent of payroll</b>	11.78%	10.37%
<b>(C) Employee Contributions</b>	\$ 0	\$ 0
<b>(D) Employee Contributions as a percent of payroll</b>	0.00%	0.00%
<b>(E) Employer Contributions</b>	\$ 457,146	\$ 427,748
<b>(F) Employer Contributions as a percent of payroll</b>	11.78%	10.37%

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS  
(Continued)**

<b>V. Past Contributions</b>	Plan Year Ending 12/31/2019	Plan Year Ending 12/31/2020
<b>(A) Actuarially Determined Contributions</b>		
(1) Employees	\$ 0	\$ 0
(2) Employer	1,128,340	457,146
(3) Total	\$ 1,128,340	\$ 457,146
<b>(B) Actual Contributions</b>		
(1) Employees	\$ 0	\$ 0
(2) Employer	1,128,340	710,835
(3) Total	\$ 1,128,340	\$ 710,835

**VI. SALARY AND INVESTMENT EXPERIENCE COMPARISONS**

**(A) Comparison of Actual and Assumed Salary Increases**

PYE	Actual	Assumed
12/31/2020	1.93%	4.50%
12/31/2019	4.50%	4.50%
12/31/2018	4.25%	4.50%
12/31/2017	3.70%	4.50%
12/31/2016	3.57%	4.50%
12/31/2015	3.01%	5.00%
12/31/2014	3.28%	5.00%
12/31/2013	3.89%	5.00%
12/31/2012	0.77%	5.00%
12/31/2011	0.09%	5.00%

**(B) Comparison of Actual and Assumed Investment Returns**

PYE	Actuarial	Assumed
12/31/2020	16.28%	6.75%
12/31/2019	21.60%	6.75%
12/31/2018	-7.32%	6.75%
12/31/2017	15.04%	6.75%
12/31/2016	7.49%	6.75%
12/31/2015	-0.63%	7.00%
12/31/2014	6.28%	7.00%
12/31/2013	18.38%	7.00%
12/31/2012	12.01%	7.00%
12/31/2011	-1.16%	7.00%

**DEFINED BENEFIT PENSION PLAN FOR EMPLOYEES OF THE ORANGE COUNTY LIBRARY DISTRICT**

**VALUATION AS OF JANUARY 1, 2021**

**COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS  
(Continued)**

**VII. Disclosure**

All benefits provided by the Plan have been taken into account in preparing the actuarial valuation. Additional participant reconciliation and demographic information is located in separate exhibits in this report. Also, all

**VII. FOUR YEAR SCHEDULE OF UNAMORTIZED LIABILITIES**

<u>Date Est.</u>	<u>1/1/2021</u>	<u>1/1/2022</u>	<u>1/1/2023</u>	<u>1/1/2024</u>	<u>Final Year</u>
1/1/2021	0	0	0	0	2030