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St. Clair County Employees' Retirement System

12/31/2019 Funding Valuation Management Summary

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Certification

This report was prepared for St. Clair County to summarize the results of the 12/31/2019 valuation relating to the St. Clair County Employees' Retirement System and may not be appropriate for other uses. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than the intended use.

Except where indicated otherwise, the results included in this report are based on the same data, assumptions, methods, and plan provisions as the forthcoming 12/31/2019 funding valuation.

This report has been prepared in accordance with generally accepted actuarial principles and practice.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States.

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Plan Highlights

1 Changes

- Great asset return at 18.0%
- Small overall demographic loss
- Interest rate update from 7.50% to 7.00%
- Assumption updates from experience study

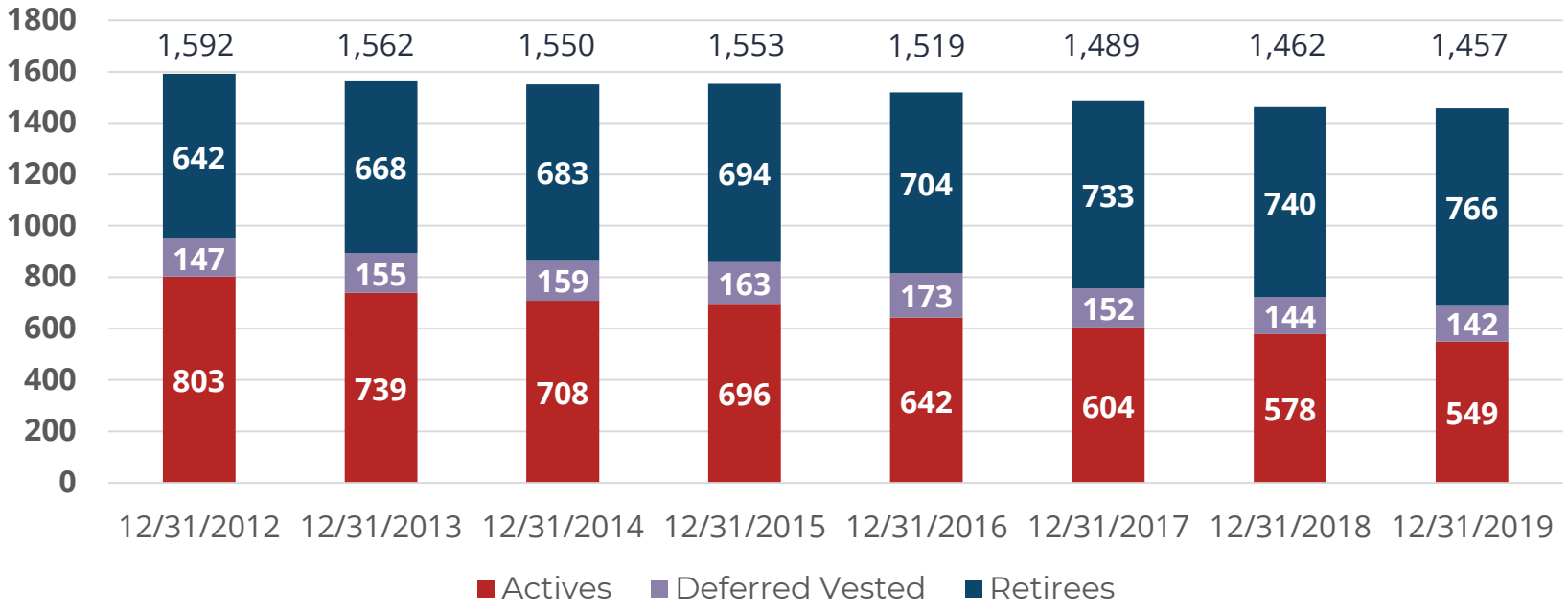
2 Current Year

- Funded ratio reduced from 91.4% to 85.4% - Actuarial Value Basis
- Funded ratio increased from 83.4% to 86.1% - Market Value Basis
- Recommended contribution increased from $5.7 million to $7.5 million

3 Looking Ahead

- 2020 asset returns
- Benefit statements
- Closed plan demographics

Participant Information

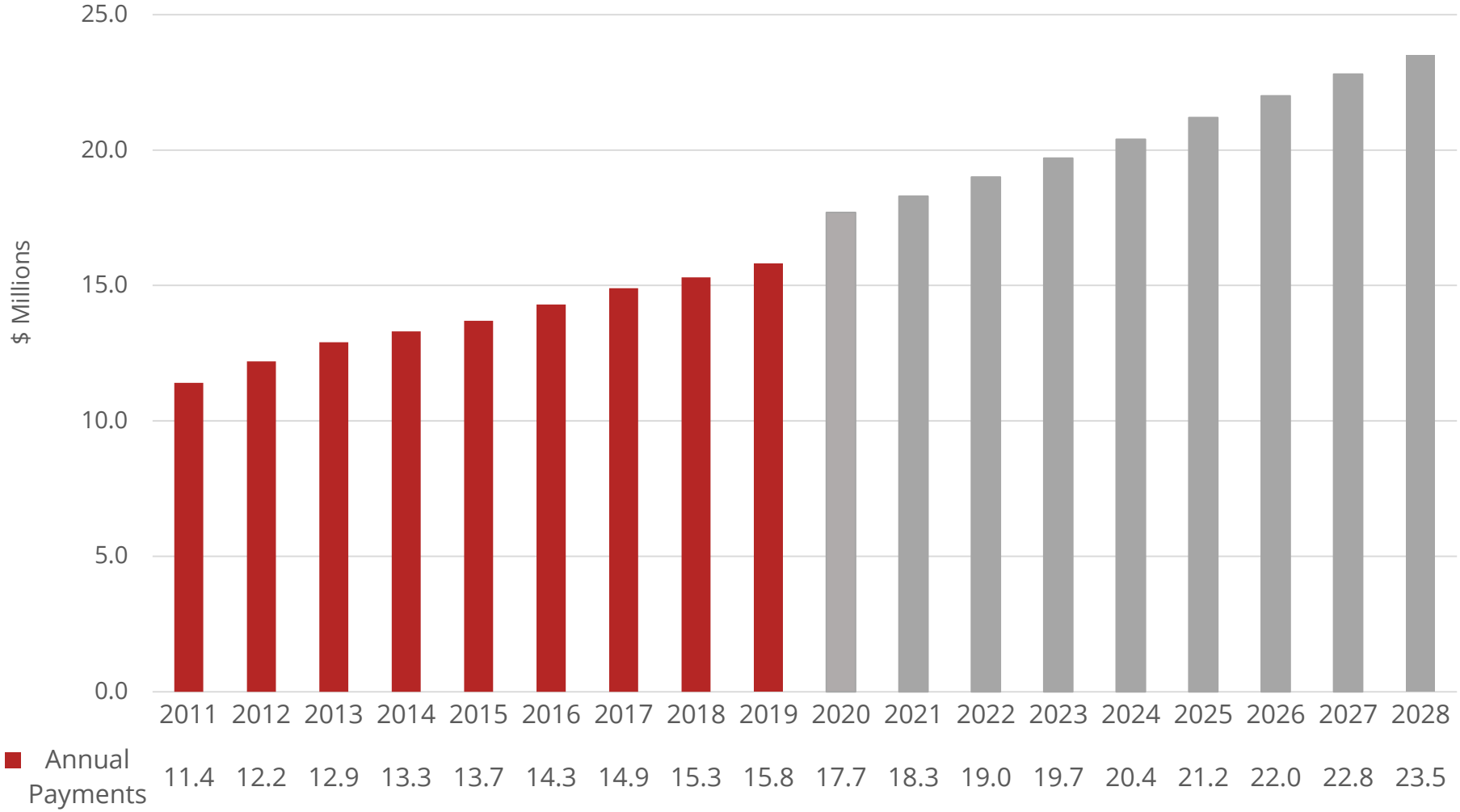


Active Demographics	2012	2013	2014	2015	2016	2017	2018	2019
Average Age	46.2	46.8	47.1	47.5	48.0	48.6	49.2	49.6
Average Service	12.1	12.6	13.1	13.5	14.2	14.8	15.5	16.2
Average Plan Compensation	$50,454	$51,330	$52,744	$53,777	$55,579	$56,587	$58,248	$61,286

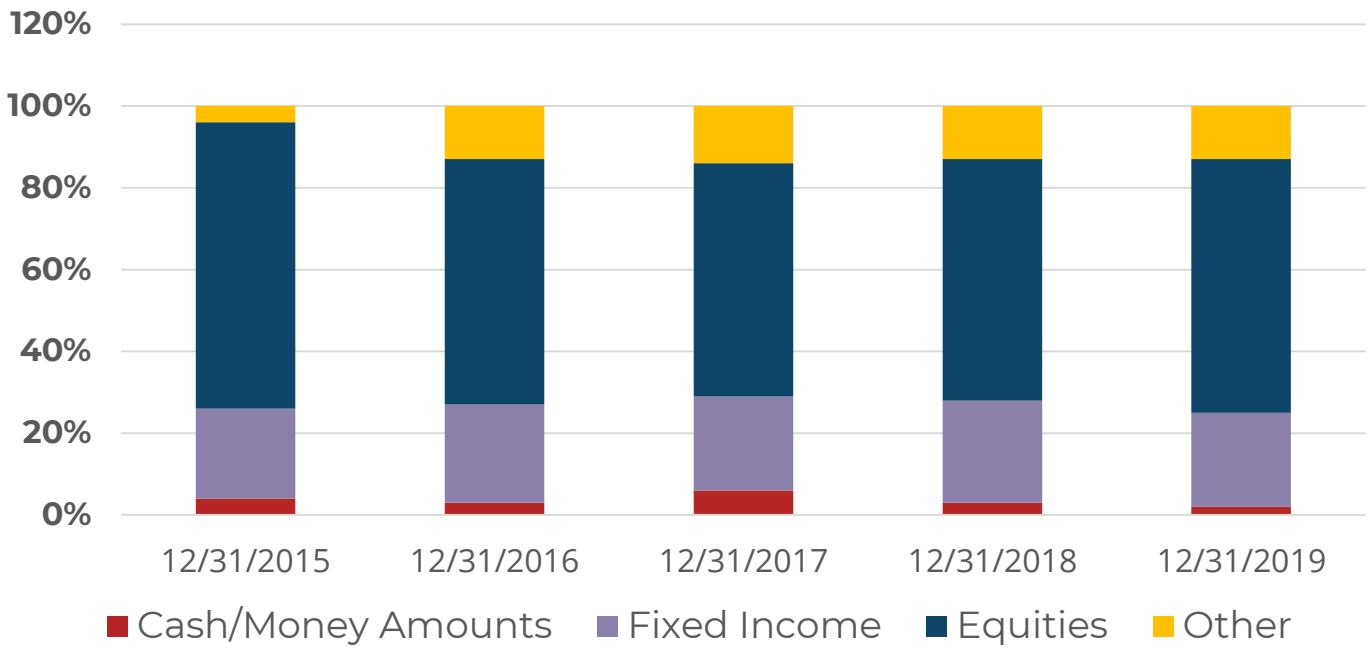
Participant Information

December 31, 2019	General	Mental Health	Road Commission	Total
Actives				
Number	349	148	52	549
Average Age	49.3	48.7	53.5	49.6
Average Service	16.7	13.1	21.3	16.2
Average Pay	$60,255	$62,761	$64,007	$61,286
Estimated 2020 Pay	$21,031,218	$9,540,120	$3,268,504	$33,839,842
Estimated 2021 Pay	$20,220,735	$8,920,174	$2,977,119	$32,118,028
Retirees				
Number	512	124	130	766
Average Age	71.2	69.6	72.8	71.2
Total Monthly Benefits	$892,092	$194,289	$227,375	$1,313,755
Terminated Vested				
Number	73	60	9	142
Average Age	50.2	50.0	51.2	50.2
Total Monthly Benefits	$58,143	$54,039	$7,817	$119,998
Return of Contributions				
Number	9	11	1	21
Total Benefits	$51,733	$96,049	$116	$147,898

Annual Benefit Payments

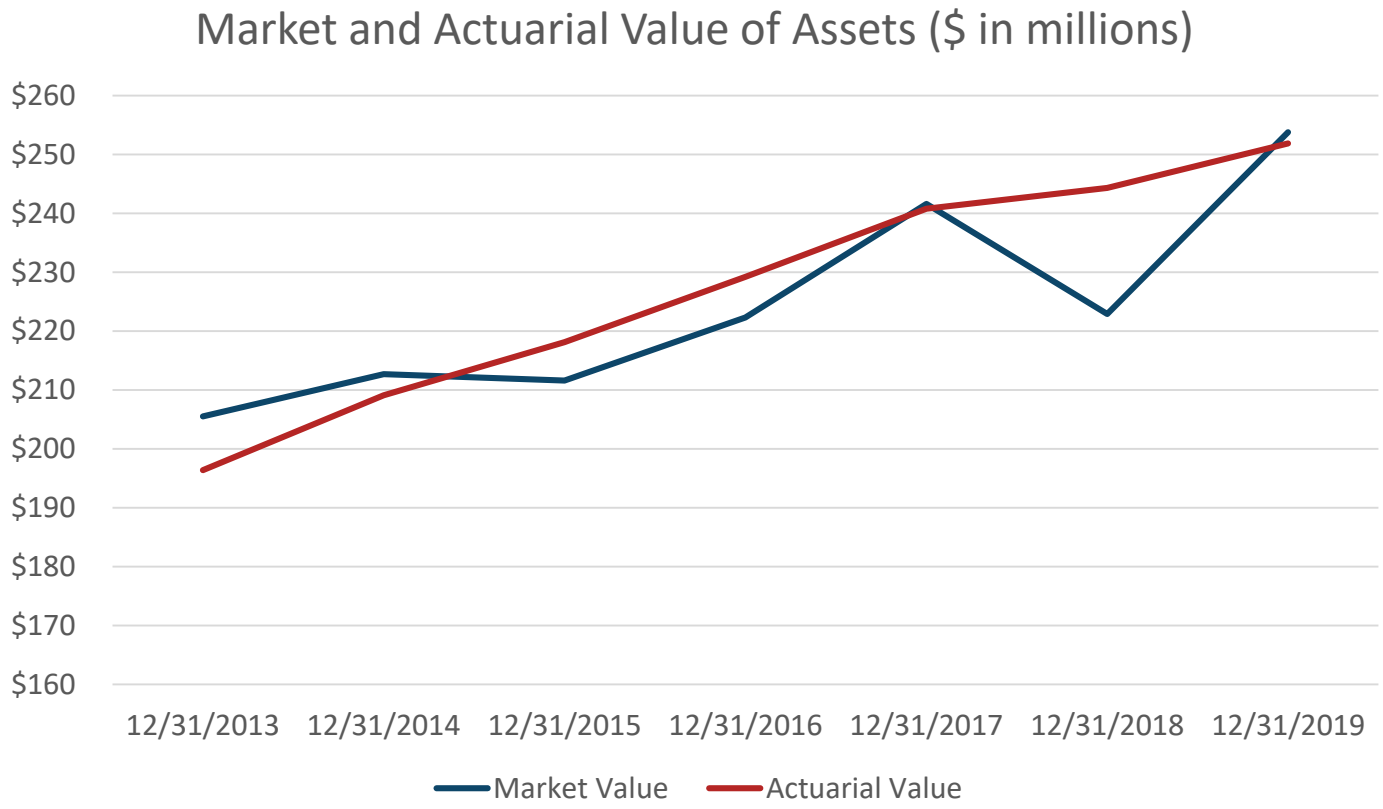


Asset Class Allocation



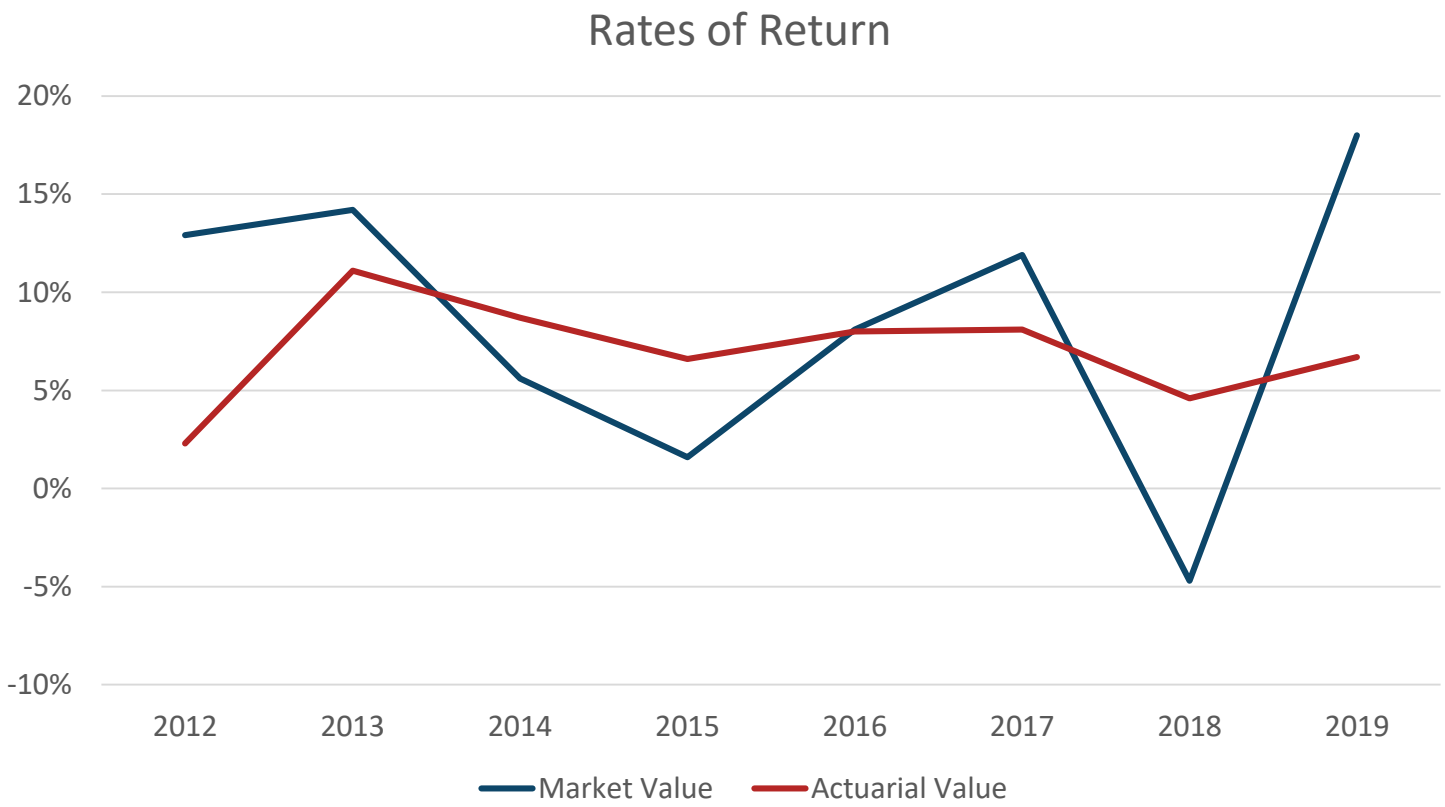
	2015	2016	2017	2018	2019
Cash/Money Amounts	4%	3%	6%	3%	2%
Fixed Income	22%	24%	23%	25%	23%
Equities	70%	60%	57%	59%	62%
Other	4%	13%	14%	13%	13%

Asset Information



	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019
Market Value	$205.5	$212.7	$211.6	$222.3	$241.6	$222.9	$253.8
Actuarial Value	$196.4	$209.1	$218.1	$229.2	$240.8	$244.3	$251.9
Actuarial Value / Market Value	96%	98%	103%	103%	100%	110%	99%

Asset Information



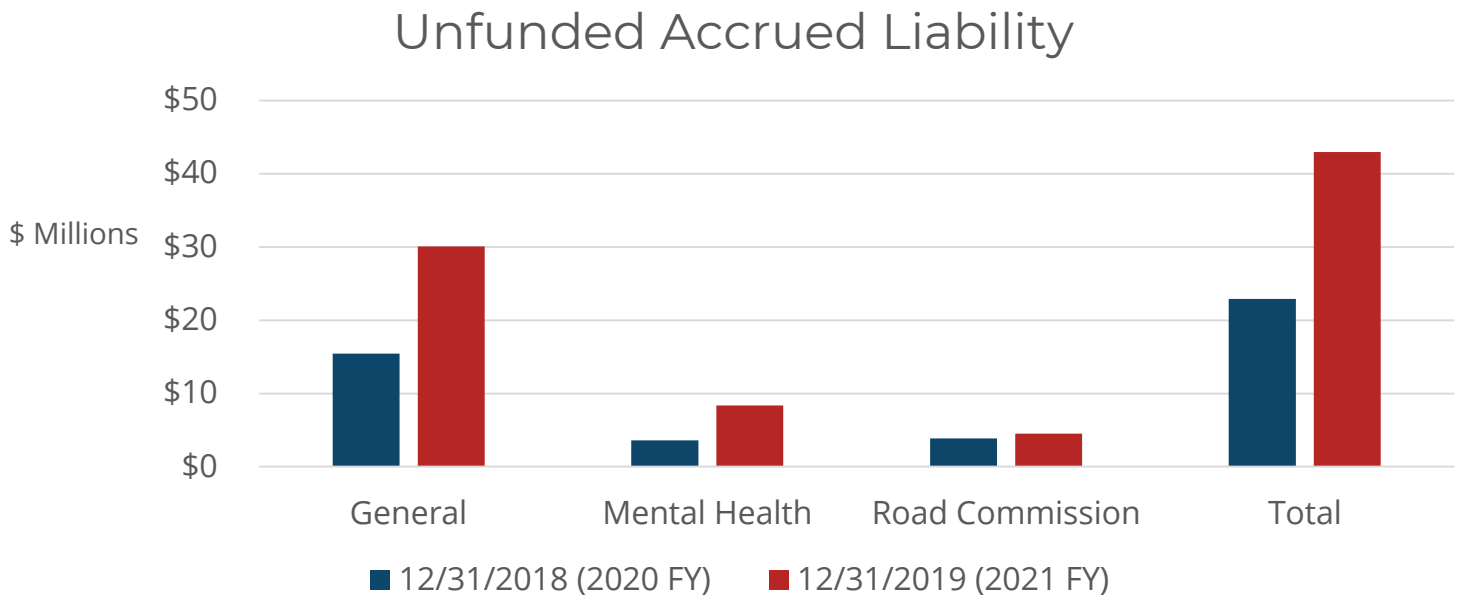
Annual Returns	2012	2013	2014	2015	2016	2017	2018	2019
Market Value	12.9%	14.2%	5.6%	1.6%	8.1%	11.9%	-4.7%	18.0%
Actuarial Value	2.3%	11.1%	8.7%	6.6%	8.0%	8.1%	4.6%	6.7%

ACTUARY'S COMMENT	Over the past 8 years, the average rate of return on a Market Value Basis is 8.2% and the average rate of return on an Actuarial Value basis is 7.0%

Actuarial Value of Assets Reconciliation

December 31, 2019	General	Mental Health	Road Commission	Total
Actuarial Value of Assets, 12/31/2018	$161,261,832	$44,566,307	$38,452,080	$244,280,219
Employer Contributions	$3,555,904	$1,071,447	$1,067,495	$5,694,846
Employee Contributions	$1,074,567	$480,922	$274,675	$1,830,164
Benefit Payments	($10,696,956)	($2,310,246)	($2,766,481)	($15,773,683)
Expenses	($137,219)	($37,922)	($32,719)	($207,860)
Investment Income	$10,578,429	$2,954,176	$2,523,117	$16,055,722
Actuarial Value of Assets, 12/31/2019	**$165,636,557**	**$46,724,684**	**$39,518,167**	**$251,879,408**

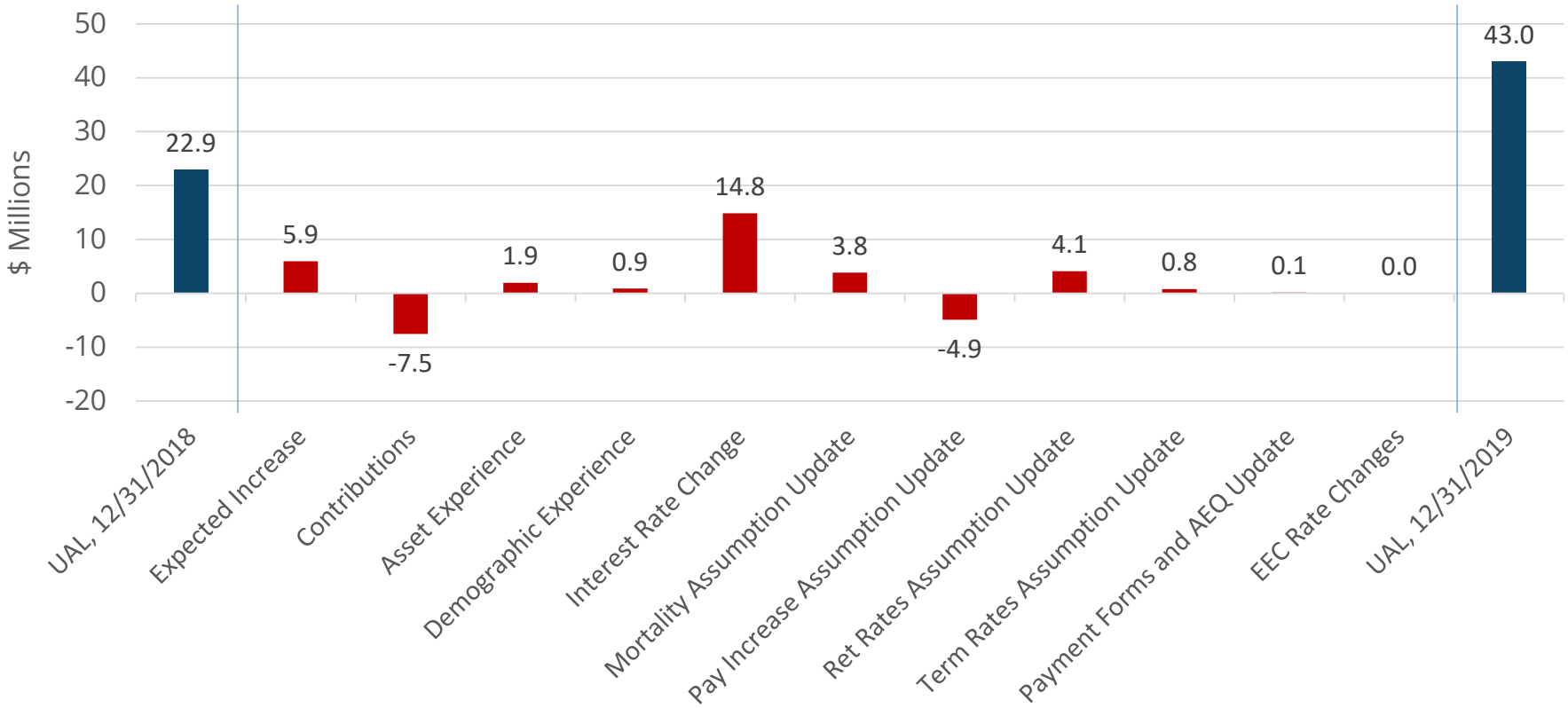
Liabilities and Funded Position



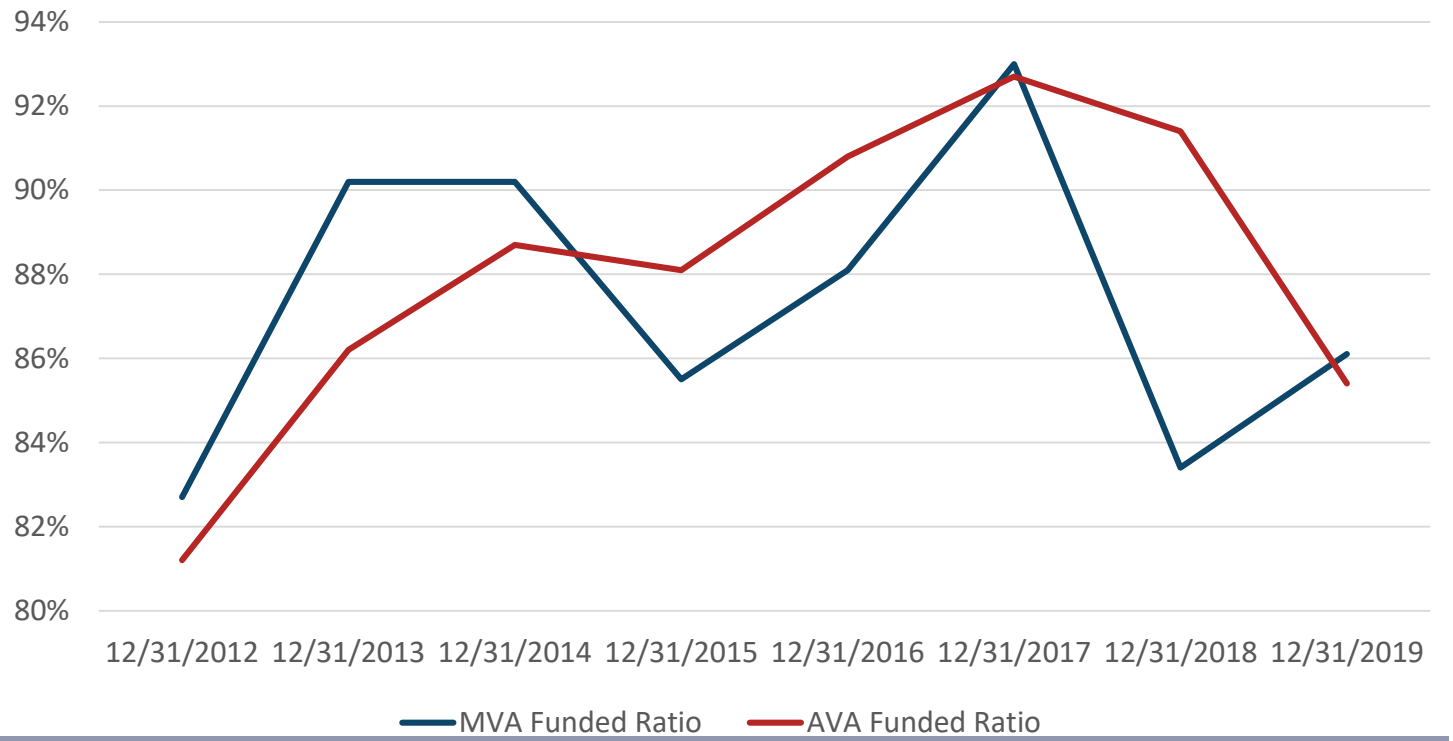
12/31/2018 (FY 2020)	General	Mental Health	Road Commission	Total
Accrued Liability	$176.7	$48.2	$42.3	**$267.2**
Actuarial Value of Assets	$161.2	$44.6	$38.5	**$244.3**
Unfunded Accrued Liability	$15.5	$3.6	$3.8	**$22.9**
12/31/2019 (FY 2021)	**General**	**Mental Health**	**Road Commission**	**Total**
Accrued Liability	$195.7	$55.1	$44.0	**$294.9**
Actuarial Value of Assets	$165.6	$46.7	$39.5	**$251.9**
Unfunded Accrued Liability	$30.1	$8.4	$4.5	**$43.0**

Due to rounding, all numbers may not sum.

Unfunded Accrued Liability (UAL) Reconciliation



Funded Status



Funded Ratios	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019
Market Value	82.7%	90.2%	90.2%	85.5%	88.1%	93.0%	83.4%	86.1%
Actuarial Value	81.2%	86.2%	88.7%	88.1%	90.8%	92.7%	91.4%	85.4%

ACTUARY'S COMMENT

The Funded Ratio is the value of assets divided by the accrued liability. The Accrued Liability is the present value of benefits to be paid in the future allocated to service earned to date. The future benefits are discounted from expected time of payment back to the valuation date at 7.0%. The graph above shows the funded ratio based on the actuarial value of assets (AVA) and market value of assets (MVA) to demonstrate the impact of the asset smoothing method.

Retiree Reserve Balance

Retiree Reserve Balance	12/31/2018	12/31/2019
Retiree Accrued Liability	$156,610,145	$170,021,237
Retiree Reserve	130,979,740	171,092,142
Unfunded Accrued Liability	$25,630,405	($1,070,905)

General – Funded Position and Contribution Requirement

Valuation Date Fiscal Year	12/31/2018 2020	12/31/2019 2021
Funded Position		
Actuarial Accrued Liability	$176,719,630	$195,709,934
Actuarial Value of Assets	161,261,832	165,636,557
Unfunded Accrued Liability	$15,457,798	$30,073,377
Funded Ratio	91.3%	84.6%
Fiscal Year Employer Contribution Requirement		
Total Normal Cost	$2,635,717	$2,510,620
Employee Contributions	1,035,713	1,128,885
Employer Normal Cost	1,600,004	1,381,735
Amortization Payment	1,910,188	3,465,218
Interest	398,030	512,651
Total	$3,908,222	$5,359,604
Est. Fiscal Year Payroll	$21,225,409	$20,220,735
Total as of Percent of Est. Fiscal Year Payroll	18.4%	26.5%

Mental Health – Funded Position and Contribution Requirement

Valuation Date Fiscal Year	12/31/2018 2020	12/31/2019 2021
Funded Position		
Actuarial Accrued Liability	$48,183,045	$55,102,690
Actuarial Value of Assets	44,566,307	46,724,684
Unfunded Accrued Liability	$3,616,738	$8,378,006
Funded Ratio	92.5%	84.8%
Fiscal Year Employer Contribution Requirement		
Total Normal Cost	$1,049,935	$990,921
Employee Contributions	453,827	553,367
Employer Normal Cost	$596,108	$437,554
Amortization Payment	356,627	828,856
Interest	108,012	133,839
Total	$1,060,747	$1,400,249
Est. Fiscal Year Payroll	$9,089,594	$8,920,174
Total as of Percent of Est. Fiscal Year Payroll	11.7%	15.7%

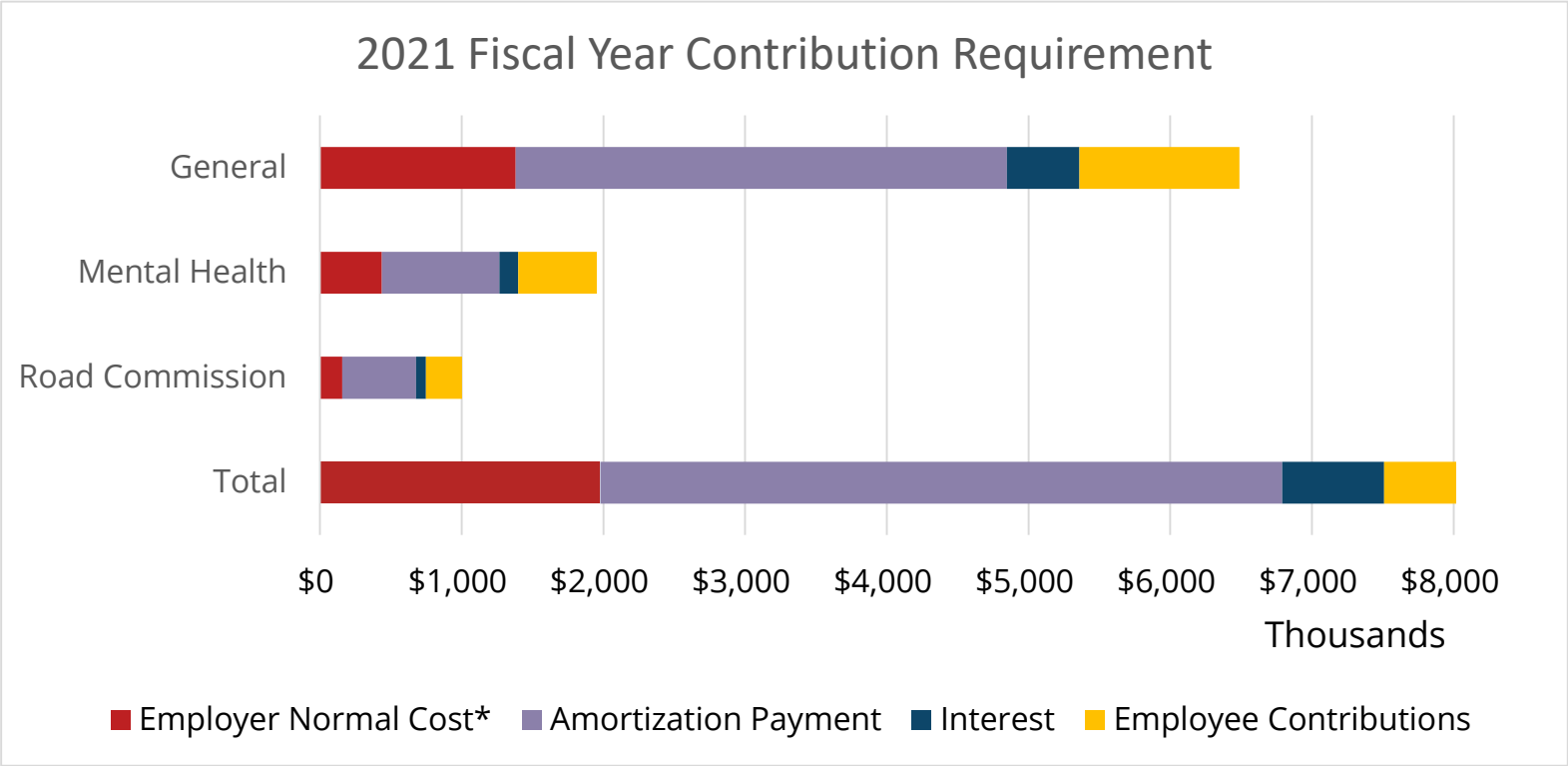
Road Commission – Funded Position and Contribution Requirement

Valuation Date Fiscal Year	12/31/2018 2020	12/31/2019 2021
Funded Position		
Actuarial Accrued Liability	$42,298,615	$44,042,843
Actuarial Value of Assets	38,452,080	39,518,167
Unfunded Accrued Liability	$3,846,535	$4,524,676
Funded Ratio	90.9%	89.7%
Fiscal Year Employer Contribution Requirement		
Total Normal Cost	$441,387	$410,804
Employee Contributions	264,982	252,782
Employer Normal Cost	176,405	158,022
Amortization Payment	440,429	519,498
Interest	69,682	71,157
Total	$686,516	$748,677
Est. Fiscal Year Payroll	$3,168,817	$2,977,119
Total as of Percent of Est. Fiscal Year Payroll	21.7%	25.1%

Total – Funded Position and Contribution Requirement

Valuation Date Fiscal Year	12/31/2018 2020	12/31/2019 2021
Funded Position		
Actuarial Accrued Liability	$267,201,290	$294,855,467
Actuarial Value of Assets	244,280,219	251,879,408
Unfunded Accrued Liability	$22,921,071	$42,976,059
Funded Ratio	91.4%	85.4%
Fiscal Year Employer Contribution Requirement		
Total Normal Cost	$4,127,039	$3,912,345
Employee Contributions	1,754,522	1,935,034
Employer Normal Cost	$2,372,517	$1,977,311
Amortization Payment	2,707,244	4,813,572
Interest	575,724	717,647
Total	$5,655,485	$7,508,530
Est. Fiscal Year Payroll	$33,483,820	$32,118,028
Total as of Percent of Est. Fiscal Year Payroll	16.9%	23.4%

Contribution Requirements by Component



	Total Normal Cost (Includes Admin Expenses)	Employee Contributions	Employer Normal Cost = (TNC – EC)	Amortization	Interest	Total
General	$2,511	$1,129	$1,382	$3,465	$513	**$5,360**
Mental Health	$991	$553	$438	$829	$134	**$1,401**
Road Commission	$411	$253	$158	$519	$71	**$748**
Total	$3,913	$1,935	$1,978	$4,813	$718	**$7,509**

*Employer Normal Cost includes anticipated administrative expenses

Key Risks

The results of our valuation rely on the use of a number of assumptions. As the sponsor of the pension program, it is important that the plan sponsor understand the potential impact to the plan should these assumptions prove not to be met and possible ways that the risks could potentially be assessed, or mitigated.

INVESTMENT RISK

Currently the plan assumes assets will return 7.00% annually. To the extent asset returns out-perform/under-perform this expectation, the funded position of the plan will increase/decrease. The potential exposure to this risk can be best understood by performing scenario testing and/or a stochastic asset-liability study. The asset mix could be adjusted to increase or decrease the investment risk of the plan, but would have funding implications.

DEMOGRAPHIC RISK

The plan's liabilities represent the present value of the benefits expected to be paid to participants in the future. Those expected payments rely on assumptions about salary increases, when participants will separate from employment, commence payment, their form of payment, and how long they will live. This risk can be better understood through sensitivity and stress testing analysis, along with an experience study. Assumptions need to be periodically reviewed to ensure they are reasonable for your population.

Key Risks

The results of our valuation and projections rely on the use of a number of assumptions. As the sponsor of the pension program, it is important that the plan sponsor understand the potential impact to the plan should these assumptions prove not to be met and possible ways that the risks could potentially be assessed, or mitigated.

CONTRIBUTION RISK

Currently the contribution is calculated assuming that ongoing annual accruals will be paid year by year and the unfunded liability will be paid as a level amount over 15 years for most groups. To the extent contributions exceed this expectation, the funded position of the plan will increase. In contrast, if contributions do not meet the recommendation, the funded position of the plan will decrease. The potential exposure to this risk can be best understood by performing a scenario and stress testing.

Comments on Projections

The cost projections contained in this report are based on the valuation results and assumptions noted in the December 31, 2019 actuarial valuation report. Reasonable actuarial techniques and assumptions were used to produce the cost projections.

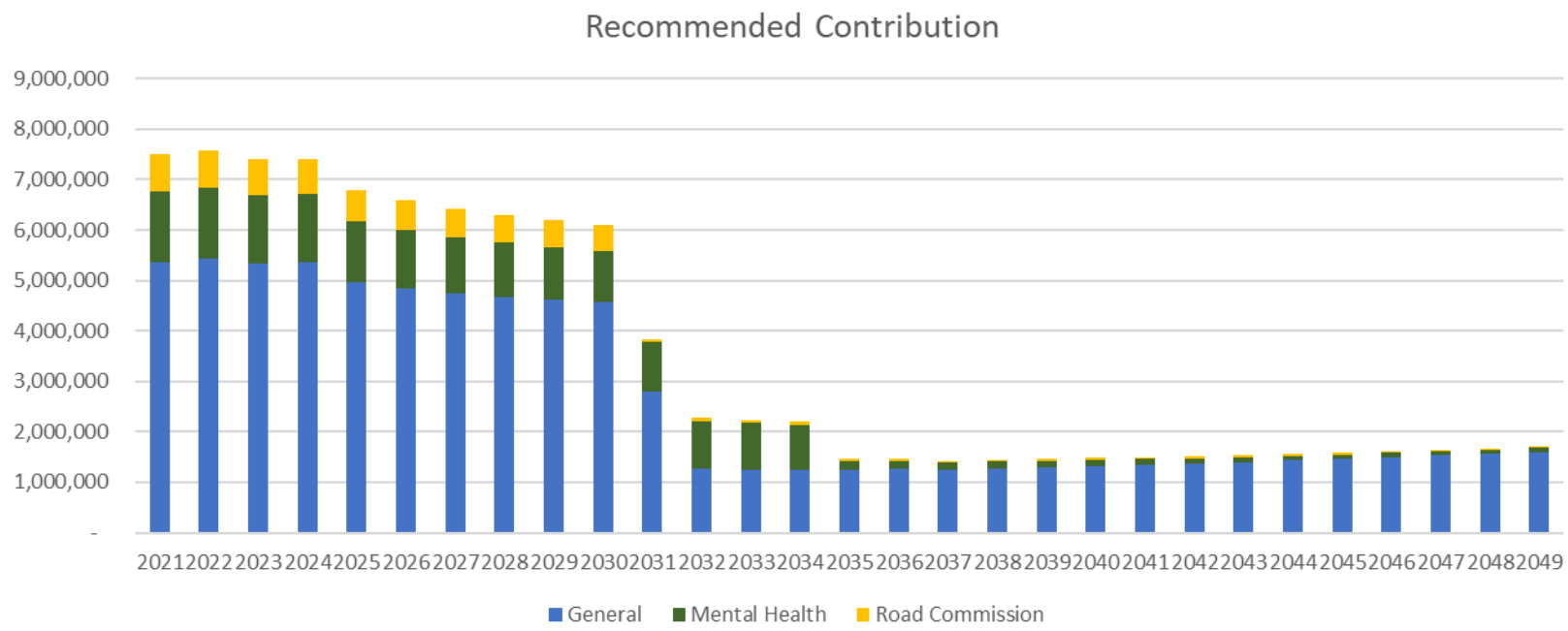
The following pages show cost projections under different economic scenarios. Note sophisticated demographic projections of participant data were not completed due to the scope of the project. Actual results will vary from projections shown in this report, perhaps significantly, due to changes in the assumptions, plan provisions, participant demographics, interest rate movement, actual asset performance, and other actual experience of the plan. Depending on the use of this information, additional cost projections may be necessary to quantify the sensitivity of results.

While a diligent effort has been made to produce reasonable projections, by their very nature projections are speculative. Plan sponsors are cautioned against placing too much reliance on any particular scenario.

Cost Projection Assumptions

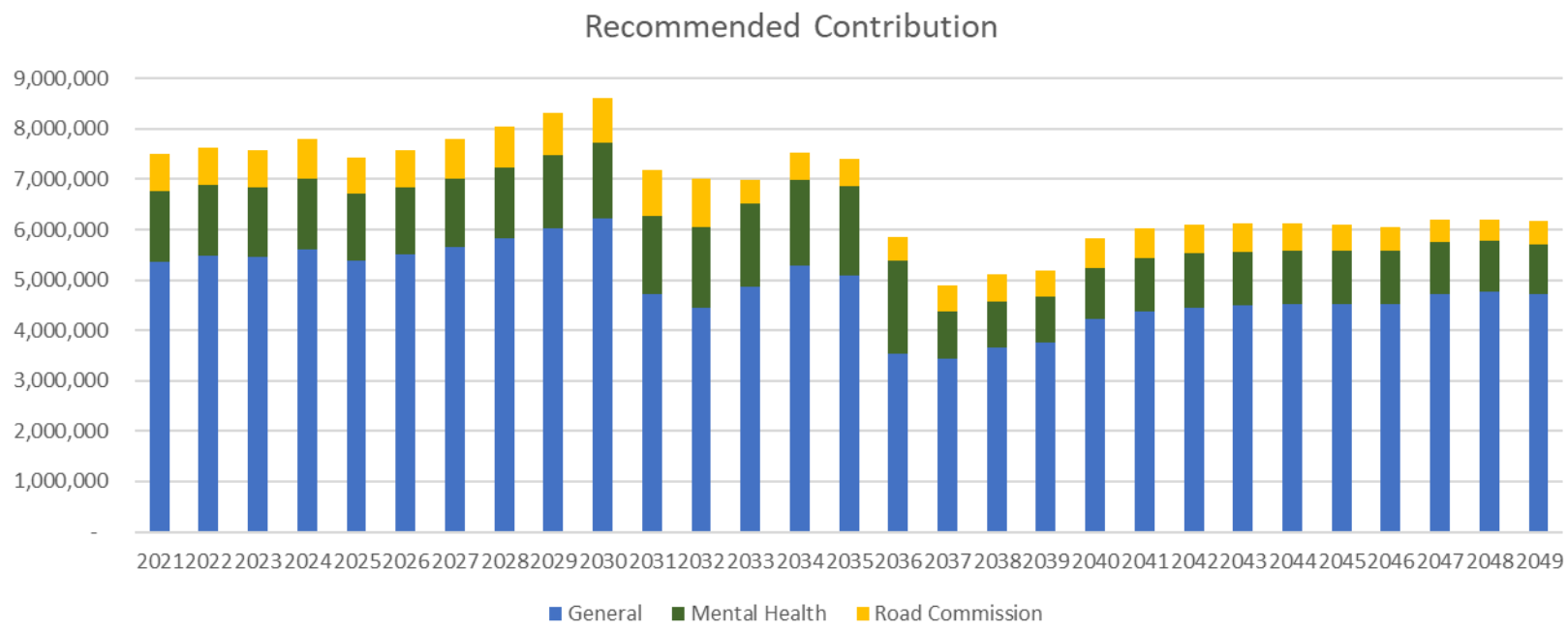
- Assets earn 7.0% every year, unless otherwise specified
- Each division contributes the recommended contribution every year
- The Sheriff division has a flat population over the entire projection period
- All other assumptions are consistent with those described in the 12/31/2019 valuation report

Cost Projection – 7.0% Return Every Year



Contribution for Plan Year Beginning 1/1	2021	2022	2027	2032	2037	2042	2047
General	$5,359,606	$5,441,441	$4,751,276	$1,272,022	$1,237,106	$1,374,944	$1,536,319
Road Commission	$748,677	$733,635	$567,918	$64,610	$42,746	$34,510	$30,589
Mental Health	$1,400,249	$1,393,235	$1,110,496	$944,132	$148,898	$102,240	$81,373
Total	**$7,508,532**	**$7,568,311**	**$6,429,690**	**$2,280,764**	**$1,428,750**	**$1,511,694**	**$1,648,281**
Funded %	**85.4%**	**86.1%**	**93.3%**	**99.3%**	**100.8%**	**101.4%**	**102.3%**

Cost Projection – 6.0% Return Every Year



Contribution for Plan Year Beginning 1/1	2021	2022	2027	2032	2037	2042	2047
General	$5,359,606	$5,478,582	$5,647,451	$4,448,323	$3,438,458	$4,448,204	$4,721,488
Road Commission	$748,677	$742,457	$768,474	$953,255	$502,426	$585,806	$463,106
Mental Health	$1,400,249	$1,403,792	$1,375,265	$1,603,320	$945,681	$1,071,899	$1,022,000
Total	**$7,508,532**	**$7,624,831**	**$7,791,190**	**$7,004,898**	**$4,886,565**	**$6,105,909**	**$6,206,594**
Funded %	**85.4%**	**86.0%**	**89.8%**	**92.1%**	**93.2%**	**91.3%**	**90.5%**

Looking Ahead

- Final funding report
- GASB 68 report
- Benefit statements
- Amended retiree calculations
- 2020 returns

Questions?

Appendix

Summary of Plan Provisions

PLAN YEAR AND EFFECTIVE DATE

The plan year is January 1 to December 31. The effective date of the plan is January 1, 1964.

STATUS OF THE PLAN

Plan is closed to new hires for most of General County employees, Mental Health, and Commission.

NORMAL RETIREMENT DATE

Sheriff: 25 Years if service regardless of age

Others: Age 55 with 25 years of service

All: Age 60 with 8 years of service or when age plus service equals 80 and service is at least 25 years

NORMAL RETIREMENT BENEFIT (MODIFIED MEMBERS)

Final Average Compensation (FAC) multiplied by:

Years of Service	Annual Multiplier
1-10	1.75%
11-19	2.00%
20-24	2.00%
25-29	2.40% (2.50% for Sheriff Department Supervisors

Before 20 years of service, separate multipliers are used for the first 10 years of service and service over 10 years. After 20 years of service, the multiplier applies to all years of service.

NORMAL RETIREMENT BENEFIT (ORIGINAL MEMBERS)

Final Average Compensation multiplied by service times 2% subject to maximums (64% - 75%)

DUTY DISABILITY BENEFIT

Sheriff Department Eligibility: 10 years of service
Benefit: 50% of compensation at the time of disability – offsets apply

Other Eligibility: no age or service requirements; must be in receipt of Worker's Compensation payments
Benefit: computed as a regular retirement; upon termination of Worker's Compensation payments, additional service credit is granted and benefit is recomputed – offsets apply

TERMINATION BENEFIT

Participants become vested in their accrued benefit after 8 years of service

FINAL AVERAGE COMPENSATION

Highest 3 of 10 except for Mental Health and Friend of the Court which are highest 5 of 10 and Road Commission is highest 3 of 5. Only base pay for certain General County and Sheriff's Department members.

Credited Service

Service is credited for employees working more than 1,000 hours (nearest 1/12th). Full year of service is granted for more than 1,950 hours and partial credit is provided for hours worked between 1,000 and 1,950.

Summary of Actuarial Assumptions and Methods

FUNDING INTEREST RATE

7.00% (net of all expenses)

ANNUAL PAY INCREASES

2.25% plus merit scale (0.00% - 4.75%)

MORTALITY RATES

Pub-2010 tables with generational improvements based on the Society of Actuaries Scale MP-2019

EXPENSE LOADING

Preceding year's administrative expenses, rounded up to the nearest $10,000. Expenses are assumed to occur mid-year.

ACTUARIAL COST METHOD

Entry Age Normal Cost (as a percent of pay)

ASSET VALUATION METHOD

Market Value with 5 year smoothing of asset gains and losses

COST-OF-LIVING INCREASES

None

RETIREMENT RATES

Varies with age, service, and employee type.
Earliest assumed age is 50 and latest is 70.

WITHDRAWAL RATES

Varies by age, service, and employee

DISABILITY RATES

Age	Rate
40	0.20%
50	0.49%
60	1.41%

AMORTIZATION OF UNFUNDED ACCRUED LIABILITY

General County –
Closed, level dollar amortization (10 years for initial UAL at 12/31/2014, 11 years for 2015 gain/loss at 12/31/2015, 12 years for 2016 gain/loss at 12/31/2016, 13 years for 2017 gain/loss at 12/31/2017, 14 years for 2018 gain/loss at 12/31/2018, and 15 years for 2019 gain/loss at 12/31/2019)

Mental Health –
Closed, level dollar amortization (16 years as of 12/31/2019)

Road Commission –
Closed, level dollar amortization (12 years for initial UAL at 12/31/2016, 13 years for 2017 gain/loss at 12/31/2017, 14 years for 2018 gain/loss at 12/31/2018, and 15 years for 2019 gain/loss at 12/31/2019)