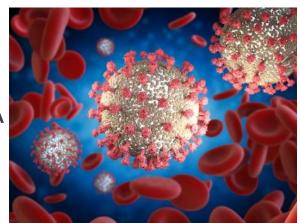
City of San José



Implications of COVID-19 on Pension Plan Funding Ratios and Potential Future Contributions

October 16, 2020

Bill Hallmark, ASA, EA, FCA, MAAA



Agenda



- Emerging Issues for Public Plans
- Updated status of San José's Plans
- 5-Year projections
- Interest rates and future discount rates
- Conclusions
- Appendix



Public Plans – Emerging Issues



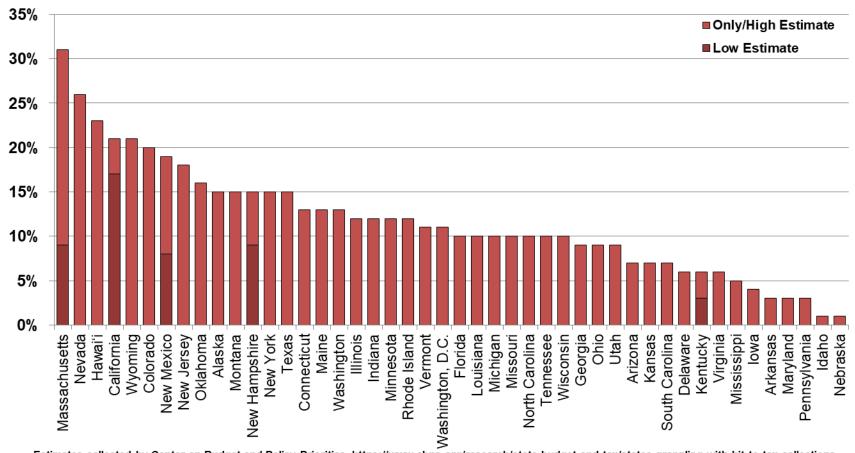
- Investment returns are not the issue so far
 - Investment returns are below expectations, but by a routine amount
 - Median fiscal year return was about 3%
- Primary emerging impact is related to revenue/budget shortfalls
 - Potential layoffs or furloughs
 - Early retirement incentive programs
 - Potential salary freezes/reductions
 - Discussion of reduced or deferred contributions
- Other potential changes to watch
 - Retirement, disability, and mortality experience
 - COVID-19 presumptions for duty disability/death



Revenue Impact Estimates



Projected FY 2021 Decline in General Fund Tax Revenues as % of pre-COVID-19 Projections

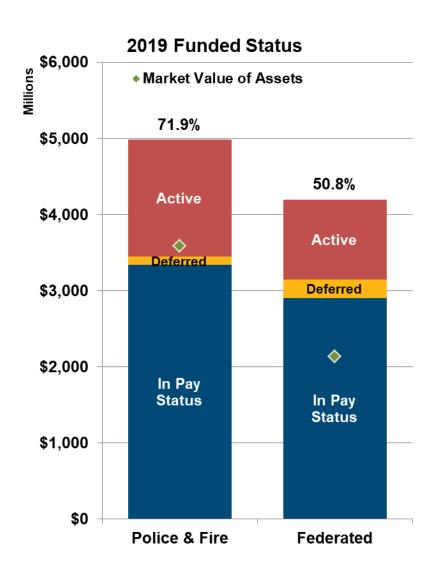


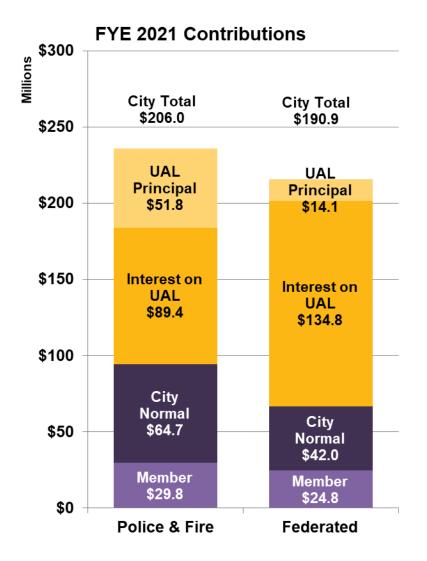
Estimates collected by Center on Budget and Policy Priorities, https://www.cbpp.org/research/state-budget-and-tax/states-grappling-with-hit-to-tax-collections



2019 Valuation Results









Updated Status of San José's Plans



	Funded Status of Pension Plans											
	June 30, 2019 June 30, 2020 - Estimated											
	Police & Fire	Federated	Total	Police & Fire	Federated	Total						
Actuarial Liability Market Value of Assets	\$ 4,988,427 \$ 3,588,423	\$ 4,200,708 2,132,152	\$ 9,189,135 5,720,575	· ' ' '	\$ 4,323,371 2,208,016	\$ 9,500,390 <u>5,910,039</u>						
Unfunded Actuarial Liability	\$ 1,400,004	\$ 2,068,556	\$ 3,468,560	\$ 1,474,996	\$ 2,115,355	\$ 3,590,351						
Funded Percentage	71.9%	50.8%	62.3%	71.5%	51.1%	62.2%						

Amounts in thousands

- No significant change expected
 - Aggregate UAL expected to increase 3.5%
 - Aggregate funded ratio expected to decrease 0.1%
- Estimated 2020 amounts reflect:
 - Actual Market Value of Assets (Approximate returns for FYE 2020 of 3.8% for P&F and 4.3% for Fed)
 - Projected Actuarial Liability from 2019 reflecting actual benefit payments and assuming all assumptions were met
- Actuarial Liability as of June 30, 2020 likely to change due to:
 - Demographic experience since 2019
 - Any economic assumption changes the Retirement Board's elect to adopt



Post-Pandemic Return Scenarios



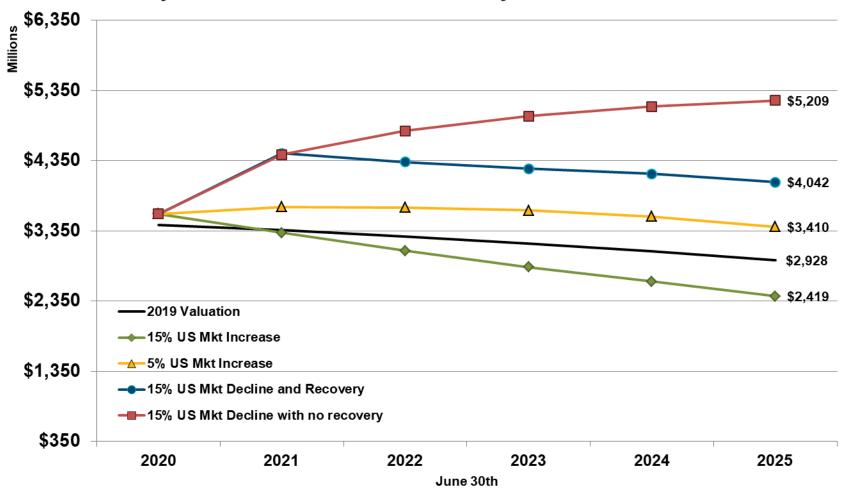
- Meketa developed four post-pandemic investment return scenarios to help illustrate the potential impact on funded status and contributions
 - 1. 15% Increase in US Market
 - Fed average 5-year return = 8.9%
 - P&F average 5-year return = 8.5%
 - 2. 5% Increase in US Market
 - Fed average 5-year return = 6.0%
 - P&F average 5-year return = 5.8%
 - 3. 15% Decline in US Market with Recovery
 - Fed average 5-year return = 3.9%
 - P&F average 5-year return = 3.8%
 - 4. 15% Decline in US Market with No Recovery
 - Fed average 5-year return = -0.1%
 - P&F average 5-year return = 0.1%



Meketa Return Scenarios – UAL



Projected Unfunded Actuarial Liability - Meketa Scenarios

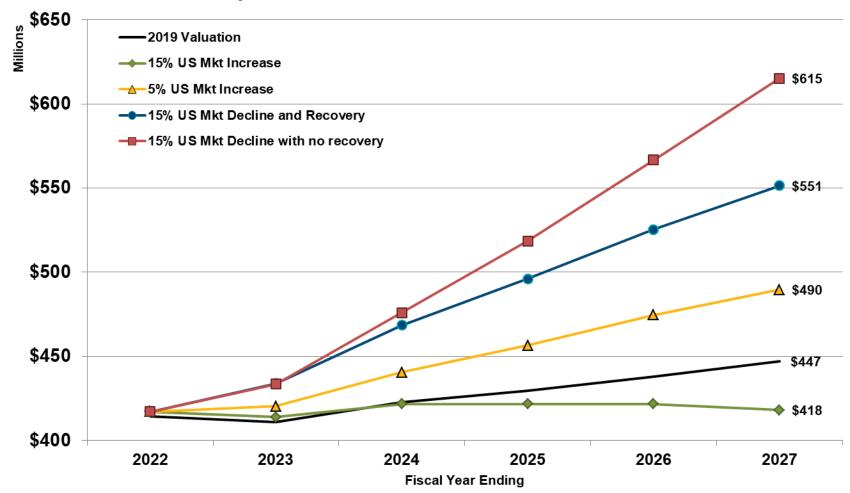




Meketa Scenarios - Contributions



Projected Contributions - Meketa Scenarios

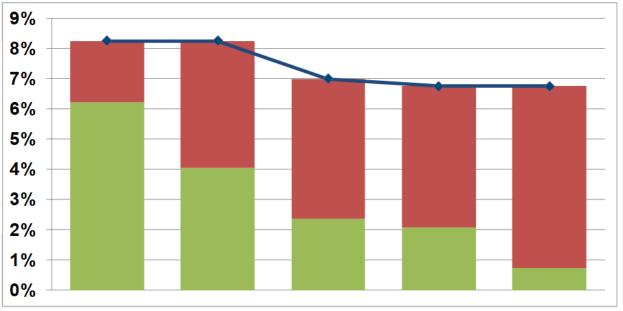




Expected Risk Premium







	1995	2005	2015	2019	2020
Federated Discount Rate	8.25%	8.25%	7.00%	6.75%	6.75%
Yield on 10-Year Treasury	6.21%	4.06%	2.36%	2.07%	0.73%
Expected Risk Premium	2.04%	4.19%	4.64%	4.68%	6.02%

- Decline in interest rates has caused plans to:
 - Reduce expected returns
 - Increase risk in investment portfolio
- If recent interest rate decline persists, further discount rate reductions are likely



Impact of Lower Discount Rate



Potential Impact of Reduced Discount Rate June 30, 2019 Actuarial Valuation Results

Discount Rate	E	5.75%	e	5.50%	6	5.25%
Police and Fire Actuarial Liability Market Value of Assets	\$	4,988 3,588	\$	5,162 3,588	\$	5,342 3,588
Unfunded Actuarial Liability	\$	1,400	\$	1,574	\$	1,754
Funded Percentage		71.9%		69.5%		67.2%
Federated Actuarial Liability Market Value of Assets Unfunded Actuarial Liability	_	4,201 2,132 2,069		4,339 2,132 2,207		4,482 2,132 2,350
Funded Percentage		50.8%		49.1%		47.6%
Aggregate Actuarial Liability Market Value of Assets Unfunded Actuarial Liability	_	9,189 5,721 3,469	_	9,501 5,721 3,780	_	9,825 5,721 4,104
Funded Percentage		62.3%		60.2%		58.2%

- Retirement Boards will be reviewing economic assumptions in November
- If the discount rate is changed, it isn't likely to be more than 25 basis points
- Over the next several years, if interest rates remain at their current levels, larger cumulative discount rate reductions are possible



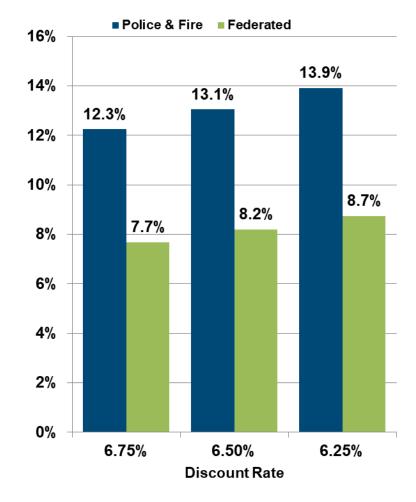
Impact of Lower Discount Rate



FYE 2021 City Contributions



FYE 2021 Member Rates





Conclusions



- Given the pandemic and related economic disruption, uncertainty about the future is even greater than usual
 - Markets have been volatile
 - Economic recovery could be relatively quick or take a long time
- Short and long-term impacts to the pension plans are also uncertain
- Retirement Boards can adjust the pension contribution requirements, but must protect the pension plans
- Over the long term, the sustainability of the pension plans depends in no small part on the financial strength of the City



Certification



- The purpose of this presentation is to illustrate the potential impacts of the COVID-19 pandemic on the funded status and contributions for the City of San José Police and Fire Department Retirement Plan and the City of San José Federated City Employees' Retirement System.
- This presentation is based on the June 30, 2019 actuarial valuations updated with actual asset information through June 30, 2020. Please refer to the June 30, 2019 actuarial valuation reports for a description of the census data, actuarial assumptions and methods, and a summary of the plan provisions.
- This presentation and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as a credentialed actuary, I meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this presentation. This presentation does not address any contractual or legal issues. I am not an attorney and our firm does not provide any legal services or advice.
- This presentation was prepared exclusively for the City of San José for the purpose described herein. This presentation is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

William R. Hallmark, ASA, EA, FCA, MAAA Consulting Actuary





Appendix



Meketa Return Scenarios



Tot	al Portfolio F	Returns for Fi	scal Years Er	nding June 3	0th
Scenario	2021	2022	2023	2024	2025
		15% US Mar	ket Increase		
Fed	10.62%	9.49%	8.73%	7.91%	7.65%
P&F	10.06%	9.02%	8.32%	7.57%	7.33%
		5% US Mark	ket Increase		
Fed	4.12%	5.81%	6.33%	6.66%	7.25%
P&F	4.00%	5.59%	6.09%	6.41%	6.94%
	15% L	IS Market De	cline and Red	overy	
Fed	-9.39%	8.96%	7.76%	6.64%	6.86%
P&F	-8.64%	8.50%	7.40%	6.36%	6.57%
	15% US	Market Decl	ine and No Ro	ecovery	
Fed	-9.11%	-0.07%	2.42%	3.29%	3.73%
P&F	-8.36%	0.11%	2.44%	3.27%	3.68%



Unfunded Liability Projections



Luna 20th		0000		2024		0000		0000	0004	2025
June 30th		2020		2021		2022		2023	2024	2025
2019 Valuation Projections	<u>s</u>									
Police & Fire	\$	1,368.4	\$	1,314.6	\$	1,246.7	\$	1,182.8	\$ 1,108.1	\$ 1,027.2
Federated		2,063.9		2,048.7		2,023.9		1,991.4	 1,950.4	1,900.7
Total	\$	3,432.3	\$	3,363.3	\$	3,270.6	\$	3,174.2	\$ 3,058.5	\$ 2,927.9
		l	Jpda	ated 5-Year I	Proj	ection Scen	ario	S		
15% US Market Increase										
Police & Fire	\$	1,475.0	\$	1,306.2	\$	1,143.7	\$	1,001.6	\$ 876.0	\$ 754.6
Federated		2,115.4		2,018.5		1,924.9		1,833.4	 1,750.6	 1,664.7
Total	\$	3,590.4	\$	3,324.7	\$	3,068.6	\$	2,835.0	\$ 2,626.6	\$ 2,419.3
Change from 2019	\$	158.1	\$	(38.6)	\$	(202.0)	\$	(339.2)	\$ (431.9)	\$ (508.6)
5% US Market Increase										
Police & Fire	\$	1,475.0	\$	1,530.0	\$	1,518.9	\$	1,493.1	\$ 1,440.6	\$ 1,353.9
Federated		2,115.4		2,161.5		2,164.9		2,149.3	 2,115.8	 2,055.7
Total	\$	3,590.4	\$	3,691.5	\$	3,683.8	\$	3,642.4	\$ 3,556.4	\$ 3,409.6
Change from 2019	\$	158.1	\$	328.2	\$	413.2	\$	468.2	\$ 497.9	\$ 481.7

UAL = Actuarial Liability - Market Value of Assets



Unfunded Liability Projections



	5-Ye	ar Pension	UA	AL Projectio	ns	- Meketa Ec	ono	omic Scena	rios	5		
June 30th		2020		2021		2022		2023		2024		2025
2019 Valuation Projections												
Police & Fire	\$	1,368.4	\$	1,314.6	\$	1,246.7	\$	1,182.8	\$	1,108.1	\$	1,027.2
Federated		2,063.9		2,048.7		2,023.9		1,991.4		1,950.4		1,900.7
Total	\$	3,432.3	\$	3,363.3	\$	3,270.6	\$	3,174.2	\$	3,058.5	\$	2,927.9
		ι	Jpda	ated 5-Year I	Proj	ection Scen	ario	s				
15% US Market Decline and	d Re	covery										
Police & Fire	\$	1,475.0	\$	1,997.0	\$	1,914.2	\$	1,855.7	\$	1,809.3	\$	1,735.8
Federated		2,115.4		2,458.5		2,417.1		2,381.9		2,354.2		2,306.3
Total	\$	3,590.4	\$	4,455.5	\$	4,331.3	\$	4,237.6	\$	4,163.5	\$	4,042.1
Change from 2019	\$	158.1	\$	1,092.2	\$	1,060.7	\$	1,063.4	\$	1,105.0	\$	1,114.2
15% US Market Decline wit	h No	Recovery										
Police & Fire	\$	1,475.0	\$	1,986.6	\$	2,185.6	\$	2,313.5	\$	2,396.3	\$	2,447.3
Federated	_	2,115.4		2,452.4		2,589.1		2,672.1		2,727.7	_	2,761.4
Total	\$	3,590.4	\$	4,439.0	\$	4,774.7	\$	4,985.6	\$	5,124.0	\$	5,208.7
Change from 2019	\$	158.1	\$	1,075.7	\$	1,504.1	\$	1,811.4	\$	2,065.5	\$	2,280.8

UAL = Actuarial Liability - Market Value of Assets



Pension Contribution Projections



Fiscal Year Ending	2022		2023		2024		2025	2026	2027
2019 Valuation Projections									
Police & Fire	\$ 215.7	\$	206.9	\$	212.8	\$	213.8	\$ 217.7	\$ 221.6
Federated	198.7		204.1		210.0		215.7	 220.4	225.4
Total	\$ 414.4	\$	411.0	\$	422.8	\$	429.5	\$ 438.1	\$ 447.0
	l	Jpda	ated 5-Year I	Proj	ection Scen	ario	S		
15% US Market Increase									
Police & Fire	\$ 217.7	\$	209.2	\$	212.8	\$	209.9	\$ 208.7	\$ 204.9
Federated	 199.5		204.7		208.8		211.7	 213.0	 213.3
Total	\$ 417.2	\$	413.9	\$	421.6	\$	421.6	\$ 421.7	\$ 418.2
Change from 2019	\$ 2.8	\$	2.9	\$	(1.2)	\$	(7.9)	\$ (16.4)	\$ (28.8
5% US Market Increase									
Police & Fire	\$ 217.7	\$	213.5	\$	225.3	\$	232.9	\$ 243.5	\$ 251.9
Federated	 199.5		206.8		215.2		223.5	 231.0	 237.7
Total	\$ 417.2	\$	420.3	\$	440.5	\$	456.4	\$ 474.5	\$ 489.6
Change from 2019	\$ 2.8	\$	9.3	\$	17.7	\$	26.9	\$ 36.4	\$ 42.6



Pension Contribution Projections



Fiscal Year Ending	:	2022		2023		2024		2025	2026	2027
2019 Valuation Projection	<u>ns</u>									
Police & Fire	\$	215.7	\$	206.9	\$	212.8	\$	213.8	\$ 217.7	\$ 221.6
Federated		198.7		204.1		210.0		215.7	 220.4	 225.4
Total	\$	414.4	\$	411.0	\$	422.8	\$	429.5	\$ 438.1	\$ 447.0
		ι	Jpda	ted 5-Year	Proj	ection Scen	ario	s		
15% US Market Decline	and Reco	overy								
Police & Fire	\$	217.7	\$	222.4	\$	243.8	\$	259.1	\$ 277.0	\$ 292.
Federated		199.5		211.4		224.7		237.0	 248.3	 258.
Total	\$	417.2	\$	433.8	\$	468.5	\$	496.1	\$ 525.3	\$ 551.
Change from 2019	\$	2.8	\$	22.8	\$	45.7	\$	66.6	\$ 87.2	\$ 104.
15% US Market Decline	with No F	Recovery								
Police & Fire	\$	217.7	\$	222.2	\$	248.7	\$	274.0	\$ 304.4	\$ 334.
Federated		199.5		211.3		227.2		244.6	 262.3	 280.
Total	\$	417.2	\$	433.5	\$	475.9	\$	518.6	\$ 566.7	\$ 615.
Change from 2019	\$	2.8	\$	22.5	\$	53.1	\$	89.1	\$ 128.6	\$ 168.2



Funded Status Projections



June 20th	2020	2021	2022	2023	2024	2025
June 30th	2020	2021	2022	2023	2024	2025
2019 Valuation Projections						
Police & Fire	73.5%	75.5%	77.5%	79.3%	81.2%	83.1%
Federated	<u>52.2</u> %	<u>53.8</u> %	<u>55.5</u> %	<u>57.3</u> %	<u>59.1</u> %	<u>61.1</u> %
Total	63.8%	65.7%	67.6%	69.4%	71.4%	73.3%
	Upo	lated 5-Year Pro	jection Scenari	ios		
15% US Market Increase						
Police & Fire	71.5%	75.6%	79.4%	82.5%	85.2%	87.6%
Federated	<u>51.1</u> %	<u>54.6</u> %	<u>57.8</u> %	<u>60.7</u> %	<u>63.4</u> %	<u>66.0</u> %
Total	62.2%	66.1%	69.6%	72.7%	75.4%	77.9%
Change from 2019	-1.6%	0.4%	2.0%	3.3%	4.1%	4.7%
5% US Market Increase						
Police & Fire	71.5%	71.5%	72.6%	73.9%	75.6%	77.7%
Federated	<u>51.1</u> %	<u>51.3</u> %	<u>52.5</u> %	<u>54.0</u> %	<u>55.8</u> %	<u>58.0</u> %
Total	62.2%	62.4%	63.5%	65.0%	66.7%	68.9%
Change from 2019	-1.6%	-3.3%	-4.1%	-4.5%	-4.6%	-4.4%

Funded Ratio = Mark et Value of Assets + Actuarial Liability



Funded Status Projections



			tions - Meketa			
June 30th	2020	2021	2022	2023	2024	2025
2019 Valuation Projections	<u>i</u>					
Police & Fire	73.5%	75.5%	77.5%	79.3%	81.2%	83.1%
Federated	<u>52.2</u> %	<u>53.8</u> %	<u>55.5</u> %	<u>57.3</u> %	<u>59.1</u> %	<u>61.1</u> %
Total	63.8%	65.7%	67.6%	69.4%	71.4%	73.3%
	Upo	dated 5-Year Pro	ojection Scenari	os		
15% US Market Decline an	d Recovery					
Police & Fire	71.5%	62.8%	65.5%	67.6%	69.4%	71.5%
Federated	<u>51.1</u> %	<u>44.6</u> %	<u>47.0</u> %	<u>49.0</u> %	<u>50.8</u> %	<u>52.8</u> %
Total	62.2%	54.6%	57.1%	59.3%	61.0%	63.2%
Change from 2019	-1.6%	-11.1%	-10.5%	-10.2%	-10.3%	-10.1%
15% US Market Decline wi	th No Recovery					
Police & Fire	71.5%	63.0%	60.6%	59.6%	59.4%	59.8%
Federated	<u>51.1</u> %	<u>44.8</u> %	<u>43.2</u> %	<u>42.8</u> %	<u>43.0</u> %	<u>43.5</u> %
Total	62.2%	54.7%	52.8%	52.1%	52.1%	52.5%
Change from 2019	-1.6%	-10.9%	-14.8%	-17.4%	-19.3%	-20.8%

Funded Ratio = Market Value of Assets ÷ Actuarial Liability



Simple Scenarios



Distribution of 5-Year Returns Meketa's Capital Market Assumptions 10-Year Horizon

olice & Fire	Federated
15.5%	16.5%
9.7%	10.3%
5.9%	6.1%
2.1%	2.1%
-3.0%	-3.4%
	9.7% 5.9% 2.1%

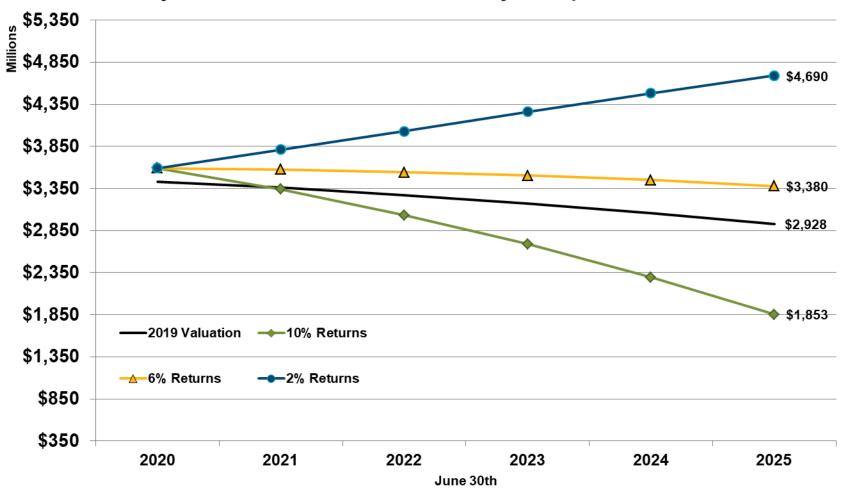
- Simple scenarios are designed to represent the approximate returns for the 25th, 50th, and 75th percentiles of expected returns over a 5-year period
- 25% of returns are expected to be higher and 25% are expected to be lower than this range
- Actual returns are expected to vary each year, but the simple scenarios use the same return for each year of the projection



Unfunded Liability Projections



Projected Unfunded Actuarial Liability - Simple Scenarios





Unfunded Liability Projections



		5-Year Pe	nsi	on UAL Pro	jec [.]	tions - Simp	le S	Scenarios				
June 30th		2020		2021		2022		2023		2024		2025
2019 Valuation Projections												
Police & Fire	\$	1,368.4	\$	1,314.6	\$	1,246.7	\$	1,182.8	\$	1,108.1	\$	1,027.2
Federated		2,063.9		2,048.7		2,023.9		1,991.4		1,950.4		1,900.7
Total	\$	3,432.3	\$	3,363.3	\$	3,270.6	\$	3,174.2	\$	3,058.5	\$	2,927.9
		l	Jpda	ated 5-Year F	Proj	ection Scen	ario	S				
10% Returns												
Police & Fire	\$	1,475.0	\$	1,308.4	\$	1,106.4	\$	886.9	\$	636.3	\$	360.7
Federated	*	2,115.4	•	2,032.2	*	1,927.6	*	1,802.9	•	1,657.6	*	1,491.8
Total	\$	3,590.4	\$	3,340.6	\$	3,034.0	\$	2,689.8	\$	2,293.9	\$	1,852.5
Change from 2019	\$	158.1	\$	(22.7)	\$	(236.6)	\$	(484.4)	\$	(764.6)	\$	(1,075.4)
6% Returns												
Police & Fire	\$	1,475.0	\$	1,456.1	\$	1,424.9	\$	1,398.5	\$	1,361.3	\$	1,317.4
Federated		2,115.4	·	2,120.1		2,116.8	•	2,106.8	·	2,089.0	·	2,062.9
Total	\$	3,590.4	\$	3,576.2	\$	3,541.7	\$	3,505.3	\$	3,450.3	\$	3,380.3
Change from 2019	\$	158.1	\$	212.9	\$	271.1	\$	331.1	\$	391.8	\$	452.4
2% Returns												
Police & Fire	\$	1,475.0	\$	1,603.9	\$	1,731.6	\$	1,872.6	\$	2,007.8	\$	2,137.8
Federated	•	2,115.4		2,208.1	•	2,299.0	•	2,388.4		2,473.6	·	2,552.5
Total	\$	3,590.4	\$	3,812.0	\$	4,030.6	\$	4,261.0	\$	4,481.4	\$	4,690.3
Change from 2019	\$	158.1	\$	448.7	\$	760.0	\$	1,086.8	\$	1,422.9	\$	1,762.4

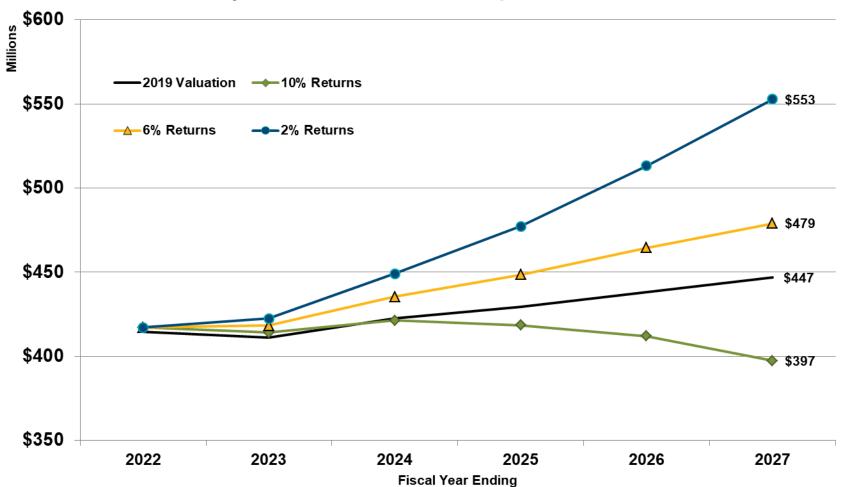
UAL = Actuarial Liability - Market Value of Assets



Pension Contribution Projections



Projected Contributions - Simple Scenarios





Pension Contribution Projections



	5.\	/oar Ponsic	n C	Contribution	Dr	oioctions - 9	Sim	nlo Sconari	06				
				on Contribution Projections - Simple Scenarios				US					
Fiscal Year Ending	2022		2023		2024		2025			2026		2027	
2019 Valuation Projections													
Police & Fire	\$	215.7	\$	206.9	\$	212.8	\$	213.8	\$	217.7	\$	221.6	
Federated		198.7		204.1		210.0		215.7		220.4		225.4	
Total		414.4		411.0		422.8		429.5		438.1		447.0	
Updated 5-Year Projection Scenarios													
10% Returns													
Police & Fire	\$	217.7	\$	209.2	\$	212.2	\$	206.9	\$	200.7	\$	188.7	
Federated		199.5		204.9		209.1		211.5		211.3		208.6	
Total	\$	417.2	\$	414.1	\$	421.3	\$	418.4	\$	412.0	\$	397.3	
Change from 2019	\$	2.8	\$	3.1	\$	(1.5)	\$	(11.1)	\$	(26.1)	\$	(49.7)	
6% Returns													
Police & Fire	\$	217.7	\$	212.1	\$	221.7	\$	227.3	\$	236.3	\$	244.0	
Federated		199.5		206.2		213.7		221.3		228.3		235.1	
Total	\$	417.2	\$	418.3	\$	435.4	\$	448.6	\$	464.6	\$	479.1	
Change from 2019	\$	2.8	\$	7.3	\$	12.6	\$	19.1	\$	26.5	\$	32.1	
2% Returns													
Police & Fire	\$	217.7	\$	214.9	\$	231.0	\$	246.7	\$	269.2	\$	293.8	
Federated		199.5		207.6		218.1		230.5		244.1		259.0	
Total	\$	417.2	\$	422.5	\$	449.1	\$	477.2	\$	513.3	\$	552.8	
Change from 2019	\$	2.8	\$	11.5	\$	26.3	\$	47.7	\$	75.2	\$	105.8	





Funded Status Projections



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5	5-Year Pension Funded Ratio Projections - Simple Scenarios										
June 30th	2020	2021	2022	2023	2024	2025					
2019 Valuation Projections											
Police & Fire	73.5%	75.5%	77.5%	79.3%	81.2%	83.1%					
Federated	52.2%	53.8%	55.5%	57.3%	59.1%	61.1%					
Total	63.8%	65.7%	67.6%	69.4%	71.4%	73.3%					
Updated 5-Year Projection Scenarios											
10% Returns											
Police & Fire	71.5%	75.6%	80.1%	84.5%	89.2%	94.1%					
Federated	51.1%	54.2%	57.7%	61.4%	65.3%	69.5%					
Total	62.2%		70.0%	 74.1%							
Change from 2019	-1.6%	0.3%	2.4%	4.7%	7.2%	9.8%					
6% Returns											
Police & Fire	71.5%	72.9%	74.3%	75.6%	77.0%	78.3%					
Federated	51.1%	52.3%	53.6%	54.9%	56.3%	57.8%					
Total	62.2%	63.5%	65.0%	66.3%	67.7%	 69.2%					
Change from 2019	-1.6%	-2.1%	-2.6%	-3.1%	-3.6%	-4.1%					
2% Returns											
Police & Fire	71.5%	70.1%	68.8%	67.3%	66.0%	64.8%					
Federated	<u>51.1</u> %	<u>50.3</u> %	<u>49.6</u> %	<u>48.9</u> %	<u>48.3</u> %	<u>47.8</u> %					
Total	62.2%	61.1%	60.1%	59.0%	58.1%	57.3%					
Change from 2019	-1.6%	-4.5%	-7.5%	-10.4%	-13.3%	-16.0%					

Funded Ratio = Market Value of Assets - Actuarial Liability

