

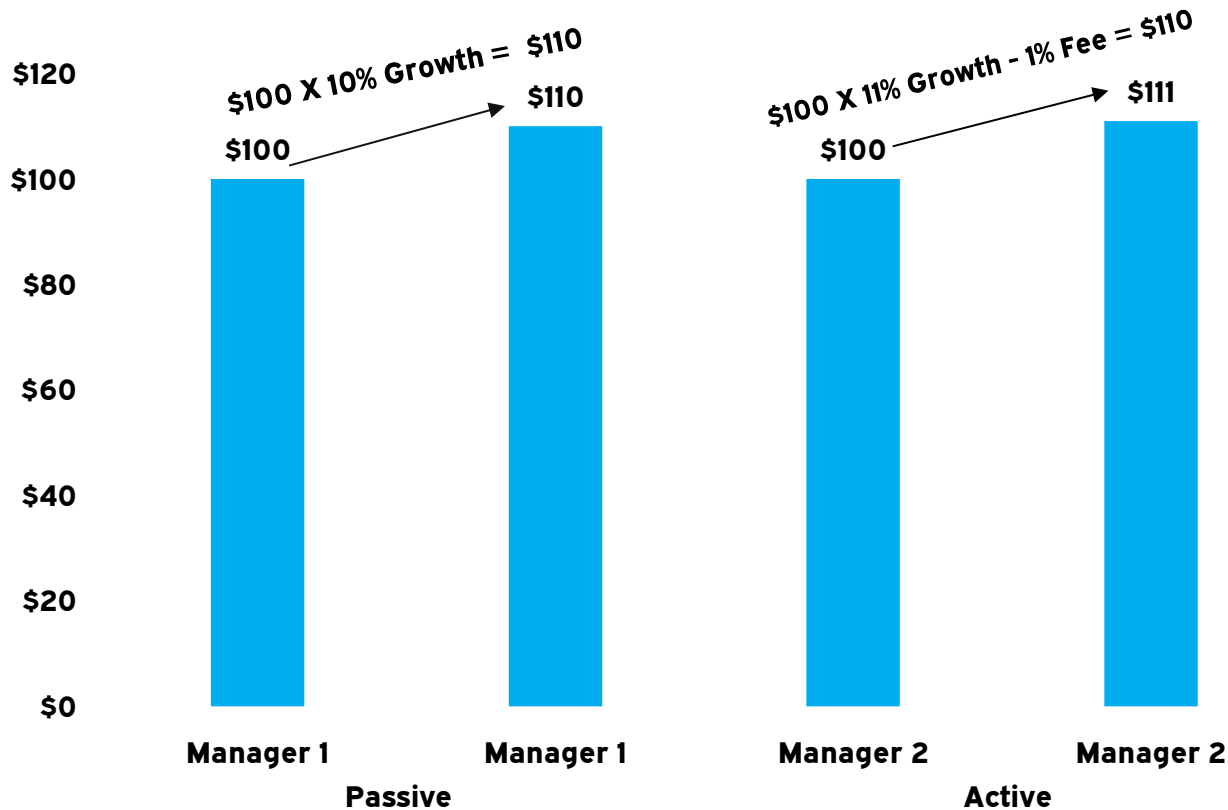
**San Jose Federated City Employees' Retirement System
San Jose Police & Fire Department Retirement Plan
February 10, 2020**

San Jose City Retirement
Working Group

Introduction

- In many asset classes, investors have the choice between active investment management, where an investment manager's team members choose individual stocks or bonds, and passive investment management, where an investment manager aims to replicate a publicly available index.
- Typically, active management costs more than passive management. Therefore, investors typically expect active investment managers to outperform the market index, net of fees. All returns shown in investment reporting for the City of San Jose Retirement Plans are net of investment management fees (so the fees have already been subtracted from the number you see).
- There are often reasons to choose active investment management beyond the expectation that the investment manager will outperform an index or peer group. For example, an actively managed portfolio may aim to exhibit lower volatility than the index, but not necessarily higher returns.
- In some asset classes, there are not appropriate passively managed options available, because it is very difficult to replicate an index because of transaction costs, taxes, or other variables. These asset classes typically include alternative/private market assets, hedge funds, and several fixed income asset classes like high yield bonds, bank loans, and emerging market debt.
- The analysis on the following slides aims to assess the value added by active managers used in the City of San Jose's Retirement Plans. This analysis necessarily suffers from end point bias (the fact that we are looking at a single point in time preceded by one specific financial markets environment), and it is difficult to obtain a complete picture because managers are hired and terminated over time. Our analysis also includes an assessment of the San Jose investment staff's success in negotiating below-market active management fees.

Active and Passive Growth Comparison Example



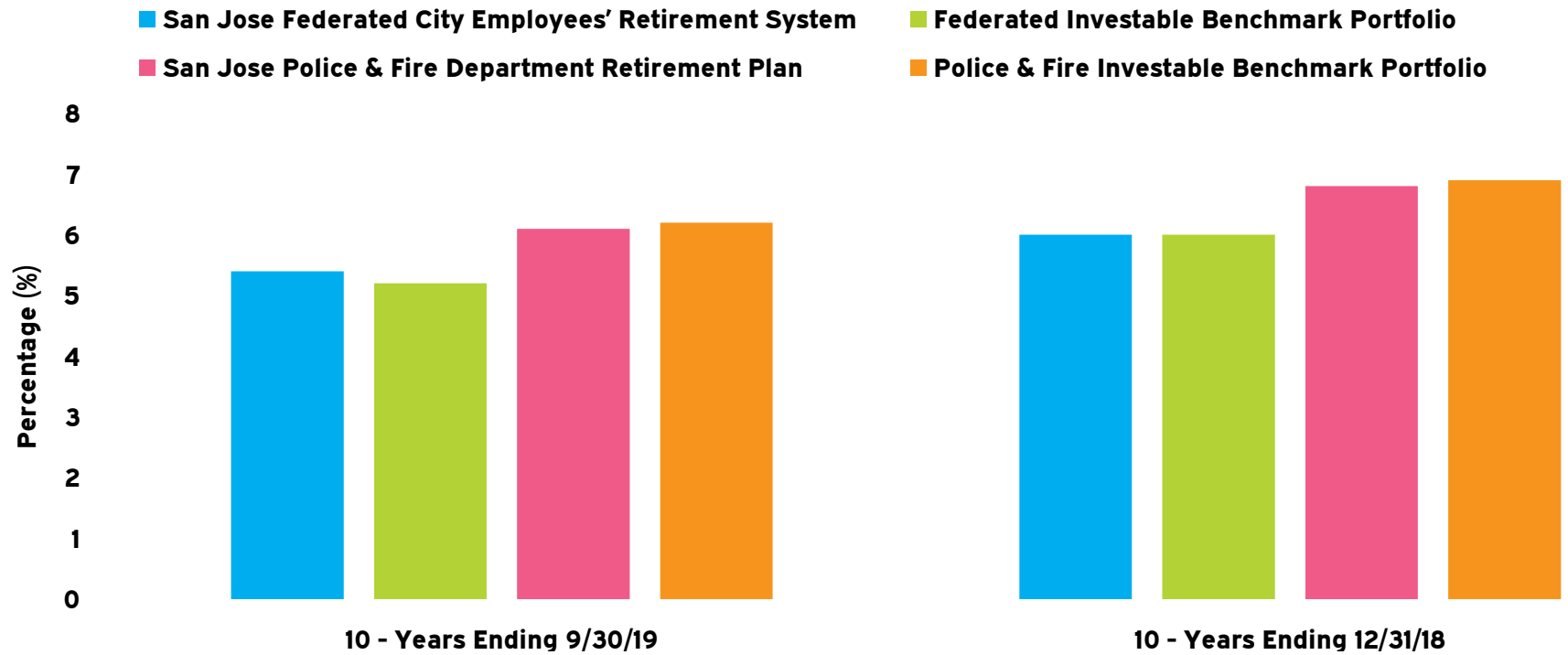
- This chart compares a passive option on the left, which grows at 10% during the year. The hypothetical active option on the right grows at 11% and pays a 1% management fee. The Plan did not lose money by hiring Manager 2, as Manager 2's higher return of 11% offset the fees of 1%.

Historical Performance Comparison

	10 - Years Ending 9/30/19 (%)	10 - Years Ending 12/31/18 (%)
San Jose Federated City Employees' Retirement System	5.4	6.0
<i>Federated Investable Benchmark Portfolio</i>	5.2	6.0
San Jose Police & Fire Department Retirement Plan	6.1	6.8
<i>Police & Fire Investable Benchmark Portfolio</i>	6.2	6.9

- The Investable Benchmarks represent what the plans' total market returns would have been if no active managers were used to achieve the target asset allocation.

Historical Performance Comparison



What Total Market Value and Funded Ratio Could Have Been¹

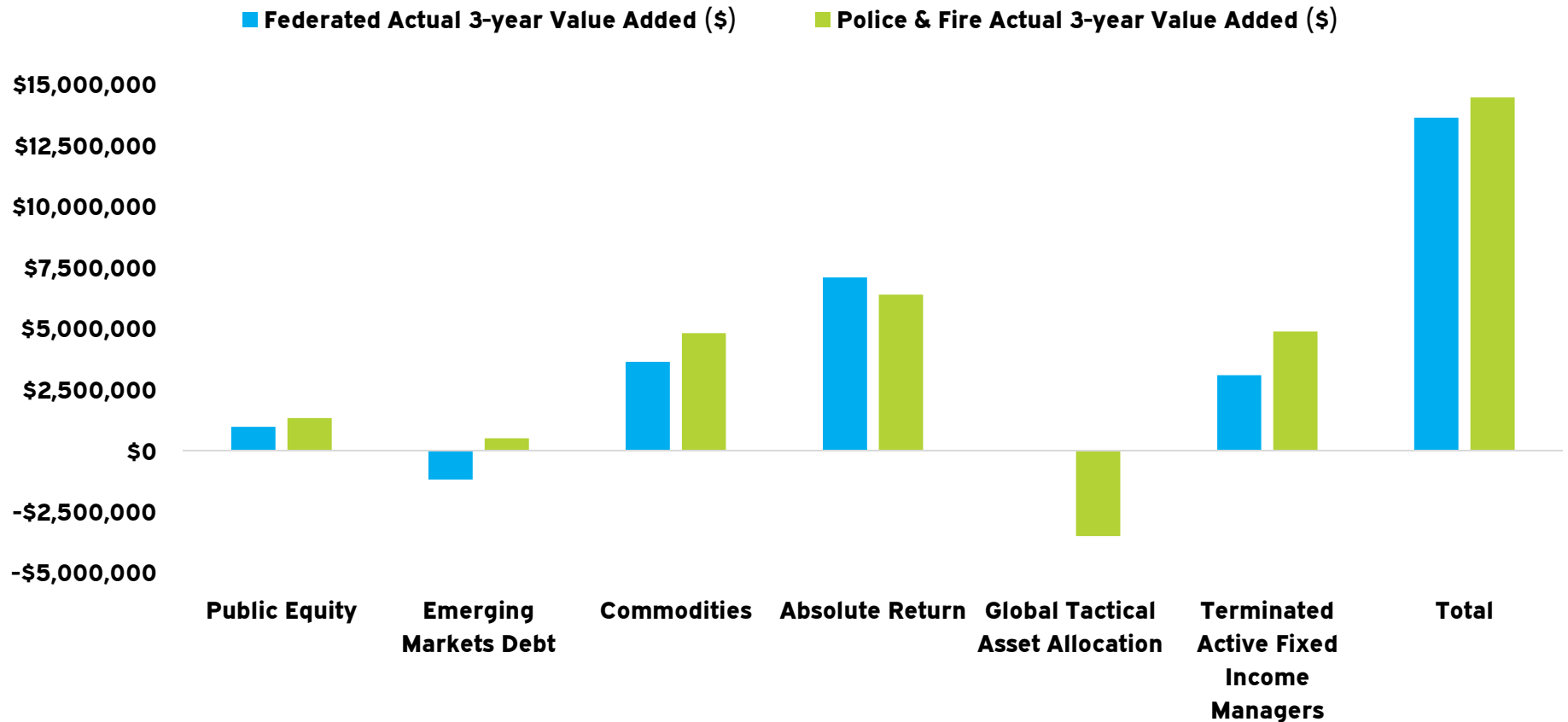
	As of September 30, 2019	
	Federated	Police and Fire
Actual Portfolio Value	\$2,129,249,945	\$3,647,566,683
Actual Funded Ratio	50.7%	73.1%
10 - Year Investable Benchmark Portfolio Value	\$2,068,251,504	\$3,722,145,150
10 - Year Investable Benchmark Funded Ratio	49.2%	74.6%

- The Investable Benchmark Portfolio represents what the plans' total market values would have been if no active managers were used to achieve the target asset allocation over the prior ten year period.
- Portfolio funded ratios would have been similar regardless of whether active managers had been utilized. Therefore, city contribution requirements also would have been similar.

¹ Assumptions include: Multiplying the 10-year cumulative net return, of the respective scenarios, by the October 1, 2009 market value plus net cash flows, weighted to be added in the middle of the time period. Liabilities are calculated only once per year, so 6/30/19 liabilities are used for each plan.

Active Manager Analysis

3-Year Value Added by Asset Class (Net of Fees) As of September 30, 2019



- The City of San Jose Retirement Plans' active managers added a combined \$28.1 million in excess of management fees over the 3-year period ending September 30, 2019. Within the two Plans, nine out of eleven asset classes utilizing active management added value after subtracting management fees.

3-Year Value Added by Each Current Public Manager and Hedge Funds
As of September 30, 2019

Manager	Federated Actual 3-year Value Added (\$)	Police & Fire Actual 3-year Value Added (\$)
Artisan Global Value	2,703,429	2,898,237
Artisan Global Opportunities	134,528	498,519
Cove Street Small Cap Value	-649,466	492,214
RBC Small Cap Core	NA	-961,103
Oberweis International Small Cap	-138,631	-259,596
Aberdeen Frontier Markets	-1,075,550	-968,770
Dimensional EM Value	-14,436	123,819
Comgest Global EM	-732,363	-1,602,588
GQG Emerging Markets	850,992	1,262,441
RWC Emerging Markets Equity	69,988	110,047
Wellington Emerging Markets	-163,965	-257,813
BlueBay EM Select Bond	-921,757	-843,942
Wellington Iguazu EM Debt	-258,770	1,360,245
Credit Suisse Risk Parity Commodities	2,840,729	4,208,090
Pinnacle Natural Resources	803,250	614,672
Hedge Funds	7,103,300	6,398,774
Global Tactical Asset Allocation	NA	-3,486,986
Terminated Active Fixed Income Managers	3,099,770	4,886,149
TOTAL	13,651,049	14,472,369

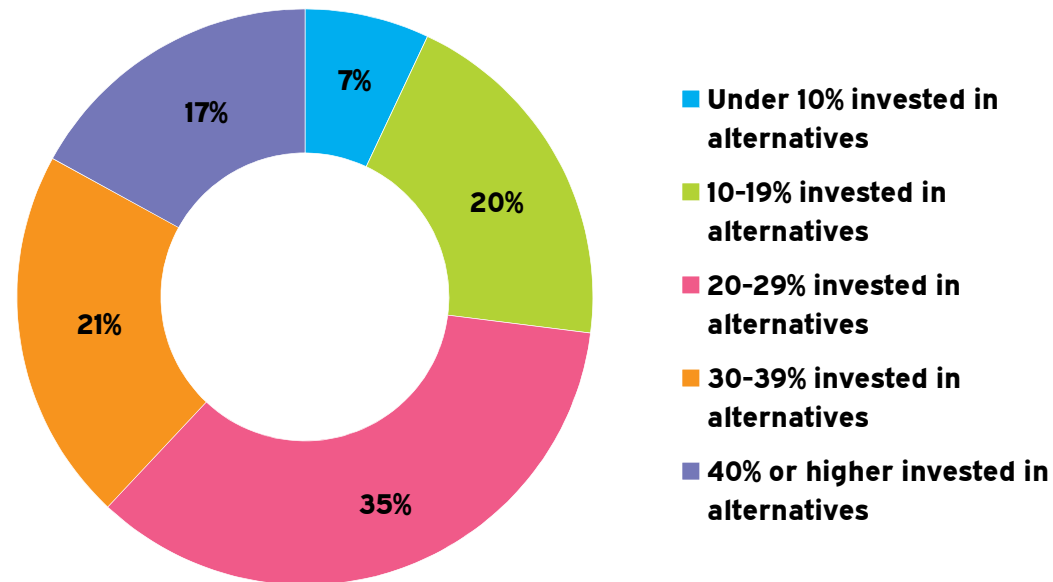
- The City of San Jose Retirement Plans' active managers added a combined \$28.1 million in excess of management fees over the 3-year period ending September 30, 2019. This list includes all active managers in the plans during the period, including managers which were terminated and hired during the 3-year period.

Alternatives Have Added Value Relative to Benchmarks

Actual Performance as of September 30, 2019	3 year annualized return (%)	3 year cumulative value added (\$)
San Jose Police & Fire Department Retirement Plan Private Equity ex Russell 3000 (net of fees)	13.3	54,213,725
<i>Global Public Equity Index (MSCI ACWI IMI Net)</i>	9.4	
San Jose Police & Fire Department Retirement Plan Private Real Estate (net of fees)	9.9	11,004,310
<i>Real Estate Index (NCREIF Property Index)</i>	6.8	
San Jose Police & Fire Department Retirement Plan Absolute Return Hedge Funds (net of fees)	4.4	28,484,000
<i>Hedge Funds Index (Absolute Return Benchmark¹)</i>	0.7	
San Jose Federated City Employees' Retirement System Private Equity ex Russell 3000 (net of fees)	11.8	11,040,160
<i>Global Public Equity Index (MSCI ACWI IMI Net)</i>	9.4	
San Jose Federated City Employees' Retirement System Private Real Estate (net of fees)	16.1	13,051,590
<i>Real Estate Index (NCREIF Property Index)</i>	6.8	
San Jose Federated City Employees' Retirement System Absolute Return Hedge Funds (net of fees)	4.7	19,791,075
<i>Hedge Funds Index (Absolute Return Benchmark)</i>	0.7	

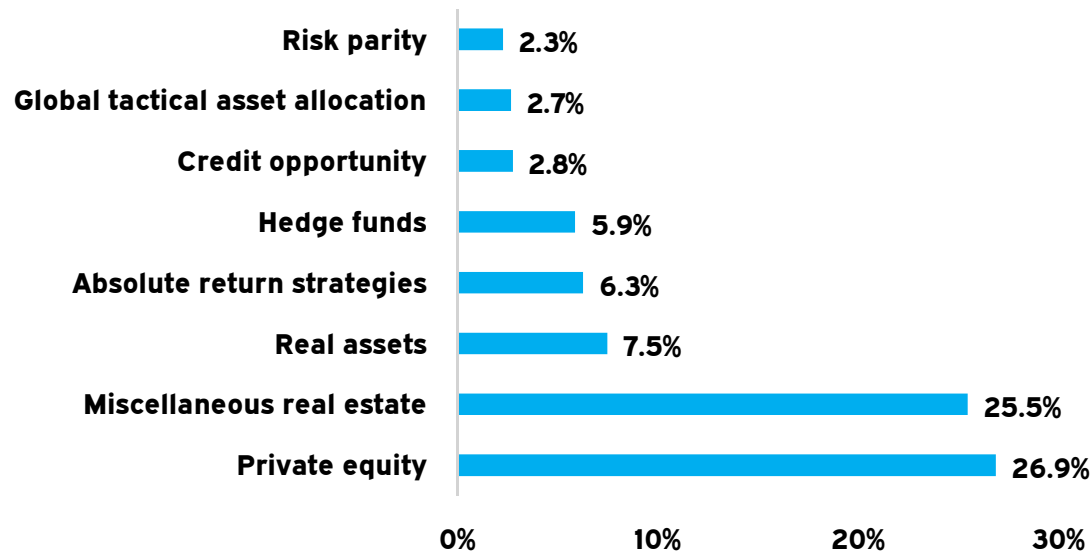
- The City of San Jose Retirement Plans earned an additional estimated \$137.6 million in excess of public market indexes by investing in private equity, private real estate, and hedge funds over the last three years ended September 30, 2019.

¹ Absolute Return Benchmark was HFRI Macro (total) Index through 9/30/18, and ICE BofAML 91-Day T-Bills Total Return thereafter.

Proportion of Funds with Designated Percentages Invested in Alternatives

- According to a survey of 2018 Comprehensive Annual Financial Reports (CAFRs) for 180 public pension plans by the Center for State & Local Government Excellence, most public pension plans invest significantly in alternative assets.
- 16.6% of plans surveyed carried 40% or more of their portfolios in alternatives.
- The San Jose pension plans allocate 25% of their target plan assets to alternatives.

Average Portfolio Shares of Common Alternatives



- According to the same survey of 2018 Comprehensive Annual Financial Reports (CAFRs) for 180 public pension plans by the Center for State & Local Government Excellence, most public pension plans are invested in a wide variety of alternative investments. The figures shown do not sum to 100% as there are a number of additional subcategories not shown.
- The San Jose pension plans do not have allocations to some of the alternatives used by peers, including risk parity and global tactical asset allocation.

Summary

- The pension plans' funded ratios and required city contributions would have been similar over the trailing ten-year period, regardless of whether active or passive investments were used.
- The pension plans' active managers have added value above their benchmarks, even after subtracting investment management fees.
- Aggressive fee negotiations and analysis by the San Jose investment staff and consultants have saved additional money for the pension plans.



Appendix



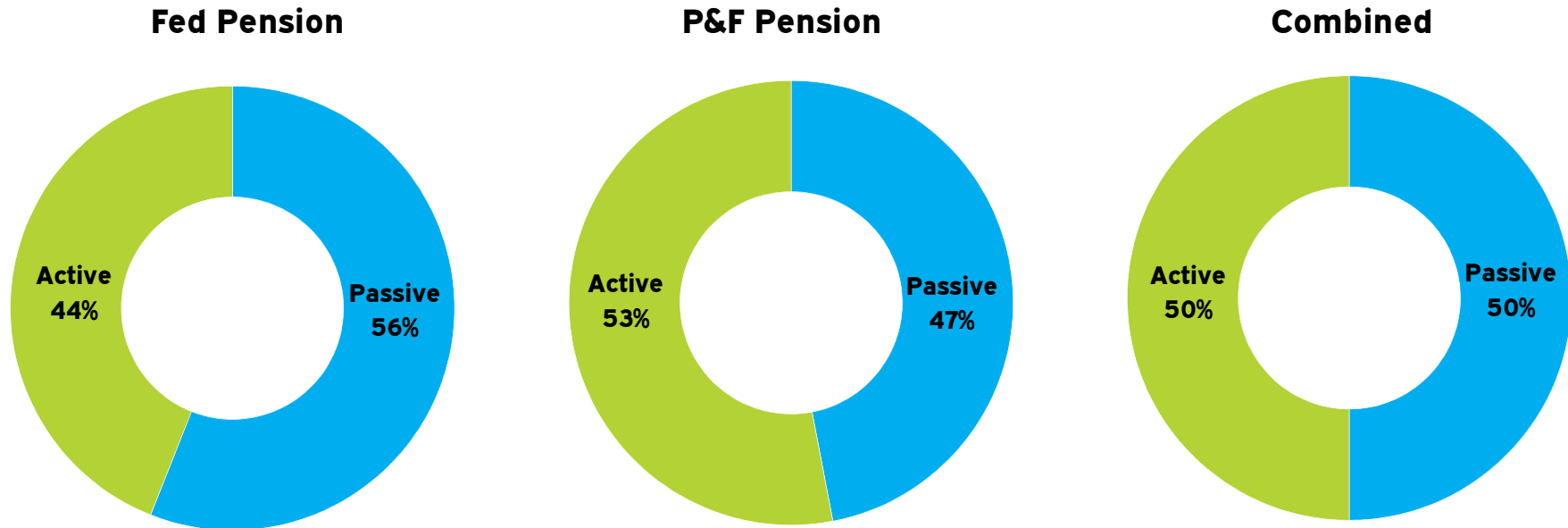
Impact on City FYE 2020 Contributions

	Baseline	Investment Fees = \$0	Lower Investment Returns
Police & Fire	\$ 186.3	\$ 185.5	\$ 214.1
Federated	179.6	179.2	202.9
Combined	\$ 365.9	\$ 364.7	\$ 417.0
Impact		\$ (1.2)	\$ 51.1

Dollar amounts in millions

- Management and incentive fees were \$67.6 million for both Plans – \$43.4 million for P&F, \$24.2 million for Federated. (Based on the San José Annual Fee Reports for 2017)
- On an annual basis, for every \$1 million reduction in investment fees, the City contributions would decrease by ~\$20,000
- Without active management (private equity, alternatives, etc.) expected future investment returns would decrease, resulting in future City contributions to increase to make-up the difference.
- The estimated impact used in this example was a decrease in the expected return of 0.50%, for an assumed rate of return of 6.25%.

Active vs. Passive Allocations as of 12/31/2018



- The San Jose plans' utilization of inexpensive passive investment management options is significant, and has been increasing over time.

Negotiated Fee Savings for Active Managers with a Passive Alternative

As of September 30, 2019	Assets Invested for both Pensions (\$ million)	Asset Class Median Fee (%)	San Jose Fee (%)	Estimated Savings per year at Current Assets (\$ million)
Artisan Global Value	343.6	0.64	0.56	0.3
Artisan Global Opportunities	252.7	0.67	0.75	-0.2
Cove Street Small Cap Value	42.5	0.80	0.72	0.0
Oberweis International Small Cap	75.7	0.88	0.97	-0.1
Dimensional Emerging Markets Value	101.7	0.88	0.57	0.3
GQG Global Emerging Markets	107.8	0.85	0.57	0.3
RWC Emerging Markets Equity	66.8	0.85	0.70	0.1
Wellington Emerging Markets ¹	131.2	0.85	0.25	0.8
BlackRock Core Property Fund	43.6	1.00	0.40	0.3
Clarion Lion Properties Fund	124.8	1.00	0.85	0.2
Credit Suisse Risk Parity Commodities	134.5	0.79	0.42	0.5
			TOTAL	\$2.5

- Compared to stated manager fees for each active manager, the City of San Jose Retirement Plans save an estimated \$3.1 million per year as the result of an intensive focus on reducing and negotiating fees by the City's investment staff and advisors.
- The City of San Jose Retirement Plans save an estimated \$2.5 million per year on active manager fees compared to asset class median fees.

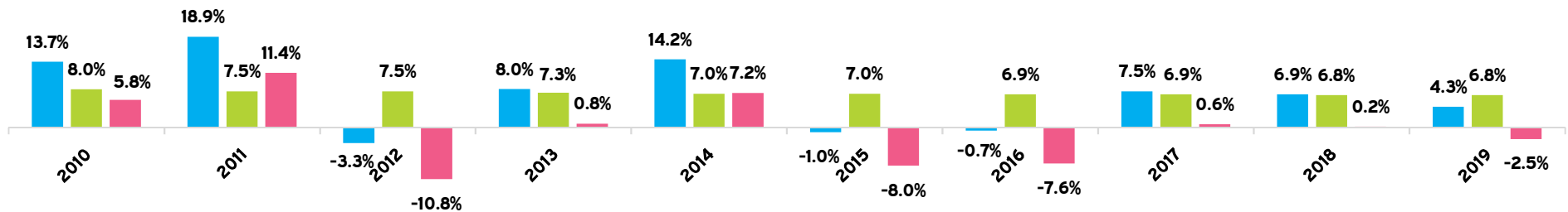
¹ Manager also charges incentive fees which are not included in this analysis.

Federated Discount Rate History

Years	Fiscal Year	10 Year US Treasury Rate (%)	Discount Rate (%)	Fiscal Year Return ¹ (%)	Excess Performance to Discount Rate (%)
	1997	6.51	8.25		
1	2010	2.97	7.95	13.7	5.8
2	2011	3.18	7.50	18.9	11.4
3	2012	1.67	7.50	-3.3	-10.8
4	2013	2.52	7.25	8.0	0.8
5	2014	2.53	7.00	14.2	7.2
6	2015	2.35	7.00	-1.0	-8.0
7	2016	1.49	6.875	-0.7	-7.6
8	2017	2.31	6.875	7.5	0.6
9	2018	2.85	6.75	5.9	-0.9
10	2019	2.00	6.75	4.3	-2.5

Plan Return versus Discount Rate

■ Fiscal Return ■ Discount Rate ■ Excess Return



Source: ORS, Meketa.

- In 5 of the last 10 years, Federated System returns have been above the discount rate. Financial optimizers typically project a 50% probability of meeting the expected returns each year, so we would expect that half of the time, investments will outperform the expected return, and half the time, investments will lag the projected return.

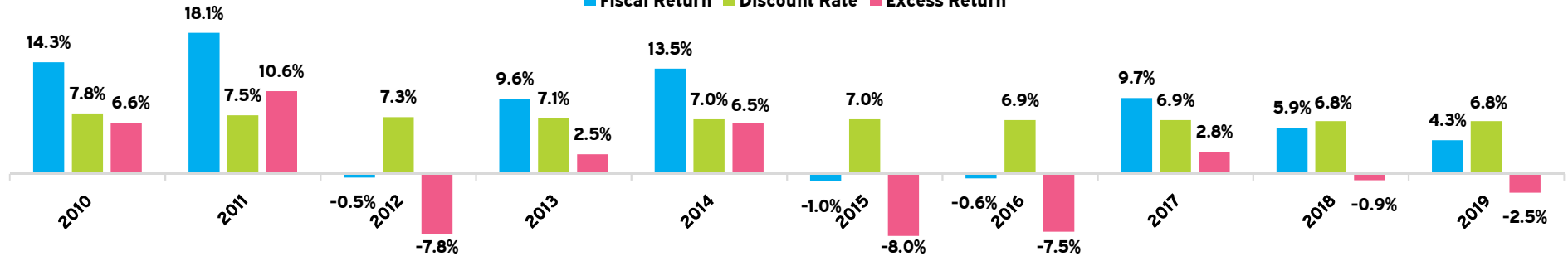
¹ Fiscal Year Ends 6/30. Returns are net of fund management fees.

Police & Fire Discount Rate History

Years	Fiscal Year	10 Year US Treasury Rate (%)	Discount Rate (%)	Fiscal Year Return ¹ (%)	Excess Performance to Discount Rate (%)
	1997	6.51	8.00		
1	2010	2.97	7.75	14.3	6.6
2	2011	3.18	7.50	18.1	10.6
3	2012	1.67	7.25	-0.5	-7.8
4	2013	2.52	7.125	9.6	2.5
5	2014	2.53	7.00	13.5	6.5
6	2015	2.35	7.00	-1.0	-8.0
7	2016	1.49	6.875	-0.6	-7.5
8	2017	2.31	6.875	9.7	2.8
9	2018	2.85	6.75	6.9	0.2
10	2019	2.00	6.75	4.3	-2.5

Plan Return versus Discount Rate

■ Fiscal Return ■ Discount Rate ■ Excess Return



Source: ORS, Meketa.

- In 6 of the last 10 years, Police & Fire Plan returns have been above the discount rate. Financial optimizers typically project a 50% probability of meeting the expected returns each year, so we would expect that half of the time, investments will outperform the expected return, and half the time, investments will lag the projected return.

¹ Fiscal Year Ends 6/30. Returns are net of fund management fees.