



# FUNDAMENTALS OF PUBLIC FUNDS INVESTING

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# SESSION ONE

## Utilizing the Asset/Liability Management (ALM) Framework: Practical Approach and Theory



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*People don't drink the sand because they are thirsty. They drink the sand because they don't know the difference*

– Michael Douglas, *The American President*

When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, the **primary objective** of a trustee shall be to **safeguard the principal of the funds** under its control.

The **secondary objective** shall be to meet the **liquidity needs** of the depositor.

The **third objective** shall be to **achieve a return** on the funds under its control.

# Suitability – Building a Plan with Purposeful Evaluation

*In a room full of public fund managers, when asked the question, “In importance, how do you rank the objectives of safety, liquidity and income in the performance of your job?” most of the respondents would rank safety and liquidity combined at 80 percent to 90 percent. In light of the above example, why then would the typical performance evaluation be based on a portfolio’s total return –or even a peer group comparison– given that, of the three policy objectives, return receives the lowest priority?*

- 1) Performance Evaluation involves both qualitative and quantitative components to form the basis for reporting how well a manager is doing in meeting investment objectives.
- 2) Suitability is the one standard that can “specify performance measures as are appropriate for the nature and size of the public funds within the custody or the unit of local government”
- 3) The five “w’s” of suitability sets a baseline for questions to be answered while developing a strategy.

# Strategy Development Steps for Public Investors

## Five Points of Suitability

- Questions you should ask yourself to evaluate performance.



### Liquidity

Is there adequate liquidity to meet operating expenses without the need to sell bonds before maturity?



### Duration

Is the portfolio exposed to an appropriate level of interest rate risk (duration) in the portfolio?



### Allocation

Does the portfolio have a diversified asset allocation along type, structure and maturity timeframes?



### Legal

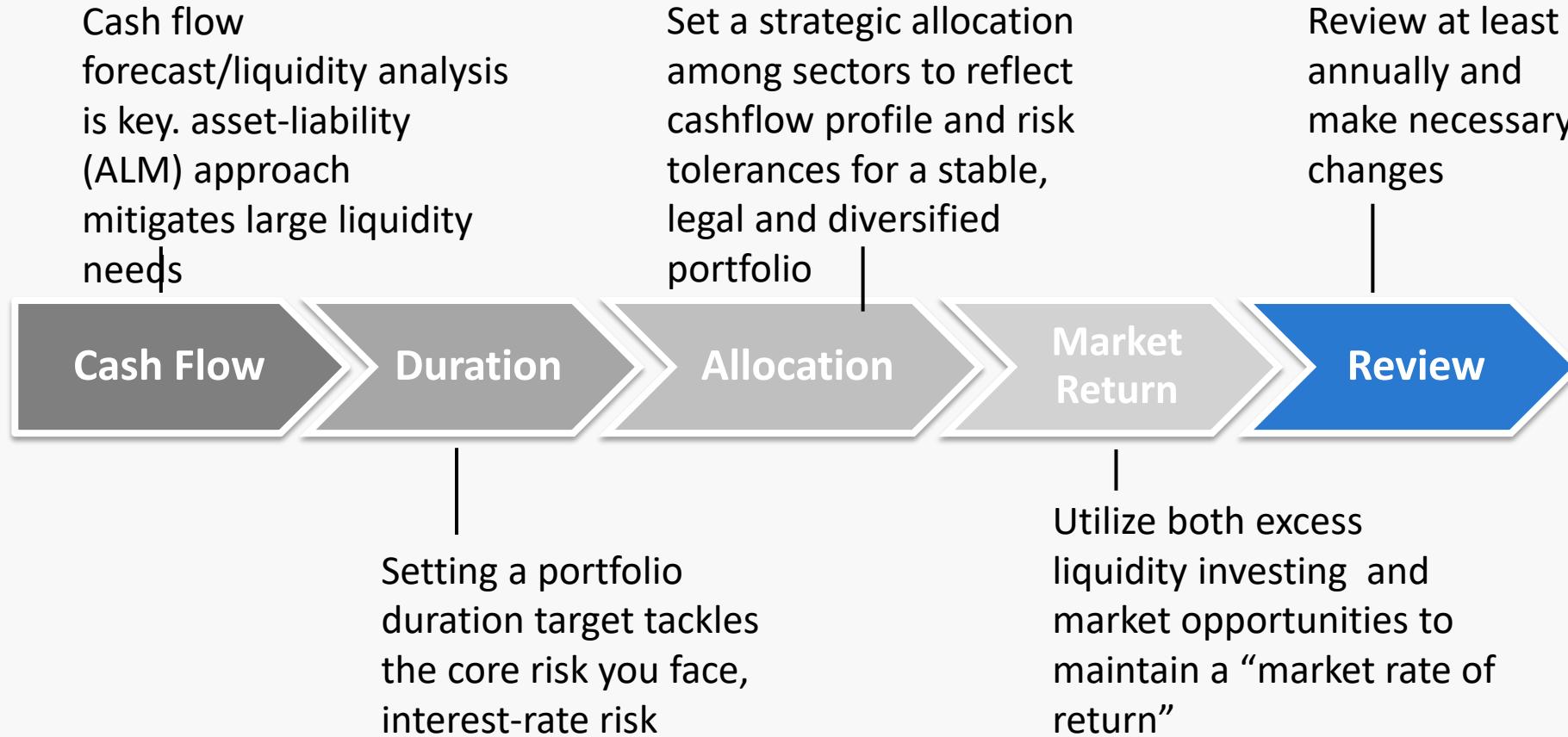
Does the portfolio meet compliance and policy/statute constraints?



### Earnings

Is the portfolio earning a “market rate of return” through budgetary and economic cycles?

## Strategy Development Steps for Public Investors (cont. 2 of 2)



# “Don’t Beat the Market, Be the Market”

**Harvard Endowment:** Had 230 employees until 2017. Top 6 executives took home over \$40MM in compensation.

*Lost to S&P index by over 100bp over last 20 years and almost 500Bp over past 10 years.*

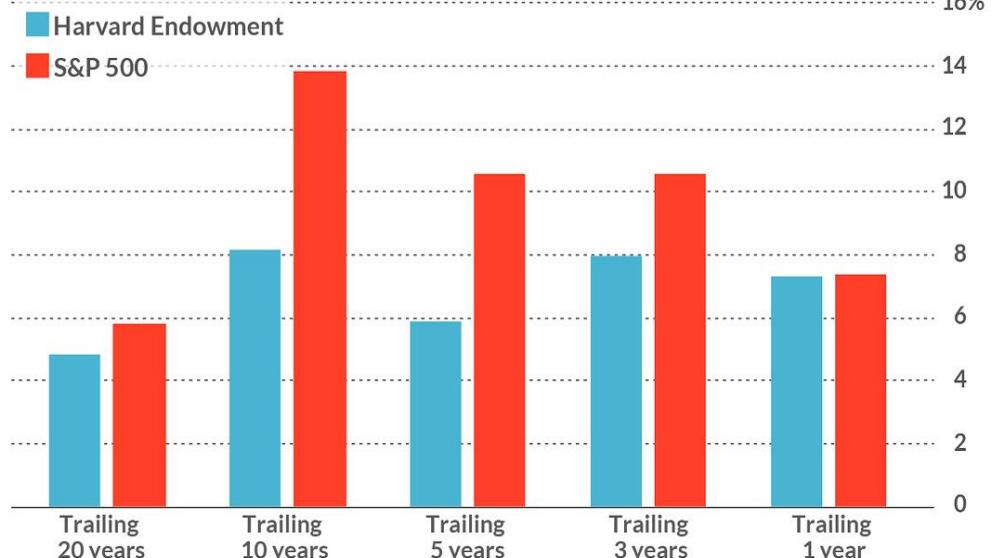
*Lost to the S&P annually for the last 12 years straight.*

## 5 Takeaway's:

- Performance Persistence is Rare:
  - Harvard's few moments of glory have been dwarfed by its failures.
- Overconfidence is an obstacle:
  - Those who have seen success get complacent and assume they are smarter than they really are.
- Reversion to the mean is powerful:
  - Sector outperformance comes and goes and is hard to predict.
- Many years of skill required to beat luck:
  - Statistically speaking, you would need many decades to understand if manager is superior.
- Indexes are hard to beat:
  - Harvard would have even lost out to a blended portfolio of 60% stocks, 40% US Bonds over last 20 years.

## The best and brightest

Annualized total return through June 30, 2020



Source: Harvard Management Company; The Harvard Crimson; [www.HulbertRatings.com](http://www.HulbertRatings.com)

# “Don’t Beat the Market, Be the Market”

What does Nevada’s \$35 billion fund manager do all day? Nothing.



Image: The Wall Street Journal

Steve Edmundson has no co-workers, rarely takes meetings and often eats leftovers at his desk. With that dynamic workday, the investment chief for the Nevada Public Employees’ Retirement System is out-earning pension funds that have hundreds on staff.

His daily trading strategy: Do as little as possible, usually nothing.

The Nevada system’s stocks and bonds are all in low-cost funds that mimic indexes. Edmundson may make one change to the portfolio a year.

Nevada PERS										
December 31, 2023										
Performance Gross of Fees										
Asset Class	Sub-Asset Class	Market Value (Millions)	Target Allocation	Actual Allocation	FYTD Return	One Year	3 Years	5 Years	10 Years	Since Inception
<b>U.S. Stocks</b>	S&P 500 Index	\$ 24,767	41.0%	41.0%	8.1%	26.3%	10.1%	15.7%	12.0%	10.7%
	Total U.S. Stocks	\$ 24,767	41.0%	41.0%	8.1%	26.3%	10.1%	15.7%	12.0%	11.4%
	Market Return				8.0%	26.3%	10.0%	15.7%	12.0%	11.6%
<b>International Stocks</b>	MSCI World x US Index	\$ 9,476	16.0%	15.7%	6.0%	18.1%	4.8%	8.8%	4.7%	5.9%
	Total Intl. Stocks	\$ 9,477	16.0%	15.7%	6.0%	18.1%	4.8%	8.8%	4.7%	5.6%
	Market Return				6.0%	17.9%	4.4%	8.5%	4.4%	5.1%
<b>U.S. Bonds</b>	US Bond Index	\$ 16,520	28.0%	27.4%	2.3%	3.9%	-1.0%	2.4%	2.3%	4.2%
	Total U.S. Bonds	\$ 16,520	28.0%	27.4%	2.3%	3.9%	-1.0%	2.4%	2.3%	6.5%
	Market Return				2.4%	4.1%	-1.1%	2.3%	2.3%	6.5%
<b>Private Markets</b>	Private Real Estate	\$ 2,869	6.0%	4.8%	-4.8%	-10.7%	3.8%	4.6%	7.4%	7.3%
	Private Equity	\$ 4,787	6.0%	7.9%	2.1%	5.4%	16.9%	18.0%	17.0%	13.5%
	Total Private Markets	\$ 7,656	12.0%	12.7%	-0.6%	-1.2%	11.7%	12.4%	12.7%	10.6%
<b>Cash</b>					4.0%	13.0%	9.6%	12.5%	11.4%	8.6%
	Total PERS' Fund	\$ 60,379	100.0%	100.0%	4.8%	14.4%	6.3%	10.8%	8.2%	9.4%
	Market Return				5.6%	16.7%	6.0%	10.5%	8.0%	9.1%

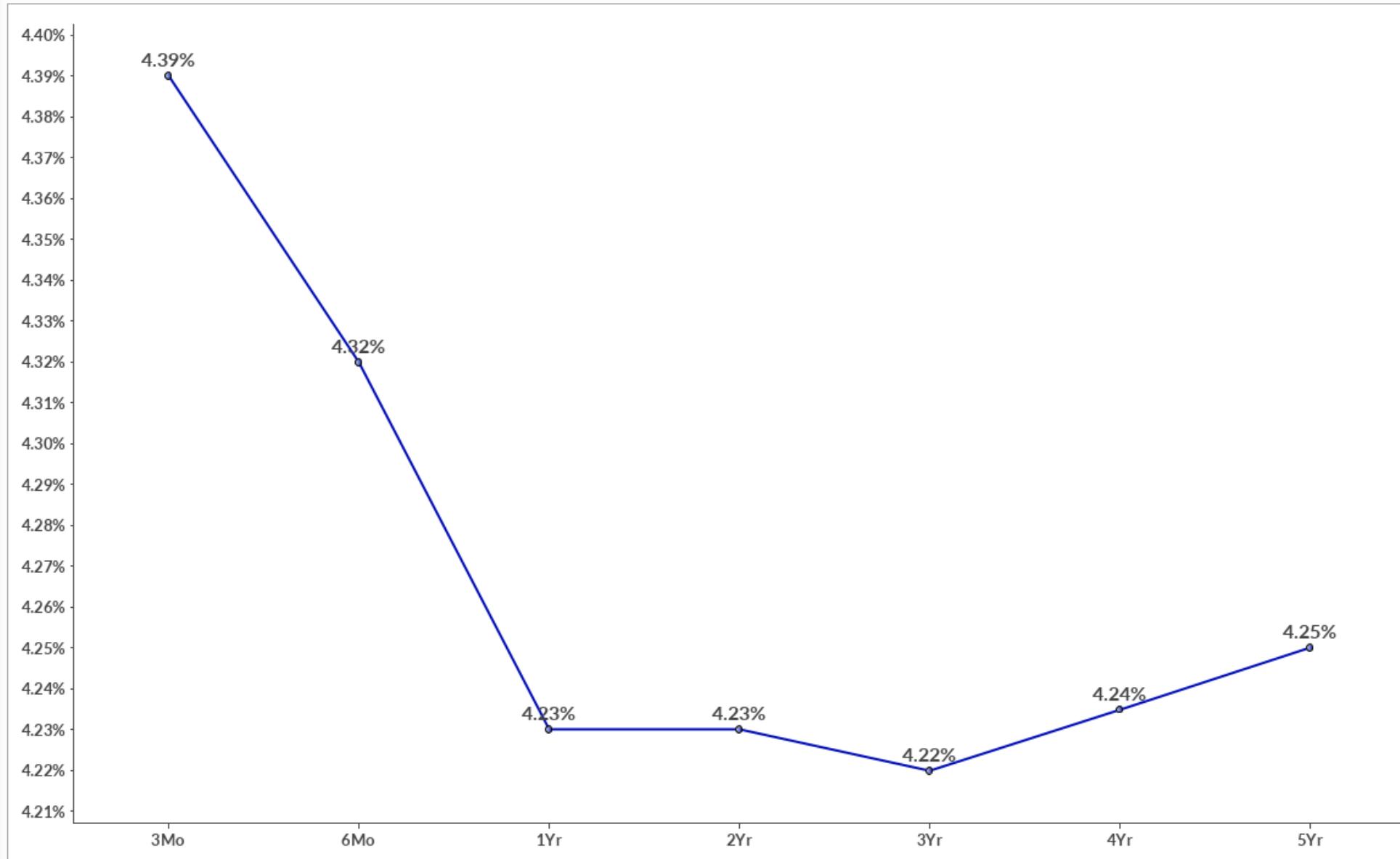
Source: Nvpers

Edmundson’s do-nothing strategy slightly outperformed the market per year over the past three, five, and ten years.

And this is the most awesome fact: over the past five and ten years, he beat the pants off 90% of US pension funds, with over \$1 billion in assets, based on data from pension fund tracker Callan Associates.

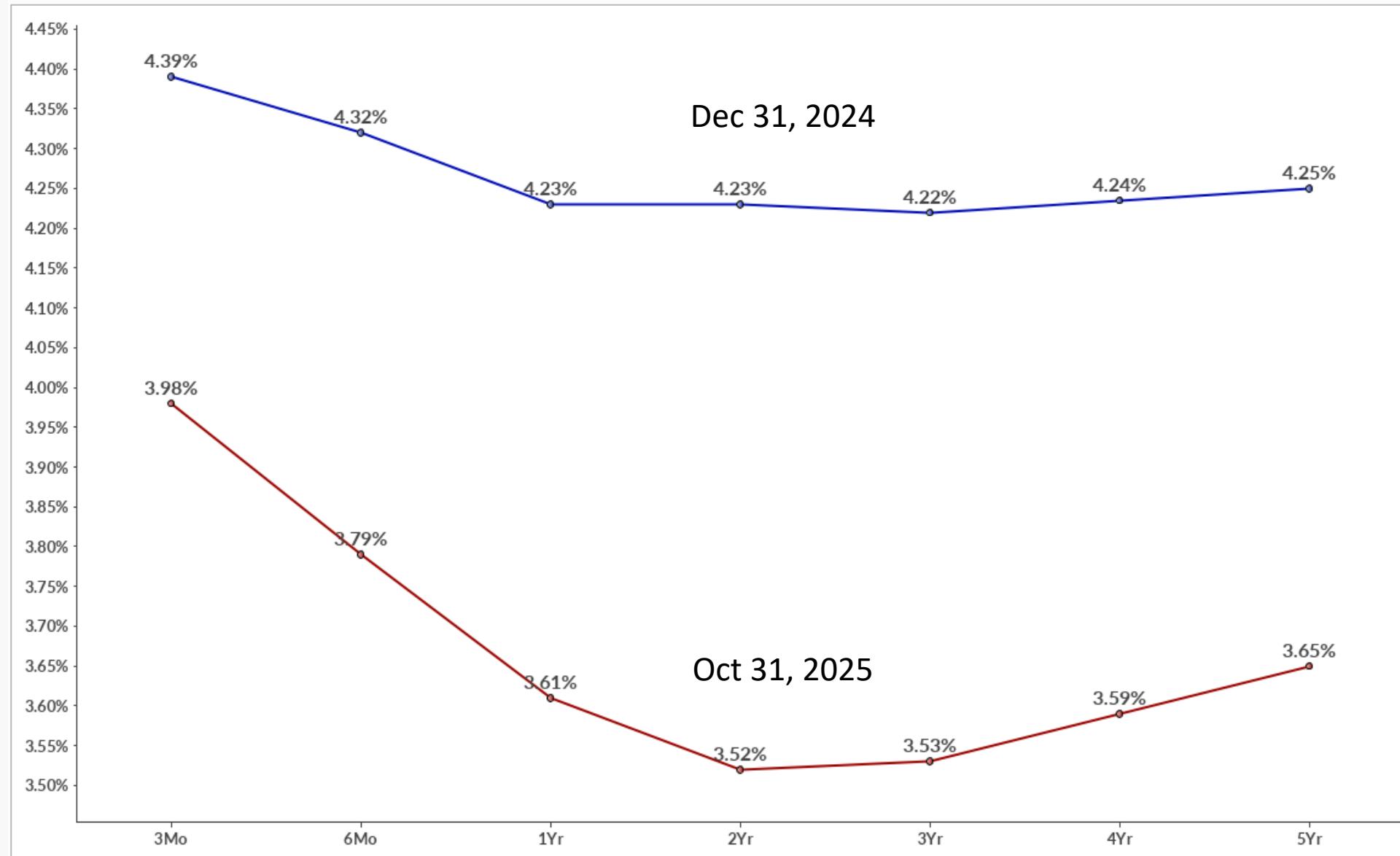
## Treasury Yield Curve Dec 31, 2024

What would you choose?



# Treasury Yield Curves

What would you choose?



# Interest Rate Speculation

Rates: Aug 1983 to Sep 2025

\$100MM Portfolio

The Truth About Flat Yield Curves



Speculate Holding 3Mo Tbill in Lieu of Longer Bond

Dates Reviewed: 08/31/1983 To 09/30/2025

Buy 3MoTbill

Start Date

08/31/1983

Portfolio Size

\$100,000,000.00

End Date

09/30/2025

3Mo TBill vs.	Observations in Months	Observations in Years	Number of Times Shorter Bond Wins	% of Wins	Number of Times Shorter Bond Loses	% of Losses	Average Annual Basis Point Win	Average Annual Basis Point Loss	Average Performance of Staying in Short Bond Over Period in Basis Points Annually	Average Performance of Staying in Short Bond Over Holding Period in Dollars	Average Spread of Shorter Bond to Buy Bond at Decision Time
Buy 2YrTsy	506	42.17	118	23.32%	388	76.68%	66.83	(126.27)	(81.24)	(\$1,624,733.20)	(66.89)
Buy 5YrTsy	506	42.17	57	11.26%	449	88.74%	111.79	(200.98)	(165.75)	(\$8,287,519.76)	(116.07)



Speculate Holding 3Mo Tbill in Lieu of Longer Bond

Dates Reviewed: 08/31/1983 To 09/30/2025

Buy 3MoTbill

Start Date

08/31/1983

Portfolio Size

\$100,000,000.00

End Date

09/30/2025

3Mo Spread at Decision

0

3Mo TBill vs.	Observations in Months	Observations in Years	Number of Times Shorter Bond Wins	% of Wins	Number of Times Shorter Bond Loses	% of Losses	Average Annual Basis Point Win	Average Annual Basis Point Loss	Average Performance of Staying in Short Bond Over Period in Basis Points Annually	Average Performance of Staying in Short Bond Over Holding Period in Dollars	Average Spread of Shorter Bond to Buy Bond at Decision Time
Buy 2YrTsy	52	4.33	11	21.15%	41	78.85%	65.15	(152.39)	(106.38)	(\$2,127,500.00)	29.33
Buy 5YrTsy	59	4.92	20	33.90%	39	66.10%	132.43	(277.24)	(138.37)	(\$6,918,644.07)	52.25

## Speculation Miscalculation

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In 2014, the Bernalillo County Treasurer's office, under then-Treasurer Manny Ortiz and former Treasurer/Investment Officer Patrick Padilla, faced a major scandal for losing **nearly \$20 million in taxpayer money** due to risky investments. A subsequent audit found an additional \$900 million in questionable investments with incomplete or no records.

**Investment Losses:** The county was forced to sell long-term investments at an approximately \$17 million loss in 2014 to meet its immediate cash flow needs (liquidity).

**Audits and Investigations:** State Auditor Hector Balderas initiated a special audit due to concerns about bond investments and payments to brokers, which revealed high-risk strategies and a lack of proper documentation. The New Mexico Securities Division also got involved, alleging that two brokerage firms, Oppenheimer & Co., Inc. and BOSC Inc., and their brokers did not exercise due diligence with public funds.

## Can't Beat the Market, So Now What?

- Public entities generally exhibit predictive cash flows in both magnitude and timing.
- This allows public funds to create duration optimized (interest rate risk centric) allocations.
- Allocations should reflect the legal guidance of the investment policy and the desired weights of allowable sectors based on risk/reward and ALM preferences.
- Portfolio construction: Safety (IR Risk, credit), liquidity, diversified, legal, market rate of return.



# Duration, Duration, Duration!

**Being invested is more important than the allocation decision!**

Moving from Cash to two duration in Treasuries:

**Pickup approx. 30Bp Avg Yield**

Moving from two duration in Treasuries to two duration in Agency Bullets:

**Pickup approx. 7Bp Avg Yield**

Moving from two duration in Agency Bullets to maturity matched Agency Callables:

**Pickup approx. 12Bp in Avg Yield**

 Custom Model Stats Analysis Dates: Dec 31, 2014 - Dec 31, 2024					
MODEL WEIGHTING		Cash Proxy	Treasury	Agency Bullet	Agency Callable
LOUS	OVERNIGHT CASH	100.00%			
G0QA	Treasury 0-1Yr		34.00%		
H541	Agy Composite 0-1Yr			32.00%	32.00%
G1O2	Treasury 1-3Yr		36.00%		
G1PB	Agy Bullet 1-3Yr			37.00%	
G1PC	Agy Callable 1-3Yr				37.00%
G2O2	Treasury 3-5Yr		30.00%		
G2PB	Agy Bullet 3-5Yr			31.00%	
G2PC	Agy Callable 3-5Yr				31.00%
MODEL STATS		Annualized Total Return	Annualized Price Return	Annualized Income Return	Annualized Std Dev Total Return
					Avg Yield to Worst
Cash Proxy		1.760%	0.000%	1.760%	1.725%
Treasury		1.506%	(0.369%)	1.819%	2.018%
Agency Bullet		1.631%	(0.558%)	2.092%	2.083%
Agency Callable		1.339%	(0.295%)	1.594%	2.202%
					Std Dev Yld
					Avg Eff Dur

# Anatomy of Duration

## MACAULAY DURATION

Economist Frederick Macaulay proposed a simple formula (1938) to measure the time required to recover the initial cost of the bond (present value).

Weights are given to the present value of each cash flow (coupon payment) at the applicable interest rate for the life of the bond (YTM) then divided by the market price.

$$[\text{PV}(\text{CF}_1) * p_1 + \text{PV}(\text{CF}_2) * p_2 + \dots + \text{PV}(\text{CF}_n) * p_n] / \text{Market Price of Bond}$$

Thus, Macaulay Duration states the time period within which the present value of the bond will be realized.

e.g. Current 5 Year Treasury has a duration of 4.805.

The duration of a bond will always be less than its maturity period.

## MODIFIED DURATION

Macaulay Duration was a good tool when it was conceived to compare bonds on a relative basis as to when an investor could expect to receive the cost of their investment back. The shorter the Macaulay Duration, the “less risk” was perceived by the investor since the PV of the bond would be received sooner.

However, Macaulay Duration’s shortfall was its inability to measure risk associated with holding the bond during its existence. Macaulay Duration lacks the ability to measure changes in value as interest rates fluctuate.

To correct for this, the simple division of the Macaulay Duration by (1+YTM) will convert the Mac Duration from a time-based receipt of cash flows to the approximate change in price given a 100bp move in rates.

## EFFECTIVE DURATION

Same as Modified Duration but accounts for prepayment risk in callables and amortizing product. Requires additional sophistication (OAS Model) to obtain.

Effective Duration **SHOULD ALWAYS** be used when a portfolio invests in callable or MBS type securities.

## Why Do We Care?

- We know modified duration measures the approximate change in value for a 100bp change in interest rates.
- Because Modified Duration has Macaulay Duration as an input, we know that TVM (time value of money) principles apply.
- Thus, we can show that in normal markets over long periods of time, the more duration we take on (risk), the more return we can achieve.
- Since earning a Market Rate of Return is a core objective (albeit a lower priority one), maximizing duration given safety and liquidity are taken care of is important. It will be the **core** determinant of how much income/return can be derived from the portfolio.
- Sector and structure profile is of secondary importance to duration.



# Approaches for Determining Portfolio Duration

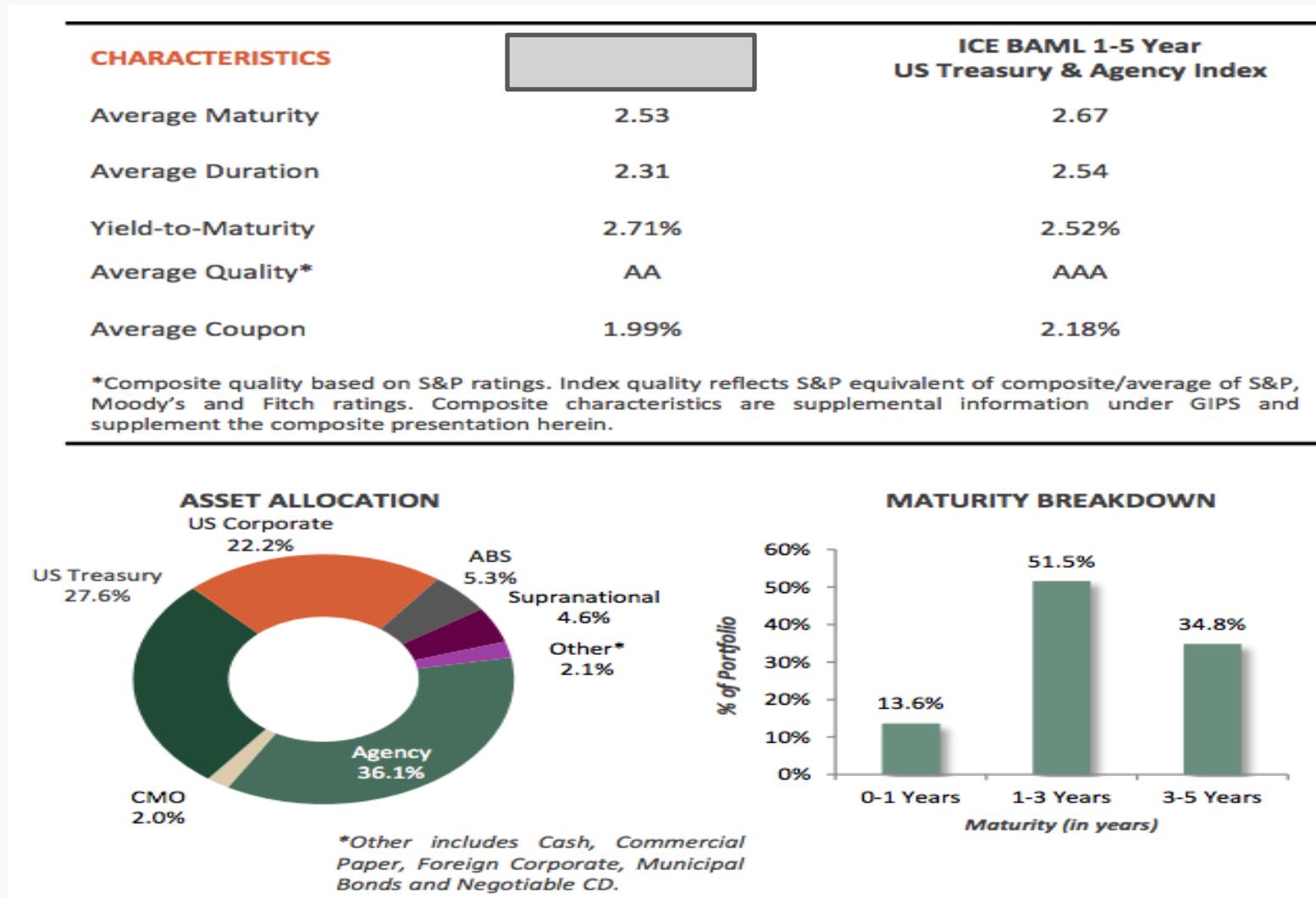
## Market Based – Index Sets

- Manager uses a set of indices and measures risk/reward profiles accordingly (ICE/BAML, Lehman/Bloomberg, etc...)
- Like multiple curves, the manager could weight their preference of sectors and structures and determine the optimal blended duration for the portfolio.



## Market Based Approach

### Single or Multiple Index Analysis



## Cash Flow Based - ALM

- Utilizes cash flow analysis to measure the timing and magnitude of liabilities.
- Uses immunization techniques utilized in the insurance and pension world to measure individual liability streams.
- These liability streams are combined and weighted to derive a total portfolio duration that will suffice to match the liability needs.



## CA Investment Primer – Portfolio Structuring

“One of the most important objectives in the investment of public funds is ensuring that funds are available to fund an organization’s cashflow needs. Investment officials **must** identify periods when cash will be needed from the portfolio and **invest funds to mature on those dates**.

Furthermore, most investment officials will want to provide a cushion of cash to meet unexpected cash outlays. This cushion may be maintained in short-term investments, money market funds, or in LAIF.”

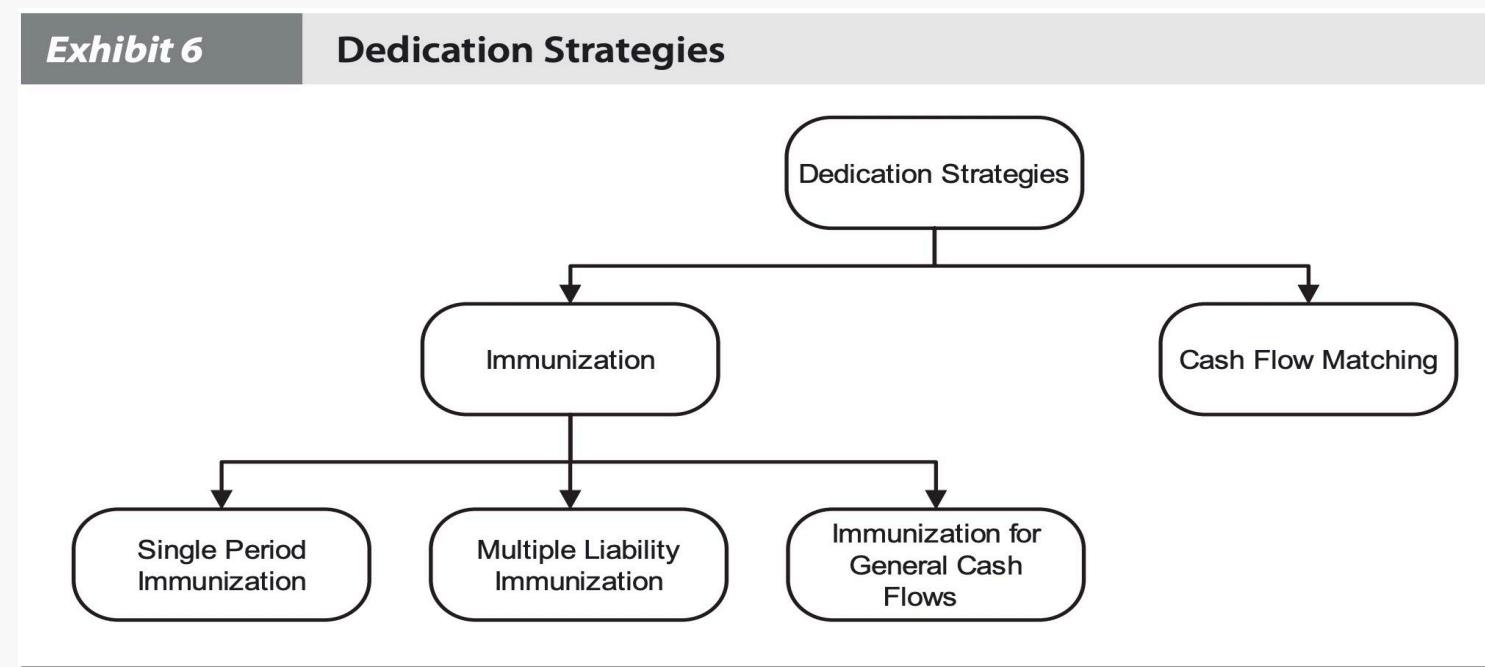
“In developing a portfolio structuring strategy, it is the investor’s primary goal to balance the portfolio’s safety and liquidity with the **secondary** goal of yield. Safety is achieved through careful selection and monitoring of high credit quality investments and **matching maturities of investments to cash needs**.”



## Cash Flow Based Approach

### ALM Analysis

**Dedication Strategy:** Specialized fixed-income strategy designed to accommodate specific funding needs of the investor. They generally are classified as passive in nature, although it is possible to add some active management elements to them.



### Cash Flow Based Approach

#### ALM Analysis

**Immunization:** Aims to construct a portfolio that, over a specified horizon, will earn a predetermined return regardless of interest rate changes (duration focused). An increase in rates and the corresponding drop in investment value partially offset by an increase in re-investment rates (and vice-versa).

**Cash Flow Matching:** Provides the future funding of a liability stream from the coupon and matured principal payments of the portfolio (not duration focused). A simple accumulation of the coupon, reinvestment return and value at horizon will offset liability in full.

*Neither strategy perfectly fits public treasury as public entities must focus on Duration as a primary risk metric and typically spend coupons as anticipated by their budget.*

### Cash Flow Based Approach

#### ALM Analysis

**Combination Matching (also called horizon matching):** Popular variation of multiple immunization and cash flow matching to fund liabilities by combining the two strategies. A portfolio is created that is duration-matched with the added constraint that it be cash flow-matched in the first few years, usually the first five years.

*Since most public entities are policy constrained to five years and in, we can combine the strategies for the entire legal timeframe of the portfolio.*

## Cash Flow Based Approach

### ALM Analysis

#### Step 1 – Liquidity Profile

Enter Receipts and Disbursements for 36 months (or desired length) to calculate Net Cash Flow per month over the last three years.

If data is difficult to obtain, a portfolio proxy can be used by utilizing the month over month change in book value of the portfolio as the net cash flow.

		MAXQ Analytics POWERED BY QUANTRIX		Cash Flow Entry Sample City	Update Data
	Date	Receipts	Expenditures	Net Flow	
1	08/31/2018	\$24,471,632.81	\$26,953,467.16	(\$2,481,834.35)	
2	09/30/2018	\$23,559,974.56	\$25,279,925.18	(\$1,719,950.62)	
3	10/31/2018	\$30,230,063.91	\$32,487,689.44	(\$2,257,625.53)	
4	11/30/2018	\$51,936,945.68	\$29,593,564.84	\$22,343,380.84	
5	12/31/2018	\$24,127,233.19	\$36,589,847.89	(\$12,462,614.70)	
6	01/31/2019	\$24,918,896.36	\$38,186,973.19	(\$13,268,076.83)	
7	02/28/2019	\$25,734,823.79	\$29,043,844.20	(\$3,309,020.41)	
8	03/31/2019	\$16,548,385.34	\$27,337,583.28	(\$10,789,197.94)	
9	04/30/2019	\$20,508,348.59	\$29,534,947.01	(\$9,026,598.42)	
10	05/31/2019	\$89,102,085.61	\$36,728,474.91	\$52,373,610.70	
11	06/30/2019	\$45,733,196.26	\$41,057,162.97	\$4,676,033.29	
12	07/31/2019	\$28,962,367.65	\$32,115,824.92	(\$3,153,457.27)	
13	08/31/2019	\$27,149,309.89	\$30,267,442.20	(\$3,118,132.31)	
14	09/30/2019	\$20,715,835.31	\$26,719,598.11	(\$6,003,762.80)	
15	10/31/2019	\$26,003,560.74	\$32,235,031.27	(\$6,231,470.53)	
16	11/30/2019	\$62,252,076.52	\$37,799,795.37	\$24,452,281.15	
17	12/31/2019	\$29,319,020.67	\$40,322,210.03	(\$11,003,189.36)	
18	01/31/2020	\$28,241,721.32	\$43,668,419.60	(\$15,426,698.28)	
19	02/29/2020	\$31,291,231.95	\$34,078,791.63	(\$2,787,559.68)	
20	03/31/2020	\$19,500,350.84	\$37,131,753.46	(\$17,631,402.62)	
21	04/30/2020	\$16,677,064.70	\$26,304,041.58	(\$9,626,976.88)	
22	05/31/2020	\$88,324,955.64	\$48,333,158.15	\$39,991,797.49	
23	06/30/2020	\$52,111,610.18	\$46,363,012.78	\$5,748,597.40	
24	07/31/2020	\$33,638,613.02	\$34,979,405.09	(\$1,340,792.07)	
25	08/31/2020	\$28,346,100.41	\$31,194,182.34	(\$2,848,081.93)	
26	09/30/2020	\$22,215,127.23	\$32,450,056.41	(\$10,234,929.18)	
27	10/31/2020	\$20,081,784.50	\$35,741,768.07	(\$15,659,983.57)	
28	11/30/2020	\$62,542,916.58	\$36,943,063.72	\$25,599,852.86	
29	12/31/2020	\$30,429,996.34	\$42,419,717.79	(\$11,989,721.45)	
30	01/31/2021	\$30,074,891.47	\$43,632,363.40	(\$13,557,471.93)	
31	02/28/2021	\$31,592,189.05	\$34,700,203.72	(\$3,108,014.67)	
32	03/31/2021	\$20,648,902.89	\$34,525,669.42	(\$13,876,766.53)	
33	04/30/2021	\$30,150,467.58	\$37,415,760.79	(\$7,265,293.21)	
34	05/31/2021	\$99,478,439.49	\$48,720,733.83	\$50,757,705.66	
35	06/30/2021	\$44,395,717.46	\$43,679,333.78	\$716,383.68	
36	07/31/2021	\$37,275,538.69	\$34,980,269.97	\$2,295,268.72	

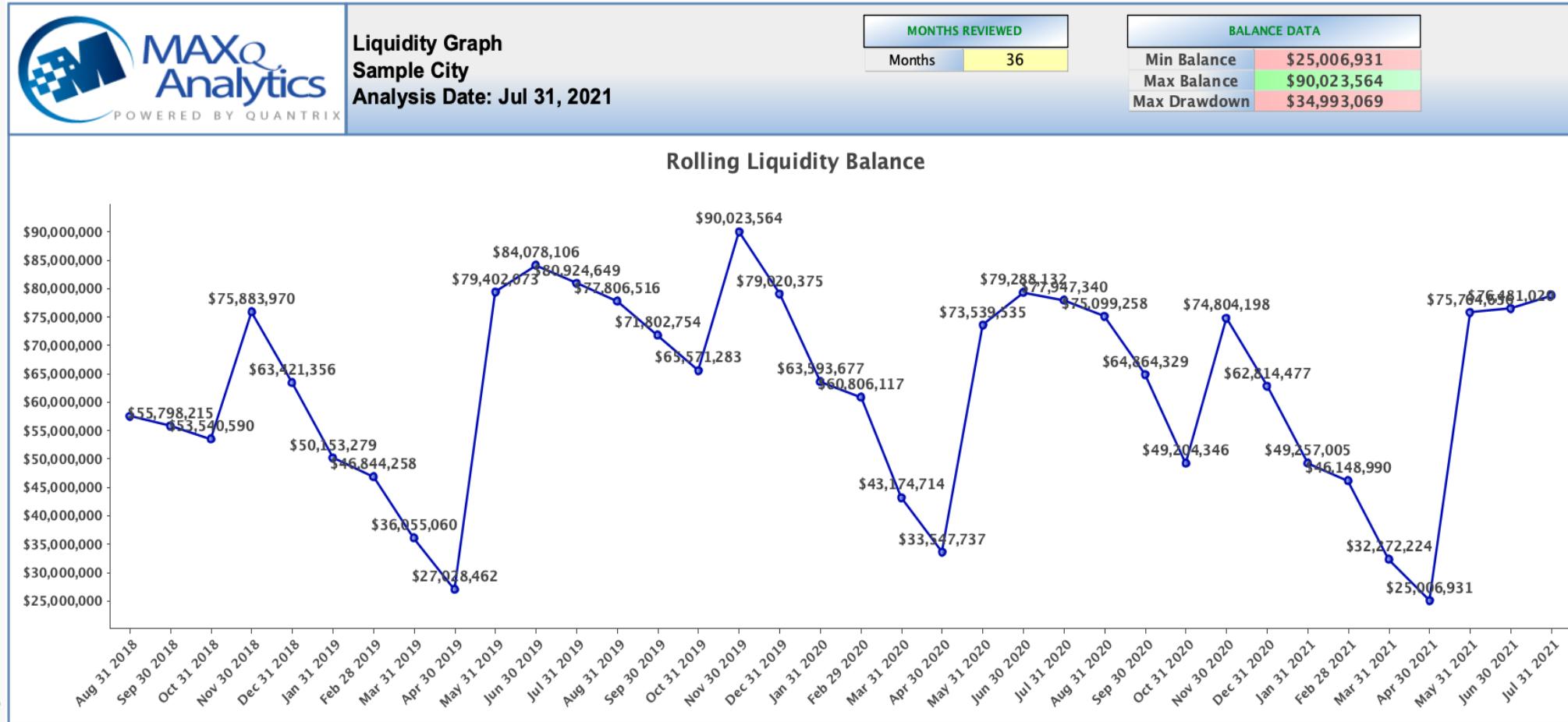
# Approaches for Determining Portfolio Duration (cont. 5 of 16)

## Cash Flow Based Approach

### ALM Analysis

#### Step 1 – Liquidity Profile

Institution Name	Sample City
Portfolio Balance	\$300,000,000.00
Primary Liquidity	\$60,000,000.00
Analysis Date	07/31/2021



## Cash Flow Based Approach

### ALM Analysis

#### Step 1 – Liquidity Profile

Liquidity Buffer	1.50
Liquidity %	17.50%

Rolling Liquidity Evaluation	36	
	Value	Date
Minimum Balance	\$25,006,930.66	
Maximum Balance	\$90,023,564.27	
Maximum Drawdown	(\$34,993,069.34)	4/30/21
Required Liquidity		Multiplier
Strategic Primary Liquidity	\$34,993,069.34	1.00x / 11.7%
Strategic Book Liquidity	\$34,993,069.34	1.00x / 11.7%
Strategic Total Liquidity	\$69,986,138.68	2.00x / 23.3%
Actual Liquidity		Multiplier
Actual Primary Liquidity	\$60,000,000.00	1.71x / 20.0%
Actual Book Liquidity	\$0.00	0.00x / 0.0%
Actual Total Liquidity	\$60,000,000.00	1.71x / 20.0%
Investable Liquidity		% Change
Investable Primary Liquidity	\$25,006,930.66	41.68%
Investable Book Liquidity	(\$34,993,069.34)	N/A
Total Investable Liquidity	(\$9,986,138.68)	N/A

## Cash Flow Based Approach

### ALM Analysis

#### Step 2 – Projected Cash Flows

Using your own assumptions or average/worst case cash flow projections, we can establish a liability ladder to measure against.

These projections are the net inflow and outflow expectations laddered over the policy limited timeframe of the portfolio.

Projected Net Cash Flows by Year		Worst Outflow	Average Outflow	User Outflow
1	August	(\$3,118,132.31)	(\$2,816,016.20)	
	September	(\$10,234,929.18)	(\$5,986,214.20)	
	October	(\$15,659,983.57)	(\$8,049,693.21)	
	November	\$22,343,380.84	\$24,131,838.28	
	December	(\$12,462,614.70)	(\$11,818,508.50)	
	January	(\$15,426,698.28)	(\$14,084,082.35)	
	February	(\$3,309,020.41)	(\$3,068,198.25)	
	March	(\$17,631,402.62)	(\$14,099,122.36)	
	April	(\$9,626,976.88)	(\$8,639,622.84)	
	May	\$39,991,797.49	\$47,707,704.62	
	June	\$716,383.68	\$3,713,671.46	
	July	(\$3,153,457.27)	(\$732,993.54)	
	August	(\$3,118,132.31)	(\$2,816,016.20)	
	September	(\$10,234,929.18)	(\$5,986,214.20)	
2	October	(\$15,659,983.57)	(\$8,049,693.21)	
	November	\$22,343,380.84	\$24,131,838.28	
	December	(\$12,462,614.70)	(\$11,818,508.50)	
	January	(\$15,426,698.28)	(\$14,084,082.35)	
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	April	(\$9,626,976.88)	(\$8,639,622.84)	
	May	\$39,991,797.49	\$47,707,704.62	
	June	\$716,383.68	\$3,713,671.46	
	July	(\$3,153,457.27)	(\$732,993.54)	
	August	(\$3,118,132.31)	(\$2,816,016.20)	
	September	(\$10,234,929.18)	(\$5,986,214.20)	
	October	(\$15,659,983.57)	(\$8,049,693.21)	
	November	\$22,343,380.84	\$24,131,838.28	
3	December	(\$12,462,614.70)	(\$11,818,508.50)	
	January	(\$15,426,698.28)	(\$14,084,082.35)	
	February	(\$3,309,020.41)	(\$3,068,198.25)	
	March	(\$17,631,402.62)	(\$14,099,122.36)	
	April	(\$9,626,976.88)	(\$8,639,622.84)	
	May	\$39,991,797.49	\$47,707,704.62	
	June	\$716,383.68	\$3,713,671.46	
	July	(\$3,153,457.27)	(\$732,993.54)	

# Approaches for Determining Portfolio Duration (cont. 8 of 16)

## Cash Flow Based Approach

### ALM Analysis

#### Step 3 – DCF/Duration Analysis of Cash Flows

Year 1 Modified Monthly Duration =  $5.815/(1+(Wtd \text{ Avg Tsy yield}/12))=5.810$

Year 1 Annualized Modified Duration =  $5.810/12 = .484$

Duration Optimization Calcs		NetFlow	NegNetFlow	Hedge Security	PV Rate	Period	PV NegFlow	PV Factor	Weight	PeriodWt
1	August	(\$2,816,016.20)	(\$2,816,016.20)	3Mo Tsy	0.946%	1	\$2,813,797.84	0.999	4.08%	0.041
	September	(\$5,986,214.20)	(\$5,986,214.20)	3Mo Tsy	0.946%	2	\$5,976,786.48	0.998	8.67%	0.173
	October	(\$8,049,693.21)	(\$8,049,693.21)	3Mo Tsy	0.946%	3	\$8,030,684.44	0.998	11.65%	0.349
	November	\$24,131,838.28								
	December	(\$11,818,508.50)	(\$11,818,508.50)	6Mo Tsy	1.040%	5	\$11,767,443.55	0.996	17.07%	0.853
	January	(\$14,084,082.35)	(\$14,084,082.35)	6Mo Tsy	1.040%	6	\$14,011,089.19	0.995	20.32%	1.219
	February	(\$3,068,198.25)	(\$3,068,198.25)	9Mo Tsy	1.101%	7	\$3,048,568.85	0.994	4.42%	0.310
	March	(\$14,099,122.36)	(\$14,099,122.36)	9Mo Tsy	1.101%	8	\$13,996,081.63	0.993	20.30%	1.624
	April	(\$8,639,622.84)	(\$8,639,622.84)	9Mo Tsy	1.101%	9	\$8,568,621.70	0.992	12.43%	1.119
	May	\$47,707,704.62								
	June	\$3,713,671.46								
	July	(\$732,993.54)	(\$732,993.54)	1.00Yr Tsy	1.162%	12	\$724,530.44	0.988	1.05%	0.126
2	August	(\$2,816,016.20)	(\$2,816,016.20)	1.25Yr Tsy	1.193%	13	\$2,779,866.49	0.987	4.09%	0.531
	September	(\$5,986,214.20)	(\$5,986,214.20)	1.25Yr Tsy	1.193%	14	\$5,903,497.88	0.986	8.68%	1.215
	October	(\$8,049,693.21)	(\$8,049,693.21)	1.25Yr Tsy	1.193%	15	\$7,930,578.28	0.985	11.66%	1.748
	November	\$24,131,838.28								
	December	(\$11,818,508.50)	(\$11,818,508.50)	1.50Yr Tsy	1.225%	17	\$11,615,346.67	0.983	17.07%	2.902
	January	(\$14,084,082.35)	(\$14,084,082.35)	1.50Yr Tsy	1.225%	18	\$13,827,863.69	0.982	20.32%	3.658
	February	(\$3,068,198.25)	(\$3,068,198.25)	1.75Yr Tsy	1.256%	19	\$3,007,817.97	0.980	4.42%	0.840
	March	(\$14,099,122.36)	(\$14,099,122.36)	1.75Yr Tsy	1.256%	20	\$13,807,209.12	0.979	20.29%	4.059
	April	(\$8,639,622.84)	(\$8,639,622.84)	1.75Yr Tsy	1.256%	21	\$8,451,898.98	0.978	12.42%	2.609
	May	\$47,707,704.62								
	June	\$3,713,671.46								
	July	(\$732,993.54)	(\$732,993.54)	2.00Yr Tsy	1.287%	24	\$714,372.32	0.975	1.05%	0.252

Macaulay Dur = Sum  
PeriodWt = 5.815

Macaulay Dur = Sum  
PeriodWt = 17.814

### Cash Flow Based Approach

#### ALM Analysis

##### Step 3 – DCF/Duration Analysis of Cash Flows

Once the annualized duration's are calculated, we now weight each year based on our preference of coverage of each year's total liabilities.

Duration Optimization Values by Year		
1	<i>Annualized Duration</i>	0.484
2	<i>Annualized Duration</i>	1.483
3	<i>Annualized Duration</i>	2.481
4	<i>Annualized Duration</i>	3.480
5	<i>Annualized Duration</i>	4.477

## Cash Flow Based Approach

### ALM Analysis

#### Step 3 – DCF/Duration Analysis of Cash Flows

Portfolio Size	\$300,000,000.00
Immunized Portfolio	\$299,992,155.11
Percent Immunized	100.00%

Immunization Weight	
Year 1	90.00%
Year 2	70.50%
Year 3	70.00%
Year 4	70.00%
Year 5	70.00%

The total immunization weights for each year should create a portfolio that is 100% immunized relative to the portfolio size.

Duration Optimization Values by Year		
1	Sum Present Value of Outflows	\$68,937,604.13
	Sum of Asset Matched Present Values	\$62,043,843.72
	Asset Matched Weight in Portfolio	20.681%
	Annual Total Liquidity Coverage Required	\$6,893,760.41
	Annualized Duration	0.484
	Weighted Duration	0.100
2	Sum Present Value of Outflows	\$68,038,451.40
	Sum of Asset Matched Present Values	\$47,967,108.24
	Asset Matched Weight in Portfolio	15.989%
	Annual Total Liquidity Coverage Required	\$20,071,343.16
	Annualized Duration	1.483
	Weighted Duration	0.237
3	Sum Present Value of Outflows	\$66,942,361.12
	Sum of Asset Matched Present Values	\$46,859,652.79
	Asset Matched Weight in Portfolio	15.620%
	Annual Total Liquidity Coverage Required	\$20,082,708.34
	Annualized Duration	2.481
	Weighted Duration	0.388

## Cash Flow Based Approach

### ALM Analysis

#### Step 3 – DCF/Duration Analysis of Cash Flows

Duration Estimation and Allocation Bucket Approximation	
Starting Liquidity	\$52,500,000.00
1Yr Min Liquidity	\$47,360,819.51
Weighted Average Cash Flow Duration	1.92
Cash (Liquidity Profile)	17.50%
0-1Yr	20.68%
1-3Yr	31.61%
3-5Yr	30.21%

Sum of Weighted Durations  
(4 & 5 Year Not Shown)

Duration Optimization Values by Year		
1	Sum Present Value of Outflows	\$68,937,604.13
	Sum of Asset Matched Present Values	\$62,043,843.72
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## Cash Flow Based Approach

### ALM Analysis

#### Step 3 – DCF/Duration Analysis of Cash Flows

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Sum of Asset Matched Weights  
(4 & 5 Year Not Shown)

Duration Optimization Values by Year		
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	Sum of Asset Matched Present Values	\$62,043,843.72
	Asset Matched Weight in Portfolio	20.681%
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	Weighted Duration	0.100
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	Weighted Duration	0.237
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	Weighted Duration	0.388

## Cash Flow Based Approach

### ALM Analysis

#### Step 3 – DCF/Duration Analysis of Cash Flows

Duration Estimation and Allocation Bucket Approximation	
Starting Liquidity	\$52,500,000.00
1Yr Min Liquidity	\$47,360,819.51
Weighted Average Cash Flow Duration	1.92
Cash (Liquidity Profile)	17.50%
0-1Yr	20.68%
1-3Yr	31.61%
3-5Yr	30.21%

Duration Optimization Values by Year		
1	Sum of Asset Matched Present Values	\$62,043,843.72
	Weighted Duration	0.100
2	Sum of Asset Matched Present Values	\$47,967,108.24
	Weighted Duration	0.237
3	Sum of Asset Matched Present Values	\$46,859,652.79
	Weighted Duration	0.388
4	Sum of Asset Matched Present Values	\$45,889,528.29
	Weighted Duration	0.532
5	Sum of Asset Matched Present Values	\$44,732,022.07
	Weighted Duration	0.668

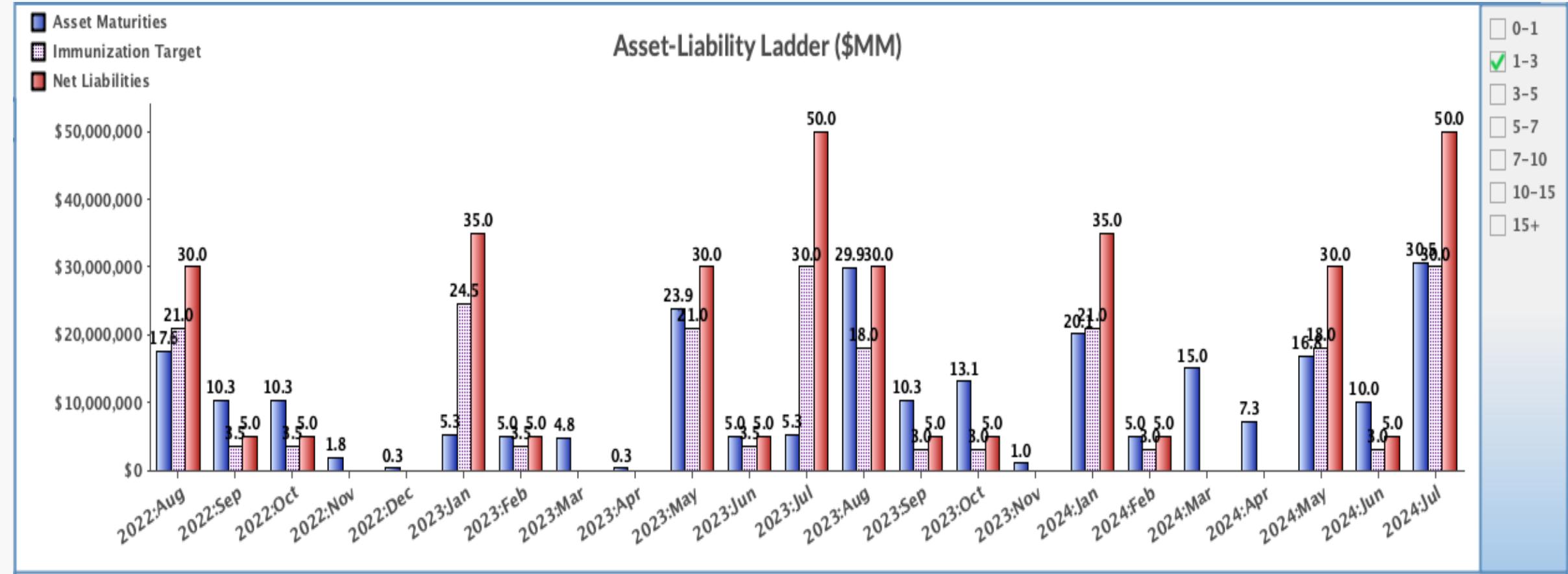
## Cash Flow Based Approach

### ALM Analysis

		NetFlow	PV NegFlow	Assets Needed	1Yr Liquidity Change	1Yr Liquidity Rolling Balance
1	August	(\$2,816,016.20)	\$2,813,797.84	\$2,532,418	(\$281,380)	\$52,218,620
	September	(\$5,986,214.20)	\$5,976,786.48	\$5,379,108	(\$597,679)	\$51,620,942
	October	(\$8,049,693.21)	\$8,030,684.44	\$7,227,616	(\$803,068)	\$50,817,873
	November	\$24,131,838.28			\$1,682,127	\$52,500,000
	December	(\$11,818,508.50)	\$11,767,443.55	\$10,590,699	(\$1,176,744)	\$51,323,256
	January	(\$14,084,082.35)	\$14,011,089.19	\$12,609,980	(\$1,401,109)	\$49,922,147
	February	(\$3,068,198.25)	\$3,048,568.85	\$2,743,712	(\$304,857)	\$49,617,290
	March	(\$14,099,122.36)	\$13,996,081.63	\$12,596,473	(\$1,399,608)	\$48,217,682
	April	(\$8,639,622.84)	\$8,568,621.70	\$7,711,760	(\$856,862)	\$47,360,820
	May	\$47,707,704.62			\$5,139,180	\$52,500,000
	June	\$3,713,671.46				\$52,500,000
	July	(\$732,993.54)	\$724,530.44	\$652,077	(\$72,453)	\$52,427,547
2	August	(\$2,816,016.20)	\$2,779,866.49	\$1,959,806		
	September	(\$5,986,214.20)	\$5,903,497.88	\$4,161,966		
	October	(\$8,049,693.21)	\$7,930,578.28	\$5,591,058		
	November	\$24,131,838.28				
	December	(\$11,818,508.50)	\$11,615,346.67	\$8,188,819		
	January	(\$14,084,082.35)	\$13,827,863.69	\$9,748,644		
	February	(\$3,068,198.25)	\$3,007,817.97	\$2,120,512		
	March	(\$14,099,122.36)	\$13,807,209.12	\$9,734,082		
	April	(\$8,639,622.84)	\$8,451,898.98	\$5,958,589		
	May	\$47,707,704.62				
	June	\$3,713,671.46				
	July	(\$732,993.54)	\$714,372.32	\$503,632		
3	August	(\$2,816,016.20)	\$2,738,872.78	\$1,917,211		
	September	(\$5,986,214.20)	\$5,815,759.42	\$4,071,032		
	October	(\$8,049,693.21)	\$7,811,797.51	\$5,468,258		
	November	\$24,131,838.28				
	December	(\$11,818,508.50)	\$11,430,879.00	\$8,001,615		
	January	(\$14,084,082.35)	\$13,606,489.65	\$9,524,543		
	February	(\$3,068,198.25)	\$2,957,182.76	\$2,070,028		
	March	(\$14,099,122.36)	\$13,572,833.72	\$9,500,984		
	April	(\$8,639,622.84)	\$8,307,243.38	\$5,815,070		
	May	\$47,707,704.62				
	June	\$3,713,671.46				
	July	(\$732,993.54)	\$701,302.90	\$490,912		

## Cash Flow Based Approach

### ALM Analysis



### Cash Flow Based Approach

#### ALM Analysis

- Uses institution's actual cash flow data to measure future liabilities and derive duration needs
- Eliminates bias and idiosyncratic problems that public entities can have with market-based approaches (liquidity, sector and structure differences).
- Ensures each institution's duration is unique and not peer or market related.
- Places emphasis on timing and magnitude of investments relative to liabilities versus market-based optimizations for the masses.
- Does require more data and effort to establish the projected liability stream and involves calculations that may not be familiar.
- There are opportunity costs associated by limiting the investment universe to any particular timeframe, however it can be argued that maintaining a stable duration and limiting cash balances can more than offset any costs associated with security selection constraints (without this process, cash balances tend to be higher and more conservative securities are purchased due to uncertainty).

### CCSF Investment Pool

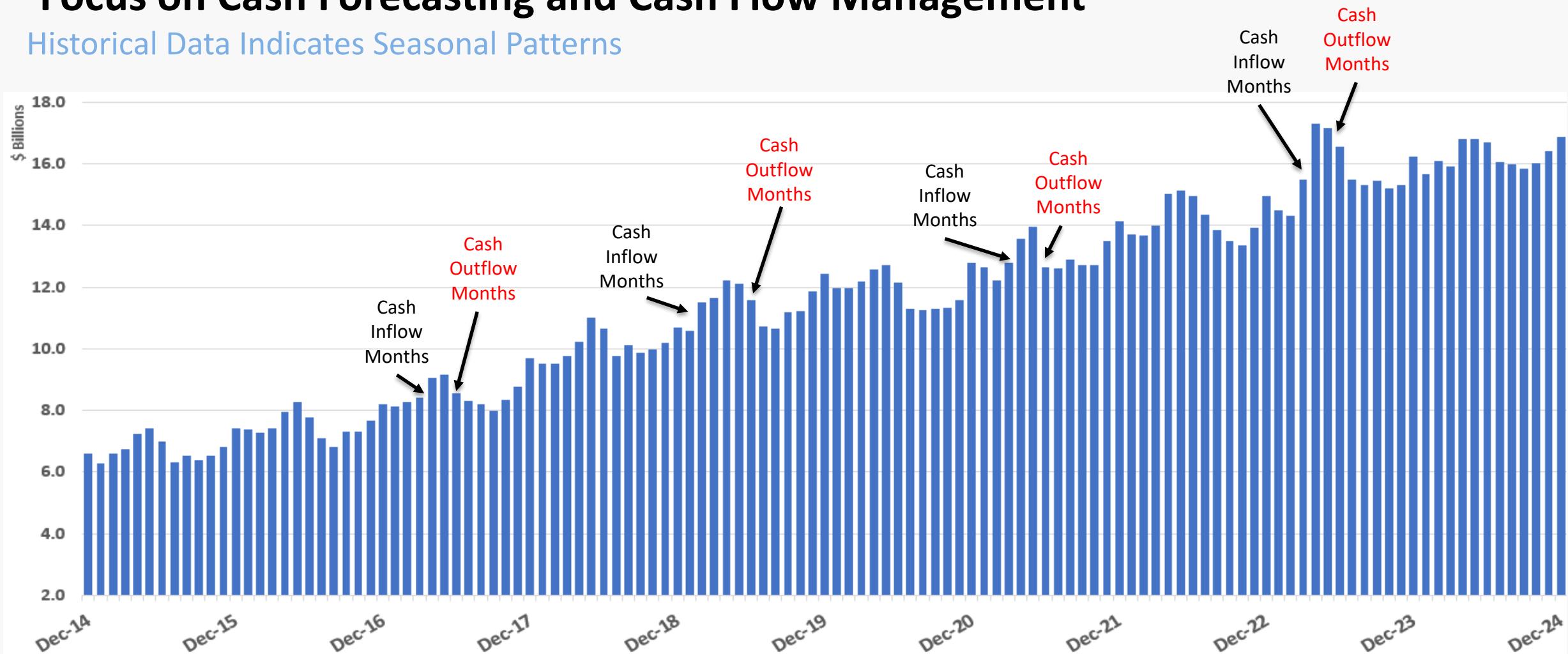
- CCSF Investment Pool currently is \$16.0 billion
- Many different participants both discretionary and non-discretionary with 13 major participants
- Monthly apportionment to each participant
- Consists of operating reserves and bond issuance proceeds

### Investment Strategy

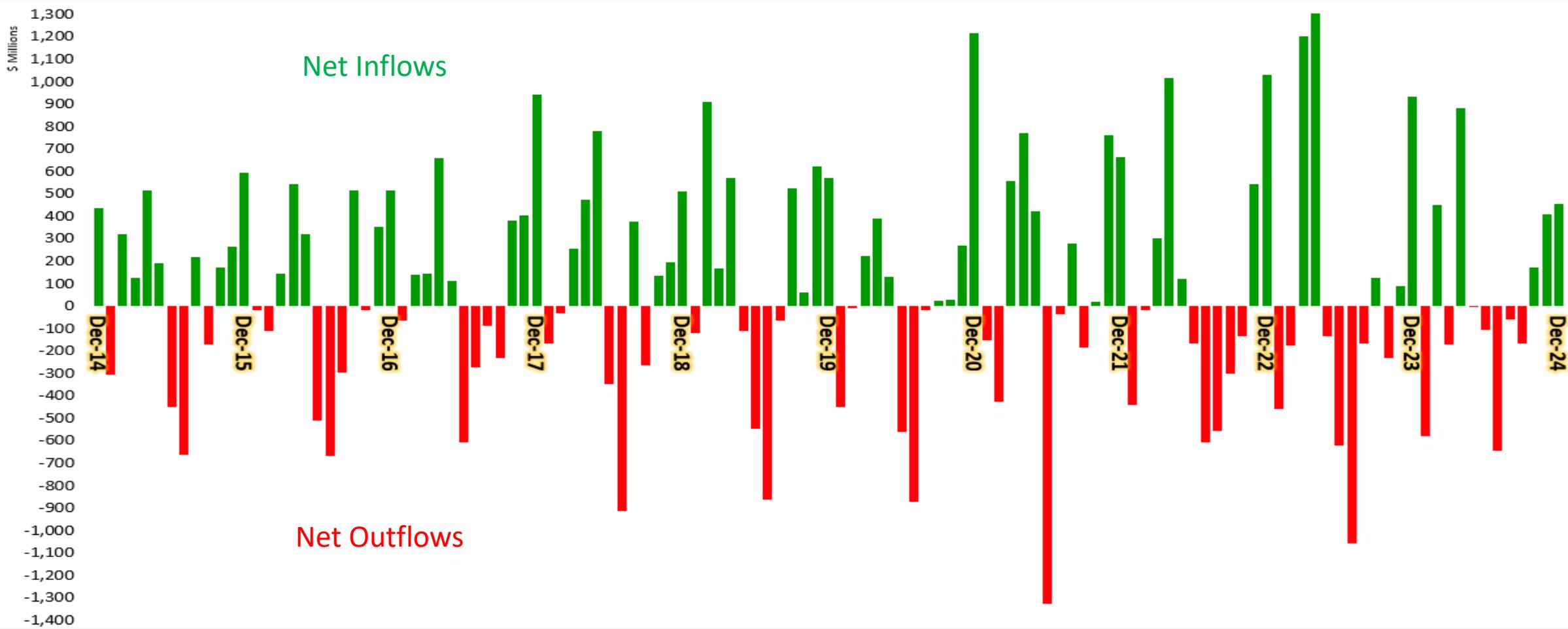
- Focus is on **Safety of Principal** and **Liquidity** – **return** is considered after the first two mandates are satisfied
- Emphasis on Asset/Liability Management – matching asset maturities with cash outflows
- Maintaining a consistent average maturity consistent with cashflow profile – not market timing
- Income generation is key – not total return

## Focus on Cash Forecasting and Cash Flow Management

Historical Data Indicates Seasonal Patterns



## Historic Monthly Net Cash Flows



## Historic Monthly Net Cash Flows By Year

Flow Selection Type			
Historical Net Cash Flow by Year	2022	2023	2024
January	(\$439,872,611.00)	(\$458,300,095.42)	(\$578,173,942.23)
February	(\$16,209,979.34)	(\$175,564,278.95)	\$448,920,642.27
March	\$302,531,367.33	\$1,199,815,397.87	(\$172,783,085.66)
April	\$1,016,711,651.48	\$1,794,556,009.34	\$882,388,597.46
May	\$120,346,417.41	(\$135,693,701.05)	(\$2,593,056.93)
June	(\$167,005,356.90)	(\$621,177,196.91)	(\$104,551,113.68)
July	(\$605,180,069.90)	(\$1,056,587,419.46)	(\$646,609,328.27)
August	(\$558,558,396.91)	(\$165,758,497.24)	(\$58,834,843.17)
September	(\$299,599,809.30)	\$124,100,271.43	(\$167,079,177.05)
October	(\$134,221,025.12)	(\$230,792,042.69)	\$173,721,190.05
November	\$543,970,916.97	\$86,464,242.78	\$408,359,971.65
December	\$1,028,851,841.11	\$931,058,986.32	\$454,705,371.20

# Case Study: City and County of San Francisco (cont. 5 of 12)

## Projected Cash Flows

Projected Net Cash Flows by Year	Worst Outflow	Average Outflow	User Outflow
1	January <b>(\$578,173,942.23)</b>	<b>(\$492,115,549.55)</b>	
	February <b>(\$175,564,278.95)</b>	\$85,715,461.33	
	March <b>(\$172,783,085.66)</b>	\$443,187,893.18	
	April <b>\$882,388,597.46</b>	\$1,231,218,752.76	
	May <b>(\$135,693,701.05)</b>	<b>(\$5,980,113.52)</b>	
	June <b>(\$621,177,196.91)</b>	<b>(\$297,577,889.16)</b>	
	July <b>(\$1,056,587,419.46)</b>	<b>(\$769,458,939.21)</b>	
	August <b>(\$558,558,396.91)</b>	<b>(\$261,050,579.11)</b>	
	September <b>(\$299,599,809.30)</b>	<b>(\$114,192,904.97)</b>	
	October <b>(\$230,792,042.69)</b>	<b>(\$63,763,959.25)</b>	
	November <b>\$86,464,242.78</b>	\$346,265,043.80	
	December <b>\$454,705,371.20</b>	\$804,872,066.21	
2	January <b>(\$578,173,942.23)</b>	<b>(\$492,115,549.55)</b>	
	February <b>(\$175,564,278.95)</b>	\$85,715,461.33	
	March <b>(\$172,783,085.66)</b>	\$443,187,893.18	
	April <b>\$882,388,597.46</b>	\$1,231,218,752.76	
	May <b>(\$135,693,701.05)</b>	<b>(\$5,980,113.52)</b>	
	June <b>(\$621,177,196.91)</b>	<b>(\$297,577,889.16)</b>	
	July <b>(\$1,056,587,419.46)</b>	<b>(\$769,458,939.21)</b>	
	August <b>(\$558,558,396.91)</b>	<b>(\$261,050,579.11)</b>	
	September <b>(\$299,599,809.30)</b>	<b>(\$114,192,904.97)</b>	
	October <b>(\$230,792,042.69)</b>	<b>(\$63,763,959.25)</b>	
	November <b>\$86,464,242.78</b>	\$346,265,043.80	
	December <b>\$454,705,371.20</b>	\$804,872,066.21	
3	January <b>(\$578,173,942.23)</b>	<b>(\$492,115,549.55)</b>	
	February <b>(\$175,564,278.95)</b>	\$85,715,461.33	
	March <b>(\$172,783,085.66)</b>	\$443,187,893.18	
	April <b>\$882,388,597.46</b>	\$1,231,218,752.76	
	May <b>(\$135,693,701.05)</b>	<b>(\$5,980,113.52)</b>	
	June <b>(\$621,177,196.91)</b>	<b>(\$297,577,889.16)</b>	
	July <b>(\$1,056,587,419.46)</b>	<b>(\$769,458,939.21)</b>	
	August <b>(\$558,558,396.91)</b>	<b>(\$261,050,579.11)</b>	
	September <b>(\$299,599,809.30)</b>	<b>(\$114,192,904.97)</b>	
	October <b>(\$230,792,042.69)</b>	<b>(\$63,763,959.25)</b>	
	November <b>\$86,464,242.78</b>	\$346,265,043.80	
	December <b>\$454,705,371.20</b>	\$804,872,066.21	

Projected Net Cash Flows by Year	Worst Outflow	Average Outflow	User Outflow
4	January <b>(\$578,173,942.23)</b>	<b>(\$492,115,549.55)</b>	
	February <b>(\$175,564,278.95)</b>	\$85,715,461.33	
	March <b>(\$172,783,085.66)</b>	\$443,187,893.18	
	April <b>\$882,388,597.46</b>	\$1,231,218,752.76	
	May <b>(\$135,693,701.05)</b>	<b>(\$5,980,113.52)</b>	
	June <b>(\$621,177,196.91)</b>	<b>(\$297,577,889.16)</b>	
	July <b>(\$1,056,587,419.46)</b>	<b>(\$769,458,939.21)</b>	
	August <b>(\$558,558,396.91)</b>	<b>(\$261,050,579.11)</b>	
	September <b>(\$299,599,809.30)</b>	<b>(\$114,192,904.97)</b>	
	October <b>(\$230,792,042.69)</b>	<b>(\$63,763,959.25)</b>	
	November <b>\$86,464,242.78</b>	\$346,265,043.80	
	December <b>\$454,705,371.20</b>	\$804,872,066.21	
5	January <b>(\$578,173,942.23)</b>	<b>(\$492,115,549.55)</b>	
	February <b>(\$175,564,278.95)</b>	\$85,715,461.33	
	March <b>(\$172,783,085.66)</b>	\$443,187,893.18	
	April <b>\$882,388,597.46</b>	\$1,231,218,752.76	
	May <b>(\$135,693,701.05)</b>	<b>(\$5,980,113.52)</b>	
	June <b>(\$621,177,196.91)</b>	<b>(\$297,577,889.16)</b>	
	July <b>(\$1,056,587,419.46)</b>	<b>(\$769,458,939.21)</b>	
	August <b>(\$558,558,396.91)</b>	<b>(\$261,050,579.11)</b>	
	September <b>(\$299,599,809.30)</b>	<b>(\$114,192,904.97)</b>	
	October <b>(\$230,792,042.69)</b>	<b>(\$63,763,959.25)</b>	
	November <b>\$86,464,242.78</b>	\$346,265,043.80	
	December <b>\$454,705,371.20</b>	\$804,872,066.21	

## Worst Outflow Scenario

Duration Optimization	
<b>Duration Estimation and Allocation Bucket Approximation</b>	
Portfolio Size	\$16,890,243,867.88
Immunized Portfolio	\$16,889,935,702.81
Percent Immunized	100.00%
Starting Liquidity	\$1,351,219,509.43
1Yr Min Liquidity	\$1,351,219,509.43
Weighted Average Cash Flow Duration	2.04
Cash (Liquidity Profile)	8.00%
0-1Yr	22.20%
1-3Yr	41.88%
3-5Yr	27.92%
3Mo Tsy	0.232
6Mo Tsy	0.477
9Mo Tsy	0.724
1.00Yr Tsy	0.970
1.25Yr Tsy	1.202
1.50Yr Tsy	1.434
1.75Yr Tsy	1.666
2.00Yr Tsy	1.898
2.25Yr Tsy	2.114
2.50Yr Tsy	2.330
2.75Yr Tsy	2.546
3.00Yr Tsy	2.762
3.25Yr Tsy	2.977

INDEX DATES	
Start Date	1/31/22
End Date	12/31/24
Outflow Selection	
OutFlow Selection	Worst Outflow
Maximum Maturity (Yrs)	5.00
Immunization Weight	
Year 1	100.00%
Year 2	100.00%
Year 3	100.00%
Year 4	75.00%
Year 5	68.20%

## Worst Outflow Scenario

Duration Optimization Values by Year					
1	Sum Present Value of Outflows	\$3,749,836,286.83	4	Sum Present Value of Outflows	\$3,348,695,612.97
	Sum of Asset Matched Present Values	\$3,749,836,286.83		Sum of Asset Matched Present Values	\$2,511,521,709.73
	Asset Matched Weight in Portfolio	22.201%		Asset Matched Weight in Portfolio	14.870%
	Annualized Duration	0.491		Annualized Duration	3.481
	Weighted Duration	0.109		Weighted Duration	0.518
2	Sum Present Value of Outflows	\$3,601,097,818.14	5	Sum Present Value of Outflows	\$3,232,395,622.16
	Sum of Asset Matched Present Values	\$3,601,097,818.14		Sum of Asset Matched Present Values	\$2,204,493,814.31
	Asset Matched Weight in Portfolio	21.321%		Asset Matched Weight in Portfolio	13.052%
	Annualized Duration	1.487		Annualized Duration	4.479
	Weighted Duration	0.317		Weighted Duration	0.585
3	Sum Present Value of Outflows	\$3,471,766,564.37			
	Sum of Asset Matched Present Values	\$3,471,766,564.37			
	Asset Matched Weight in Portfolio	20.555%			
	Annualized Duration	2.484			
	Weighted Duration	0.511			

## Worst Outflow Scenario

 <b>MaxQ Analytics</b>		City and County of San Francisco	
<b>Month</b>	<b>Net Flow Expectation</b>	<b>Treasury</b>	<b>Rate</b>
January	(\$578,173,942.23)	1YR	4.28%
February	(\$175,564,278.95)	2YR	4.37%
March	(\$172,783,085.66)	3YR	4.48%
April	\$882,388,597.46	4YR	4.57%
May	(\$135,693,701.05)	5YR	4.60%
June	(\$621,177,196.91)		
July	(\$1,056,587,419.46)		
August	(\$558,558,396.91)		
September	(\$299,599,809.30)		
October	(\$230,792,042.69)		
November	\$86,464,242.78		
December	\$454,705,371.20		

CF Duration & Maturity Buckets	Values
Weighted Average Cash Flow Duration	2.04
Cash	8.004%
0-1Yr	22.197%
1-3Yr	41.518%
3-5Yr	28.282%

Immunization Timeframe	Weight
0-1Yr	100.00%
1-2Yr	100.00%
2-3Yr	100.00%
3-4Yr	81.00%
4-5Yr	68.45%
<b>Percent Immunized</b>	<b>100.00%</b>

# Case Study: City and County of San Francisco

(cont. 9 of 12)

## Worst Outflow Scenario

Duration Optimization Year One	Values
Sum PV of Outflows	\$3,749,058,574.14
Sum PV Immunized Assets	\$3,749,058,574.14
Asset Matched Weight in Portfolio	22.197%
Annual Liquidity Coverage Required	\$0.00
Annualized Duration	0.491
Weighted Duration	0.109

Duration Optimization Year Four	Values
Sum PV of Outflows	\$3,264,945,110.67
Sum PV Immunized Assets	\$2,644,605,539.64
Asset Matched Weight in Portfolio	15.658%
Annual Liquidity Coverage Required	\$620,339,571.03
Annualized Duration	3.479
Weighted Duration	0.545

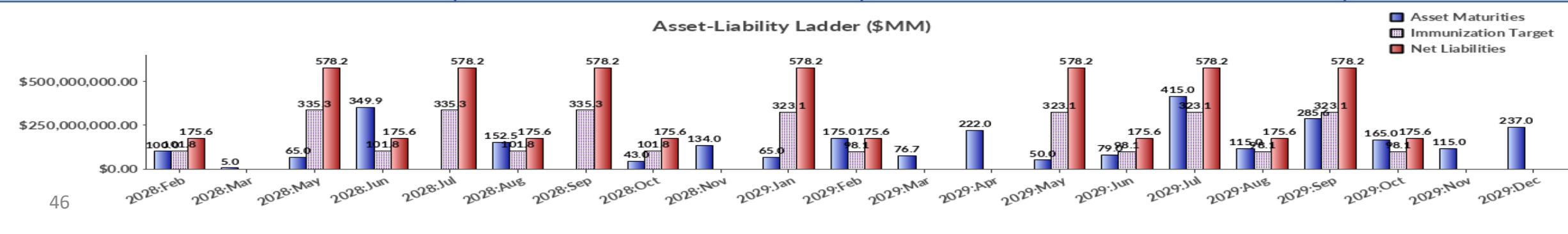
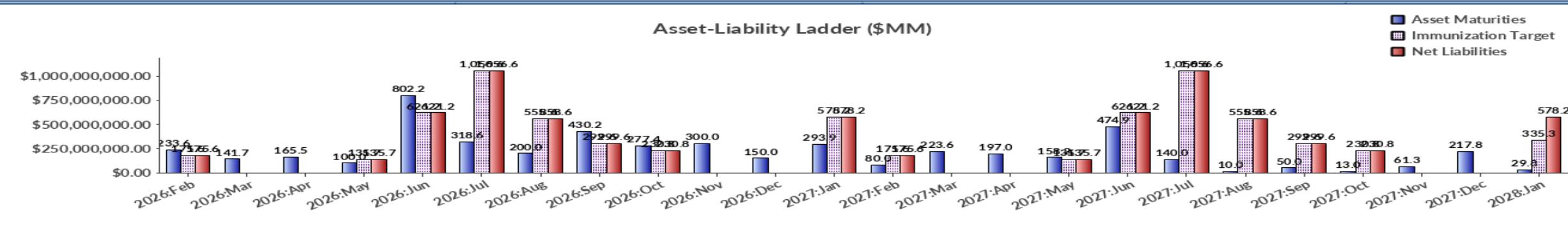
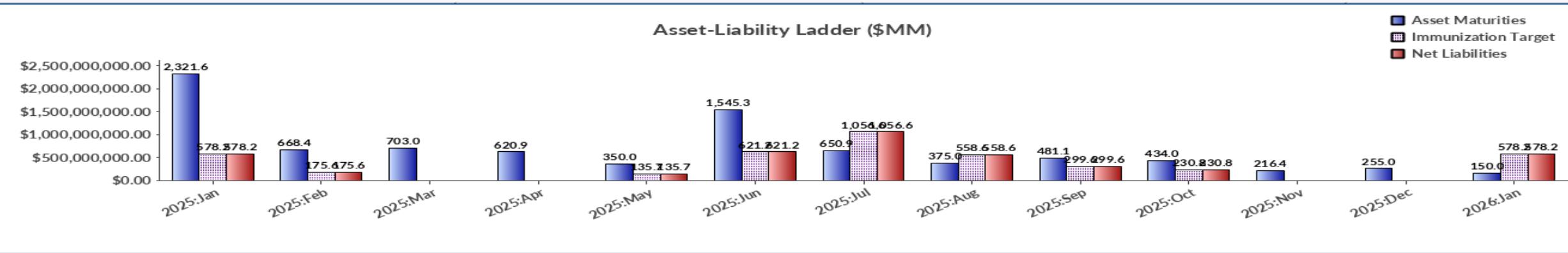
Duration Optimization Year Two	Values
Sum PV of Outflows	\$3,587,453,718.52
Sum PV Immunized Assets	\$3,587,453,718.52
Asset Matched Weight in Portfolio	21.240%
Annual Liquidity Coverage Required	\$0.00
Annualized Duration	1.487
Weighted Duration	0.316

Duration Optimization Year Five	Values
Sum PV of Outflows	\$3,115,180,942.42
Sum PV Immunized Assets	\$2,132,341,355.09
Asset Matched Weight in Portfolio	12.625%
Annual Liquidity Coverage Required	\$982,839,587.33
Annualized Duration	4.475
Weighted Duration	0.565

Duration Optimization Year Three	Values
Sum PV of Outflows	\$3,424,963,043.56
Sum PV Immunized Assets	\$3,424,963,043.56
Asset Matched Weight in Portfolio	20.278%
Annual Liquidity Coverage Required	\$0.00
Annualized Duration	2.483
Weighted Duration	0.503

# Case Study: City and County of San Francisco (cont. 10 of 12)

## Asset-Liability Ladder (\$MM)



# Case Study: City and County of San Francisco (cont. 11 of 12)

## Cash Flow Schedule

	Projected EOD Bank Balance	\$8,057,655.44
	EC Bank Balance Target	\$10,000,000.00
	Net Bank Balance Available	(\$1,942,344.56)
	Portfolio Cash/MMKT Holdings	\$1,760,247,137.20
	Intra-Day Cash/MMKT Transactions	
	Target Liquidity	(\$1,500,000,000.00)
	Net Cash/MMKT Balance Available	\$260,247,137.20
	Spendable Cash Non-Immunized	\$258,304,792.64

<input checked="" type="checkbox"/> Include MMKT Holdings	<input checked="" type="checkbox"/> Include Target Liquidity
Update CF Model	
CF Start Date	1/14/2025
CF End Date	1/31/2030
Reporting Date	01/14/2025
REAL Mode	Trade Date
Net Bank Balance Available	
Portfolio Cash/MMKT Holdings	\$1,760,247,137.20
Cash/MMKT Immunizations	(\$120,545,111.00)
Portfolio Cash/MMKT Actual	\$1,639,702,026.20
Intra-Day Cash/MMKT Transactions	
Target Liquidity	(\$1,500,000,000.00)
Net Cash/MMKT Balance Available	
Net Cash/MMKT Balance Available	\$139,702,026.20
Spendable Cash Immunized	
Spendable Cash Immunized	\$137,759,681.64
Min Liquidity	
Min Liquidity	(\$21,481,248,715.61)
Max Liquidity	
Max Liquidity	\$1,009,404,002.25
Avg Liquidity	
Avg Liquidity	(\$8,963,200,201.92)
Immun Min Liquidity	
Immun Min Liquidity	(\$21,481,248,715.61)
Immun Max Liquidity	
Immun Max Liquidity	\$502,123,597.37
Immun Avg Liquidity	
Immun Avg Liquidity	(\$9,070,658,395.54)
Negative Net Outflow Filter Amount	
Negative Net Outflow Filter Amount	\$0.00
Activate Filter	

Cash Flow By Day		
	Total CF	Adjusted Liquidity
01/15/2025	4581X0CM8 : IADB 01/15/2025-47024	100,000,000.00
	459058HT3 : IBRD 01/15/2025-57878	29,314,000.00
	CCSF Payroll Tax 1	(47,000,000.00)
	<b>Total Cash Flow</b>	82,314,000.00
		340,618,792.64
01/17/2025	CCSF Payroll Tax 2	(11,000,000.00)
	<b>Total Cash Flow</b>	(11,000,000.00)
01/21/2025	62479LNM3 : MUFGBK 01/21/2025-58427	17,000,000.00
	<b>Total Cash Flow</b>	17,000,000.00
01/23/2025	62479LNP6 : MUFGBK 01/23/2025-58032	15,000,000.00
	Blue Shield CA Monthly ACH	(15,000,000.00)
	<b>Total Cash Flow</b>	0.00
		346,618,792.64
01/24/2025	89233GNQ5 : TOYCC 01/24/2025-57934	60,000,000.00
	SFO Debt Service ACH	(52,603,083.00)
	<b>Total Cash Flow</b>	7,396,917.00
		354,015,709.64
01/27/2025	3130B0M29 : FHLB 01/27/2025-57886	115,000,000.00
	Payroll Transfer to Bank	(122,000,000.00)
	<b>Total Cash Flow</b>	(7,000,000.00)
		347,015,709.64
01/28/2025	78015JQ34 : RY 01/28/2025-57933	25,000,000.00
	89233GNU6 : TOYCC 01/28/2025-58027	50,000,000.00
	OCII Debt Service	(90,733,398.10)
	<b>Total Cash Flow</b>	(15,733,398.10)
		331,282,311.54
01/29/2025	62479LNV3 : MUFGBK 01/29/2025-57929	50,000,000.00
	CCSF Payroll Tax 1	(47,000,000.00)
	<b>Total Cash Flow</b>	3,000,000.00
		334,282,311.54
01/30/2025	SF PUC Power Enterprise 2024 Spending Projection	(17,264,682.00)
	SF PUC Wastewater 2024 Spending Projection	(67,226,819.00)
	<b>Total Cash Flow</b>	(84,491,501.00)
		249,790,810.54
01/31/2025	SFO Operating Revenue Projections	131,271,440.00
	Pension Payment Northern Trust Pmt	115,000,000.00
	912828Z52 : T 01/31/2025-46989	50,000,000.00
	912828Z52 : T 01/31/2025-47011	50,000,000.00
	SFO Projected Capital Expenditures	(86,254,698.00)
	Retiree Pension Payment	(115,000,000.00)

Immunized Cash Flow By Day		
	Total CF	Adjusted Liquidity
05/21/2025	PPGQ38MB6 : FIVSTR 05/21/2025-58454	\$20,000,000.00
	CCSF Payroll Tax 1	(\$47,000,000.00)
	<b>Total Cash Flow</b>	(\$27,000,000.00)
05/22/2025	SFO Debt Service ACH	(\$52,603,083.00)
	<b>Total Cash Flow</b>	(\$52,603,083.00)
05/23/2025	3133ENXES5 : FFCB 05/23/2025-47376	\$6,000,000.00
	CCSF Payroll Tax 2	(\$11,000,000.00)
05/29/2025	Blue Shield CA Monthly ACH	(\$15,000,000.00)
	<b>Total Cash Flow</b>	(\$20,000,000.00)
06/02/2025	SF PUC Wastewater 2024 Spending Projection	(\$84,943,451.00)
	<b>Total Cash Flow</b>	(\$84,943,451.00)
	Pension Payment Northern Trust Pmt	\$115,000,000.00
	78015J5G8 : RY 06/02/2025-58461	\$100,000,000.00
	13606DCU4 : CIBCNY 06/02/2025-58462	\$25,000,000.00
	Payroll Transfer to Bank	(\$122,000,000.00)
	Retiree Pension Payment	(\$115,000,000.00)
	SF PUC West Recycle CWSRF Loan	(\$6,634,452.00)
	<b>Total Cash Flow</b>	(\$3,634,452.00)
	Kaiser Health Premium	(\$46,000,000.00)
	<b>Total Cash Flow</b>	(\$46,000,000.00)
06/03/2025	CCSF Payroll Tax 1	(\$47,000,000.00)
	<b>Total Cash Flow</b>	(\$47,000,000.00)
06/04/2025	CCSF Payroll Tax 2	(\$11,000,000.00)
	<b>Total Cash Flow</b>	(\$11,000,000.00)
06/06/2025	SF PUC Power Enterprise 2024 Spending Projection	(\$11,000,000.00)
	<b>Total Cash Flow</b>	(\$11,000,000.00)
06/18/2025	3135G04Z3 : FNMA 06/17/2025-47239	\$10,000,000.00
	3135G04Z3 : FNMA 06/17/2025-47241	\$4,655,000.00
	CCSF Payroll Tax 1	(\$47,000,000.00)
	<b>Total Cash Flow</b>	(\$32,345,000.00)
06/20/2025	CCSF Payroll Tax 2	(\$11,000,000.00)
	<b>Total Cash Flow</b>	(\$11,000,000.00)
06/23/2025	06367DNE1 : BMOCHG 06/23/2025-58483	\$50,000,000.00
	SFO Debt Service ACH	(\$75,724,696.00)
	Blue Shield CA Monthly ACH	(\$15,000,000.00)

# Case Study: City and County of San Francisco (cont. 12 of 12)

## Immunization List



**Bond Immunization Schedule**  
City and County of San Francisco  
Last Run: 01/14/2025 7:53:05 AM Pacific  
Last Reporting Date: 01/14/2025

Update Immunization Schedule

Excess Liquidity Amount	\$0.00
-------------------------	--------

■ Bond has an immunization amount actively being applied  
■ Immunization date has excess inflows over desired excess liquidity amount  
■ Immunization amount applied is under total available bond proceeds  
■ Immunization amount applied is equal to total available bond proceeds  
■ Immunization amount applied exceeds total available bond proceeds

**Portfolio Bond Immunization List**

Bond Description	Amount	Redemption Date	First Immunization Date	First Immunization Amount	Second Immunization Date	Second Immunization Amount	Third Immunization Date	Third Immunization Amount	Not Immunized
4581X0CM8 : IADB 01/15/2025-47024	\$100,000,000.00	01/15/2025	01/15/2025	\$36,000,000.00	01/17/2025	\$11,000,000.00	01/31/2025	\$53,000,000.00	
459058HT3 : IBRD 01/15/2025-57878	\$29,314,000.00	01/15/2025	01/15/2025	\$11,000,000.00	01/27/2025	\$7,000,000.00	01/28/2025	\$11,314,000.00	
62479LNM3 : MUFGBK 01/21/2025-58427	\$17,000,000.00	01/21/2025	01/30/2025	\$17,000,000.00					
62479LNP6 : MUFGBK 01/23/2025-58032	\$15,000,000.00	01/23/2025	01/23/2025	\$15,000,000.00					
89233GNQ5 : TOYCC 01/24/2025-57934	\$60,000,000.00	01/24/2025	01/24/2025	\$53,000,000.00	01/28/2025	\$7,000,000.00			
3130B0MZ9 : FHLB 01/27/2025-57886	\$115,000,000.00	01/27/2025	01/27/2025	\$115,000,000.00					
78015JQ34 : RY 01/28/2025-57933	\$25,000,000.00	01/28/2025	01/28/2025	\$25,000,000.00					
89233GNU6 : TOYCC 01/28/2025-58027	\$50,000,000.00	01/28/2025	01/28/2025	\$50,000,000.00					
62479LNV3 : MUFGBK 01/29/2025-57929	\$50,000,000.00	01/29/2025	01/29/2025	\$50,000,000.00					
912828Z52 : T 01/31/2025-46989	\$50,000,000.00	01/31/2025	02/10/2025	\$50,000,000.00					
912828Z52 : T 01/31/2025-47011	\$50,000,000.00	01/31/2025	02/10/2025	\$50,000,000.00					
3133EPAGO0 : FFCB 02/10/2025-57581	\$29,875,000.00	02/10/2025	02/10/2025	\$15,000,000.00	02/12/2025	\$11,000,000.00	02/14/2025	\$3,875,000.00	
3133EPAGO0 : FFCB 02/10/2025-57582	\$10,000,000.00	02/10/2025	02/21/2025	\$10,000,000.00					
3137EAEP0 : FHLMC 02/12/2025-46422	\$15,000,000.00	02/12/2025	02/26/2025	\$15,000,000.00					
3137EAEP0 : FHLMC 02/12/2025-46423	\$5,000,000.00	02/12/2025	02/26/2025	\$5,000,000.00					
3137EAEP0 : FHLMC 02/12/2025-46424	\$5,000,000.00	02/12/2025	02/26/2025	\$5,000,000.00					
3137EAEP0 : FHLMC 02/12/2025-46425	\$5,000,000.00	02/12/2025	02/26/2025	\$5,000,000.00					
3137EAEP0 : FHLMC 02/12/2025-46426	\$50,000,000.00	02/12/2025	02/20/2025	\$40,000,000.00	02/21/2025	\$4,000,000.00	02/26/2025	\$6,000,000.00	
3137EAEP0 : FHLMC 02/12/2025-47022	\$53,532,000.00	02/12/2025	02/12/2025	\$36,000,000.00	02/14/2025	\$7,000,000.00	02/28/2025	\$10,532,000.00	
89233GPC4 : TOYCC 02/12/2025-58300	\$75,000,000.00	02/12/2025	02/27/2025	\$75,000,000.00					
62479LPC3 : MUFGBK 02/12/2025-58440	\$16,000,000.00	02/12/2025	02/27/2025	\$16,000,000.00					
3130AUVZ4 : FHLB 02/13/2025-57585	\$50,000,000.00	02/13/2025	02/21/2025	\$50,000,000.00					
62479LPL3 : MUFGBK 02/20/2025-58398	\$60,000,000.00	02/20/2025	02/27/2025	\$60,000,000.00					
62479LPM1 : MUFGBK 02/21/2025-58107	\$8,000,000.00	02/21/2025	02/21/2025	\$8,000,000.00					
06367DL94 : BMOCHG 02/24/2025-58047	\$76,000,000.00	02/24/2025	02/24/2025	\$65,000,000.00	02/26/2025	\$11,000,000.00			
13606K5B8 : CIBCNY 02/24/2025-58048	\$50,000,000.00	02/24/2025	02/24/2025	\$50,000,000.00					
912828ZC7 : T 02/28/2025-46977	\$50,000,000.00	02/28/2025	03/10/2025	\$50,000,000.00					
912828ZC7 : T 02/28/2025-46994	\$50,000,000.00	02/28/2025	03/10/2025	\$50,000,000.00					
3130AV7L0 : FHLB 02/28/2025-57602	\$25,000,000.00	02/28/2025	03/24/2025	\$25,000,000.00					
3130AV7L0 : FHLB 02/28/2025-57603	\$35,000,000.00	02/28/2025	03/24/2025	\$35,000,000.00					
3133ELQY3 : FFCB 03/03/2025-46467	\$24,000,000.00	03/03/2025	03/12/2025	\$24,000,000.00					
3133ELQY3 : FFCB 03/03/2025-46468	\$16,000,000.00	03/03/2025	03/12/2025	\$16,000,000.00					
62479LQA6 : MUFGBK 03/10/2025-58108	\$25,000,000.00	03/10/2025	03/10/2025	\$15,000,000.00	03/12/2025	\$10,000,000.00			
06367DLL7 : BMOCHG 03/12/2025-58240	\$90,000,000.00	03/12/2025	03/27/2025	\$90,000,000.00					
PPGNJX1B4 : BKSANF 03/13/2025-58491	\$10,000,000.00	03/13/2025							Yes
62479LQE8 : MUFGBK 03/14/2025-58094	\$50,000,000.00	03/14/2025	03/15/2025	\$50,000,000.00					
62479LQE8 : MUFGBK 03/14/2025-58109	\$26,000,000.00	03/14/2025	03/14/2025	\$11,000,000.00	03/15/2025	\$15,000,000.00			
62479LQE8 : MUFGBK 03/14/2025-58441	\$70,000,000.00	03/14/2025	03/14/2025	\$70,000,000.00					

# QUESTIONS?



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*City & County of San Francisco*

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# BREAK

# SESSION TWO

Benchmarking: A Public Fund  
Guide to Happiness

**BEN FINKELSTEIN, CFA**

*Managing Director*  
Hilltop Securities Inc.





CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION



## Benchmarking: *A Public Fund's Guide to Happiness*

### Fundamentals of Public Fund Investing January 28-29, 2026

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Benjamin Finkelstein, CFA

[Ben.Finkelstein@Hilltopsecurities.com](mailto:Ben.Finkelstein@Hilltopsecurities.com)



## Performance Measurement vs Performance Evaluation

*(Describes results)*      *(Judges' appropriateness)*

<ul style="list-style-type: none"><li>❖ What happened</li><li>❖ Measured using indices<ul style="list-style-type: none"><li>* Market-based</li><li>* Policy-driven</li></ul></li><li>❖ Produces data and outcomes</li></ul>	<ul style="list-style-type: none"><li>❖ Was it appropriate</li><li>❖ Judged against responsibilities</li><li>❖ Uses Benchmark as standard</li><li>❖ For public funds - Stewardship</li></ul>
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*“Measurement describes results. Evaluation judges' appropriateness.”*

## Fiduciary (Legal)

- ❖ Legal obligation
- ❖ Follows the rules
- ❖ Avoids risk of loss
- ❖ Acts to avoid liability

## Stewardship (Suitable)

- ❖ Moral obligation
- ❖ Fulfills the mission
- ❖ Optimizes probability of success
- ❖ Acts with long term purpose

---

“*Being a fiduciary is necessary. Stewardship is what we evaluate.*”

## Index (Measurement Tool)

- ❖ Described what happened
- ❖ Quantitative reference point
  - \* Market-based index's
  - \* Policy-driven objectives

## Benchmark (Evaluation Standard)

- ❖ Was it appropriate
- ❖ Judged against responsibilities
- ❖ Uses Benchmark as standard
- ❖ For public funds – Stewardship

---

*“If what we are evaluating is stewardship, then the benchmark must be aligned with purpose — not market behavior.”*

# Three Core Distinctions

- Performance Measurement vs Evaluation

*Describing is not judging*

- Fiduciary vs Stewardship

*Legal does not mean suitable*

- Index vs Benchmark

*Informs but does not evaluate*

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*“That’s why public fund stewardship must be evaluated against suitability not market performance.*

# Learning Outcomes

- **Understand** stewardship-based benchmarking framework and how it moves performance measurement beyond total return.
- **Differentiate** a benchmark from a market index by understanding how stewardship is evaluated through a suitability framework.
- **Construct** and apply policy-driven performance measures, including safety, liquidity, duration, credit, income and legal compliance, to evaluate a portfolio's suitability.
- **Apply** this framework across public funds of all sizes to demonstrate fiduciary accountability and protection of public funds.

# Framework for Evaluating Stewardship

<b>What is being evaluated</b>	<b>Stewardship</b> <i>Did the portfolio preserve principal?</i>
<b>How it is evaluated</b>	<b>Suitability</b> <i>Measured using policy-driven measures</i>
<b>What defines suitability</b>	<b>Investment Policy Objectives</b> <ul style="list-style-type: none"><li>• Safety</li><li>• Liquidity</li><li>• Income</li><li>• Credit</li><li>• Legal</li></ul>

**This framework evaluates whether the portfolio did what it was designed to do.**

*(Nothing here depends on beating a market.)*

# From Policy to Portfolio: The Suitability Benchmark Blueprint



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The benchmark is defined in advance.  
The portfolio is evaluated against it over time.

# Ensuring Investment Practice Follows Policy

## Investment Policy Objectives Are Prioritized



### What the Suitability Benchmark Does

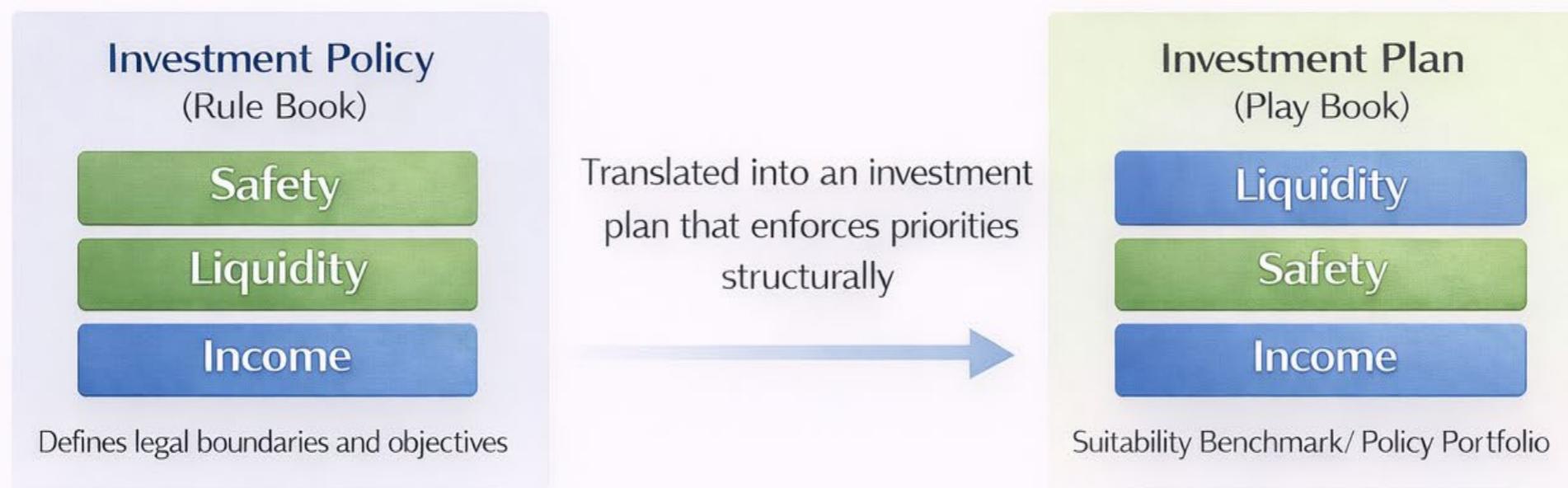
- Uses policy objectives, not market comparisons
- Evaluates all objectives, not just return
- Enforces sequence, not tradeoffs

### What This Means for Investment Decisions

- Safety and liquidity targets must be met first
- Only funds above total liquidity become **investable liquidity**
- Income decisions are made after, not alongside

**Bottom line:** Measures all policy objectives — not just return — to ensure investment practice follows policy priorities.

# Step One: Creating the Liquidity Index



## Liquidity Structure

*(Liquidity is the oxygen of suitability)*



# Three Types of Risk Public Funds Can Take

Once Liquidity Is Established, Safety Decisions Define Income Strategy

Liquidity Secured



GASB 31 introduces market value volatility into budgets  
More market risk = more income for budget  
Most politically sensitive—and largest driver of income



Occurs when bonds mature or are called early  
Callables can enhance income while keeping duration shorter  
Income depends on future market rates when bonds mature or are called



State code sets minimum credit at A or better  
Managed through diversification and concentration limits  
Downgrades create headlines, not automatic sales

Duration, reinvestment risk, and credit risk define the trade-off between safety and income.

## Step Two: Creating Duration Index

*Setting the portfolio's duration after liquidity reflects two core approaches:*

### BUDGET OPTIMIZATION

- Focus on Stability & Certainty
- Estimate Income for Next Year's Budget
- Minimize Impact of Rate Changes

### INCOME OPTIMIZATION

- Focus on Risk-Adjusted Returns
- Analyze Historical Yield Curve
- Find the "Sweet Spot" for Income

VS.

Defining Public Funds' Risk Tolerance in Advance Sets the Framework for the Income Strategy

# Step Three: Creating a Credit Index

Defining the portfolio's preferred credit profile in advance establishes how credit is used to enhance income.

## Credit Index (Portfolio-Level Target)

- Weighted-average portfolio credit rating
- Established before investing in corporates or taxable municipals
- Defines the portfolio's preferred credit posture
- Typical target: AA- / Aa3

## What This Enables

- Tactical use of A-rated securities
- Income enhancement without lowering overall portfolio quality
- Flexibility in issuer and sector selection

## Safety Embedded in the Credit Index

### Headline Risk

- Downgrades anticipated and absorbed at the portfolio level

### Default Risk

- Controlled through statutory minimums and higher portfolio target

### Concentration Risk

- Managed through diversification consistent with the Prudent Investor Standard

*This is a construction blueprint, not the security selection process.*

The Credit Index ensures income is enhanced without compromising safety, diversification, or policy

## Step Four: Creating a Market Rate of Return Index

The Market Rate of Return Index is an explanatory input into the Suitability Benchmark.

### Market Rate of Return Index

- Defines market rate of return as yield, excluding unrealized gains or losses
- Reflects how public funds actually invest over time

*\* 12-month moving average of 2-Year U.S. Treasury Constant Maturity Rate*

### Index Inputs

- 2-Year U.S. Treasury Constant Maturity Rate (Data from FRED)

**FRED** (Federal Reserve Economic Data) is the primary source for consistent historical yield data.

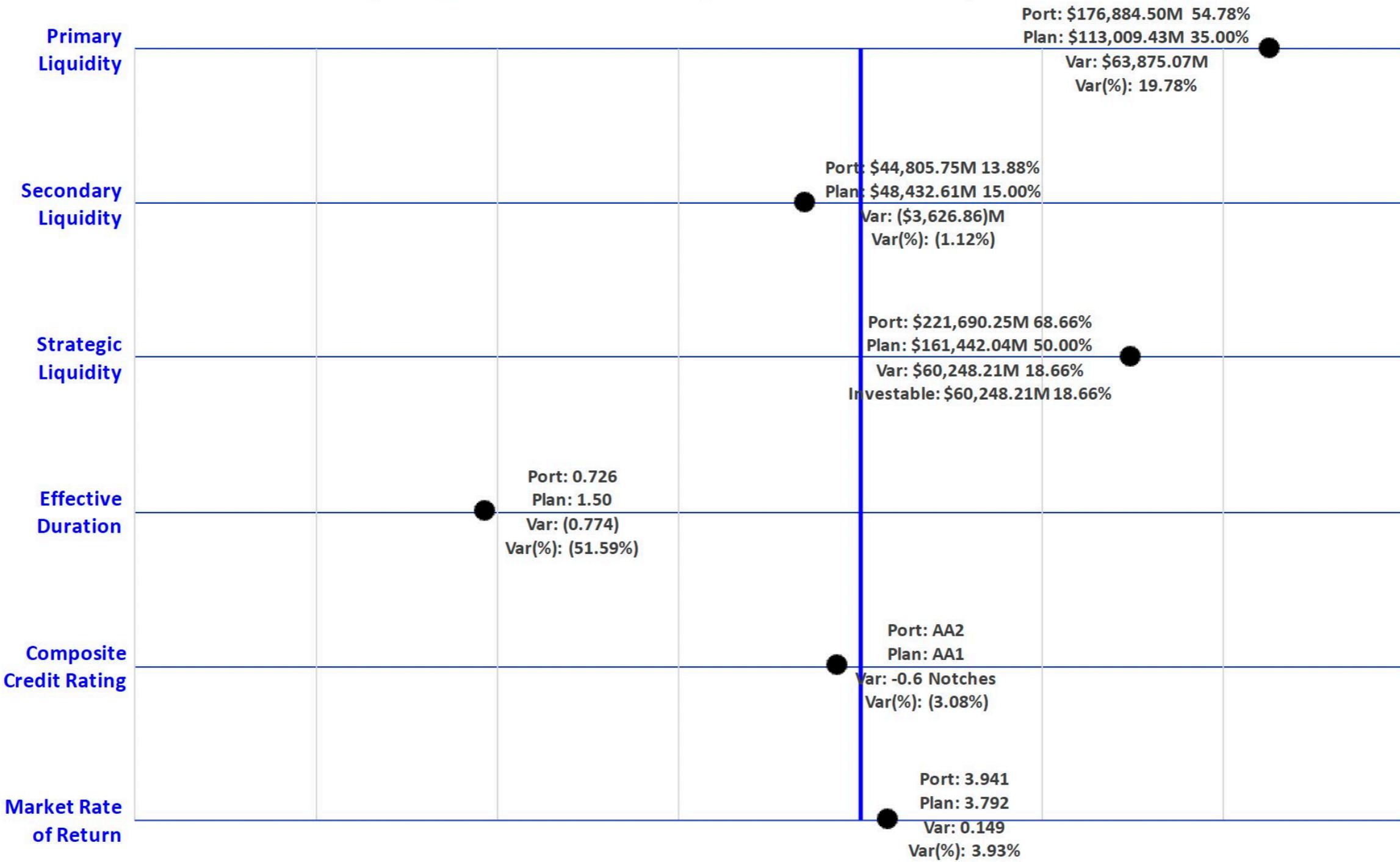
The Market Rate of Return Index provides market-based context for income, allowing the Suitability Benchmark to evaluate stewardship without confusing prudence with market timing.

## Suitability Benchmark Executive Summary: City of Sweet Returns

CASH: 54.78% | Tsy:0.95% | AgyBlt:3.47% | AgyStep:1.24% | AgyClbl:7.19% | Corp:7.21%

Par Amount (\$000): \$322,290.49 | Mkt Vlu (\$000): \$322,884.08 | Gain/Loss (\$000) Using Amort Cost: \$1,017.08

Years To Maturity: 0.86 | Modified Duration: 0.82 | Effective Duration: 0.73 | Effective Convexity: (0.07)



# Summary

## How we built the Suitability Benchmark

- Step 1 — Liquidity Index: targets + investable liquidity after targets
  - Step 2 — Duration Index: intentional interest-rate posture
- Step 3 — Credit Index: portfolio-level posture + diversification discipline
- Step 4 — Market Rate of Return Index: income context (not a performance contest)

## What we clarified

- Measurement ≠ Evaluation
- Fiduciary obligation ≠ Stewardship
  - Index ≠ Benchmark

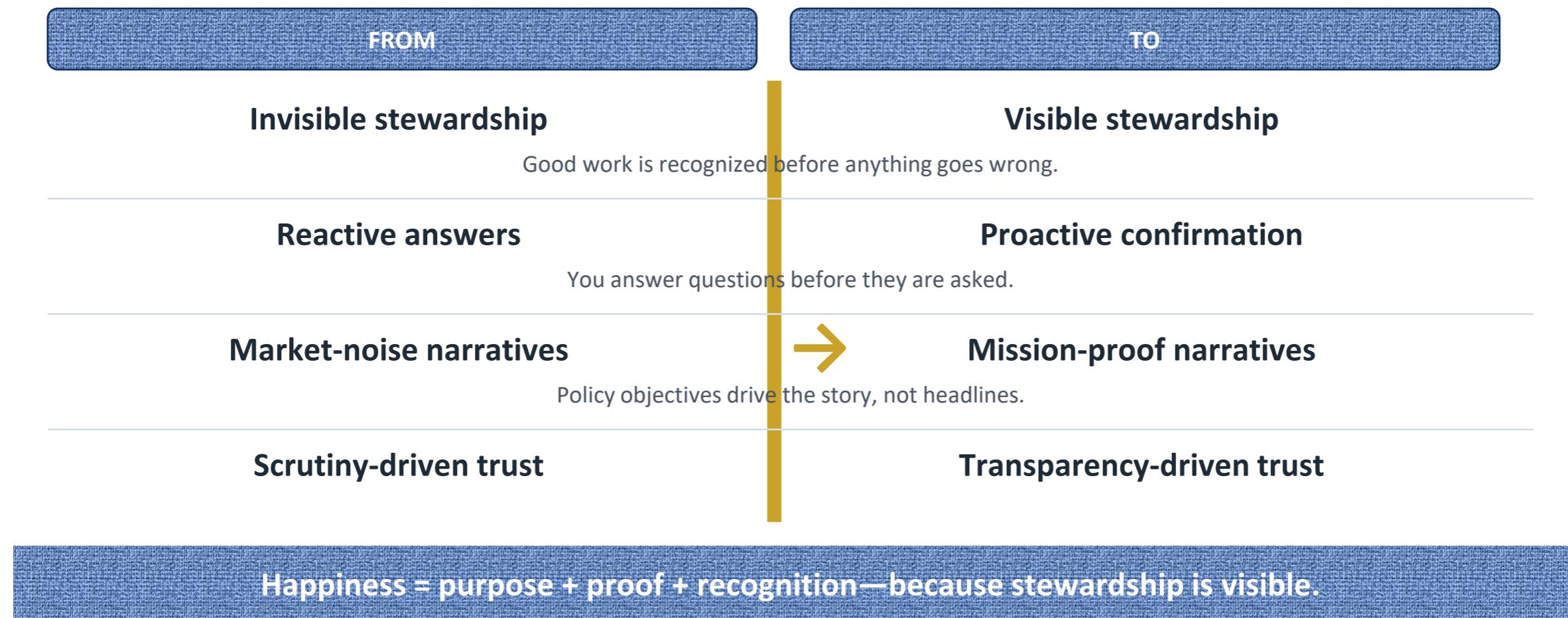
## What this delivers

- Built from investment policy objectives—not market indices
- Proof of safeguarding, liquidity readiness, and reasonable book yield
- Clarity for boards, auditors, and the public

**Stewardship is evaluated through suitability— so the benchmark must come from investment policy objectives.**

# Flipping the Dynamic

A Suitability Benchmark changes the PM's role from reactive defense to proactive stewardship—making purpose and performance visible.



## DISCLOSURE

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# QUESTIONS?

**BEN FINKELSTEIN, CFA**

*Managing Director*  
Hilltop Securities Inc.





# LUNCHEON



# SESSION THREE

## Understanding Investment Pools



**PETER GARGIULO**  
*Senior Director*  
Fitch Ratings — Funds  
& Asset Management



**WILL GOLDFTHWAIT**  
*Client Portfolio  
Manager*  
State Street  
Investment  
Management



**DAVID MAURICE**  
*Investment & Debt  
Officer*  
Office of the Auditor-  
Controller-Treasurer-  
Tax Collector, County  
of Sonoma



**KYLE TANAKA**  
*Program Administrator*  
California Asset  
Management  
Program



**JEFF WURM**  
*Director,  
Investments Division*  
California State  
Treasurer's Office

# Agenda

- Tools for you, the Local Investment Guru
- Money Market Funds
- JPA Funds Liquidity Funds
- Local Agency Investment Fund
- JPA “Duration” Funds
- The Role of Ratings
- The User’s perspective

# SESSION THREE

Understanding Investment Pools

**WILL GOLDFWAIT**

*Client Portfolio Manager*  
State Street Investment Management



# California Asset Management Program (CAMP)

CAMP is governed by a board of nine trustees representing 400+ public agencies that invest in the program.

Since inception in 1989, PFM Asset Management\* has served as the Investment Advisor and Administrator of the program.

POOL	TERM
Nearly \$22 billion AUM as of 12/31/25	Over \$1.2 billion AUM as of 12/31/25
Same-day liquidity with a noon cut-off time	Fixed-rate, fixed-maturity investment from 60 days to one year
Follows GASB 79, which allows the pool to market a stable NAV of \$1.00	Allows Shareholders to: <ul style="list-style-type: none"><li>• Match assets to liabilities</li><li>• Manage cash flow gaps and surpluses<ul style="list-style-type: none"><li>• Hedge excess liquidity</li></ul></li></ul>

**CAMP**<sup>®</sup> \*PFM Asset Management is a division of U.S. Bancorp Asset Management, Inc., CAMP's investment adviser and administrator, that services public sector clients.

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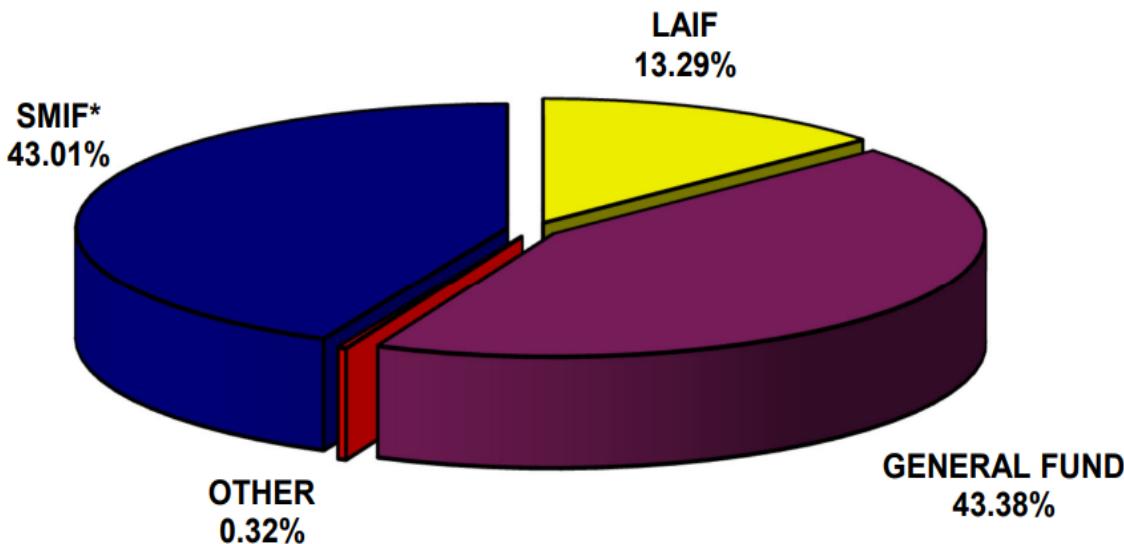
# Pooled Money Investment Account (PMIA) Local Agency Investment Fund (LAIF)



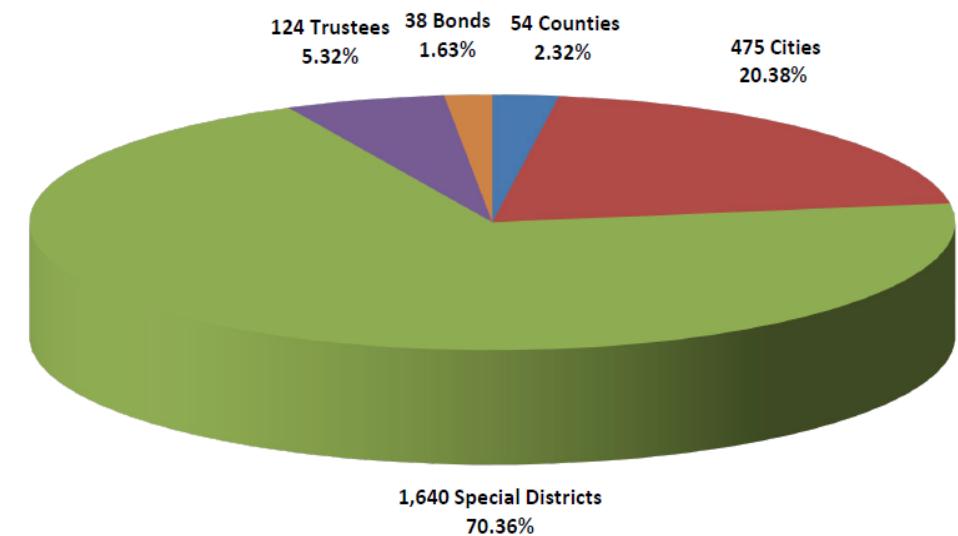
Pooled Money Investment Account

## SOURCE OF FUNDS

Average Quarterly Balance  
09/30/25  
\$169.161 billion

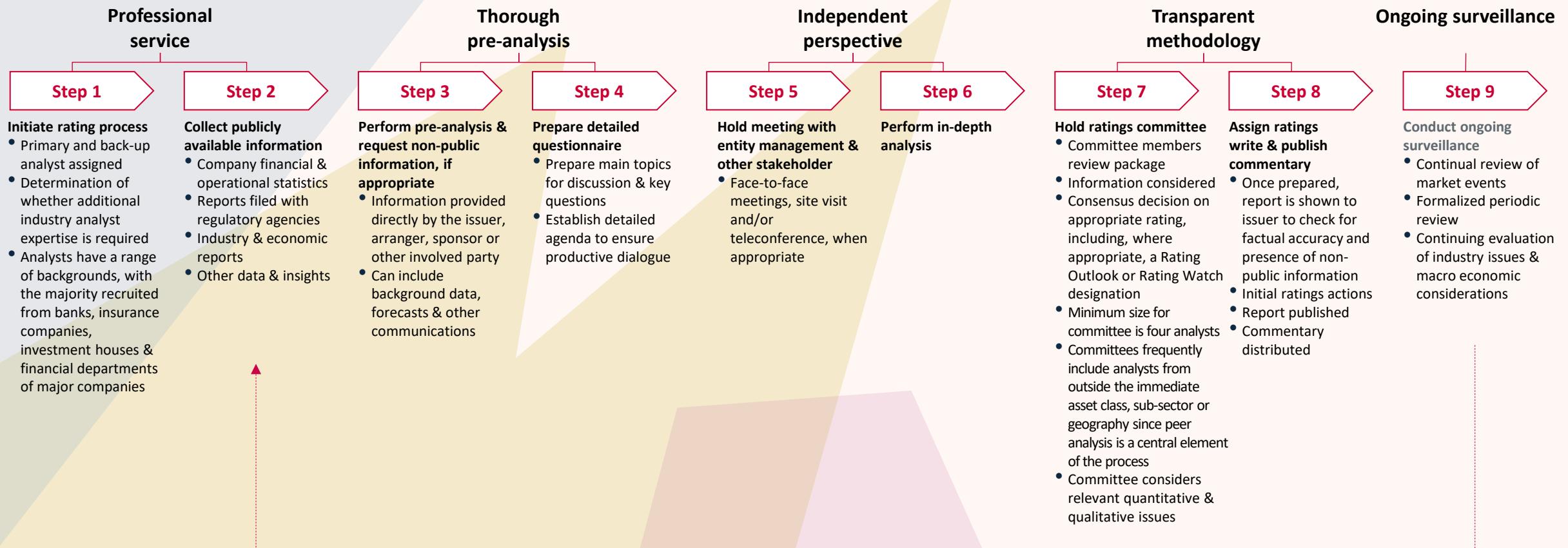


LOCAL AGENCY INVESTMENT FUND  
Participation as of 9/30/25  
2,331 Agencies



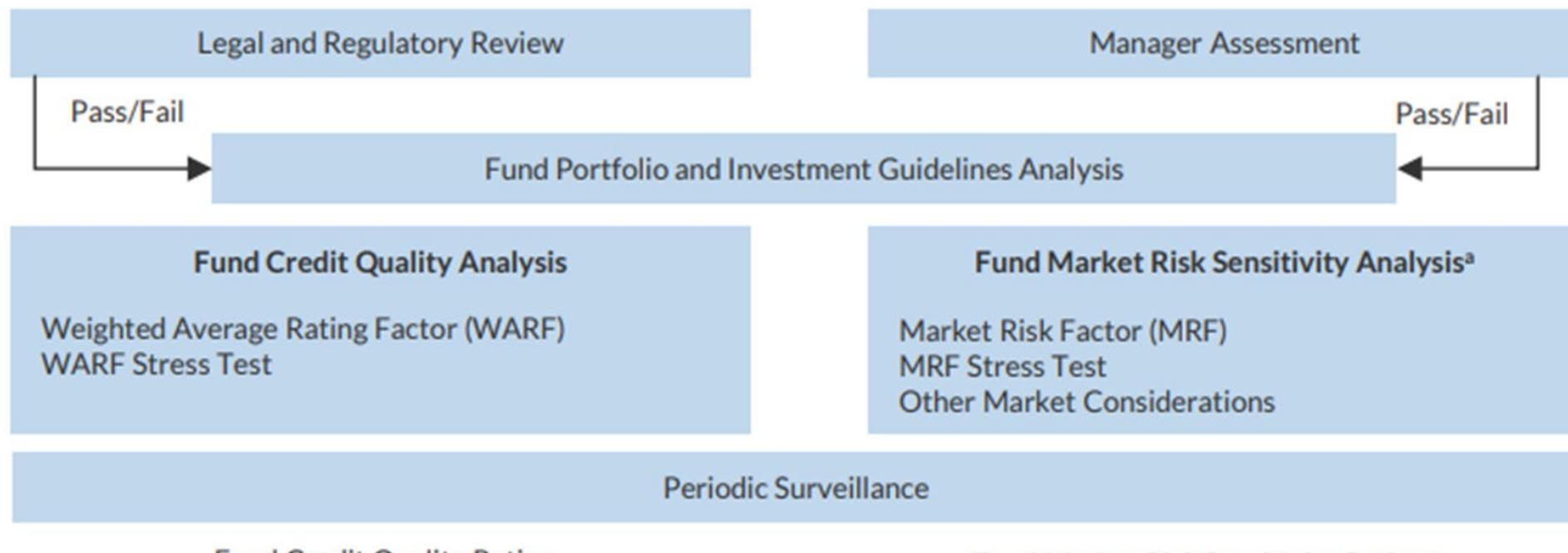
Percentages may not total 100% due to rounding.

# Fitch Credit Rating Process



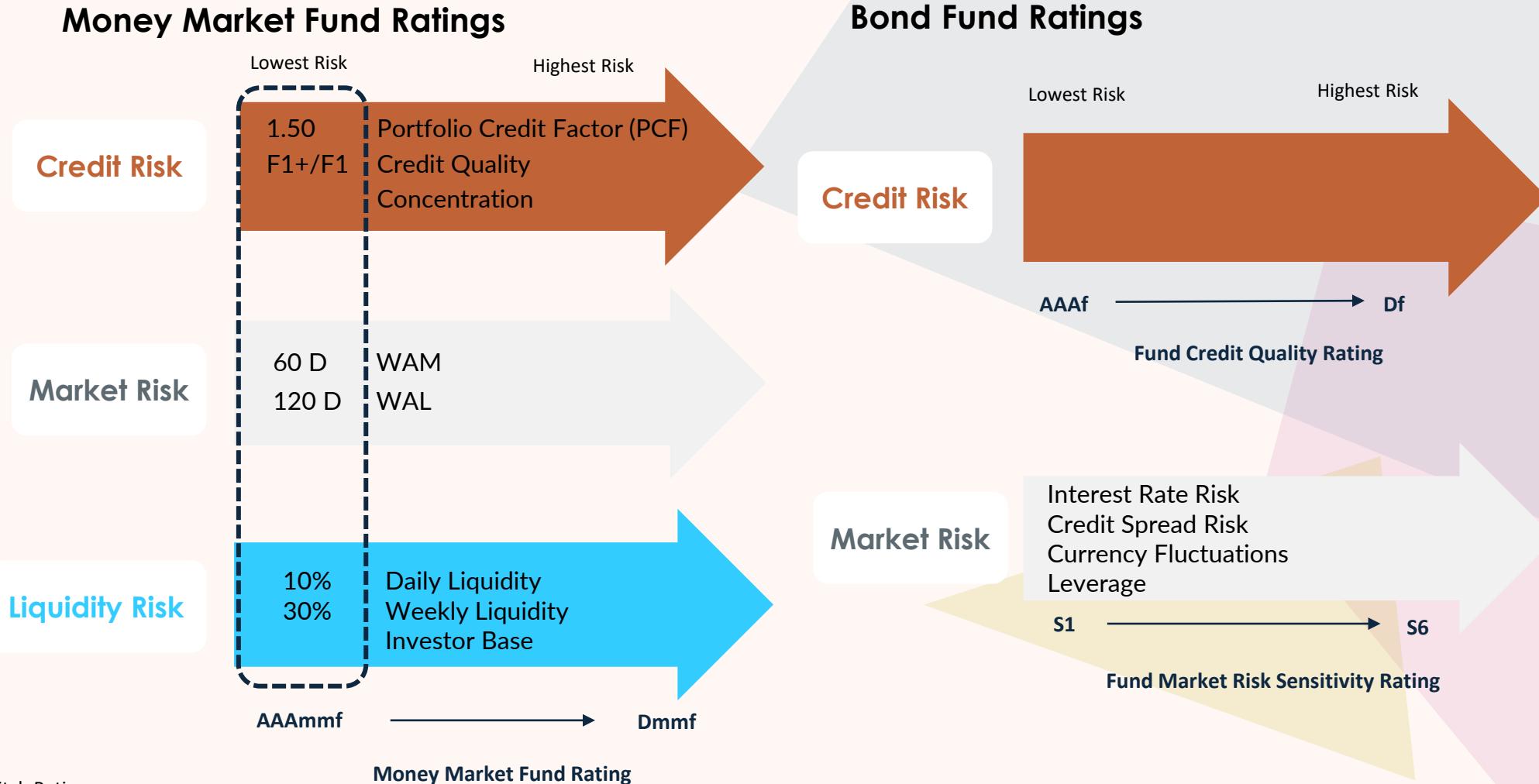
# Fitch's Global Bond Fund Rating Criteria Framework

## Global Bond Rating Criteria – Simplified Diagram



<sup>a</sup>Subject to market relevance or regulatory demand.  
Source: Fitch Ratings.

# Bond Fund Ratings Cover a Broader Scope of Credit and Market Risk



# Key Rating Driver Components

	Component #1	Component #2
Credit Risk	The manager's credit-selection capabilities and ability to avoid credit events and limit credit-driven losses	The portfolio's key credit attribute is based on WARF (the market value-weighted sum of each portfolio security's credit rating factor), which takes into account the rating and maturity of the instrument (based on legal final maturity dates in most cases)
Liquidity Risk	N/A	N/A
Market Risk	A fund's sensitivity to movements in interest rates (interest rate risk) measured by modified duration or WAM as a proxy	A fund's sensitivity to movements in credit spreads (spread risk) is measured by its spread duration or WAL as a proxy
Asset Manager	The asset manager's capabilities, track record, investment platform and infrastructure are important actors in the rating analysis	The asset manager (with board-level oversight, where applicable) is capable of managing the fund, and has sufficient operational resources and expertise
Surveillance	Monthly surveillance	Fitch periodically meets with senior managers responsible for portfolio management, credit analysis, risk management, operations and legal/regulatory issues

# Fitch's Bond Fund & LGIP Ratings Methodology

- WARFs and MRSRs are quantitatively derived, inform rating outcomes and are monitored overtime.

## Fund Credit Quality Rating – Credit Risk Factors

(By Underlying Security Rating Category and Remaining Maturity)

Residual Maturity	AAA	AA	A	BBB	BB	B	CCC	CC and Below
0–90 days	0.00	0.02	0.14	0.6	3.2	11.8	23.7	100.0
91–397 days	0.01	0.05	0.3	0.9	4.5	19.6	50.0	100.0
398 days–3 years	0.05	0.2	0.6	1.4	5.8	23.7	50.0	100.0
> 3 years	0.14	0.6	1.6	3.2	11.8	23.7	50.0	100.0

Source: Fitch Ratings

## Credit Spread Risk Factors<sup>a</sup>

	AAA	AA	A	BBB	BB	B	CCC and Below
Credit Spread Risk Factor	0.0	0.1	0.2	1.0	2.0	4.0	7.0

<sup>a</sup>Based on an analysis of Fitch Solutions non-financial corporate CDS spread volatility for the 2007–2022 period and Bank of America Merrill Lynch global fixed-income market index total return volatility for the 1997–2022 period. Spread risk factors are based on volatility of observed CDS spreads relative to those observed at the 'AA' level. Source: Fitch Ratings

## Guideline WARF Ranges

WARF Range (>=, <)	WARF - Implied Fund Credit Quality Rating
0.0–0.3	AAA
0.3–0.9	AA
0.9–2.1	A
2.1–6.1	BBB
6.1–15.8	BB
15.8–32.4	B
32.4–100	CCC and below

Source: Fitch Ratings

## Market Risk Sensitivity Ratings

Market Risk Sensitivity	Market Risk Sensitivity Rating	Market Risk Sensitivity Factor <sup>a</sup> (>=, <)
Very Low	S1	<2.0
Low	S2	2.0–4.0
Moderate	S3	4.0–7.5
<small>Bond Fund Ratings Cover a Bro...</small>		
Moderate to High	S4	7.5–12.5
High	S5	12.5–17.5
Very High	S6	>17.5

<sup>a</sup>Different cutoff points may be applied in certain national markets to reflect regulatory and structural characteristics of that specific market as detailed in [Appendix A](#).

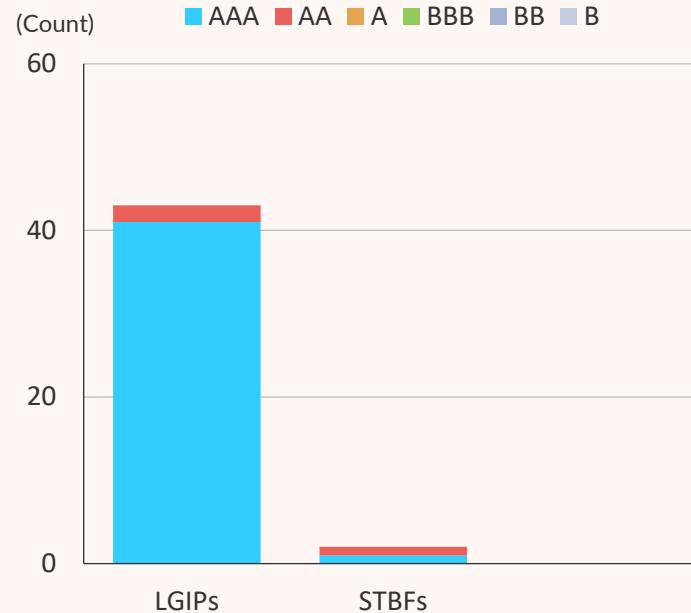
Source: Fitch Ratings

# Bond Fund Rating Overview

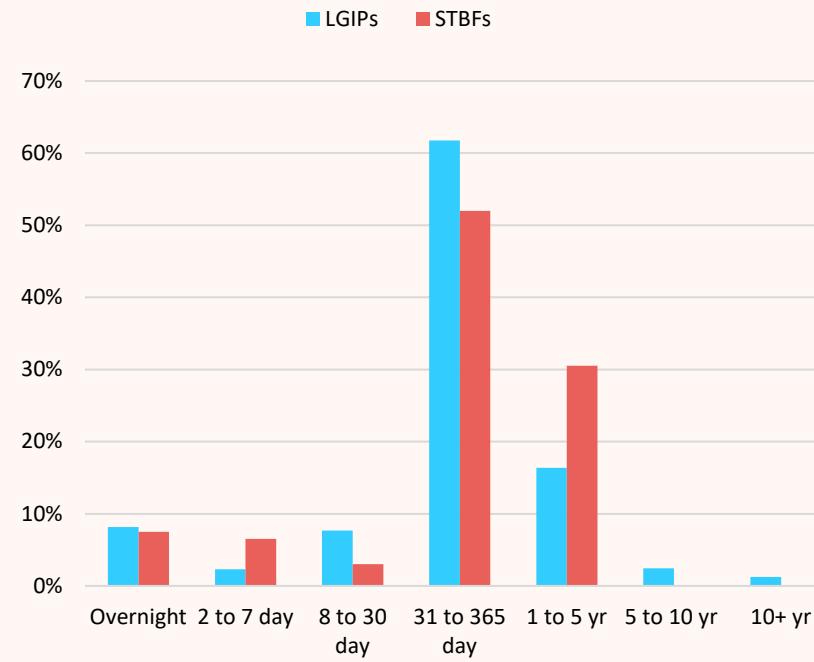
<b>Rating Scales</b>	'AAA' to 'D' and 'S1' to 'S6'
<b>Rating Subscript</b>	'-f'
<b>Summary Rating Definition<sup>a</sup></b>	Fund's overall credit profile and vulnerability to losses as a result of defaults (Fund Credit Quality Rating) and fund's relative sensitivity to changes in interest rate, credit spread and currency risks (Fund Market Risk Sensitivity Rating)
<b>Does Rating Address Credit Risk?</b>	Yes (via Fund Credit Quality Rating)
<b>Does Rating Address Market Risk?</b>	Yes (via Fund Market Risk Sensitivity Rating)
<b>Does Rating Address Liquidity/Redemption Risk?</b>	No
<b>Credit Risk Scoring Approach</b>	WARF
<b>Credit Risk Scoring Time Horizon</b>	Full-time horizon, in increments ranging from 90 days to two-plus years
<b>Market Risk Scoring Approach</b>	Interest rate duration plus risk-adjusted spread duration, adjusted for unhedged currency exposure and leverage
<sup>a</sup> For complete rating definitions, please see Fitch's Rating Definitions	
Source: Fitch Ratings	

# Risk Profile of Fitch Rated Funds

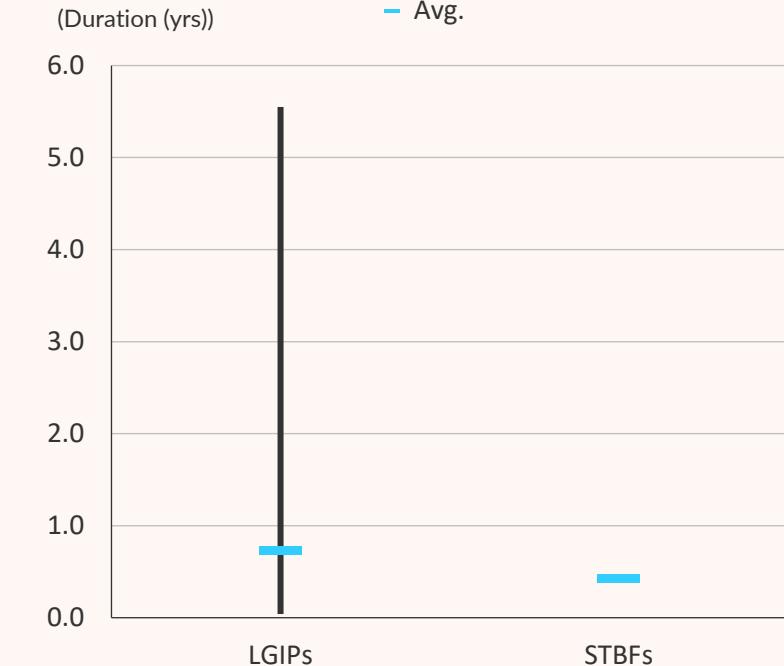
## Fitch Rated LGIPs Concentrated on Higher Rated Securities



## Majority of LGIP maturities less than one year



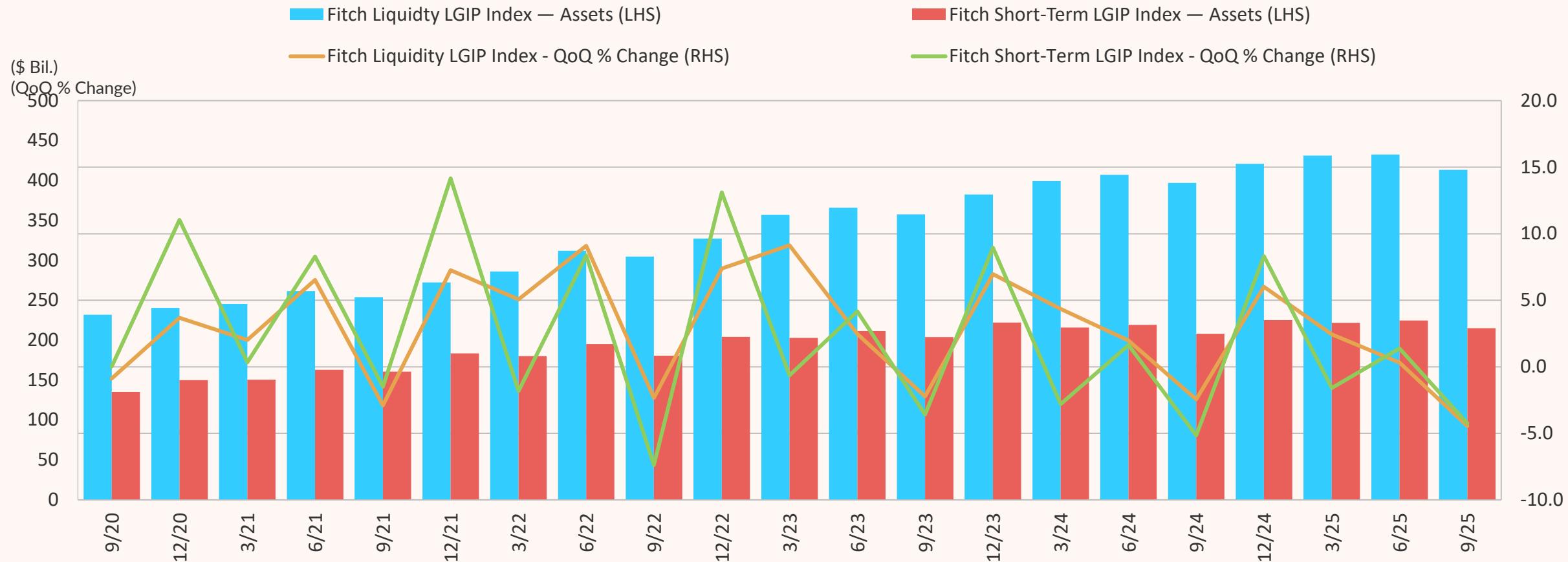
## Credit Spread Duration Limited for LGIPs



# Seasonal Drop in LGIP Assets

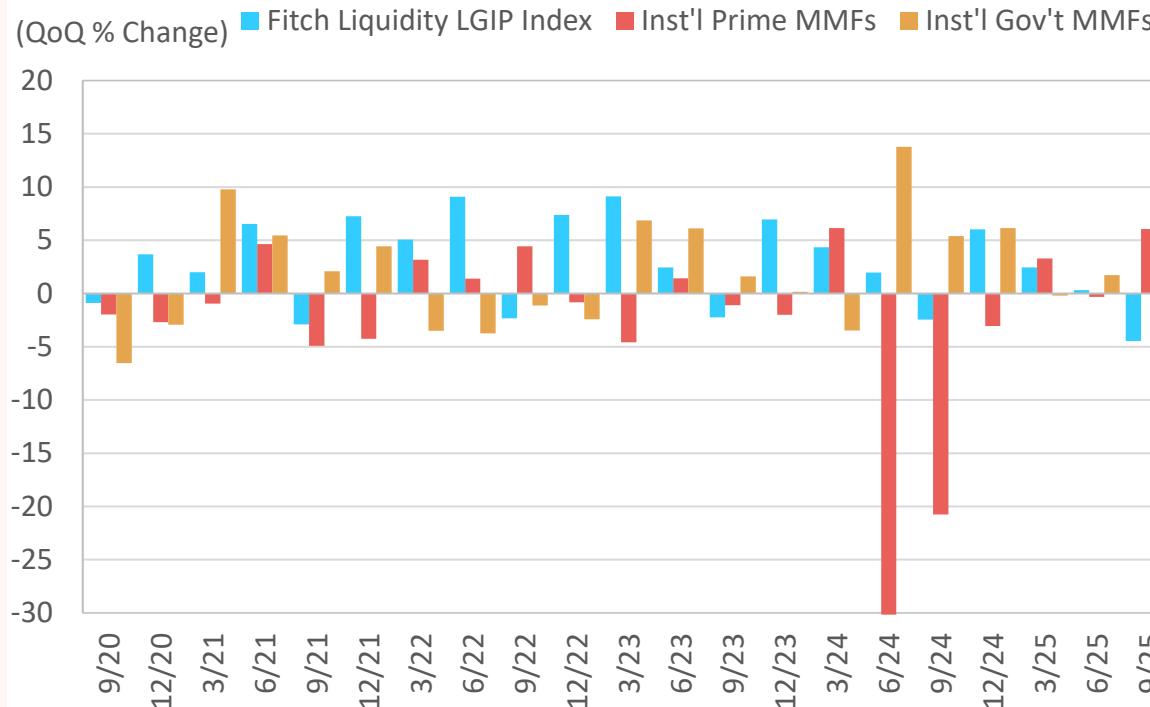
Combined Assets for Both Indices Stood at \$628 Billion as of 3Q25, an Increase of 4% YoY

## Total Assets



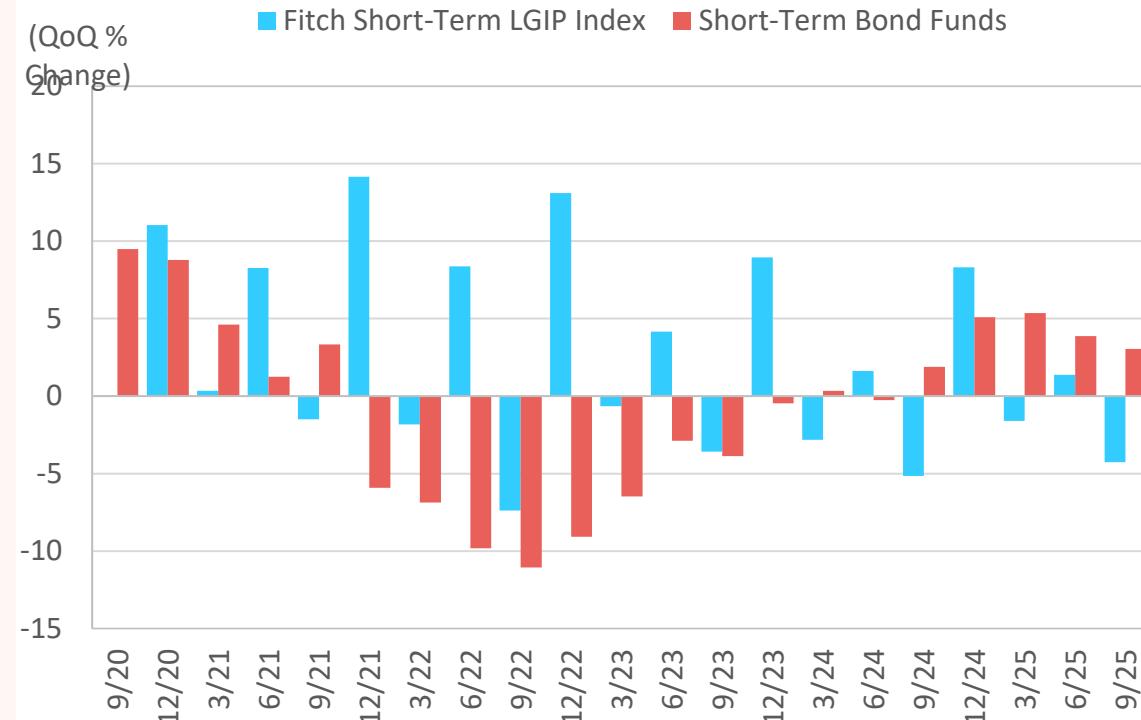
# Quarterly Changes In LGIP Assets

## Quarterly Change in Assets - Liquidity Funds



MMFs - Money market funds.  
Source: Fitch Ratings, CraneData.

## Quarterly Change in Assets - ST Bond Funds



Note: Short-term bond fund assets are derived from a weighted average of the Crane BFI Ultra-Short Index and the Crane BFI Conservative Ultra-Short Index  
Source: Fitch Ratings, CraneData.

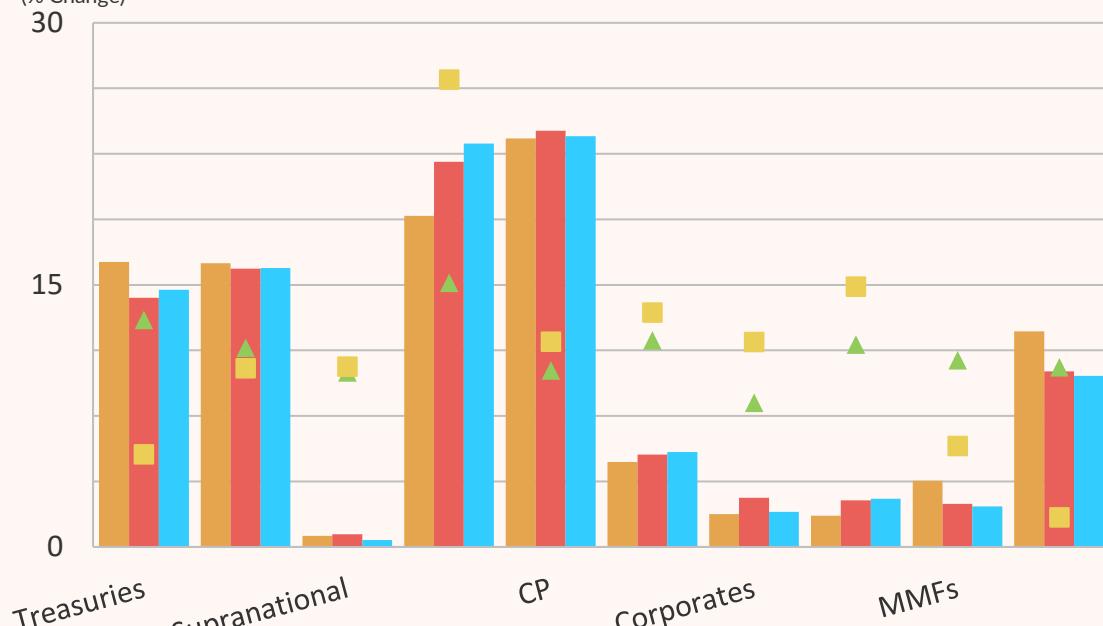
# Portfolio Allocations

**Liquidity LGIPs Move Away from Corporates and Into Repurchase Agreements:**

Fitch Liquidity LGIP Index Weighted Average Sector Allocation

█ September 2024 (LHS)    █ June 2025 (LHS)  
▲ QoQ Change (RHS)    █ YoY Change (RHS)

(% of Total Portfolio)  
(% Change)



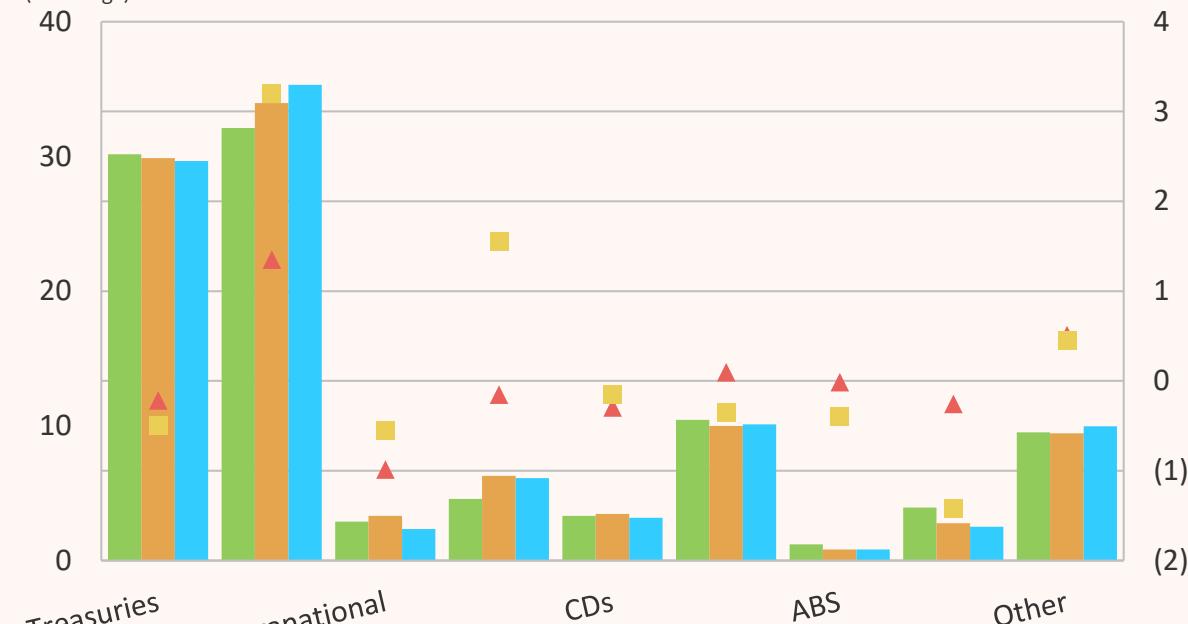
Note: "Other" category includes bank deposits, municipal securities, etc.

Source: Fitch Ratings.

Fitch Short-Term LGIP Index Weighted Average Sector Allocation

█ September 2024 (LHS)    █ June 2025 (LHS)  
▲ QoQ Change (RHS)    █ YoY Change (RHS)

(% of Total Portfolio)  
(% Change)



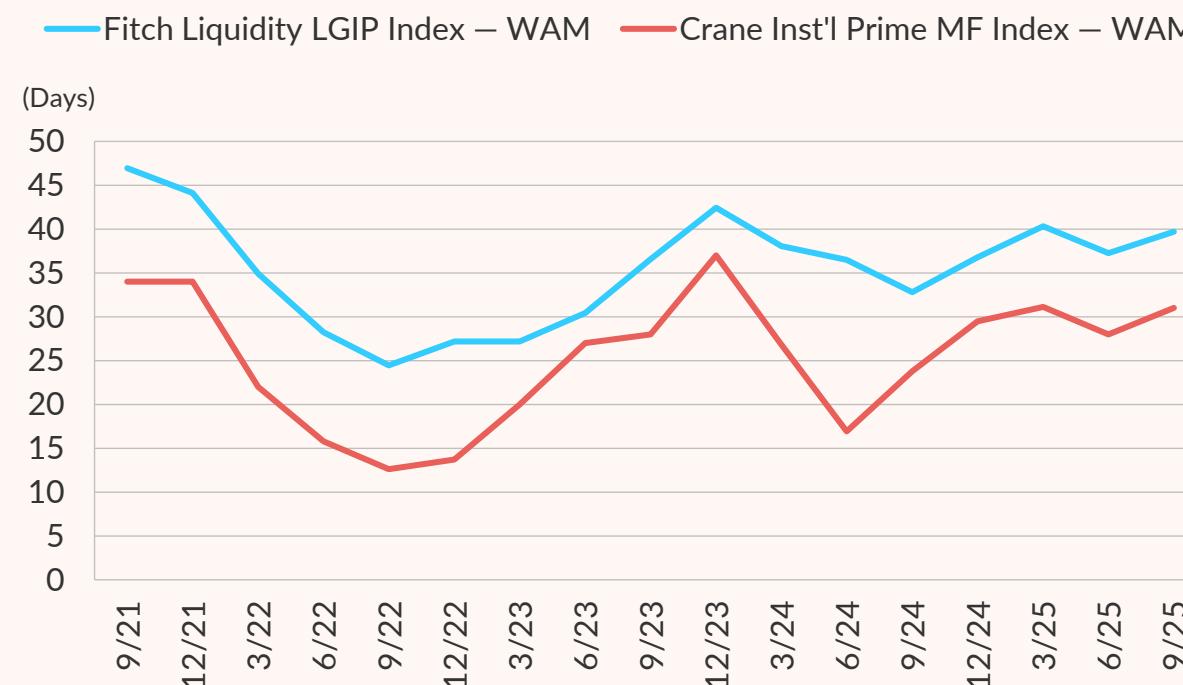
Note: "Other" category includes bank deposits, municipal securities, repos, etc.

Source: Fitch Ratings.

# Managers Extend WAMs as Yields Fall

**Fitch Liquidity LGIP Index WAM  
Increased by 2 Days QoQ**

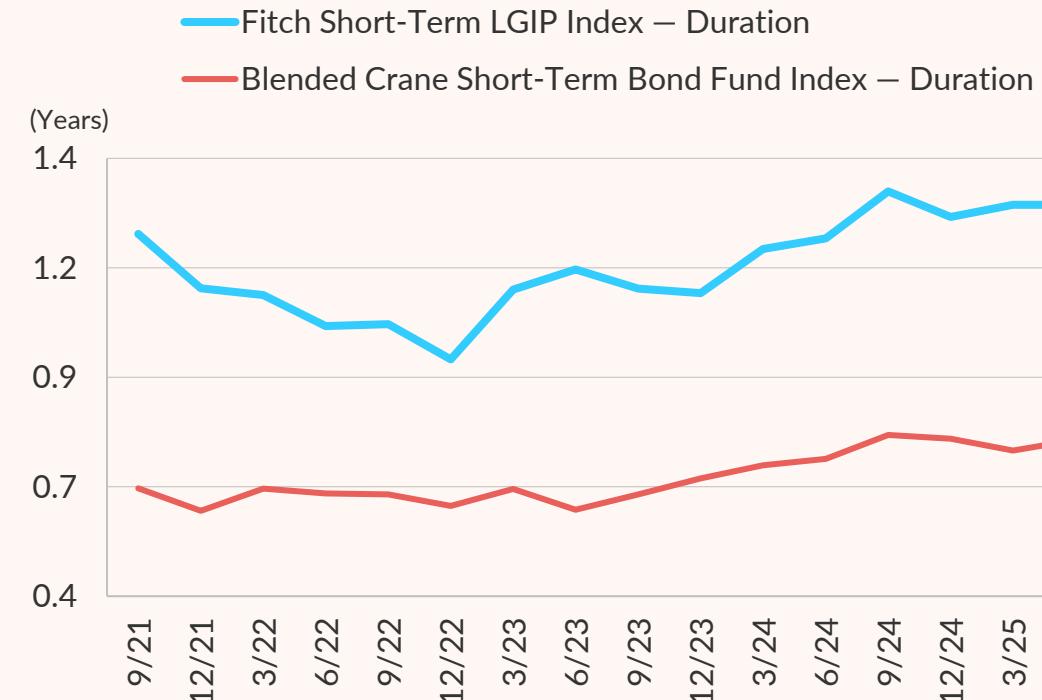
**Fitch Liquidity LGIP Index – WAM**



WAM – Weighted Average Maturity.  
Source: Fitch Ratings, Crane Data.

**Fitch Short-Term LGIP Index Duration  
Increased by 0.01 Years QoQ**

**Fitch Short-Term LGIP Index – Duration**



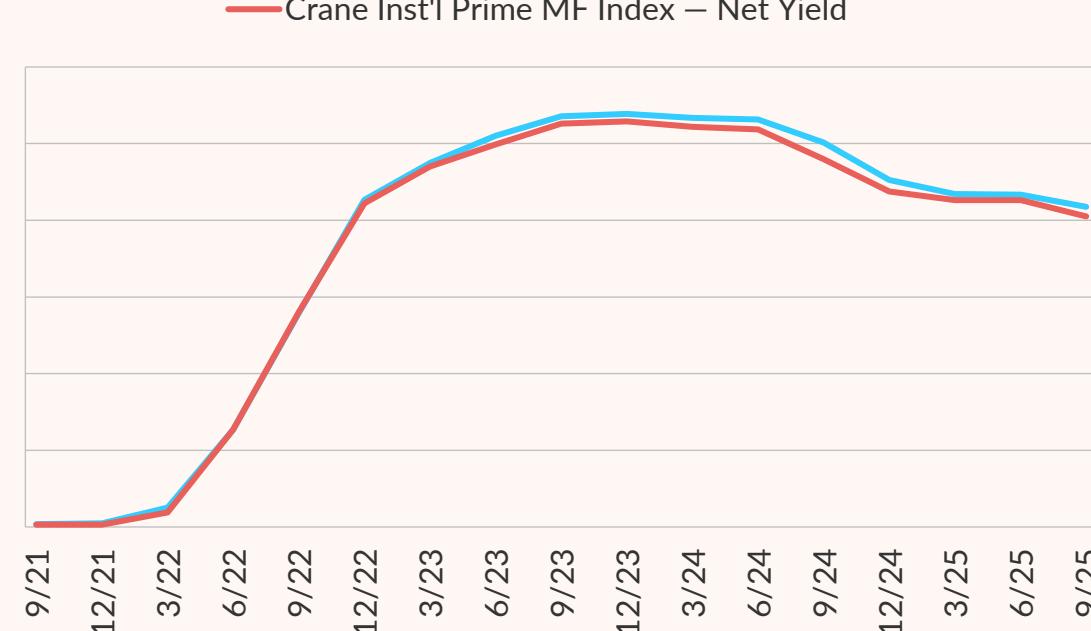
Source: Fitch Ratings, Crane Data.

# FED Rate Cuts Lower LGIP Yields

**Fitch Liquidity LGIP Index: 4.17%,  
Decrease from 4.34% Last Quarter**

Fitch Liquidity LGIP Index – Net Yield

— Fitch Liquidity LGIP Index – Net Yield  
— Crane Inst'l Prime MF Index – Net Yield

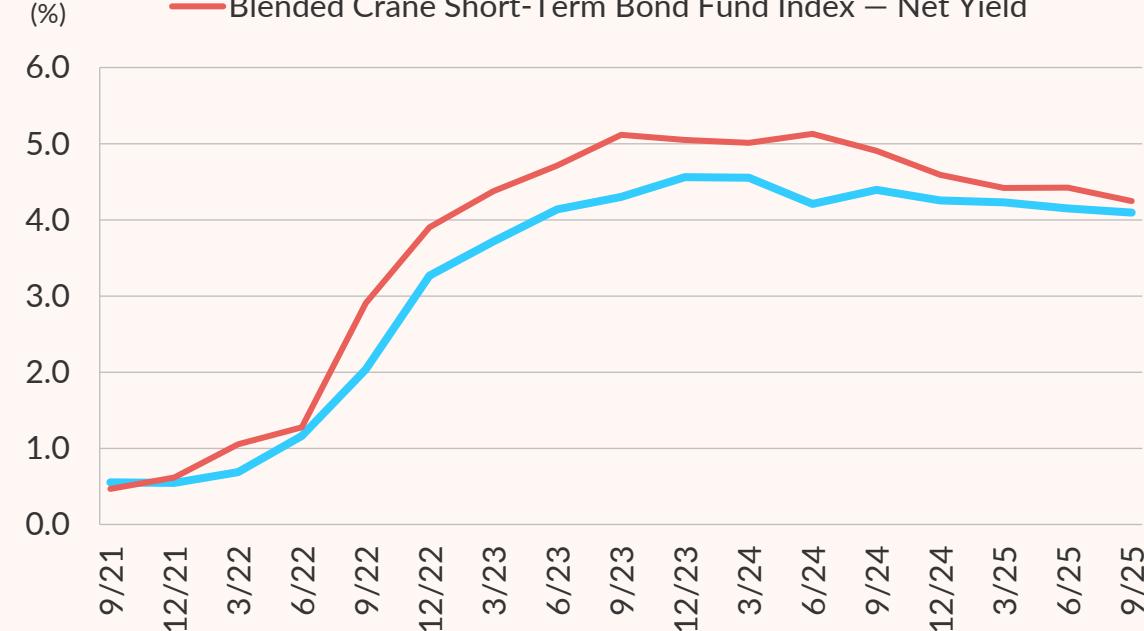


Note: Data reflects average 7-day net yields, or if not available, 30-day yields utilized.  
Source: Fitch Ratings, Crane Data.

**Fitch Short-Term LGIP Index 4.10%,  
Decrease from 4.15% Last Quarter**

Fitch Short-Term LGIP Index - Net Yield

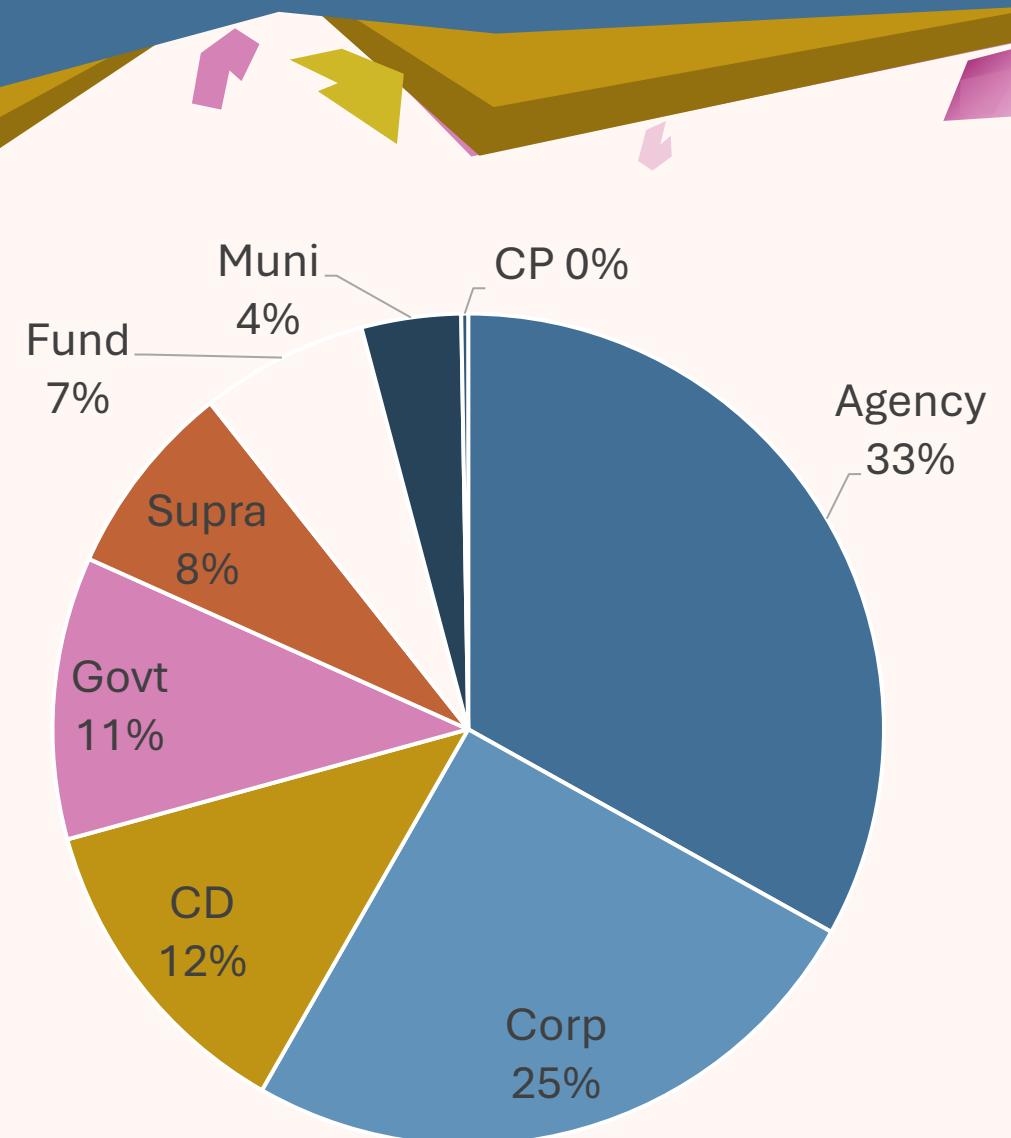
— Fitch Short-Term LGIP Index – Net Yield  
— Blended Crane Short-Term Bond Fund Index – Net Yield



Note: Data reflects average 30-day net yields, or if not available, 7-day yields utilized.  
Source: Fitch Ratings, Crane Data.

# Sonoma County

- What we do:
  - \$3.7bn Pool
  - 90%+ managed internally
  - Small Money Market exposure
  - ~5% JPA Funds
  - ~2% LAIF
  - No exposure in JPA duration products
  - No external mandates



# QUESTIONS?



**PETER GARGIULO**  
*Senior Director*  
Fitch Ratings — Funds  
& Asset Management



**WILL GOLDFTHWAIT**  
*Client Portfolio  
Manager*  
State Street  
Investment  
Management



**DAVID MAURICE**  
*Investment & Debt  
Officer*  
Office of the Auditor-  
Controller-Treasurer-  
Tax Collector, County  
of Sonoma



**KYLE TANAKA**  
*Program Administrator*  
California Asset  
Management  
Program



**JEFF WURM**  
*Director,  
Investments Division*  
California State  
Treasurer's Office

# SESSION FOUR

## The Day-to-Day Management of a Public Investment Portfolio



**STEVEN GOODMAN-LEIBOF**

*Investment Administrator*  
East Bay Municipal  
Utility District



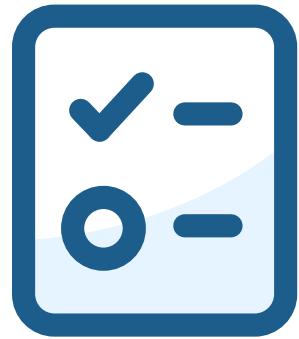
**DAVID MAURICE**

*Investment & Debt Officer*  
Office of the Auditor-Controller-  
Treasurer-Tax Collector, County  
of Sonoma



**KRYSTLE PALMER**

*City Treasurer*  
City of Burbank



**If you run an investment program,  
what is the **TYPICAL** size of your  
program?**

- ⓘ The Slido app must be installed on every computer you're presenting from



**What are your agency's annual expenditures (outflows, total, all types)?**

- ⓘ The Slido app must be installed on every computer you're presenting from



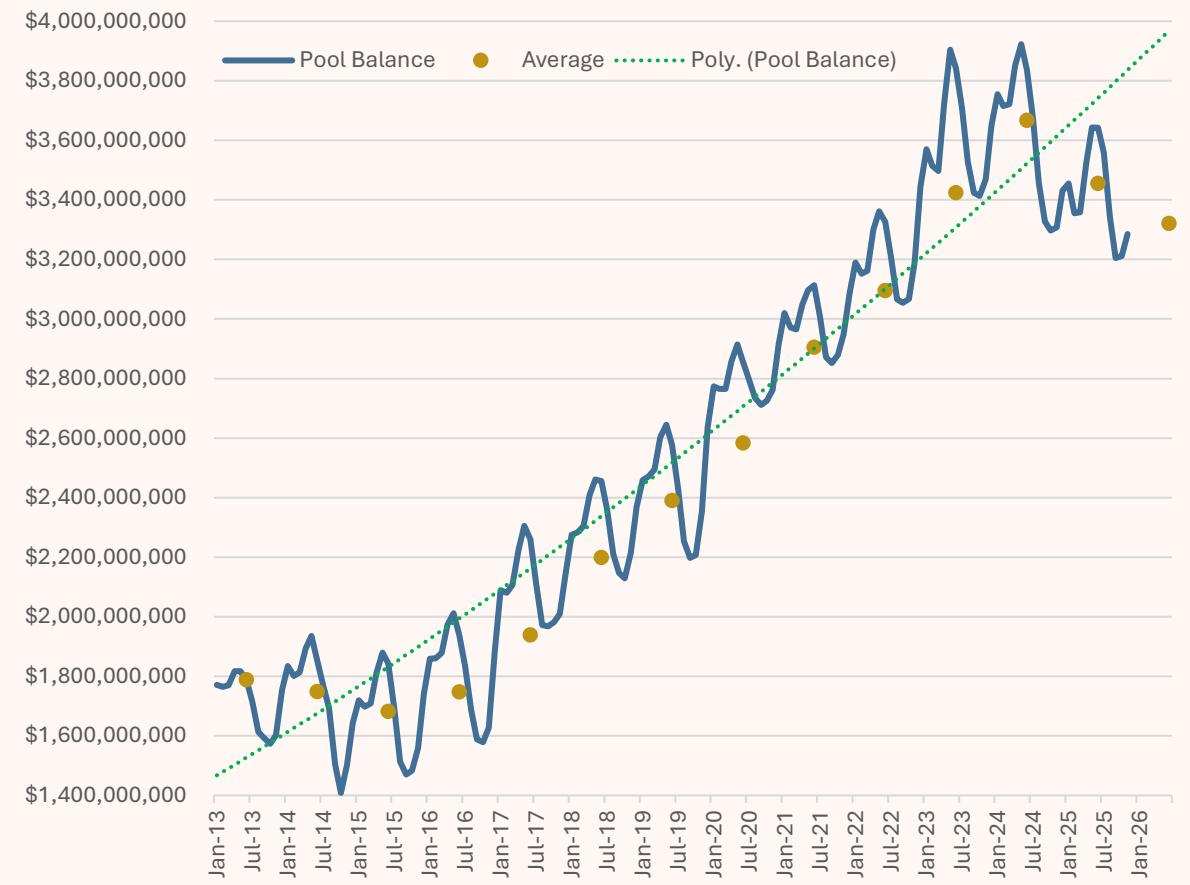
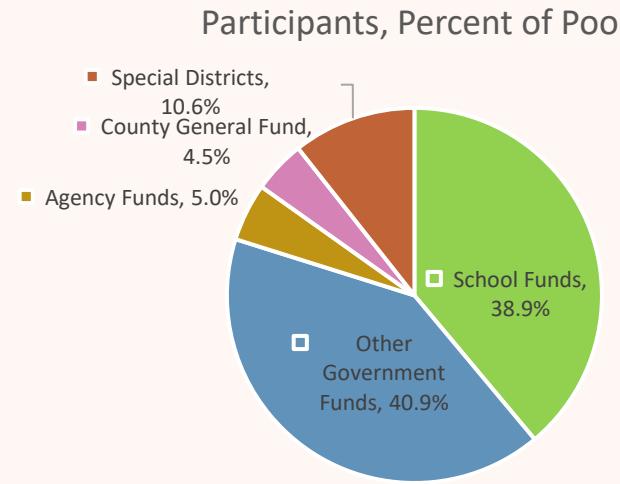
**What are your agency's annual revenues (inflows, total, all types)?**

ⓘ The Slido app must be installed on every computer you're presenting from

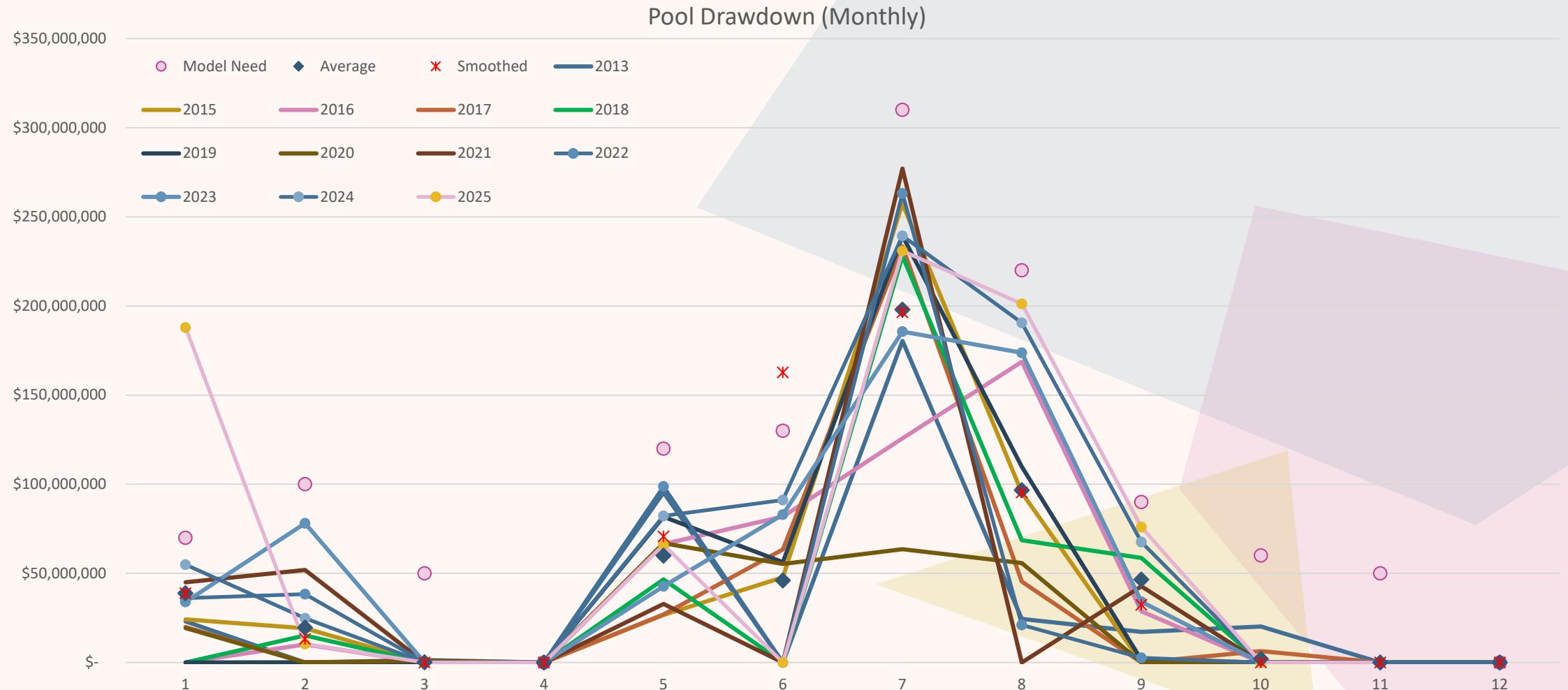
slido

# Sonoma County Pooled Investment Fund

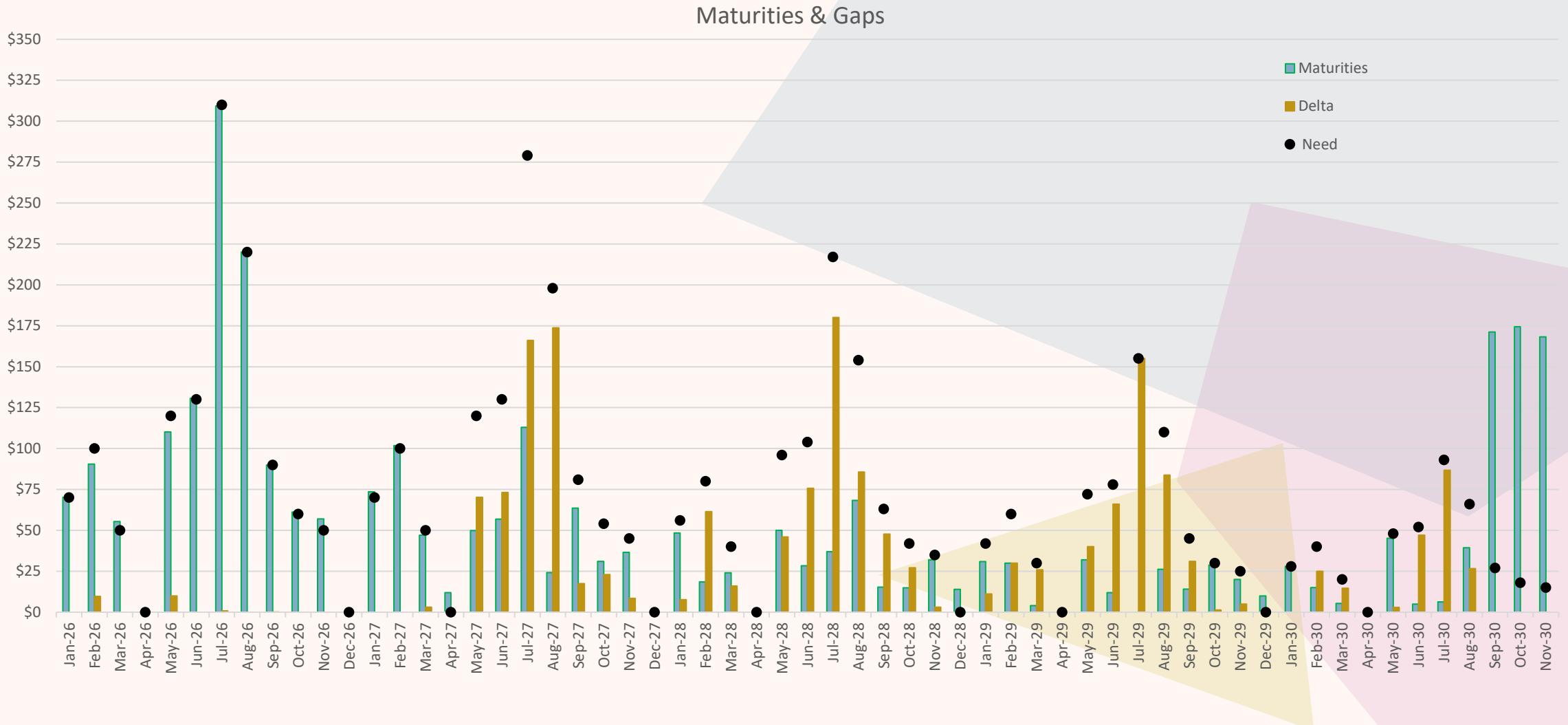
- Quick Facts:
  - Approximately \$3.7bn pool
  - Approximately \$4bn in taxes/revenues/fees/other inflows
  - Approximately \$4bn in expenditures



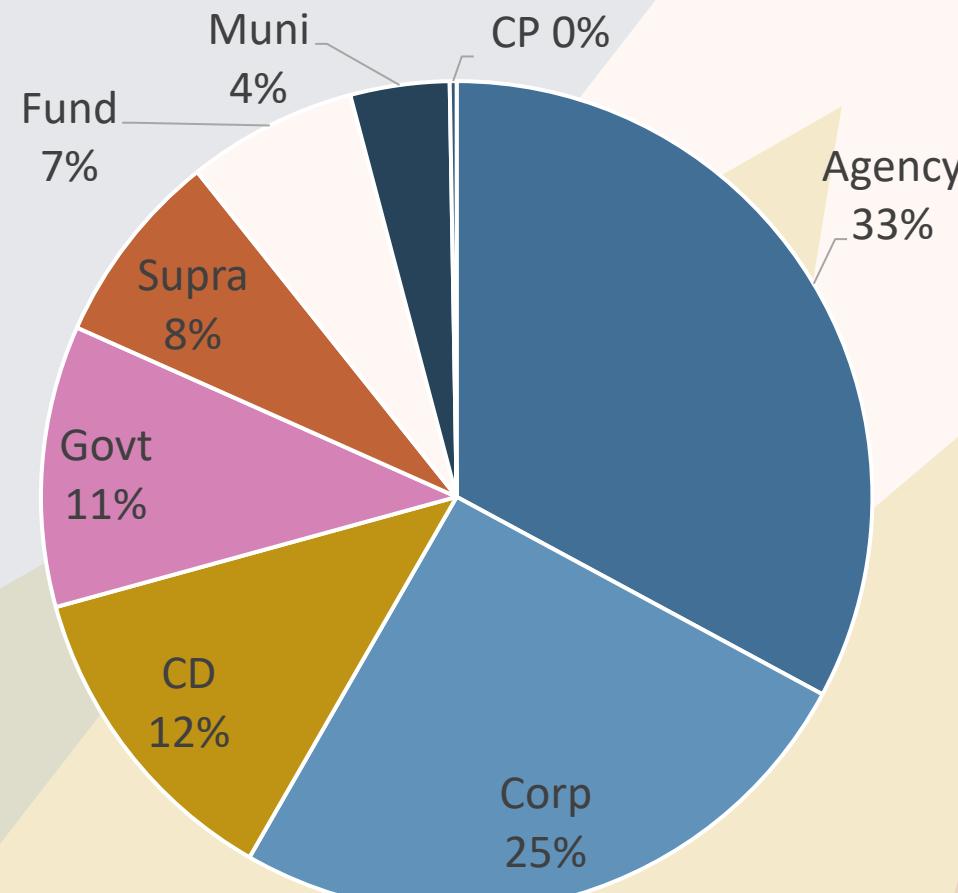
# Defining the Problem: What Do We Need?



# Building a Portfolio – Buy Where You Need

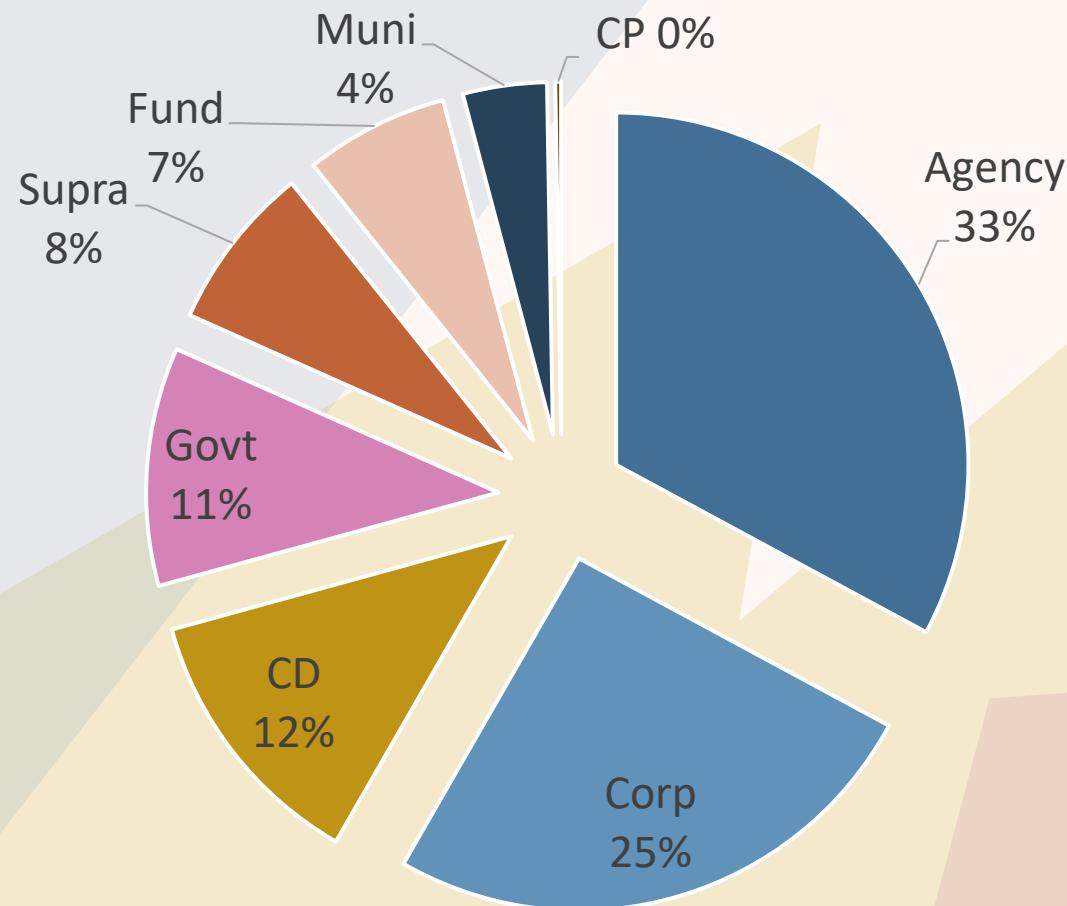


# Building a Portfolio – Draw Inside the Lines



Sector	Book Value	Exposure	Limit
Agency	\$1,216,582,068	32.9%	100%
Corp	\$940,771,244	25.4%	30%
CD	\$459,800,000	12.4%	30%
Govt	\$404,985,257	10.9%	100%
Supra	\$281,299,473	7.6%	30%
Fund	\$244,365,222	6.6%	20%
Muni	\$142,562,941	3.9%	100%
CP	\$9,902,244	0.3%	40%
<b>Grand Total</b>	<b>\$3,700,268,448</b>		

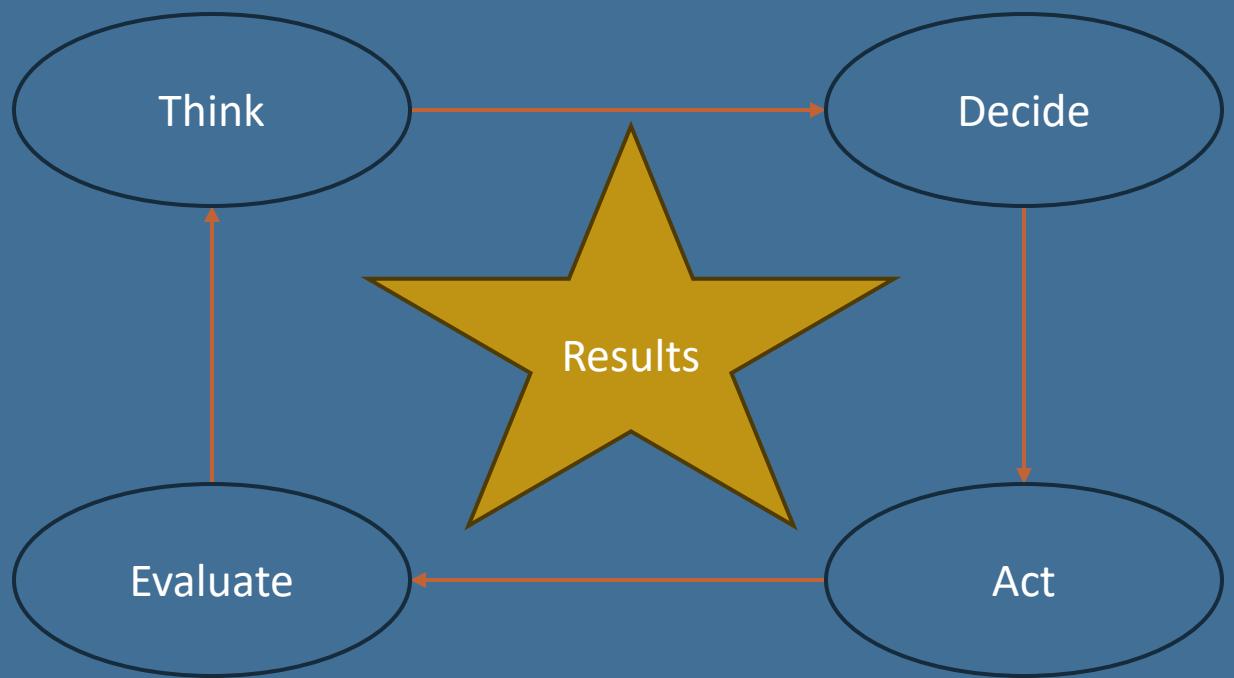
# Building a Portfolio – Each Block Has Purpose



Sector	Primary Use	Secondary Use
Agency Bullets	Bullets: Maturity	Liquidity, Safety
Agency Calls	Yield Enhancement	Safety
Corp	Yield Enhancement	Maturity target
CD	Maturity target	Yield
Govt	Maturity target	Liquidity, Safety
Supra	Maturity target	Yield
Fund	Liquidity	Safety
Muni	Yield Enhancement	Maturity target
CP	Maturity target	Yield

# Our Process (required circular slide)

We run a rigorous 4-step process daily to stay focused on outcomes



# Reporting: Communicating with Partners/Public

- Strike a Balance:
  - Too limited – what are you hiding?
  - Too much – no one reads it (or they do!)
- What is required...
  - Monthly Transactions (16429.1.m)
  - (If) Quarterly (53646.b):
    - Inventory
    - Outside Managers
    - Market Value
    - Complies w/ Code & Policy
    - Ability to meet expenditures (6mo)

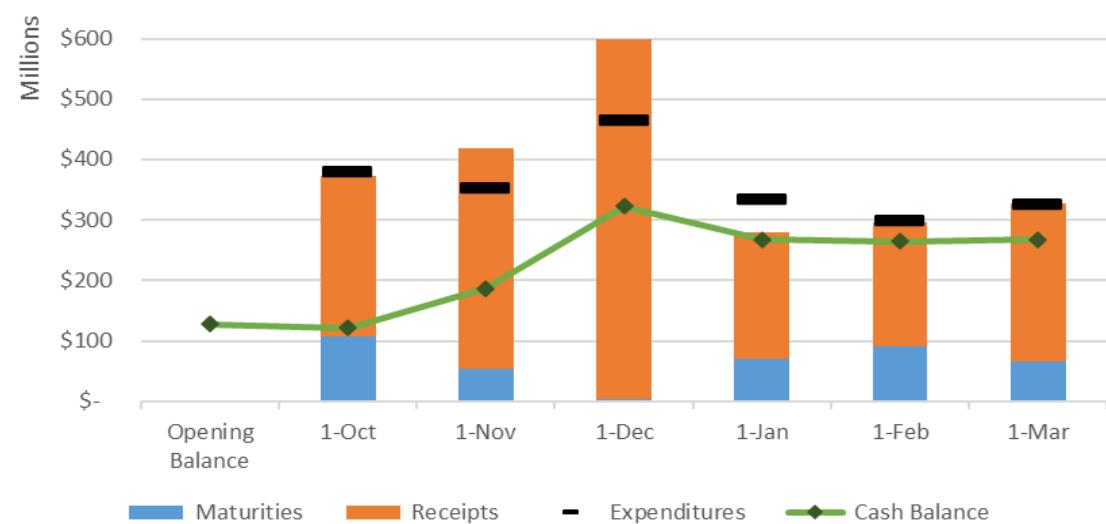
# Reporting: Communicating with Partners/Public

(cont. 2 of 3)

## Section 1: Sonoma County Pooled Investment Fund Summary Statistics

Investment Pool	As of Sep 30, 2025	As of Jun 30, 2025
Book Value	\$3,147,806,178	\$3,658,232,295
Market Value	\$3,158,056,213	\$3,661,596,375
Market Value/Book Value	100.33%	100.09%
Weighted Avg Maturity	772 Days	732 Days
Quarterly Return (gross)	4.097%	4.025%
Apportionment Rate (net)	4.048%	3.925%
Earnings Apportioned	\$33,558,148	\$35,547,116
Average Daily Book Value	\$3,316,071,465	\$3,622,927,531

Projected Cashflows and Balance, next 6 Months



# Reporting: Communicating with Partners/Public

(cont. 3 of 3)

## Section 4: Impact Investments

To the extent possible, within the State's Government Code Section 53601, the Pool will invest in assets that fund activities that improve the Environment, advance Social and Educational goals, and support our local community, provided that such investments are compliant with State Statute and the adopted Investment Policy, as well as meet the three primary goals of the Pool: 1. Safety of Principal, 2. Provide Liquidity to our Participants, and 3. Achieve a reasonable return consistent with a prudent application of these criteria.

Currently, the Pool will consider investments in 1. Climate-friendly bonds (aka Green or Sustainable bonds), 2. Bonds that have a stated use that seeks to advance social goals, 3. Bonds that support education, 4. Bonds that are issued by Development Banks, and 5. Bonds issued by local, Sonoma County issuers. Currently, approximately 13% of the Pool meets these criteria. The full breakdown is presented in Figure 6:

ESG Holdings	Amount	Percent
Designated Green Bonds	\$68,660,749	2.2%
Designated Social Bonds	\$242,463,752	7.7%
Development Bonds	\$48,095,876	1.5%
Education Bonds	\$37,843,855	1.2%
<b>TOTAL</b>	<b>\$397,064,231</b>	<b>12.6%</b>
Locally Focused Bonds	(included above)	
Total	\$27,712,331	0.9%
Local Green	\$23,473,988	0.7%
Local Schools	\$4,238,343	0.1%



# How often do you review your investment policy?

- ⓘ The Slido app must be installed on every computer you're presenting from



**Do you consider ESG or other criteria than the Big 3 (Safety/Liquidity/Yield)?**

- ⓘ The Slido app must be installed on every computer you're presenting from

# City of Burbank

## DEMOGRAPHICS



**103,000**

POPULATION



**76.72%**

SOME COLLEGE OR HIGHER



**\$132K**

AVERAGE HOUSEHOLD INCOME



**165K**

WORKFORCE POPULATION



**42**

MEDIAN AGE



**250K**

DAYTIME POPULATION



**\$134K**

AVERAGE EARNINGS PER JOB PER PERSON



**42,551**

HOUSEHOLDS



**2min 38sec**

BURBANK POLICE RESPONSE TIME



**5min 35sec**

BURBANK FIRE RESPONSE TIME



**\$1,148,000**

BURBANK'S MEDIAN HOME PRICE



**\$899,000**

L.A. COUNTY'S MEDIAN HOME PRICE



**CITY OF  
BURBANK**



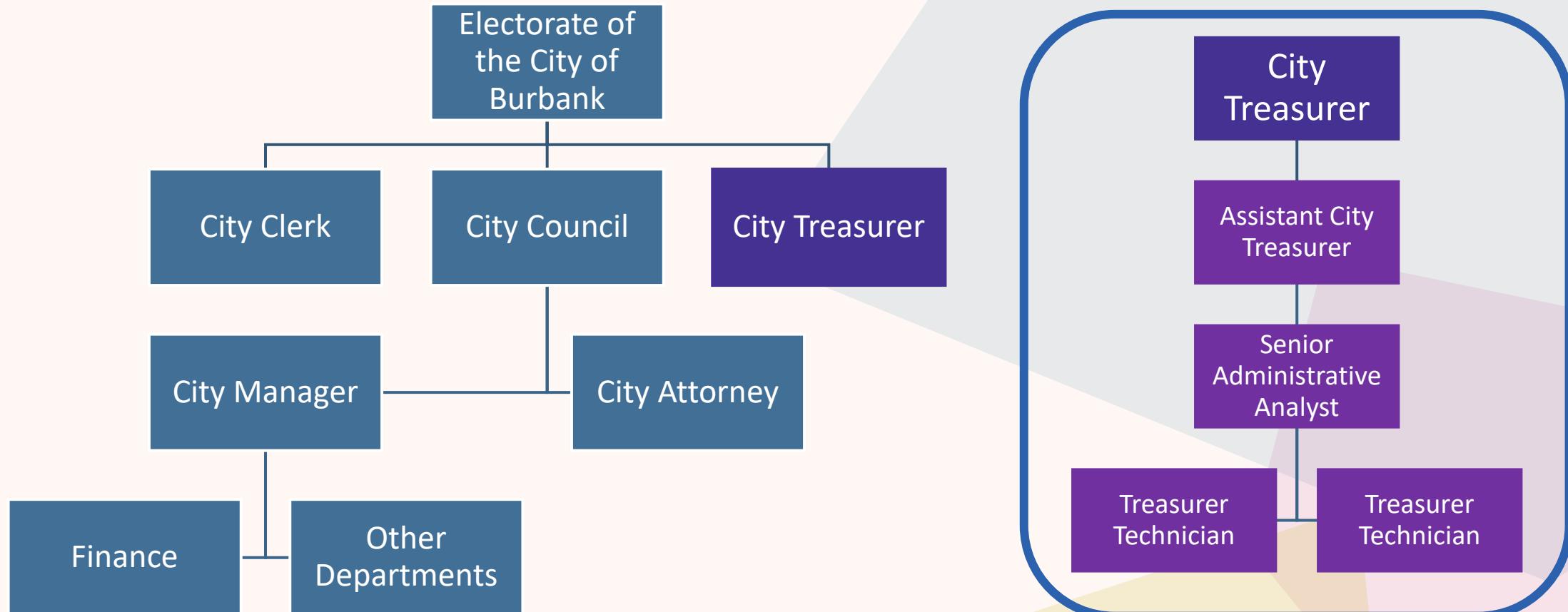
## TOP 10 INDUSTRIES



## NUMBER OF JOBS

ENTERTAINMENT	<b>67,860</b>
HEALTH CARE SERVICES	<b>20,862</b>
INFORMATION TECHNOLOGY	<b>19,963</b>
PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES	<b>10,992</b>
ADMINISTRATIVE AND SUPPORT SERVICES	<b>8,287</b>
RETAIL/WHOLESALE	<b>7,989</b>
FOOD SERVICE AND DRINKING PLACES	<b>7,079</b>
LOCAL GOVERNMENT AND NON PROFITS	<b>4,703</b>
MANUFACTURING	<b>4,075</b>
CONSTRUCTION	<b>3,414</b>

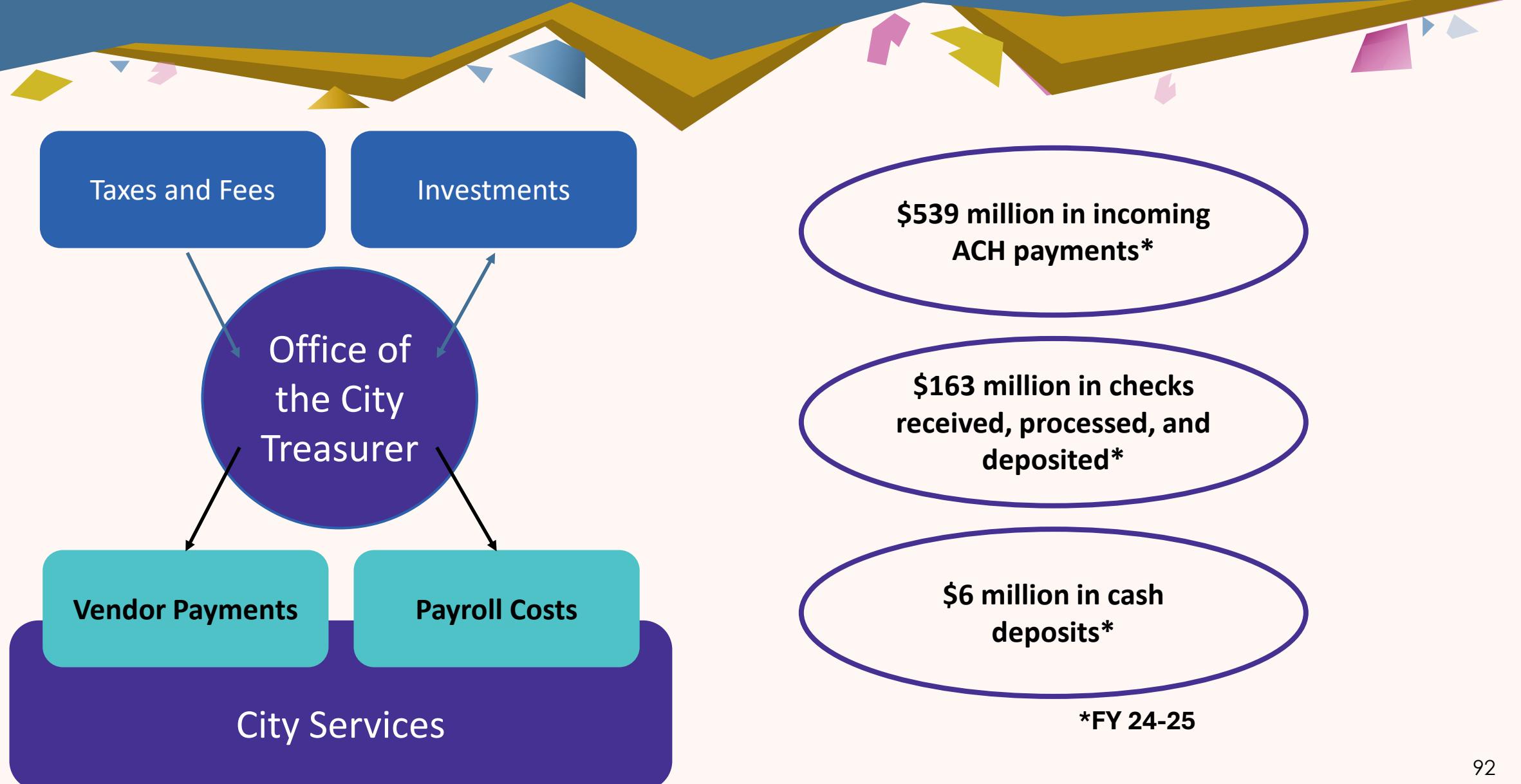
# Organizational Structure



- City of Burbank ~1,550 Employees
- Charter City
- Council-manager government

- 5 Full-time treasury employees
- Responsible for deposits, payments, and investment portfolio

# Cash Management



# Investment Policy Guidelines

## Oversight

- Investment Policy presented annually to City Council for approval/adoption
- Semi-annual presentations to Fiscal & Treasurer's Review Group (internal), Treasurer's Oversight Review Committee (external), and City Council
- All investment transactions audited by third-party firm for compliance
- Monthly reports emailed to Council and committees

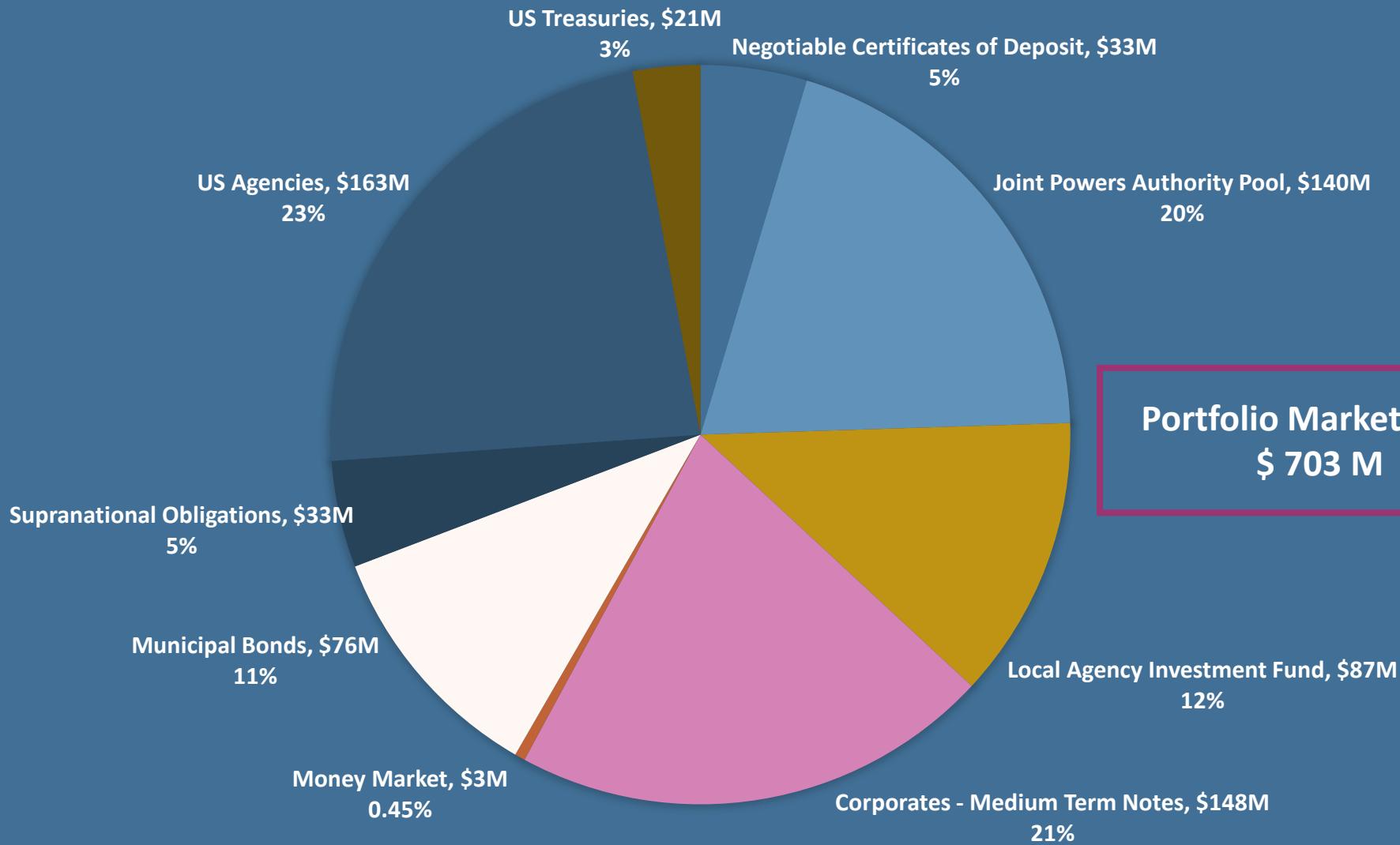
## List of Qualified Brokers

- Interested brokers must submit application to be approved
- Selection criteria based upon merit, expertise, and performance
- Annual review of broker financial condition and registration

## Environmental, Social, and Governance (ESG) Responsibilities

- While safety, liquidity, and yield remain the City's primary investment objectives, all else being equal, the policy encourages environmental stewardship, health and safety, fairness and equality, customer satisfaction, good governance, and impact investing

# Portfolio Value by Asset Class (Oct 2025)



# Portfolio Management

## Safety

- Maximum maturity of 5 years
- Diversification
- Minimum credit ratings
- Due diligence
- Credit monitoring
- Credit downgrade provision

## Technology

**Bloomberg**



PORTFOLIO ACCOUNTING  
& REPORTING



## Liquidity



Morgan Stanley



## Yield

- All investment transactions, except for “new issues,” are conducted on a competitive basis
- Pricing validated through Bloomberg and/or bidding process with at least 3 brokers

# Day-to-Day Investing

- How much money do we have to invest?
- What is our target duration?
- Where is the value today? Analyze spreads. Are there any anomalies?
- What are other people buying? What are other people not buying?
- Put together a shopping list.
- Who can provide the best pricing? Ask around. Get multiple quotes.
- Always negotiate. It never hurts to ask.



# How do you invest?

- ⓘ The Slido app must be installed on every computer you're presenting from



# How often are you in the market?

- ⓘ The Slido app must be installed on every computer you're presenting from

# East Bay Municipal Utility District (EBMUD)

- Formed in 1923 under the Municipal Utility District Act
- Governed by seven-member Board of Directors
- Headquartered in Oakland, CA
- Operates two systems
  - A retail water system
  - Wastewater treatment
- Workforce of approximately 2,000 employees
- \$1.7 billion in 2026 budgeted expenses



PROGRESS PICTURE LOOKING ACROSS DAMSITE FROM OFFICE - OBSERVE 37 1/4 FOOT  
EXANSION JOINTS.  
414 PARDEE DAM ATKINSON CONSTRUCTION CO. MARCH 28 1929

# EBMUD Water System



- One of the largest retail water systems in U.S.
- Secure and diverse portfolio of high-quality water sources
- Serves 1.4 million people over 332 sq. mi.
- \$1.46 billion in 2026 budgeted expenses

# EBMUD Wastewater System

- Established in 1944
- Provides regional treatment
- Collection provided by local cities/agencies
- Serves 740,000 people over 88 sq mi.
- \$246 million in 2026 budgeted expenses



# Investing “In House” (No Investment Advisor)

- Allows development of in-house expertise
- Staff focuses on EBMUD’s unique cash flow needs
- Portfolio big enough to justify *some* tools
  - Bloomberg
  - Tracker
- Considerations of investing in house
  - Achieving diversification across asset classes can be difficult
  - Ongoing education and training required
- Overseen by the Finance Director
  - Day-to-day managed by Investment Administrator and Treasury Manager
- District Board has ultimate authority – Board presented with monthly transactions, quarterly updates and annual policy review

# EBMUD Investment Portfolio

- Portfolio fluctuates between \$500 and \$800 million
- Primarily investing Water and Wastewater funds
- District staff also invests on behalf of several JPAs
- Driven by the familiar mandates
  - Safety
  - Liquidity
  - Yield
  - Diversity
- District finance and investment staff also acts as the finance team for the District's retirement system

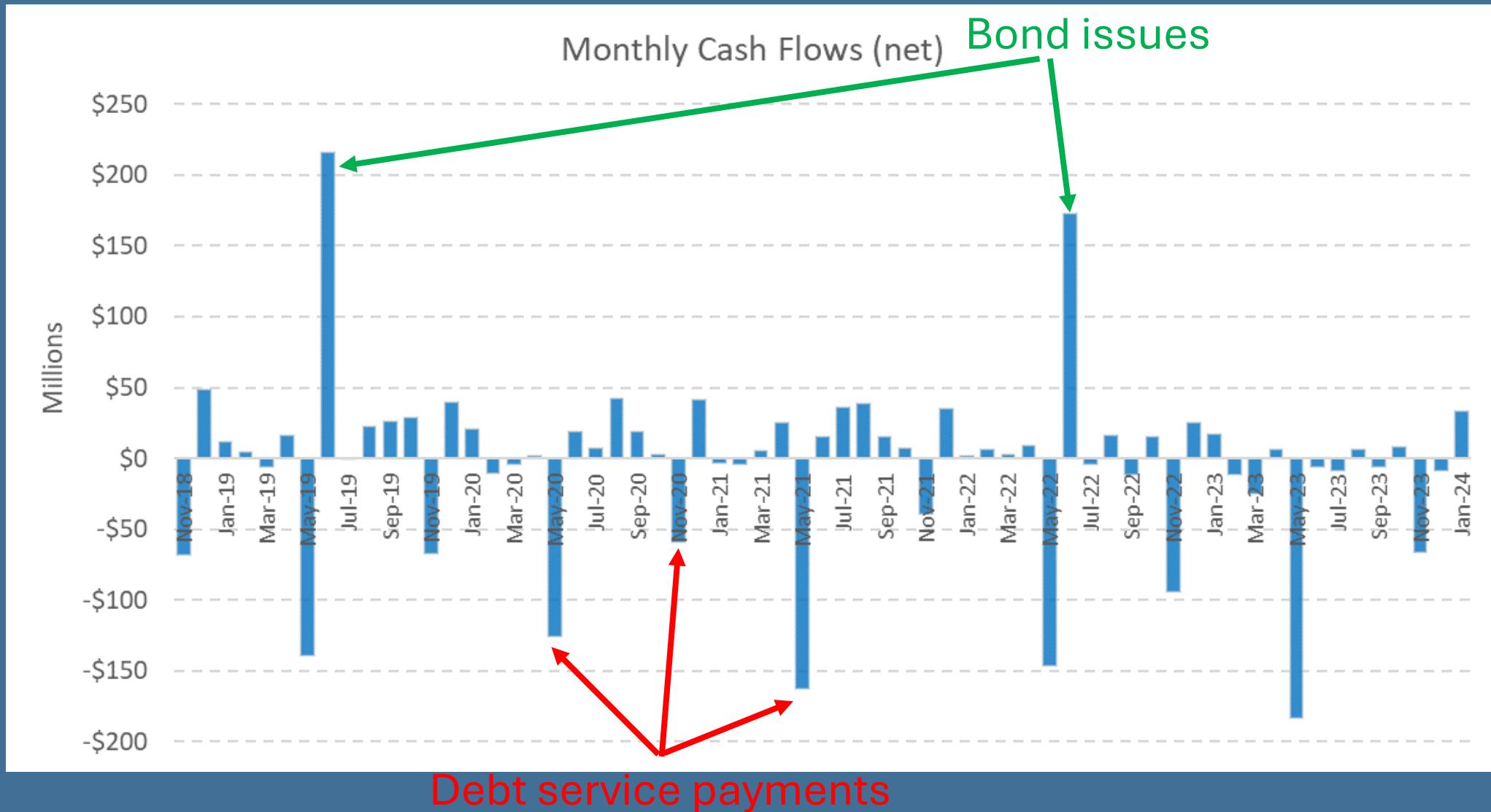
# EBMUD Investment Framework

- Portfolio stratified into tiers (total based on % of budget)
  1. Overnight (commercial bank, money market funds & LGIPS)
  2. Middle Tier (break glass in case of emergency) Treasury Ladder
  3. Long-term Immunization of large outflows (predominantly debt service)
- Overnight liquidity for additional cushion and unexpected needs
- Middle tier reserves with some duration
- Immunization investments for largest cashflow needs (debt service)

# Cash Flow Needs of a Utility

- Cash flow needs are relatively predictable for water and wastewater utilities
- Rate revenue comes in daily with some seasonality
  - Ranges from \$1M to \$5M daily
- Operating expenses are stable
  - Payroll is the largest operating outflow every two weeks
- Debt service is largest expense
  - We know the exact amount and timing well in advance
- Capital spending is a source of variability
  - The District's current capital plan is approximately \$1.2B over just the next two years and \$6.8B over the next 10 years

# Predictable Cash Flows





# How many counterparties do you use on a regular basis?

- ⓘ The Slido app must be installed on every computer you're presenting from



**When buying in the secondary market, do you “shop around” for the lowest price?**

- ⓘ The Slido app must be installed on every computer you’re presenting from



**When buying securities, what do you care about the most?**

- ⓘ The Slido app must be installed on every computer you're presenting from

**We've been through some weird investment environments over the last 20 years... Did your investment strategy change for:**



- i. **COVID (low rates)**
- ii. **Hike-a-palooza (2022 & 2023)**
- iii. **Financial Crisis (2007-10)**
- iv. **Bank Hiccup (March 2023)**
- v. **Low rates for-ev-er (2009-2015)**
- vi. **Tariff Party '25**

# QUESTIONS?



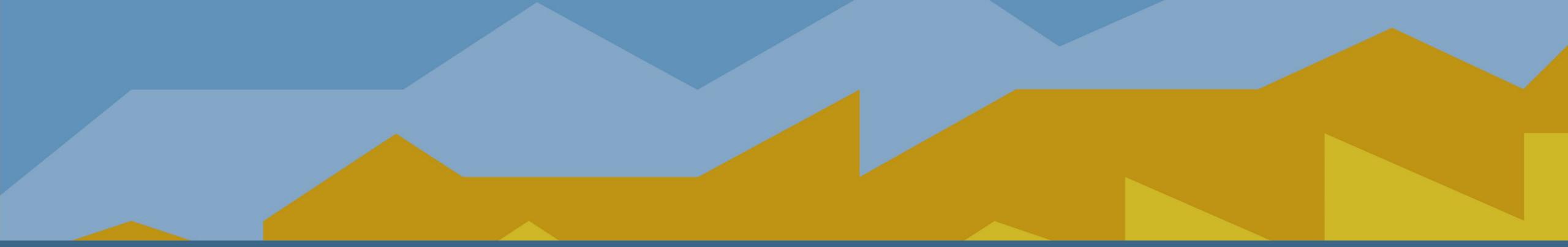
**STEVEN GOODMAN-LEIBOF**  
*Investment Administrator*  
East Bay Municipal  
Utility District



**DAVID MAURICE**  
*Investment & Debt Officer*  
Office of the Auditor-Controller-  
Treasurer-Tax Collector, County  
of Sonoma



**KRYSTLE PALMER**  
*City Treasurer*  
City of Burbank



# BREAK



# SESSION FIVE

Investment Reporting

**JORDAN KAUFMAN**

*Treasurer-Tax Collector  
County of Kern*



# Investment Reporting – the Why

## **Government Code -GOV §53600.3**

All governing bodies of local agencies or persons authorized to make investment decisions on behalf of those local agencies investing public funds pursuant to this chapter are trustees and therefore fiduciaries subject to the prudent investor standard.

## **Chapter III –CDIAC 2024 Investment Guidelines**

These reports generally are intended to provide the legislative body the ability to meet its fiduciary obligations as a trustee and to increase the disclosure of the agency's investment activities to those outside the agency.

# Monthly Reporting Requirements



**53607:** The authority of the legislative body to invest or to reinvest funds of a local agency, or to sell or exchange securities so purchased, may be delegated for a one-year period by the legislative body to the treasurer of the local agency, who shall thereafter assume full responsibility for those transactions until the delegation of authority is revoked or expires, and **shall make a monthly report of those transactions to the legislative body.** Subject to review, the legislative body may renew the delegation of authority pursuant to this section each year.

# Quarterly Reporting Requirements (Optional)

**53646 (b) (1):** The treasurer or chief fiscal officer **may** render a quarterly report to the chief executive officer, the internal auditor, and the legislative body of the local agency.

**If you do provide a quarterly report (which you should!), it must:**

- Be submitted within 45 days after the quarter end
- Include: Investment Type, Issuer, Maturity Date, Par Amount, Dollar Amount Invested, Description of Funds Managed by an Outside Party (including Securities Lending), the Market Value and source for any Security Managed by an Outside Party that is Not a Local Agency or in LAIF
- State that the Portfolio is in compliance with the policy or manner in which it is out of compliance
- State the ability of the entity to meet its expenditure requirements for the next 6 months or explain why it cannot

# Top 10 Common Mistakes of Investment Programs

- Not Having a Robust Cash Flow Schedule
- Having Too Much Liquidity (Opportunity Cost)
- Having Too Low of WAM/Duration (Too Many Callables)
- Benchmarking Incorrectly
- Thinking One Can Time the Market
- Not Amortizing
- Wrong Issuer Exposure (Concentration Risk/Foreign Issuers)
- Not Having the Right Number/Mix of Brokers
- Having Too Many Investment Positions

• Not Providing Transparent Reporting

# Investment Reporting – the Who

## Know Your Audiences:

- Governing Body
- Management
- Committees
- Auditors
- Rating Agencies
- GFOA (CAFR)
- Peers
- Taxpayers

# Investment Reporting – the When

## Frequency:

- Governing Body – Monthly & Quarterly
- Management – Daily? Weekly? Monthly?
- Committees – Quarterly or Biannually
- Auditors – Quarterly & Annually
- Rating Agencies – Always / on request
- GFOA (CAFR) - Annually
- Peers – Always / on request
- Taxpayers – Always / on request

# Investment Reporting – The How

- **Portfolio Management Systems**
- **In-house or Consultant or Investment Manager**
- **Frequency**
- **Staffing**

# Three Challenges Investment Reporting Faces

- 1. Prepare Investment Reports to show investment portfolio is both legal and suitable.**
- 2. Investment Report explicitly states policy objectives were met in priority: Safety, Liquidity, Yield**
- 3. Investment Reports are crafted to answer critical portfolio performance questions before they can be asked.**

# Investment Reporting – The What

- Transparency – disclosure of investment holdings and activities
- Summary charts and graphs – How much is too much?
- Demonstrate portfolio complies with Investment Policy
- States local agency has sufficient liquidity to meet cash flow requirements for six months

# Sample Report

Accounting ID	CUSIP	Ticker	Coupon	Maturity Date	Short Description	Trade Date	Settlement Date	Par Value	Book Value	Market Value	Gain/Loss	Book Yield	Effective Duration	Days to Maturity	(%) of Portfolio	Moody's Rating	S&P Rating	Fitch Rating
16371	9128286T2	T	2.375	05/15/2029	U.S. Treasury Note	09/05/2024	09/05/2024	30,000,000.00	28,467,187.50	28,692,187.50	225,000.00	3.566	3.40	1,322	0.42%	Aa1	AA+	AA+
16420	9128286T2	T	2.375	05/15/2029	U.S. Treasury Note	01/29/2025	01/29/2025	40,000,000.00	37,018,750.00	38,256,250.00	1,237,500.00	4.294	3.40	1,322	0.55%	Aa1	AA+	AA+
16462	9128286T2	T	2.375	05/15/2029	U.S. Treasury Note	06/26/2025	06/26/2025	40,000,000.00	38,037,500.00	38,256,250.00	218,750.00	3.743	3.40	1,322	0.56%	Aa1	AA+	AA+
16370	91282CFC0	T	2.625	07/31/2029	U.S. Treasury Note	08/29/2024	08/29/2024	31,000,000.00	29,483,906.25	29,835,078.28	351,172.03	3.721	3.59	1,399	0.44%	Aa1	AA+	AA+
16413	91282CFC0	T	2.625	07/31/2029	U.S. Treasury Note	12/27/2024	12/27/2024	40,000,000.00	37,034,375.00	38,496,875.20	1,462,500.20	4.425	3.59	1,399	0.55%	Aa1	AA+	AA+
16429	91282CFC0	T	2.625	07/31/2029	U.S. Treasury Note	03/03/2025	03/03/2025	40,000,000.00	37,787,500.00	38,496,875.20	709,375.20	4.004	3.59	1,399	0.56%	Aa1	AA+	AA+
16435	912828YB0	T	1.625	08/15/2029	U.S. Treasury Note	03/27/2025	03/28/2025	20,000,000.00	18,073,437.50	18,555,468.80	482,031.30	4.043	3.69	1,414	0.27%	Aa1	AA+	AA+
16434	91282CFT3	T	4.000	10/31/2029	U.S. Treasury Note	03/26/2025	03/26/2025	30,000,000.00	29,885,156.25	30,337,500.00	452,343.75	4.091	3.69	1,491	0.44%	Aa1	AA+	AA+
16470	912828YS3	T	1.750	11/15/2029	U.S. Treasury Note	07/31/2025	07/31/2025	40,000,000.00	36,689,062.50	37,101,562.40	412,499.90	3.861	3.90	1,506	0.54%	Aa1	AA+	AA+
16438	91282CGJ4	T	3.500	01/31/2030	U.S. Treasury Note	03/28/2025	03/28/2025	40,000,000.00	39,109,375.00	39,660,937.60	551,562.60	4.009	3.97	1,583	0.58%	Aa1	AA+	AA+
16430	91282BZ94	T	1.500	02/15/2030	U.S. Treasury Note	03/03/2025	03/03/2025	40,000,000.00	35,509,375.00	36,476,562.40	967,187.40	4.021	4.17	1,598	0.53%	Aa1	AA+	AA+
16445	91282BZ94	T	1.500	02/15/2030	U.S. Treasury Note	04/09/2025	04/09/2025	30,000,000.00	26,732,812.50	27,357,421.80	624,609.30	3.990	4.17	1,598	0.40%	Aa1	AA+	AA+
16452	91282BZQ6	T	0.625	05/15/2030	U.S. Treasury Note	05/28/2025	05/28/2025	20,000,000.00	16,934,375.00	17,385,937.60	451,562.60	4.066	4.47	1,687	0.25%	Aa1	AA+	AA+
16469	91282BZQ6	T	0.625	05/15/2030	U.S. Treasury Note	07/31/2025	07/31/2025	40,000,000.00	34,287,500.00	34,771,875.20	484,375.20	3.924	4.47	1,687	0.51%	Aa1	AA+	AA+
16479	91282CHR5	T	4.000	07/31/2030	U.S. Treasury Note	08/27/2025	08/27/2025	40,000,000.00	40,459,375.00	40,451,562.40	(7,812.60)	3.742	4.34	1,764	0.60%	Aa1	AA+	AA+
					U.S. Treasuries			3,506,000,000.00	3,346,627,699.41	3,430,630,683.53	84,002,984.12				49.48%			
15843	459058JL8	IBRD	0.500	10/28/2025	Int'l Bank for Recon and Dev	02/19/2021	02/23/2021	15,000,000.00	14,930,850.00	14,960,340.00	29,490.00	0.600	0.08	27	0.22%	Aaa	AAA	AAA
16077	459058KJ1	IBRD	3.125	06/15/2027	Int'l Bank for Recon and Dev	07/14/2022	07/19/2022	5,000,000.00	4,985,450.00	4,956,968.00	(28,482.00)	3.190	1.63	622	0.07%	Aaa	AAA	AAA
16339	4581XOEH7	IADB	4.000	01/12/2028	Inter-American Development Bank	04/17/2024	04/18/2024	25,000,000.00	24,334,750.00	25,188,155.00	853,405.00	4.785	2.15	833	0.36%	Aaa	AAA	AAA
16240	45906M3R0	IBRD	3.625	02/03/2028	Int'l Bank for Recon and Dev	05/31/2023	05/31/2023	30,000,000.00	29,619,600.00	29,657,061.00	37,461.00	3.924	2.21	855	0.44%	Aaa	AAA	AAA
16233	45818WEM4	IADB	4.250	03/03/2028	Inter-American Development Bank	05/19/2023	05/22/2023	20,000,000.00	20,306,800.00	20,044,608.00	(262,192.00)	3.894	2.27	884	0.30%	Aaa	AAA	AAA
16255	459058KT9	IBRD	3.500	07/12/2028	Int'l Bank for Recon and Dev	07/10/2023	07/12/2023	20,000,000.00	19,225,200.00	19,925,288.00	700,088.00	4.371	2.61	1,015	0.28%	Aaa	AAA	AAA
16298	459058KT9	IBRD	3.500	07/12/2028	Int'l Bank for Recon and Dev	12/08/2023	12/12/2023	25,000,000.00	24,095,750.00	24,906,610.00	810,860.00	4.379	2.61	1,015	0.36%	Aaa	AAA	AAA
16399	459058KT9	IBRD	3.500	07/12/2028	Int'l Bank for Recon and Dev	11/25/2024	11/25/2024	31,960,000.00	31,138,628.00	31,840,610.22	701,982.22	4.271	2.61	1,015	0.46%	Aaa	AAA	AAA
16441	459058KT9	IBRD	3.500	07/12/2028	Int'l Bank for Recon and Dev	04/04/2025	04/07/2025	19,963,000.00	19,849,610.16	19,888,426.22	38,816.06	3.685	2.61	1,015	0.29%	Aaa	AAA	AAA
16456	45950KDD9	IFC	4.500	07/13/2028	International Finance Corp	06/09/2025	06/10/2025	8,893,000.00	9,016,879.49	9,083,568.10	66,688.61	4.015	2.58	1,016	0.13%	Aaa	AAA	
16400	4581XDX3	IADB	1.125	07/20/2028	Inter-American Development Bank	11/25/2024	11/26/2024	10,000,000.00	8,947,000.00	9,284,812.00	337,812.00	4.271	2.71	1,023	0.13%	Aaa	AAA	AAA
16278	459058KW2	IBRD	4.625	08/01/2028	Int'l Bank for Recon and Dev	10/24/2023	10/26/2023	40,000,000.00	39,382,000.00	41,048,708.00	1,666,708.00	4.994	2.63	1,035	0.58%	Aaa	AAA	AAA
16331	459058JZ7	IBRD	1.125	09/13/2028	Int'l Bank for Recon and Dev	03/27/2024	03/28/2024	14,334,000.00	12,501,828.12	13,318,557.94	816,729.82	4.307	2.86	1,078	0.18%	Aaa	AAA	AAA
16333	45818WFE1	IADB	4.400	03/01/2029	Inter-American Development Bank	03/27/2024	03/28/2024	23,500,000.00	23,586,950.00	24,081,711.48	494,761.48	4.315	3.15	1,247	0.35%	Aaa	AAA	AAA
16431	459058LN1	IBRD	3.875	10/16/2029	Int'l Bank for Recon and Dev	03/17/2025	03/18/2025	20,000,000.00	19,772,000.00	20,120,292.00	348,292.00	4.151	3.65	1,476	0.29%	Aaa	AAA	AAA
16436	4581XOE53	IADB	4.500	02/15/2030	Inter-American Development Bank	03/27/2025	03/28/2025	20,000,000.00	20,256,000.00	20,629,080.00	373,080.00	4.205	3.94	1,598	0.30%	Aaa	AAA	AAA
16467	45818WGF7	IADB	3.950	05/02/2030	Inter-American Development Bank	07/25/2025	07/28/2025	30,000,000.00	29,919,900.00	30,149,262.00	229,362.00	4.011	4.10	1,674	0.44%	Aaa	AAA	AAA
					Supranational			358,650,000.00	351,869,195.77	359,084,057.96	7,214,862.19				5.20%			
16114	31422XJ37	FAMCA	4.400	10/03/2025	Farmer Mac	09/26/2022	10/03/2022	25,000,000.00	25,000,000.00	25,000,293.25	293.25	4.400	0.01	2	0.37%			
16422	313385MM5	FHDN	0.000	10/03/2025	Federal Home Loan Bank Discount	01/31/2025	01/31/2025	40,000,000.00	38,892,055.56	39,986,566.80	1,094,511.24	4.221	0.01	2	0.58%	P-1	A-1+	
16425	313385MM5	FHDN	0.000	10/03/2025	Federal Home Loan Bank Discount	02/20/2025	02/20/2025	25,000,000.00	24,356,250.00	24,991,604.25	635,354.25	4.270	0.01	2	0.36%	P-1	A-1+	
16226	3133EPH5	FFCB	4.125	10/27/2025	Federal Farm Credit Bank	04/26/2023	04/27/2023	40,000,000.00	40,146,000.00	39,998,012.00	(147,988.00)	3.970	0.07	26	0.59%	Aa1	AA+	AA+
16426	313385NX0	FHDN	0.000	11/06/2025	Federal Home Loan Bank Discount	02/26/2025	02/26/2025	40,000,000.00	38,857,283.33	39,842,544.40	985,261.07	4.218	0.10	36	0.57%	P-1	A-1+	
16170	3135G06G3	FNMA	0.500	11/07/2025	Fannie Mae	12/14/2022	12/14/2022	20,000,000.00	18,097,200.00	19,925,751.60	1,828,551.60	4.011	0.10	37	0.27%	Aa1	AA+	AA+
16427	313385PB6	FHDN	0.000	11/10/2025	Federal Home Loan Bank Discount	02/26/2025	02/26/2025	30,000,000.00	29,132,625.00	29,869,141.80	736,516.80	4.203	0.11	40	0.43%	P-1	A-1+	
16444	313385PB6	FHDN	0.000	11/10/2025	Federal Home Loan Bank Discount	04/09/2025	04/09/2025	30,000,000.00	29,321,854.17	29,869,141.80	547,287.63	3.915	0.11	40	0.43%	P-1	A-1+	
16040	3133ENKD1	FFCB	1.400	01/13/2026	Federal Farm Credit Bank	04/28/2022	04/29/2022	18,000,000.00	17,063,460.00	17,864,260.20	800,800.20	2.890	0.28	104	0.25%	Aa1	AA+	AA+
16168	3130AUAF1	FHLB	4.110	01/15/2026	Federal Home Loan Bank	12/12/2022	12/13/2022	20,000,000.00	20,000,000.00	20,003,264.40	3,264.40	4.110	0.29	106	0.30%	Aa1	AA+	
15838	3130AKWV4	FHLB	0.500	01/29/2026	Federal Home Loan Bank	01/28/2021	01/29/2021	10,000,000.00	10,000,000.00	9,877,359.40	(122,640.60)	0.500	0.33	120	0.15%	Aa1	AA+	
16428	313385ST4	FHDN	0.000	02/06/2026	Federal Home Loan Bank Discount	02/26/2025	02/26/2025	40,000,000.00	38,482,000.00	39,467,516.80	985,516.80	4.133	0.35	128	0.57%	P-1	A-1+	
16232	3133EPJX4	FFCB	3.625	02/17/2026	Federal Farm Credit Bank	05/19/2023	05/19/2023	8,425,000.00	8,303,427.25	8,412,767.24	109,339.99	4.189	0.38	139	0.12%	Aa1	AA+	AA+
15842	3130AKV5	FHLB	0.500	02/18/2026	Federal Home Loan Bank	02/18/2021	02/18/2021	20,000,000.00	20,000,000.00	19,741,477.00	(258,523.00)	0.500	0.38	140	0.30%	Aa1	AA+	
15844	3130																	

# Sample Report (cont. 2 of 3)

CUSIP	Investment #	Fund	Issuer	Investment Class	Par Value	YTM	Maturity Date	Market Price	Market Date	Market Value	Book Value	Pricing Source
<b>Time Certificates of Deposit</b>												
SYSG130151	G130151	1000	Bank of the West	Fair	100,000.00	0.120	08/31/2013	100.000	02/28/2013	100,000.00	100,000.00	Bank of the West
SYSI30531	G130531	1000	Heritage Bank	Fair	100,000.00	0.400	02/22/2014	100.000	02/28/2013	100,000.00	100,000.00	Heritage Bank
				<b>Subtotal</b>	<b>200,000.00</b>	<b>0.260</b>				<b>200,000.00</b>	<b>200,000.00</b>	
<b>Negotiable Certificates of Deposit</b>												
78009NKZ8	G130494	1000	Royal Bank of Canada	Fair	25,000,000.00	0.100	05/01/2013	100.005	02/28/2013	24,999,250.00	25,000,000.00	IDC
89112WPX9	G130422	1000	Toronto Dominion Bank	Amort	20,000,000.00	0.200	05/10/2013	100.004	02/28/2013	20,000,800.00	20,000,000.00	IDC
89112WRN9	G130438	1000	Toronto Dominion Bank	Fair	10,000,000.00	0.170	03/15/2013	100.000	02/28/2013	10,000,000.00	10,000,000.00	IDC
				<b>Subtotal</b>	<b>55,000,000.00</b>	<b>0.149</b>				<b>55,000,050.00</b>	<b>55,000,000.00</b>	
<b>Commercial Paper Disc. -Amortizing</b>												
06416JQ14	G130536	1000	Bank of Nova Scotia	Fair	10,000,000.00	0.099	03/01/2013	100.000	02/28/2013	10,000,000.00	10,000,000.00	IDC
06416JQ14	G130544	1000	Bank of Nova Scotia	Fair	20,000,000.00	0.079	03/01/2013	100.000	02/28/2013	20,000,000.00	20,000,000.00	IDC
19121ARN3	G130508	1000	Coca Cola Co	Fair	20,000,000.00	0.100	04/22/2013	99.973	02/28/2013	19,994,600.00	19,997,111.11	IDC
19416EQC4	G130539	1000	COLGATE-PALMOLIVE CO	Fair	10,000,000.00	0.080	03/12/2013	99.995	02/28/2013	9,999,500.00	9,999,755.56	IDC
36960LQ16	G130526	1000	General Electric Co	Fair	10,000,000.00	0.100	03/01/2013	100.000	02/28/2013	10,000,000.00	10,000,000.00	IDC
36959HQ42	G130545	1000	General Electric Cap Corp	Fair	25,000,000.00	0.050	03/04/2013	99.999	02/28/2013	24,999,750.00	24,999,895.83	IDC
43851TQU3	G130533	1000	HONEYWELL INTERNATIONAL	Fair	20,000,000.00	0.100	03/28/2013	99.988	02/28/2013	19,997,600.00	19,998,500.00	IDC
				<b>Subtotal</b>	<b>115,000,000.00</b>	<b>0.083</b>				<b>114,991,450.00</b>	<b>114,995,262.50</b>	
<b>U.S. Agency Coupon Securities</b>												
313380RJ8	G130384	1000	Federal Home Loan Bank	Fair	13,080,000.00	0.130	03/18/2013	100.000	02/28/2013	13,080,000.00	13,080,118.28	IDC
313372RK2	G130411	1000	Federal Home Loan Bank	Fair	20,000,000.00	0.101	03/27/2013	100.061	02/28/2013	20,012,200.00	20,012,970.79	IDC
313372RK2	G130416	1000	Federal Home Loan Bank	Fair	5,000,000.00	0.079	03/27/2013	100.061	02/28/2013	5,003,050.00	5,003,325.58	IDC
313372RK2	G130421	1000	Federal Home Loan Bank	Fair	20,135,000.00	0.079	03/27/2013	100.061	02/28/2013	20,147,282.35	20,148,386.77	IDC
313372RK2	G130426	1000	Federal Home Loan Bank	Fair	20,000,000.00	0.090	03/27/2013	100.061	02/28/2013	20,012,200.00	20,013,148.57	IDC
313379WT2	G130537	1000	Federal Home Loan Bank	Fair	13,000,000.00	0.108	03/25/2013	100.003	02/28/2013	13,000,390.00	13,000,710.07	IDC
3133XES91	GCP0086	1100	Federal Home Loan Bank	Fair	5,000,000.00	0.223	03/08/2013	100.094	02/28/2013	5,004,700.00	5,004,636.52	IDC
313372RK2	GCP0103	1100	Federal Home Loan Bank	Fair	5,000,000.00	0.253	03/27/2013	100.061	02/28/2013	5,003,050.00	5,002,690.03	IDC
313378S28	GCP0104	1100	Federal Home Loan Bank	Fair	5,000,000.00	0.248	03/21/2013	100.001	02/28/2013	4,999,950.00	4,999,658.19	IDC
				<b>Subtotal</b>	<b>106,215,000.00</b>	<b>0.118</b>				<b>106,262,822.35</b>	<b>106,265,644.80</b>	

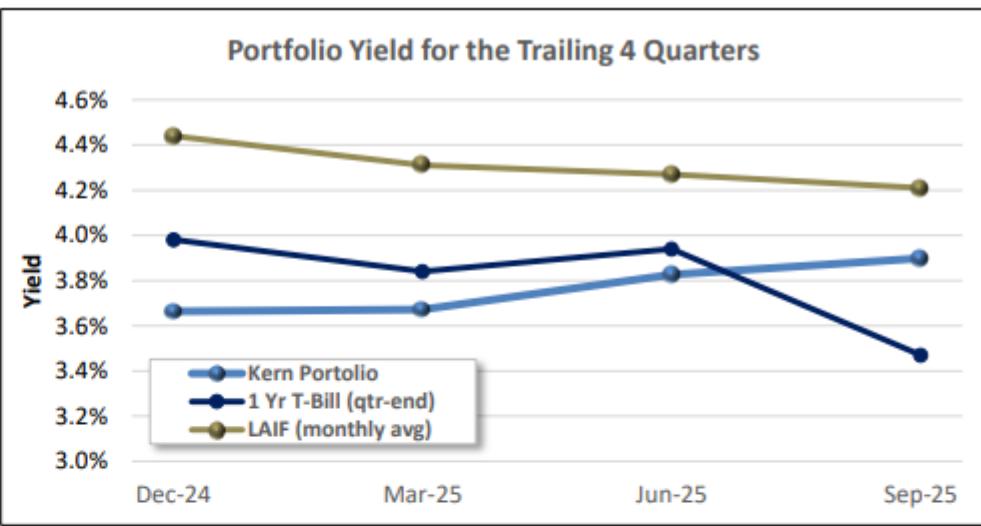
# Sample Report

(cont. 3 of 3)

CUSIP	Ticker	Issuer	Sector	Strct.	CPN	Mat	Yrs	Par \$Mil	Bk Val \$Mil	Mkt \$Mil	Next Call	Days to Call	S&P	Mdy	Fitch	Eff Dur	Convx	MKT YTM	Bk Yld	Mkt Prc	Orig Bk Price	UR G/L \$000	Stlmt Date
TMPXX		CalTrust	JPA	Bullet	4.26	11/4/25	0.00	37	36.7	36.7			AAA	Aaa	NR	0.00	0.00	4.26	4.26	100	100	\$0	11/4/25
ICS		ICS	ICS	Bullet	3.87	11/4/25	0.00	22	22.1	22.1			NR	NR	NR	0.00	0.00	3.87	3.87	100	100	\$0	11/4/25
LAIF		LAIF	LAIF	Bullet	4.19	11/4/25	0.00	2	1.5	1.5			NR	NR	NR	0.00	0.00	4.19	4.19	100	100	\$0	11/4/25
OPGXX		State Street MMF	MMF	Bullet	3.97	11/4/25	0.00	105	104.7	104.7			AAA	Aaa	AAA	0.00	0.00	3.97	3.97	100	100	\$1	11/4/25
313385NX0	FHLBDN	FHLB	AGY	Bullet	0.000	11/6/25	0.01	40.0	38.9	40.0			A-1+	P-1	F1+	0.01	0.00	4.12	4.22	99.98	97.14	\$1,134	2/26/25
3135G06G3	FNMA	FNMA	AGY	Bullet	0.500	11/7/25	0.01	20.0	18.1	20.0			AA+	Aa1	AA+	0.01	0.00	6.97	4.01	99.96	90.49	\$1,896	12/14/22
313385PB6	FHLBDN	FHLB	AGY	Bullet	0.000	11/10/25	0.02	30.0	29.1	30.0			A-1+	P-1	F1+	0.02	0.00	4.13	4.20	99.93	97.11	\$847	2/26/25
313385PB6	FHLBDN	FHLB	AGY	Bullet	0.000	11/10/25	0.02	30.0	29.3	30.0			A-1+	P-1	F1+	0.02	0.00	4.13	3.91	99.93	97.74	\$658	4/9/25
912828M56	T	U.S. Treasury	Tsy	Bullet	2.250	11/15/25	0.03	5.0	5.4	5.0			AA+	Aa1	AA+	0.03	0.00	3.37	0.41	99.97	108.66	(\$435)	2/11/21
912828M56	T	U.S. Treasury	Tsy	Bullet	2.250	11/15/25	0.03	5.0	5.4	5.0			AA+	Aa1	AA+	0.03	0.00	3.37	0.65	99.97	107.05	(\$354)	5/26/21
912828M56	T	U.S. Treasury	Tsy	Bullet	2.250	11/15/25	0.03	20.0	21.3	20.0			AA+	Aa1	AA+	0.03	0.00	3.37	0.77	99.97	106.40	(\$1,286)	6/24/21
912828M56	T	U.S. Treasury	Tsy	Bullet	2.250	11/15/25	0.03	30.0	31.3	30.0			AA+	Aa1	AA+	0.03	0.00	3.37	1.12	99.97	104.33	(\$1,309)	12/21/21
3133ENKD1	FFCB	FFCB	AGY	Call	1.400	1/13/26	0.19	18.0	17.1	17.9	11/12/2025	8	AA+	Aa1	AA+	0.19	0.00	4.25	2.89	99.46	94.80	\$840	4/29/22
66815L2A6	NWMLIC	Northwestern Mutual	CORP	Bullet	0.800	1/14/26	0.19	10.0	9.9	9.9			AA+	Aa1	AAA	0.19	0.00	4.30	1.05	99.33	98.89	\$45	5/24/21
66815L2A6	NWMLIC	Northwestern Mutual	CORP	Bullet	0.800	1/14/26	0.19	28.9	26.5	28.7			AA+	Aa1	AAA	0.19	0.00	4.30	3.17	99.33	91.73	\$2,194	4/20/22
66815L2A6	NWMLIC	Northwestern Mutual	CORP	Bullet	0.800	1/14/26	0.19	10.0	9.1	9.9			AA+	Aa1	AAA	0.19	0.00	4.30	3.61	99.33	90.95	\$838	7/29/22
3130AUAU1	FHLB	FHLB	AGY	Bullet	4.110	1/15/26	0.20	20.0	20.0	20.0			AA+	Aa1	AA+	0.19	0.00	4.00	4.11	100.01	100.00	\$2	12/13/22
3130AKWV4	FHLB	FHLB	AGY	Bullet	0.500	1/29/26	0.23	10.0	10.0	9.9			AA+	Aa1	AA+	0.23	0.00	4.02	0.50	99.18	100.00	(\$82)	1/29/21
9128286A3	T	U.S. Treasury	Tsy	Bullet	2.625	1/31/26	0.24	20.0	19.0	19.9			AA+	Aa1	AA+	0.24	0.00	3.75	4.68	99.73	95.09	\$929	7/6/23
313385ST4	FHLBDN	FHLB	AGY	Bullet	0.000	2/6/26	0.26	40.0	38.5	39.6			A-1+	P-1	F1+	0.25	0.00	4.02	4.13	98.98	96.21	\$1,108	2/26/25
912828P46	T	U.S. Treasury	Tsy	Bullet	1.625	2/15/26	0.28	16.0	16.7	15.9			AA+	Aa1	AA+	0.28	0.00	3.75	0.71	99.41	104.20	(\$766)	6/16/21
912828P46	T	U.S. Treasury	Tsy	Bullet	1.625	2/15/26	0.28	10.0	10.2	9.9			AA+	Aa1	AA+	0.28	0.00	3.75	1.20	99.41	101.69	(\$228)	12/29/21
91282CGL9	T	U.S. Treasury	Tsy	Bullet	4.000	2/15/26	0.28	40.0	40.3	40.0			AA+	Aa1	AA+	0.28	0.00	3.72	3.69	100.07	100.81	(\$298)	4/26/23
3133EPJX4	FFCB	FFCB	AGY	Bullet	3.625	2/17/26	0.29	8.4	8.3	8.4			AA+	Aa1	AA+	0.28	0.00	3.93	4.19	99.91	98.56	\$114	5/19/23
3130AKVV5	FHLB	FHLB	AGY	Call	0.500	2/18/26	0.29	20.0	20.0	19.8	11/18/2025	14	AA+	Aa1	AA+	0.28	0.00	4.03	0.50	99.00	100.00	(\$200)	2/18/21
3130AL7M0	FHLB	FHLB	AGY	Call	0.625	2/24/26	0.31	15.0	15.0	14.8	11/24/2025	20	AA+	Aa1	AA+	0.30	0.00	4.20	0.63	98.93	100.00	(\$160)	2/25/21
3130ALDB7	FHLB	FHLB	AGY	Call	0.660	2/25/26	0.31	10.0	10.0	9.9	11/25/2025	21	AA+	Aa1	AA+	0.30	0.00	3.90	0.66	99.02	100.00	(\$98)	2/25/21
91282CBQ3	T	U.S. Treasury	Tsy	Bullet	0.500	2/28/26	0.32	10.0	9.8	9.9			AA+	Aa1	AA+	0.31	0.00	3.78	1.05	98.97	97.67	\$130	10/20/21
91282CBQ3	T	U.S. Treasury	Tsy	Bullet	0.500	2/28/26	0.32	40.0	38.1	39.6			AA+	Aa1	AA+	0.31	0.00	3.78	4.36	98.97	95.31	\$1,463	11/25/24
313373B68	FHLB	FHLB	AGY	Bullet	4.375	3/13/26	0.35	20.0	20.2	20.0			AA+	Aa1	AA+	0.35	0.00	3.76	3.93	100.21	101.23	(\$206)	4/4/23
3130ALGJ7	FHLB	FHLB	AGY	Call	1.000	3/23/26	0.38	9.8	9.0	9.6	11/23/2025	19	AA+	Aa1	AA+	0.37	0.00	3.77	3.11	98.95	92.76	\$604	7/29/22
3133EPFT7	FFCB	FFCB	AGY	Bullet	3.750	4/13/26	0.44	8.0	8.0	8.0			AA+	Aa1	AA+	0.43	0.00	3.88	3.86	99.94	99.70	\$19	4/13/23
313385WF9	FHLBDN	FHLB	AGY	Bullet	0.000	5/1/26	0.49	30.0	28.9	29.4			A-1+	P-1	F1+	0.48	0.00	3.98	4.03	98.10	96.46	\$491	6/5/25
89115DFQ4	TDNY	Toronto Dominion	CD	Bullet	4.370	5/5/26	0.50	30.0	30.0	30.0			A-1+	P-1	F1+	0.48	0.00	4.37	4.37	100.00	100.00	\$0	6/9/25
023135BX3	AMZN	Amazon	CORP	Call	1.000	5/12/26	0.52	10.0	9.2	9.9	4/12/2026	159	AA	A1	AA-	0.51	0.01	3.92	3.27	98.51	91.64	\$688	5/25/22
89115DGG5	TDNY	Toronto Dominion	CD	Bullet	4.340	5/12/26	0.52	20.0	20.0	20.0			A-1+	P-1	F1+	0.50	0.00	4.34	4.34	100.00	100.00	\$0	6/16/25
40139LBD4	GUARDN	Guardian Life	CORP	Bullet	1.250	5/13/26	0.52	6.8	6.6	6.7			AA+	Aa1	NR	0.51	0.01	4.03	1.25	98.58	97.64	\$64	5/19/21
91282R36	T	U.S. Treasury	Tsy	Bullet	1.625	5/15/26	0.52	9.0	9.3	8.9			AA+	Aa1	AA+	0.51	0.01	3.75	0.93	98.90	103.16	(\$383)	9/29/21
91282R36	T	U.S. Treasury	Tsy	Bullet	1.625	5/15/26	0.52	11.0	11.4	10.9			AA+	Aa1	AA+	0.51	0.01	3.75	0.91	98.90	103.22	(\$475)	10/5/21
91282R36	T	U.S. Treasury	Tsy	Bullet	1.625	5/15/26	0.52	17.0	17.3	16.8			AA+	Aa1	AA+	0.51	0.01	3.75	0.91	98.90	101.86	(\$502)	12/21/21
91282R36	T	U.S. Treasury	Tsy	Bullet	1.625	5/15/26	0.52	10.0	9.9	9.9			AA+	Aa1	AA+	0.51	0.01	3.75	1.98	98.90	98.60	\$30	3/14/22

# Investment Summary Page(s)

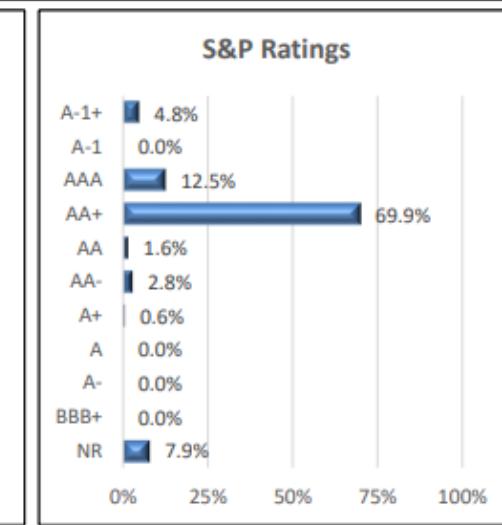
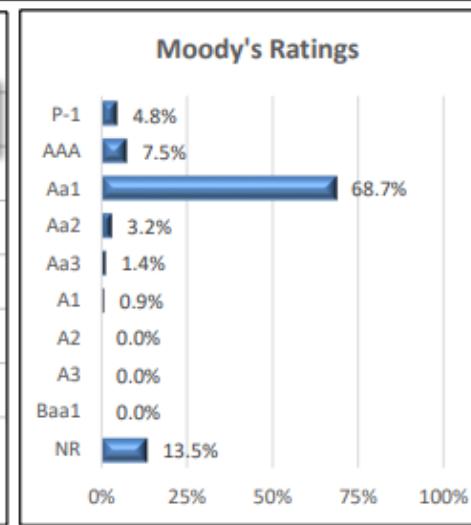
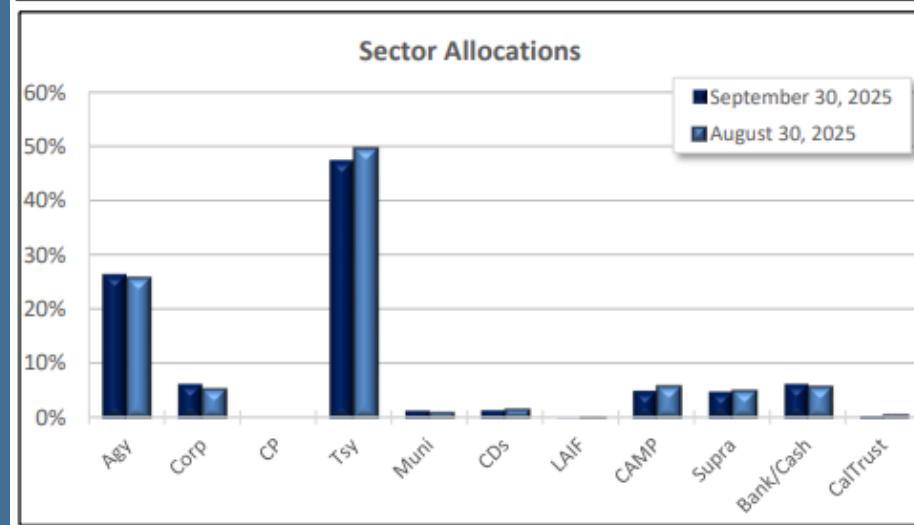
<b>Total Market Value</b>	\$ 7,203,204,824
<b>Yield to Maturity at Cost</b>	3.90%
<b>Yield to Maturity at Market</b>	3.84%
<b>Effective Duration</b>	1.72
<b>Weighted Average Years to Maturity</b>	1.94



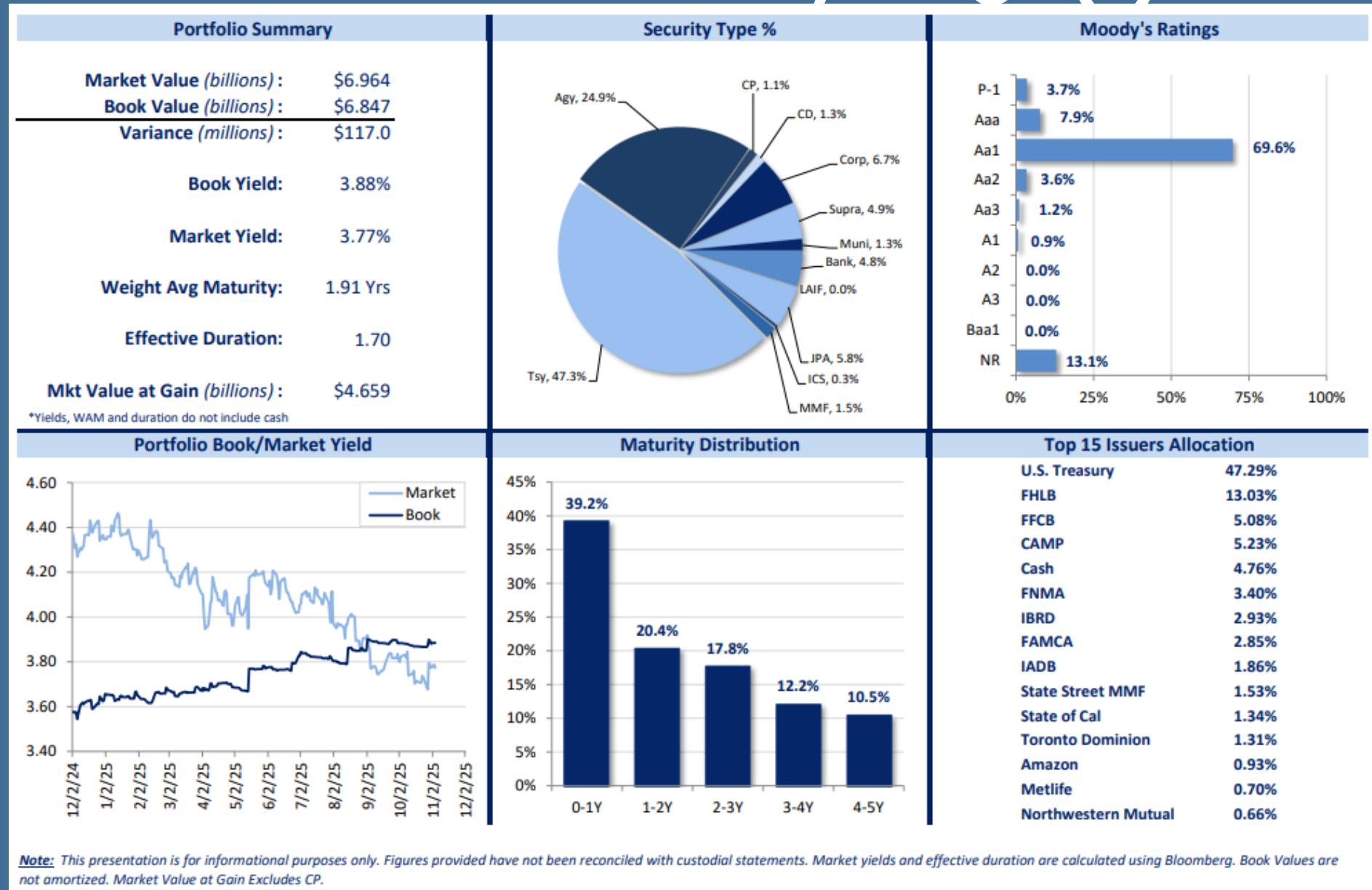
\*The County Treasurer believes the Treasury Investment Pool contains sufficient cash flow from liquid and maturing securities, bank deposits, and incoming cash to meet the next six months of expected expenditures.

# Investment Summary Page(s) (cont. 2 of 3)

Sector	Par Amount	Original Cost	Market Value	Original Yield	% of Total Assets	Policy Limit Rating	Days to Maturity
Local Agency Investment Fund	1,549,859	1,549,859	1,549,859	4.21%	0.02%	\$75 Million	1
California Asset Management Program	360,957,717	360,957,717	360,957,717	4.36%	5.01%	10%	1
CalTRUST	36,588,665	36,588,665	36,588,665	4.32%	0.51%	10%	1
Money Markets	104,721,136	104,721,136	104,721,136	4.11%	1.45%	10%	1
Bank Sweep (ICS)	22,052,982	22,052,982	22,052,982	3.41%	0.31%	10%	1
U.S. Treasuries	3,506,000,000	3,346,627,699	3,430,630,684	3.90%	47.63%	100%	747
Federal Agencies	1,887,791,000	1,871,269,182	1,887,957,575	3.83%	26.21%	75%	689
Municipal Bonds	104,590,000	106,850,580	107,703,438	3.64%	1.50%	10%	1,357
Supranationals	358,650,000	351,869,196	359,084,058	4.11%	4.99%	10%	1,070
Negotiable CDs	110,000,000	110,000,000	110,163,371	4.28%	1.53%	30%	224
Commercial Paper	-	-	-	0.00%	0.00%	40%	0
Corporate Notes	469,328,000	450,459,353	455,896,406	3.56%	6.33%	30%	1,001
<b>Total Securities</b>	<b>6,962,229,358</b>	<b>6,762,946,369</b>	<b>6,877,305,889</b>	<b>3.90%</b>	<b>95.48%</b>		<b>708</b>
Total Cash	325,898,936	325,898,936	325,898,936		4.52%		
<b>Total Assets</b>	<b>7,288,128,294</b>	<b>7,088,845,304</b>	<b>7,203,204,824</b>		<b>100.00%</b>		



# Investment Summary Page(s) (cont. 3 of 3)



# Recommended Additional Reports - Compliance

Item / Sector	Parameters	In Compliance
Weighted Average Maturity	Weighted Average Maturity (WAM) must be less than 3 years.	Yes: 2.01 Yrs
U.S. Treasuries	No limit, maximum maturity 5 years, 30% single issue limit.	Yes: 19.3%
U.S. Federal Agencies	No limit, 40% issuer limit, 10% single issue limit, maximum maturity 5 years.	Yes: 35.4%
Local Agency Investment Fund #1	\$50 million, per account (City has two accounts).	Yes: \$11.9 Mil
Local Agency Investment Fund #2	\$50 million, per account (City has two accounts).	Yes: \$1.9 Mil
Commercial Paper	25% limit, 5% per issuer, max maturity 270 days, rated A-1, P-1, or F1 by at least one NRSRO, issued by a domestic corporation; if company has long-term debt, needs to be rated A (S&P), A2 (Moody's), or A (Fitch) by one.	Yes: 6.2%
Corporate Bonds	30% limit, 5% per issuer, maximum maturity 5 years, issued by domestic corporations or depositories, rated A (S&P), A2 (Moody's), or A (Fitch), by at least two.	Yes: 26.6%
Money Market Funds	20% limit, 10% issuer limit, rated AAA-m or Aaa-mf by at least two (S&P, Moody's, or Fitch).	Yes 10.1%
Negotiable Certificates of Deposit	25% limit, 5% per issuer, maximum maturity 365 days, issued by banks, savings and loans, or state-licensed branch of a foreign bank.	Yes: 0.0%
State of California Securities	20% limit, 5% per issuer, maximum maturity 5 years.	Yes: 0.0%
Other Municipal Securities	10% limit, 5% per issuer, maximum maturity 5 years.	Yes: 0.0%
Supranationals	20% limit, 10% issuer limit (IFC, IADB, and IBRD), maximum maturity 5 years, Aaa or AAA by at least two rating agencies.	Yes: 0.0%
Bankers' Acceptances	40% limit, 5% per issuer, maximum maturity 180 days.	Yes: 0.0%
Issuer Concentration	The aggregate issuer exposure to corporate bonds, commercial paper, negotiable CDs, and bankers' acceptances cannot exceed 5%.	Yes

Investment transactions were executed in accordance with the California State Government Code and the City's Investment Policy. The City believes the Investment Pool contains sufficient cash flow liquidity to meet the next six months of expected expenditures.

Securities' market values are derived from the City's custodian.

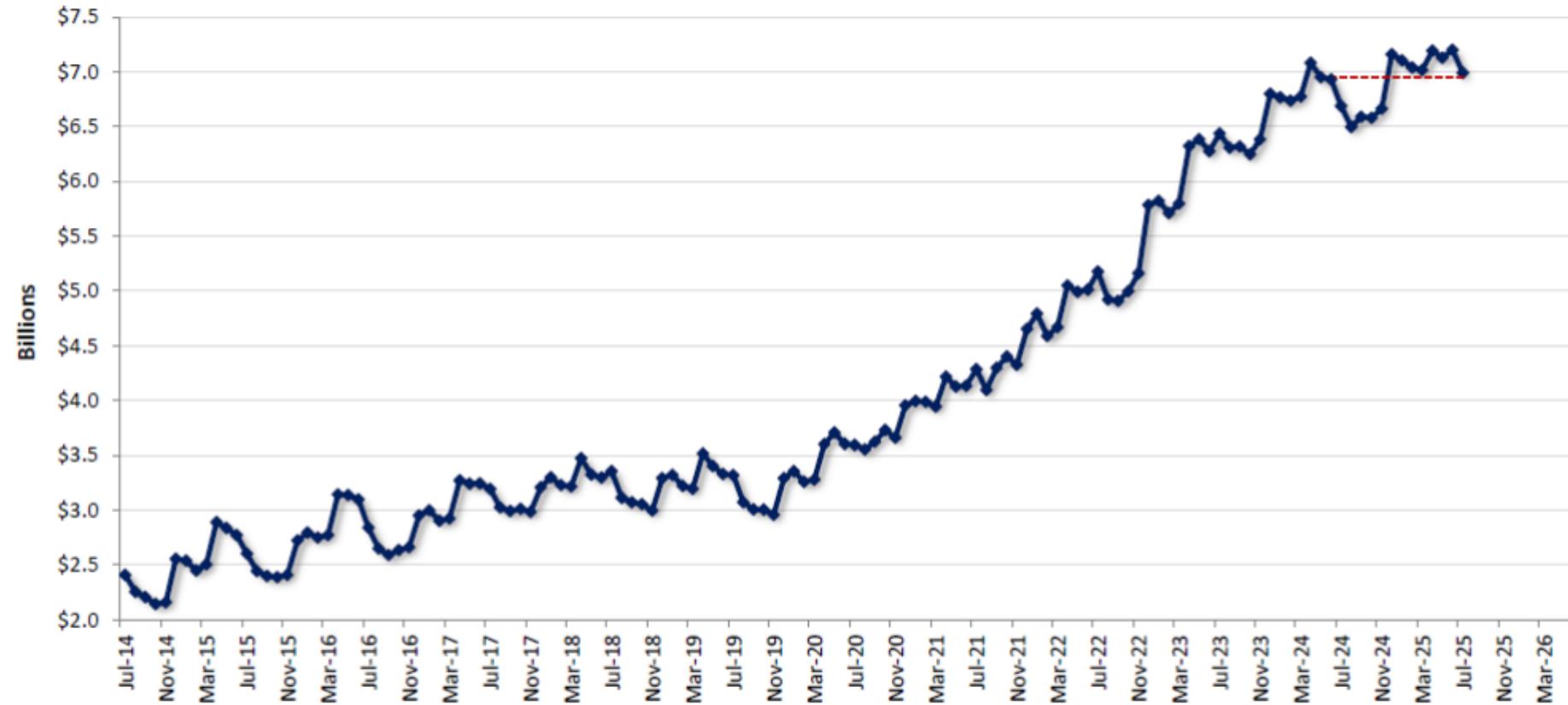
# Recommended Additional Reports - Compliance (cont. 2 of 2)

Parameter	Book Val \$Mil	Number/%	Limit	Variance	Available	Compliant
Callable Bonds**	\$773.23	11.3%	20%	8.7%	\$613.3	Yes
Step-Up Bonds**	\$16.65	0.2%	10%	9.8%	\$687.2	Yes
Weighted Avg. Mty		1.91	2.50	0.59		Yes
0 to 1 Year	\$2,717.01	39.2%	30%	9.2%	\$627.5	Yes
1 to 3 Years	\$2,598.44	38.1%	70%	31.9%	\$2,181.2	Yes
3 to 5 Years	\$1,531.45	22.7%	30%	7.3%	\$500.4	Yes
Bank	\$325.9	4.8%	100%	95.2%	\$6,708.1	Yes
LAIF	\$1.5	0.0%	\$75.0	\$75.0	\$75.0	Yes
JPA	\$394.8	5.8%	10%	4.2%	\$298.2	Yes
ICS	\$22.1	0.3%	\$50.0	\$27.9	\$27.9	Yes
MMIF	\$104.7	1.5%	15%	13.5%	\$948.8	Yes
Tsy	\$3,238.1	47.3%	100%	52.7%	\$3,712.3	Yes
Agy	\$1,706.4	24.9%	75%	50.1%	\$3,527.2	Yes
Supra	\$337.1	4.9%	10%	5.1%	\$357.6	Yes
Muni	\$91.9	1.3%	10%	8.7%	\$609.8	Yes
CP	\$78.1	1.1%	40%	38.9%	\$2,736.9	Yes
CD	\$90.0	1.3%	30%	28.7%	\$2,020.4	Yes
Corp	\$456.3	6.7%	30%	23.3%	\$1,643.6	Yes
Issuer	Book Val \$Mil	%	Limit	Variance	Available	Compliant
U.S. Treasury	\$3,238.1	47.3%	100%	52.7%	\$3,608.8	Yes
FHLB	\$892.5	13.0%	40%	27.0%	\$1,899.2	Yes
FFCB	\$348.0	5.1%	40%	34.9%	\$2,459.4	Yes
CAMP	\$358.1	5.2%	10%	4.8%	\$326.6	Yes
Cash	\$325.9	4.8%	100%	95.2%	\$6,521.0	Yes
FNMA	\$233.1	3.4%	40%	36.6%	\$2,577.5	Yes
IBRD	\$200.7	2.9%	10%	7.1%	\$484.0	Yes
FAMCA	\$195.0	2.8%	40%	37.2%	\$2,616.7	Yes
IADB	\$127.4	1.9%	10%	8.1%	\$557.3	Yes
State Street MMF	\$104.7	1.5%	20%	18.5%	\$1,264.7	Yes
State of Cal	\$91.9	1.3%	10%	8.7%	\$592.8	Yes
Toronto Dominion	\$90.0	1.3%	5%	3.7%	\$252.3	Yes
Amazon	\$63.6	0.9%	5%	4.1%	\$278.7	Yes
Metlife	\$48.3	0.7%	5%	4.3%	\$294.1	Yes

# Recommended Additional Reports - History

County of Kern

7/31/2025

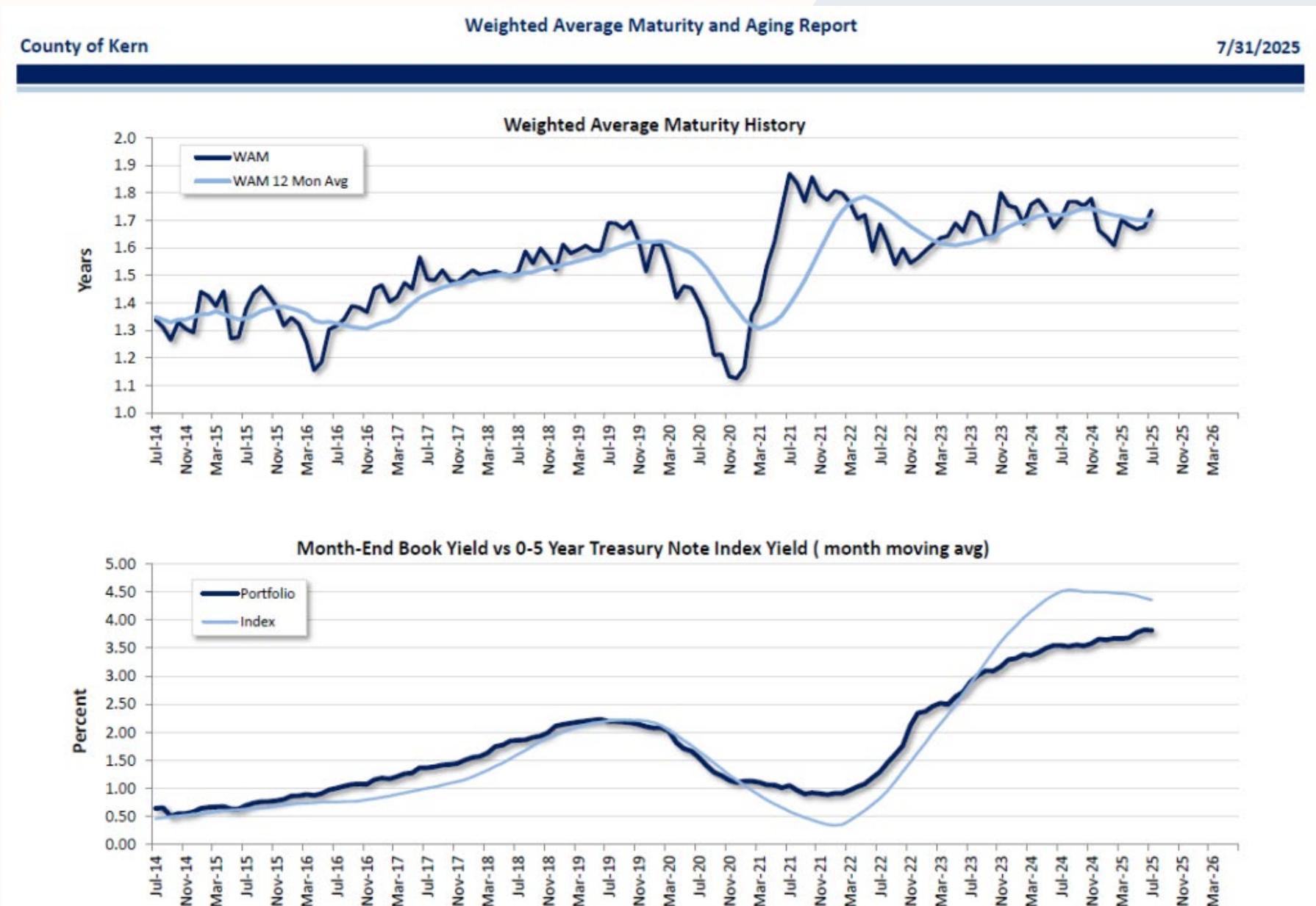


	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Fiscal Year 2022	\$4.286	\$4.097	\$4.298	\$4.401	\$4.325	\$4.655	\$4.792	\$4.588	\$4.668	\$5.049	\$4.992	\$5.014
Fiscal Year 2023	\$5.175	\$4.922	\$4.909	\$4.998	\$5.161	\$5.783	\$5.821	\$5.708	\$5.796	\$6.321	\$6.384	\$6.272
Fiscal Year 2024	\$6.438	\$6.306	\$6.320	\$6.247	\$6.381	\$6.798	\$6.766	\$6.736	\$6.773	\$7.082	\$6.949	\$6.930
Fiscal Year 2025	\$6.688	\$6.496	\$6.590	\$6.579	\$6.662	\$7.158	\$7.103	\$7.039	\$7.016	\$7.191	\$7.127	\$7.200
Fiscal Year 2026	\$6.989											

Figures in Billions, Ending Book Value (prior to 7-1-2023 this was Ave Daily Balance)

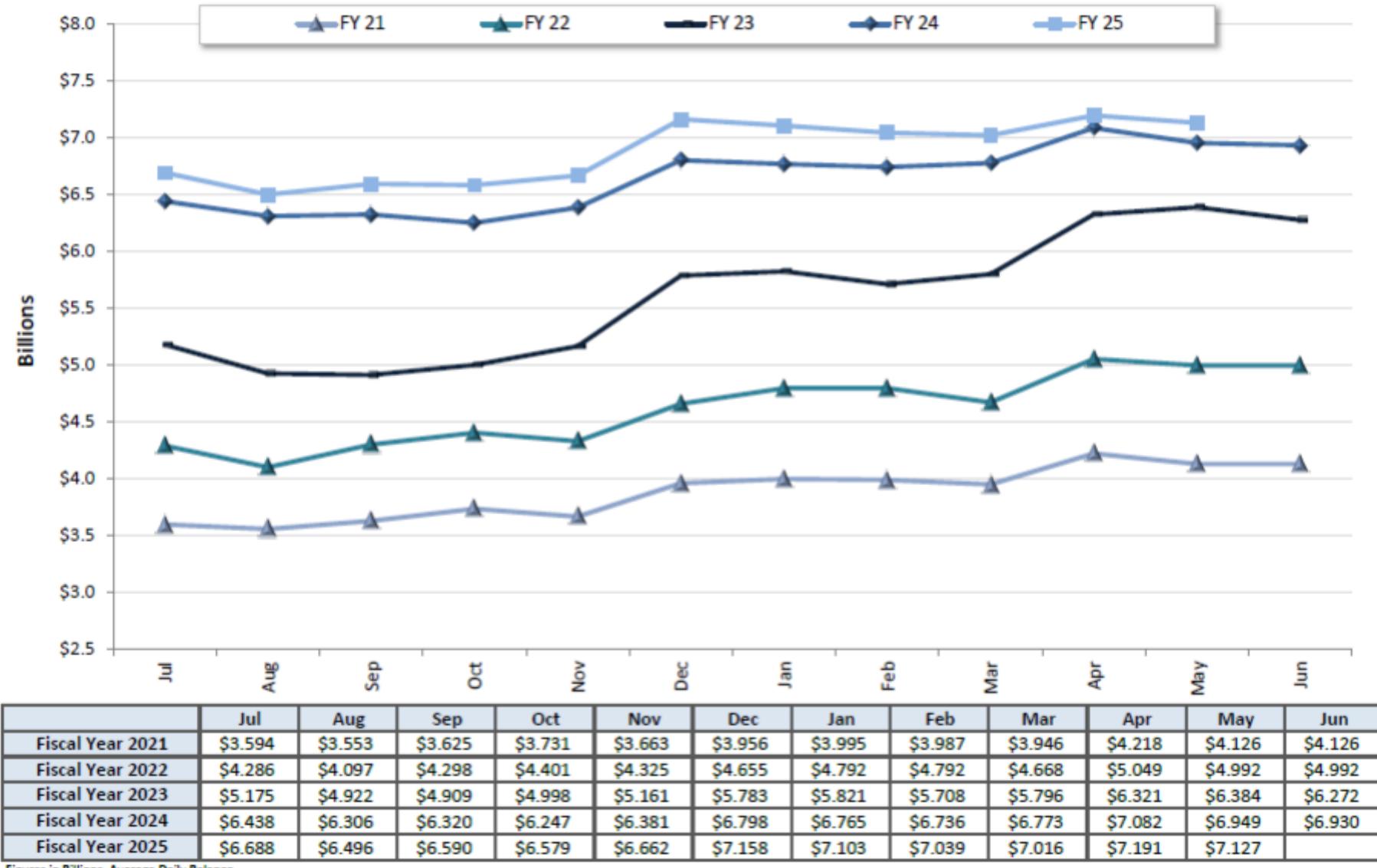
# Recommended Additional Reports – History

(cont. 2 of 3)



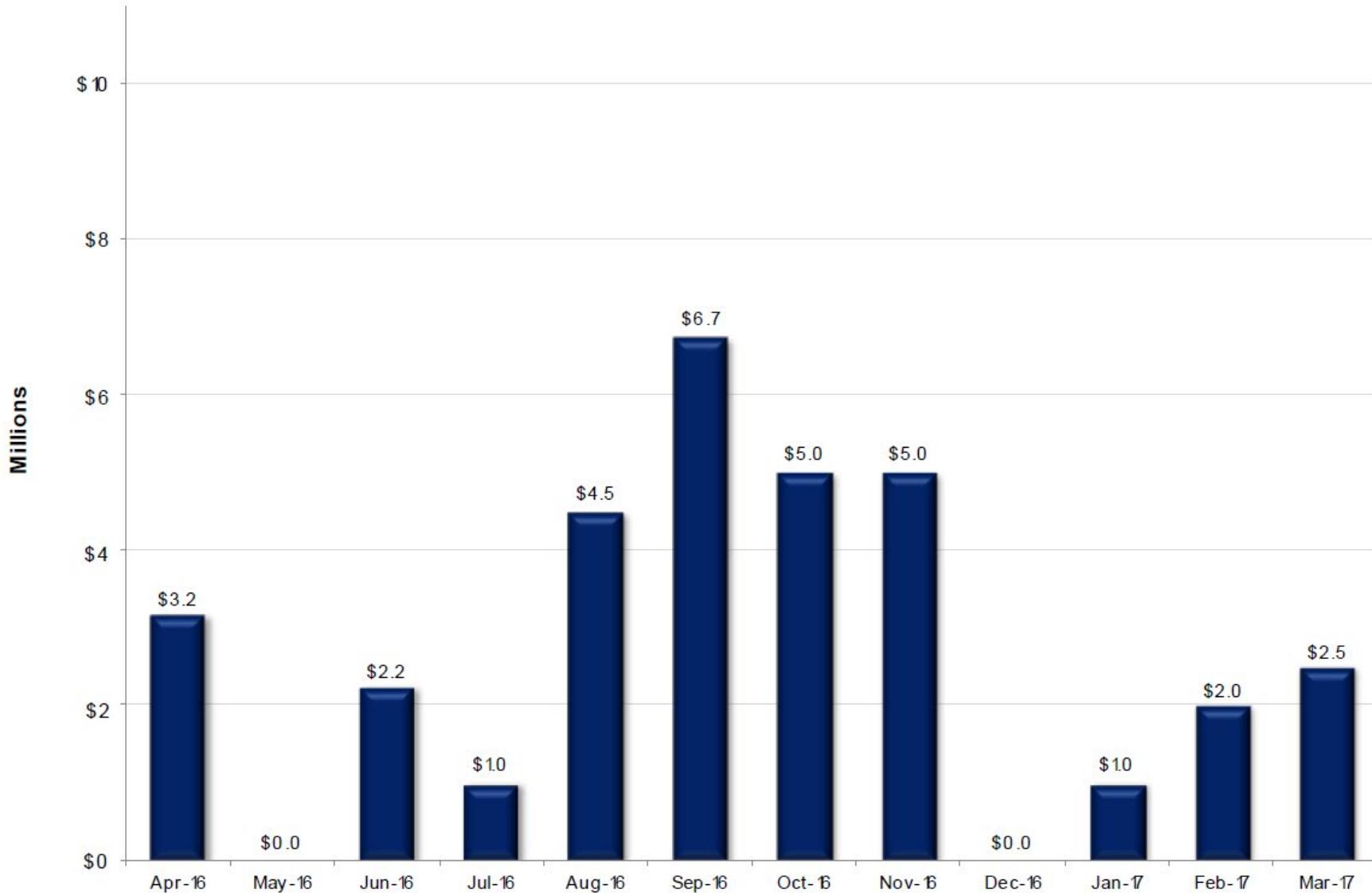
# Recommended Additional Reports – History

(cont. 3 of 3)



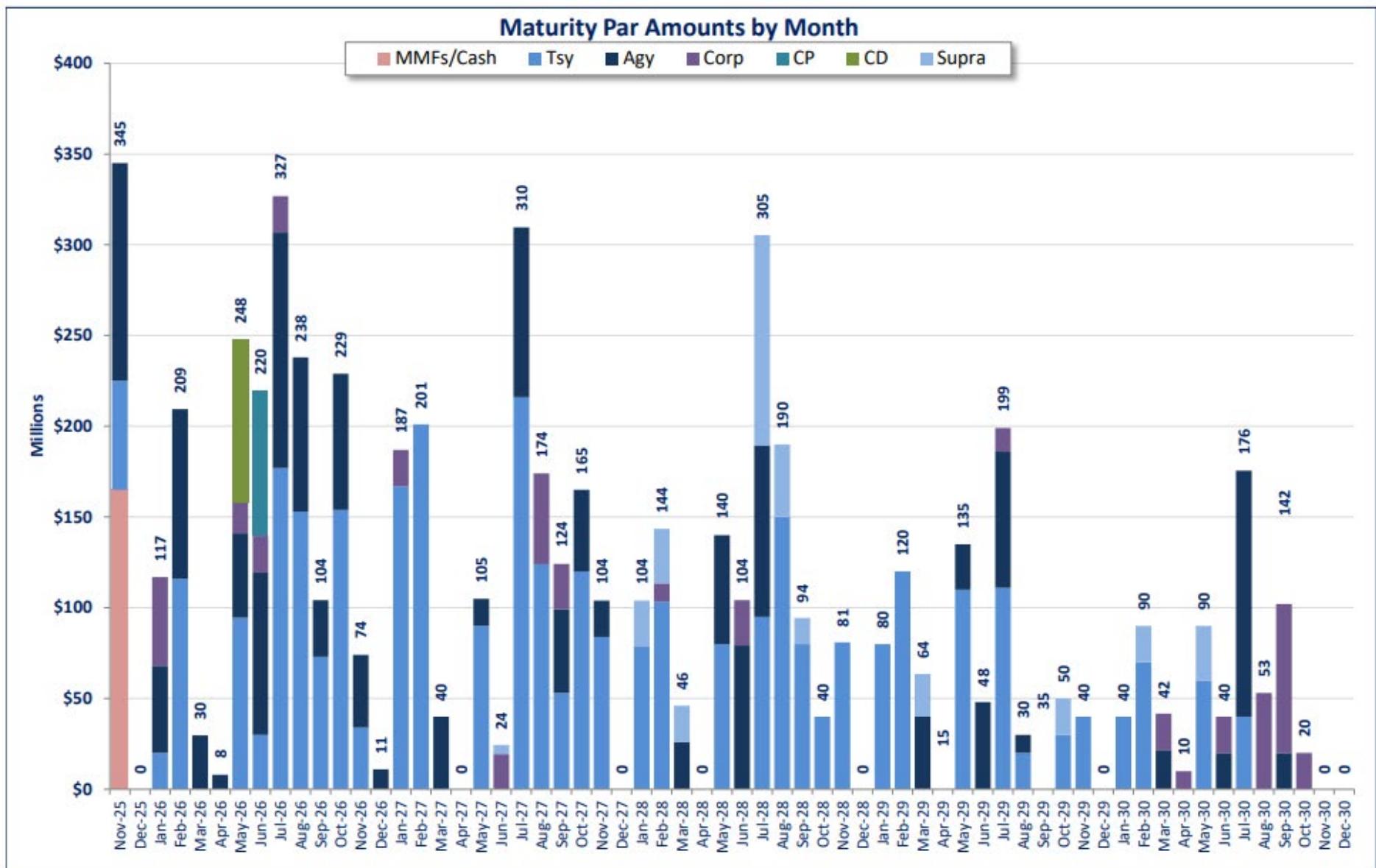
# Recommended Additional Reports – Cash Flow

## Next Twelve Month Maturities

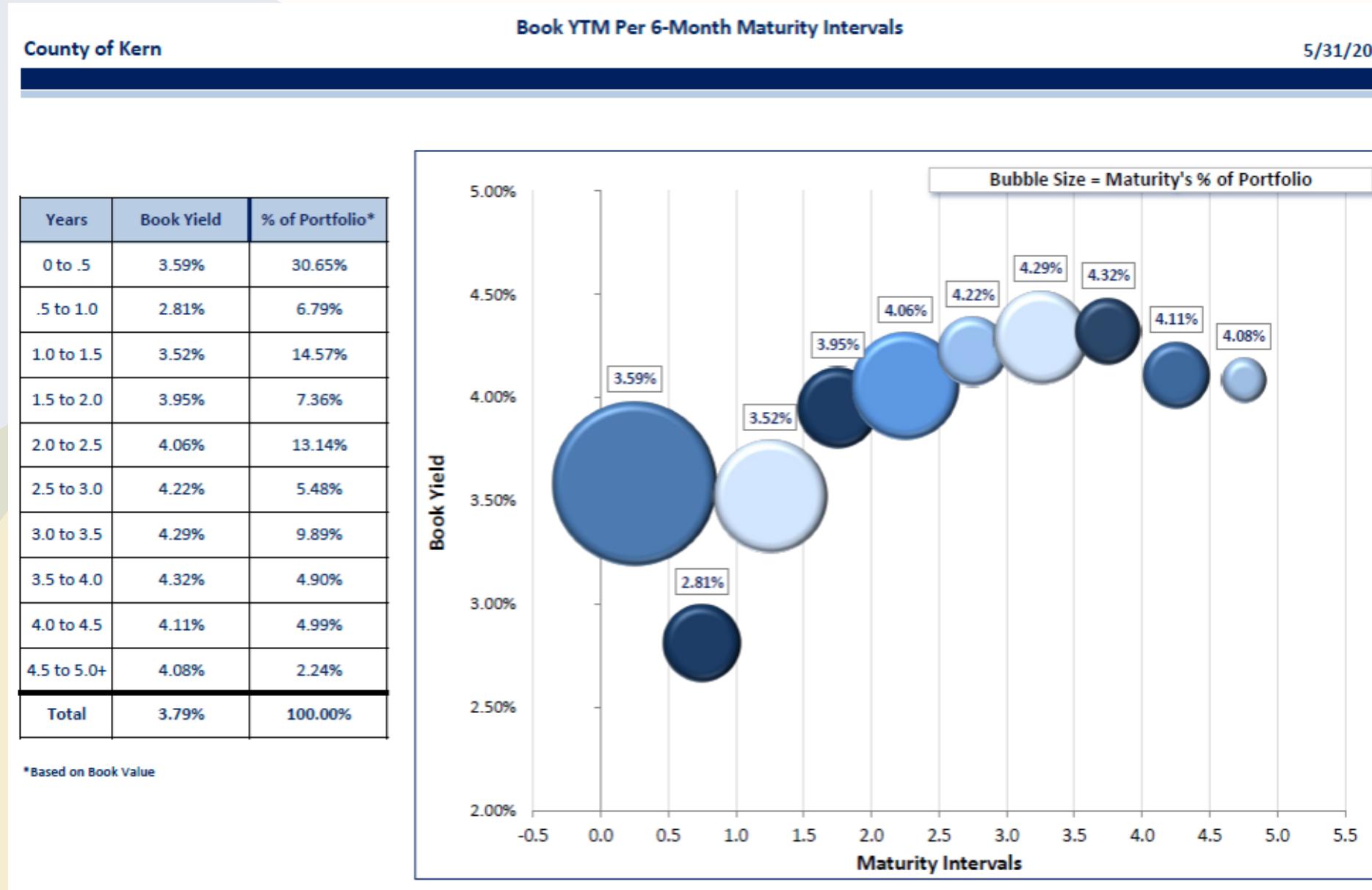


# Recommended Additional Reports – Cash Flow

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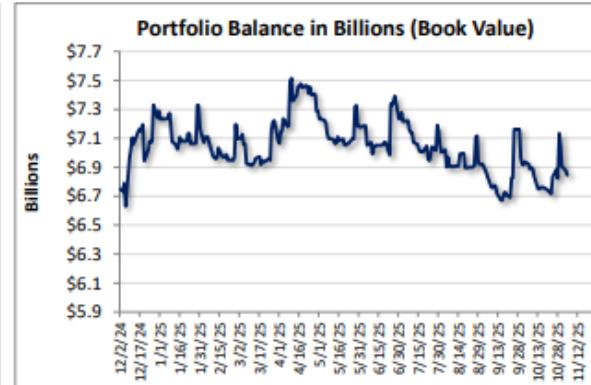
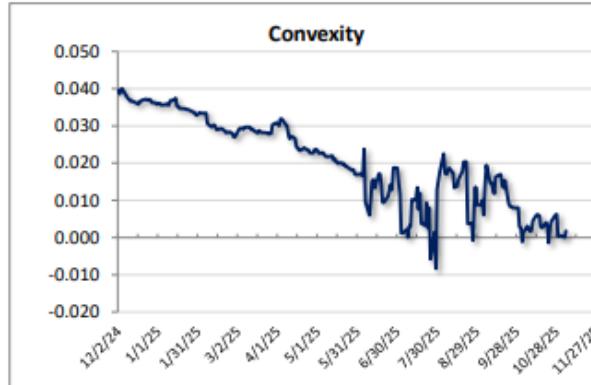
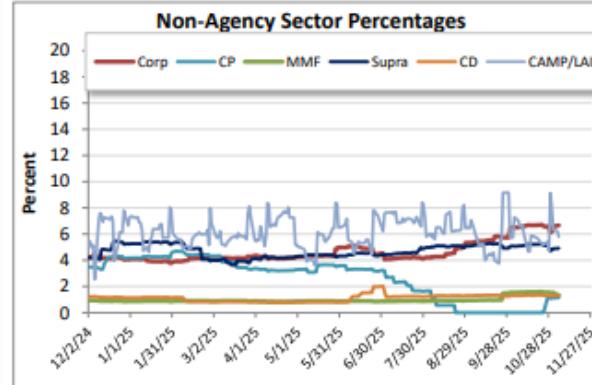
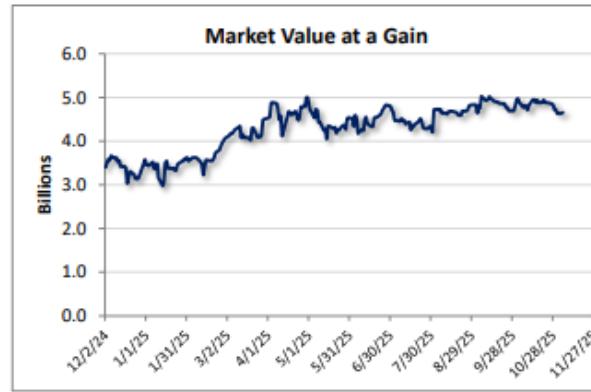
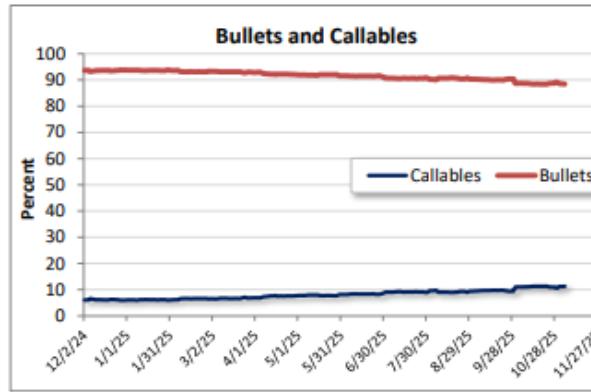
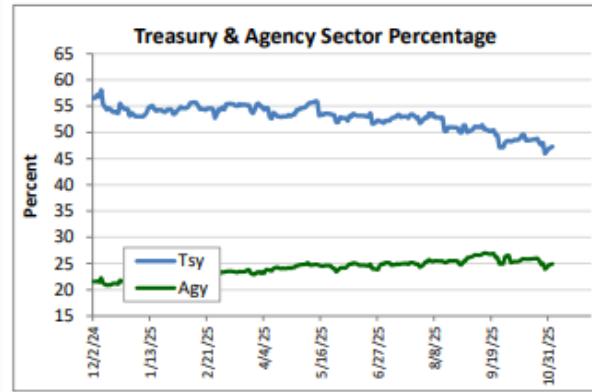
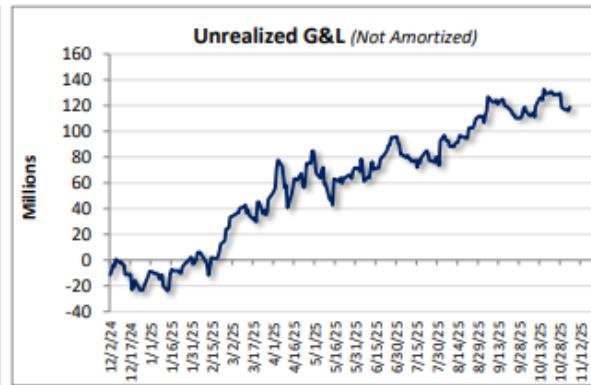
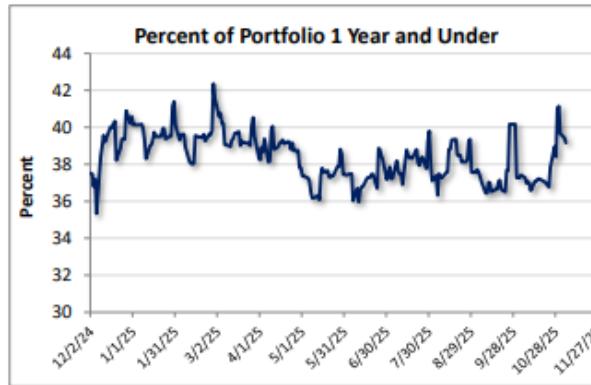
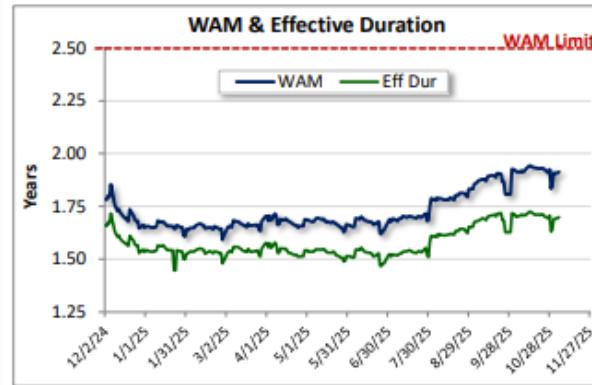


# Recommended Additional Reports - Analysis



# Recommended Additional Reports – Analysis

(cont. 2 of 2)



# Investment Reporting - Takeaways

- Be Completely Transparent
- Keep it Simple – Charts/Graphs/Tables
- Provide Details to the Appropriate Audiences
- Demonstrate How the Investment Portfolio is Meeting Objectives

# QUESTIONS?

**JORDAN KAUFMAN**  
*Treasurer-Tax Collector*  
County of Kern





# FUNDAMENTALS OF PUBLIC FUNDS INVESTING

JANUARY 28–29, 2026 | COSTA MESA, CALIFORNIA