

**CITY OF LOS ANGELES**  
**DEFERRED COMPENSATION PLAN**  
INVESTMENTS COMMITTEE  
FOLLOW-UP DISCUSSION

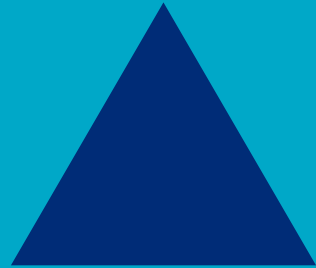
April 13, 2017

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## BACKGROUND

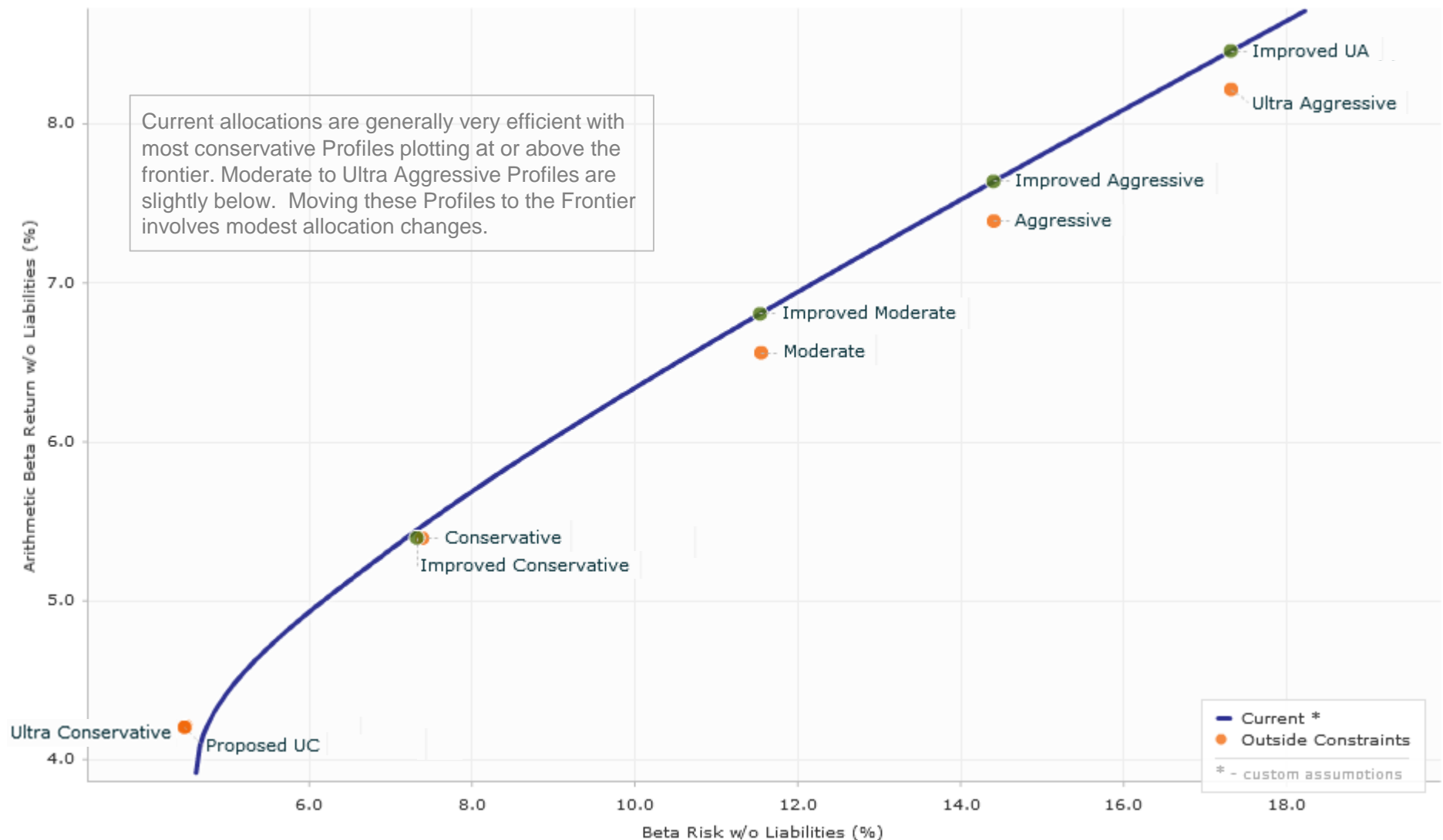
- At the January 26, 2017 Investments Committee meeting, we reviewed Profile Portfolio allocations under four scenarios:
  1. Current state – how existing allocations plot absent any changes
  2. Optimizing mix of current assets available in the Plan to better match long-term expectations
  3. Including the addition of only Real Estate Investment Trusts (REITS)
  4. Including the addition of Real Assets in the form of TIPS, Commodities, and REITs
- The findings of our analysis was that the Profile Portfolio current allocations appeared reasonably efficient and that the addition of real assets only provided marginal improvements from an expected risk/return perspective. Optimizing current assets (Scenario 2), however, provided moderate improvement.
- In light of the discussion, the Committee decided not to pursue real assets at this time and tended to lean toward Scenario 2. It was acknowledged that further evaluation of fees should be considered prior to moving forward though.
- Topics we will review today:
  - Our final recommendation for final Profile Funds optimized allocations
  - Fee impact on optimized portfolios
  - Suggested changes to the IPS

# PROFILE PORTFOLIOS



# CITY OF LA DCP PROFILE PORTFOLIOS

## RISK/RETURN OPTIMIZATION – EFFICIENT FRONTIER



Note: "Ultra Cons" profile lies beyond the efficient frontier because its 35% allocation to stable value exceed the 15% stable value constraint in this analysis

# CITY OF LA DCP PROFILE PORTFOLIOS

## EFFICIENT FRONTIER STATISTICS

*Expected risk/return stats of current scenario versus potential scenarios*

Asset Allocation	Ultra Conservative		Conservative		Moderate		Aggressive		Ultra Aggressive	
	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed
Stable Value	35.0	35.0	15.0	15.0	10.0	0.0	5.0	0.0	0.0	0.0
US Aggregate Fixed Income	50.0	50.0	50.0	50.0	30.0	42.0	20.0	25.0	10.0	10.0
US Large Cap Equity	5.0	6.0	12.5	15.0	25.0	20.0	25.0	25.0	25.0	30.0
US Mid Cap Equity	2.5	2.0	5.0	3.0	10.0	6.0	15.0	8.0	20.0	10.0
US Small Cap Equity	2.5	2.0	5.0	3.0	10.0	6.0	15.0	8.0	20.0	10.0
AC World ex-US All Cap Equity Unhedged	5.0	5.0	12.5	14.0	15.0	26.0	20.0	34.0	25.0	40.0

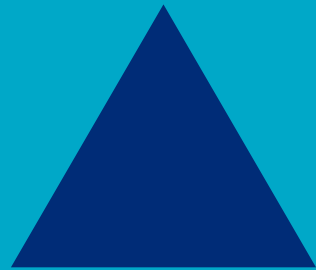
Expected Return/Risk Statistics	Ultra Conservative		Conservative		Moderate		Aggressive		Ultra Aggressive	
	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed
Arithmetic Absolute Return (%)	4.2	4.2	5.4	5.4	6.6	6.8	7.4	7.6	8.2	8.5
Standard Deviation (%)	4.5	4.5	7.4	7.3	11.6	11.5	14.4	14.4	17.3	17.3
Beta Return / Risk (%)	0.9	0.9	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5
Geometric Return (%)	4.1	4.1	5.1	5.1	5.9	6.2	6.4	6.7	6.9	7.1
Total Value at Risk (%) - (worst 5% case)	-3.2	-3.2	-6.8	-6.7	-12.5	-12.2	-16.4	-16.1	-20.4	-20.1

# CITY OF LA DCP PROFILE PORTFOLIOS

## EFFICIENT FRONTIER ANALYSIS

- We recommend optimizing the current asset classes available in the Plan which would include the following asset allocation modifications:
  - **Moderate, Aggressive and Ultra Aggressive Profile Funds:**
    - Eliminate Stable Value exposure; increase core fixed income exposure (within Moderate and Aggressive Profiles)
    - Increase US large cap equity within the Ultra Aggressive Profile Fund; decrease US large cap within the Moderate Profile Fund
    - Decrease mid and small cap equity exposure
    - Increase international equity exposure
  - **Modest changes to the Ultra Conservative and Conservative Profile Funds:**
    - Slightly increase US large cap equity; decrease US mid and small cap equity exposure
    - Slightly increase international equity exposure (in Conservative only)
    - Maintain same allocations to Stable Value and core fixed income

# FEE IMPACT – SCENARIO 2 (OPTIMIZED ALLOCATION)



# PROFILE FUNDS

## OPTIMIZED PORTFOLIOS FEE REVIEW

Current Profile Funds	Expense Ratios 3/31/17	Ultra Conservative	Conservative	Moderate	Aggressive	Ultra Aggressive
Stable Value	0.32%	35.0%	15.0%	10.0%	5.0%	0.0%
US Aggregate Fixed Income	0.22%	50.0%	50.0%	30.0%	20.0%	10.0%
US Large Cap Equity	0.02%	5.0%	12.5%	25.0%	25.0%	25.0%
US Mid Cap Equity	0.53%	2.5%	5.0%	10.0%	15.0%	20.0%
US Small Cap Equity	0.41%	2.5%	5.0%	10.0%	15.0%	20.0%
AC World ex US All Cap Equity Unhedged	0.75%	5.0%	12.5%	15.0%	20.0%	25.0%
<b>Total</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Profile Fund Expense Ratio</b>		<b>0.28%</b>	<b>0.30%</b>	<b>0.31%</b>	<b>0.36%</b>	<b>0.40%</b>

Optimized Portfolios	Expense Ratios 3/31/17	Ultra Conservative	Conservative	Moderate	Aggressive	Ultra Aggressive
Stable Value	0.32%	35.0%	15.0%	0.0%	0.0%	0.0%
US Aggregate Fixed Income	0.22%	50.0%	50.0%	42.0%	25.0%	10.0%
US Large Cap Equity	0.02%	6.0%	15.0%	20.0%	25.0%	30.0%
US Mid Cap Equity	0.53%	2.0%	3.0%	6.0%	8.0%	10.0%
US Small Cap Equity	0.41%	2.0%	3.0%	6.0%	8.0%	10.0%
AC World ex US All Cap Equity Unhedged	0.75%	5.0%	14.0%	26.0%	34.0%	40.0%
<b>Total</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Profile Fund Expense Ratio</b>		<b>0.28%</b>	<b>0.29%</b>	<b>0.35%</b>	<b>0.39%</b>	<b>0.42%</b>

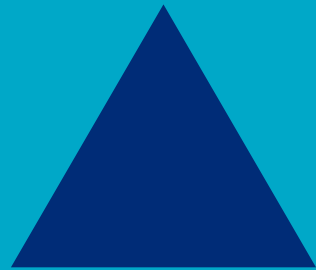


# PROFILE FUNDS – FROM CURRENT TO PROPOSED

## DIFFERENCE IN RETURNS AND FEES

Moving from Current to Proposed Mix	<i>Ultra Conservative</i>	<i>Conservative</i>	<i>Moderate</i>	<i>Aggressive</i>	<i>Ultra Aggressive</i>
Return Difference (Arithmetic)	None	None	+ 20 bps	+ 20 bps	+ 30 bps
Fees Difference	None	- 1 bp	+ 4 bps	+ 3 bps	+ 2 bps

# INVESTMENT POLICY STATEMENT UPDATE

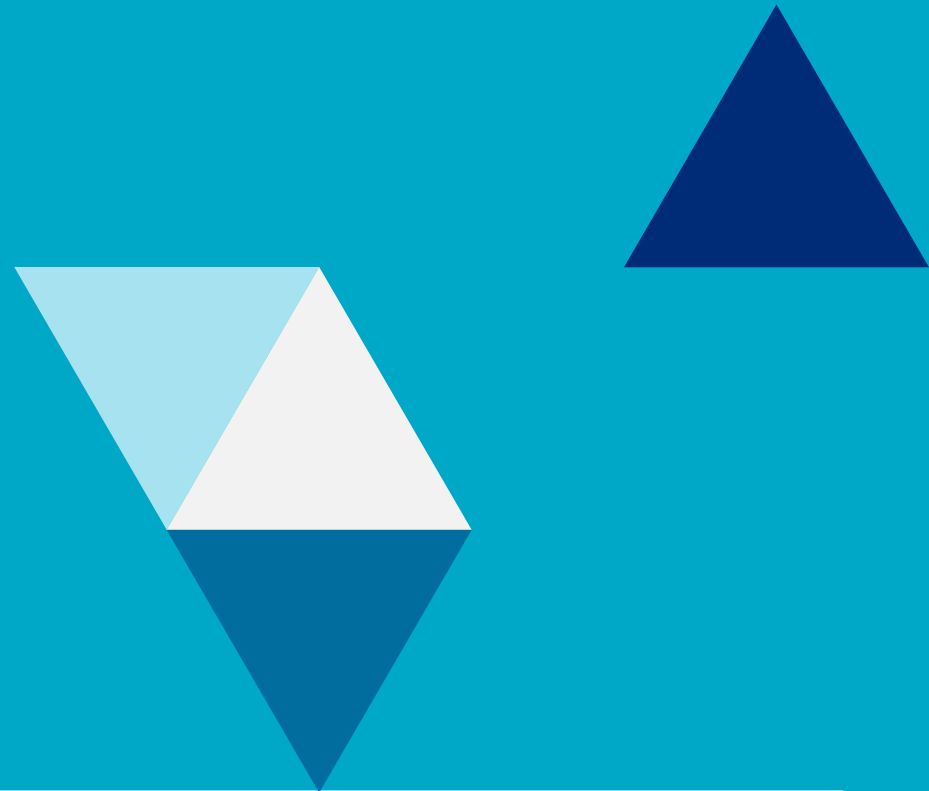


# DCP INVESTMENT POLICY STATEMENT

## PERIODIC REVIEW

- The Investment Policy Statement should be reviewed by the Board periodically.
- Mercer reviewed the IPS and has tracked suggested changes.
- Principal changes to note are:
  - On page 8, under “Fund of Fund options:”, noted that fund of fund asset allocations will be reviewed annually
  - On page 14, under “Investment Manager Termination”, expanded language in Investment Manager Termination section. Since the policy automatically calls for a search to be conducted every five years in each category, each investment managers is effectively on Watch at the inception of the Plan’s investment so we do not include discussion of a Watch List.
  - On page 17, under “Quantitative Standards”, on the table, updated the composition of the DCP Bond Fund. Added universes to the passive managers. Also, added the CRSP indices to the DCP Mid Cap and Small Cap Stock Funds for the passive managers. Blended Custom Benchmarks will be constructed for the DCP equity fund of funds.
  - On page 18, under “Investment Option Profiles” changed the objective of the DCP Stable Value from “No principal loss” to “Preservation of Capital”
  - On page 19, under “Investment Option Profiles” deleted the investment limits for the opportunistic investments for the DCP Bond Fund so we do not need to update the IPS each time we change bond fund managers
  - On page 20, under “Investment Option Profiles”, added the DCP Risk Profile Portfolios Target Allocations

# APPENDIX



# MERCER'S CAPITAL MARKET ASSUMPTIONS

## SELECT ASSET CLASSES APPLICABLE TO DC PLANS

Asset Class	20-Yr Assumptions			Shorter Geometric Returns			Equil Return
	GRR	ARR	STD	3-Yr	5-Yr	10Yr	
<b>Domestic Fixed Income</b>							
US Cash	2.8%	2.8%	2.0%	1.7%	2.1%	2.5%	3.1%
Stable Value/GICs	2.9%	2.9%	3.4%	1.7%	2.2%	2.9%	4.2%
US Aggregate FI	3.6%	3.8%	5.3%	1.9%	2.3%	2.8%	4.4%
US Intermediate Inflation Indexed FI	3.3%	3.4%	3.3%	2.0%	2.4%	2.8%	3.8%
US High Yield FI	4.7%	5.2%	10.0%	1.9%	2.6%	3.5%	5.9%
<b>Domestic Equity</b>							
US Large Cap Equity	6.3%	7.8%	18.1%	5.6%	5.6%	5.6%	7.0%
US Mid Cap Equity	6.5%	8.2%	19.6%	5.8%	5.8%	5.8%	7.2%
US Small Cap Equity	6.5%	8.6%	22.1%	5.5%	5.5%	5.5%	7.4%
<b>International Equity</b>							
Non-US Developed Large Cap Equity Unhedged	7.6%	9.4%	20.3%	8.1%	8.1%	8.1%	7.1%
Non-US Developed Small Cap Equity Unhedged	8.0%	10.2%	22.4%	8.5%	8.5%	8.5%	7.6%
AC World ex-US All Cap Equity Unhedged	8.0%	10.1%	22.2%	8.5%	8.5%	8.5%	7.4%
Emerging Markets Equity Unhedged	9.1%	12.1%	26.4%	9.1%	9.1%	9.1%	8.3%
<b>Other</b>							
US Real Estate - REITS	6.5%	8.5%	21.3%	6.5%	6.5%	6.5%	6.5%
Global Real Estate - REITS	6.7%	8.7%	21.3%	6.7%	6.7%	6.7%	6.7%
Commodities - Long Only	3.2%	4.6%	17.2%	2.4%	2.8%	3.2%	3.9%

### Notable changes – CMO January 2017

- As a result of higher valuations and lower expected earnings growth, return assumptions for US stocks declined.
- Expected returns on US bond asset classes rose by around 40 basis points on average due to higher initial yields.
- The expected standard deviation on fixed income was adjusted to better reflect the underlying volatility of the asset classes in response to interest rate movements.

# CITY OF LA DCP PROFILE PORTFOLIOS

## EFFICIENT FRONTIER ANALYSIS

### *Efficient Frontier observations*

- **Reasonable constraints:** We impose minimum and maximum thresholds on the amount of investment in certain asset classes (e.g., US small and mid cap, international equities, etc.) in order to arrive at more constructive conclusions.\* Without constraints unreasonable allocations may preside (e.g., entirety of equity exposure in international equity, etc.).
- **Current allocations are reasonably efficient:** All of the Profile Funds generally plot very near the current efficient frontier given the asset classes available. This is especially the case for the ultra conservative and conservative profiles.
- **Ultra Conservative and Conservative Profiles are very efficient:** Allocation mixes generally line up well with Efficient Frontier, and only minor enhancements could be made.
- **Greater amount of International equity exposure would improve more aggressive Profiles:** Absent any additional asset classes, biggest improvement would be made by shifting equity allocation mix to provide great exposure to international equity.
- **Lower amount of capital preservation (Stable Value) exposure and higher core fixed income exposure in the Moderate and Aggressive Profiles** are exhibited on the optimized portfolios.
- **Generally higher exposure to US Large Cap Equity and lower exposure to US Mid and Small Cap Equity** across all Profile Funds.

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\*Details provided on the following page

# CITY OF LA DCP PROFILE PORTFOLIOS

## EFFICIENT FRONTIER ANALYSIS

### ***Efficient Frontier constraints***

- Maximum stable value investment of 15%
- Minimum US aggregative fixed income position of 5%
- International equity limited at 45% of total overall equity, roughly in line with global market cap
- US small and mid cap limited to 40% of total US equity
- US small and mid cap equity set to be equivalent in allocation weight
- US TIPS limited to no more than 25% (Real Assets Frontier)
- Global real estate securities (REITs) limited to 15% allocation (for REIT and Real Asset Frontiers)
- Commodities limited to a 7.5% allocation (Real Assets Frontier)

# IMPORTANT NOTICES

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