Evaluation of Proposed Retirement Plan

City of Memphis

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Eric J. Atwater
Rocky Joyner

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Segal Consulting

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Background

- Segal Consulting was retained by the City of Memphis City Council in March 2014 to provide advice and guidance as the City evaluates its retirement plans.
- After the March meeting, Segal requested items to further analyze plan experience and help the City quantify its Unfunded Liability.
- On May 1, 2014 PwC completed an experience study with recommended assumption changes had the following approximated impact: lowering the Unfunded Actuarial Accrued Liability (UAAL) $82.0 million and the Annual Required Contribution (ARC) $8.2 million, or 2.7% of pay (from $96.0 million to $87.8 million).
- A follow-up meeting was held May 6, 2014 with the Committee to review Segal's estimate of the plan's funded status given suggested assumption changes. The primary discrepancy between PwC and Segal's assumptions were related to mortality and salary growth assumptions. Both firms agreed to use a compromise or "agreed upon" set of assumptions related to mortality by applying a one-year set-forward to the current table and by using an age-service based salary scale averaging 4.25% increases.
- Segal presented updated results based on the "agreed upon" set of assumptions on June 6, 2014 and provided additional plan design options on July 1, 2014.
- The Administration worked with the plan's actuary, PwC, to design a new plan (Cash Balance plan) that was provided to Segal around mid-September.
- **Segal did not replicate the current plan of benefits and thus all projections are based on information provided by PwC in early-November 2014**

Background

- Segal had a discussion in mid-September with PwC to pose questions and to better understand the proposed plan.
- After the initial discussion, Segal requested items to further analyze the financial impact and review the reasonableness of the results.
- Segal analyzed the proposed plan based on the following criteria:
  - Impact on Employees – Segal compared the benefits provided by the proposed plan to the current plan under a variety of scenarios to evaluate the impact on employees. Additionally, we analyzed the adequacy of the retirement benefit by comparing the replacement ratio of the current and proposed plans
  - Impact on City – Segal compared the projected cost of the current plan to the proposed plan to evaluate the impact on the City.
  - Council input – Segal incorporated the Council's feedback from the Decision Matrix in evaluating the options
  - Additional Considerations – Segal reviewed the design of the proposed plan and have provided some additional considerations or "tweaks" to the proposed design
- This document presents our findings, conclusions and recommendations

Impact on Employees, Comparison to Current Plan

- Segal analyzed the impact on employees by comparing the current and proposed plan under various investment return scenarios.
- We also evaluated the adequacy of the retirement benefits offered by comparing the replacement ratio (i.e.., percentage of pre-retirement income replaced) for different career paths.
- The following are the highlights of our findings compared to the current plan:
  - Older hires vs Younger hires – younger hires clearly benefit from the accrual patterns of the proposed plan.
  - Short-service vs long-service – employees who work to vesting and leave may also benefit from the structure.
  - General Employees – the benefits provided under the proposed plan are generally higher than the current plan for employees hired prior to age 30. From hire ages 30 to 40 the two plans have loose parity. Those hired after age 40 are likely to receive lower benefits than the current plan.
  - Fire and Police Employees – for employees hired prior to age 30, the plans are similar. For those hired after that age the proposed plan is expected to provide lower benefits.

Replacement Ratio Introduction

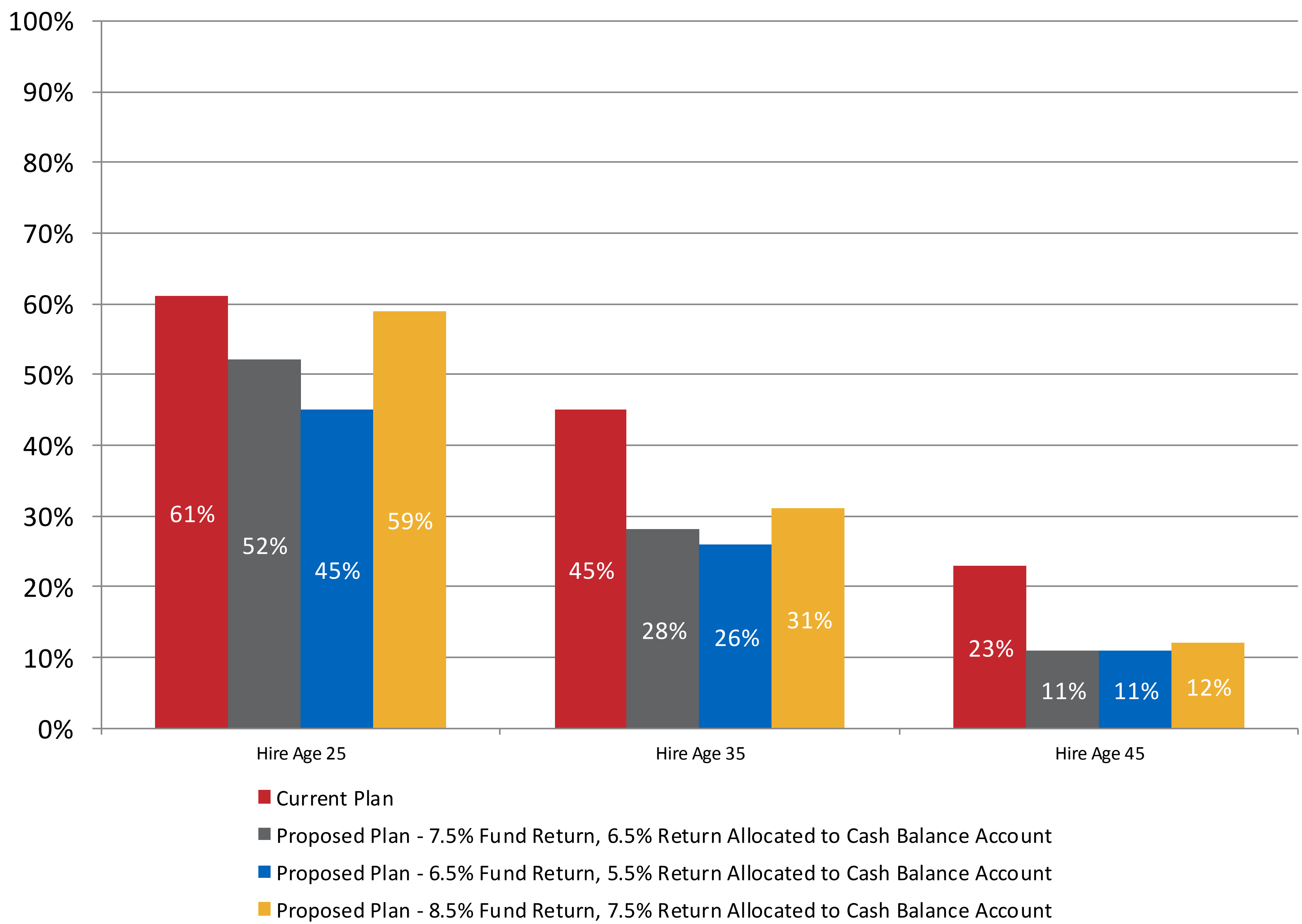
- To compare the impact of various plan designs on employees, we considered how well the pension plan option performs in replacing employee income upon retirement:
  - ***A retirement income replacement ratio ("replacement ratio")*** is a common approach used to compare retirement programs. It measures the relative income provided by the retirement plan as a percentage of the employee's final salary prior to retirement (for ease of understanding we have used the DB plan average salary in the denominator).
  - A replacement ratio allows for an "apples-to-apples" comparison of retirement benefits since the benefits provided by employers vary. A replacement ratio normalizes Defined Benefit (DB) and Defined Contribution (DC) plans by converting DC account balances to a stream of lifetime income.

- The sources of income generally considered in retirement income studies include: (a) Social Security benefits, (b) Employer-provided benefits, and (c) Personal savings:
  - Employer-provided benefits primarily include defined benefit and defined contribution retirement plans.
  - Personal savings are estimated assuming each participant contributes a given percentage of salary among all sources.

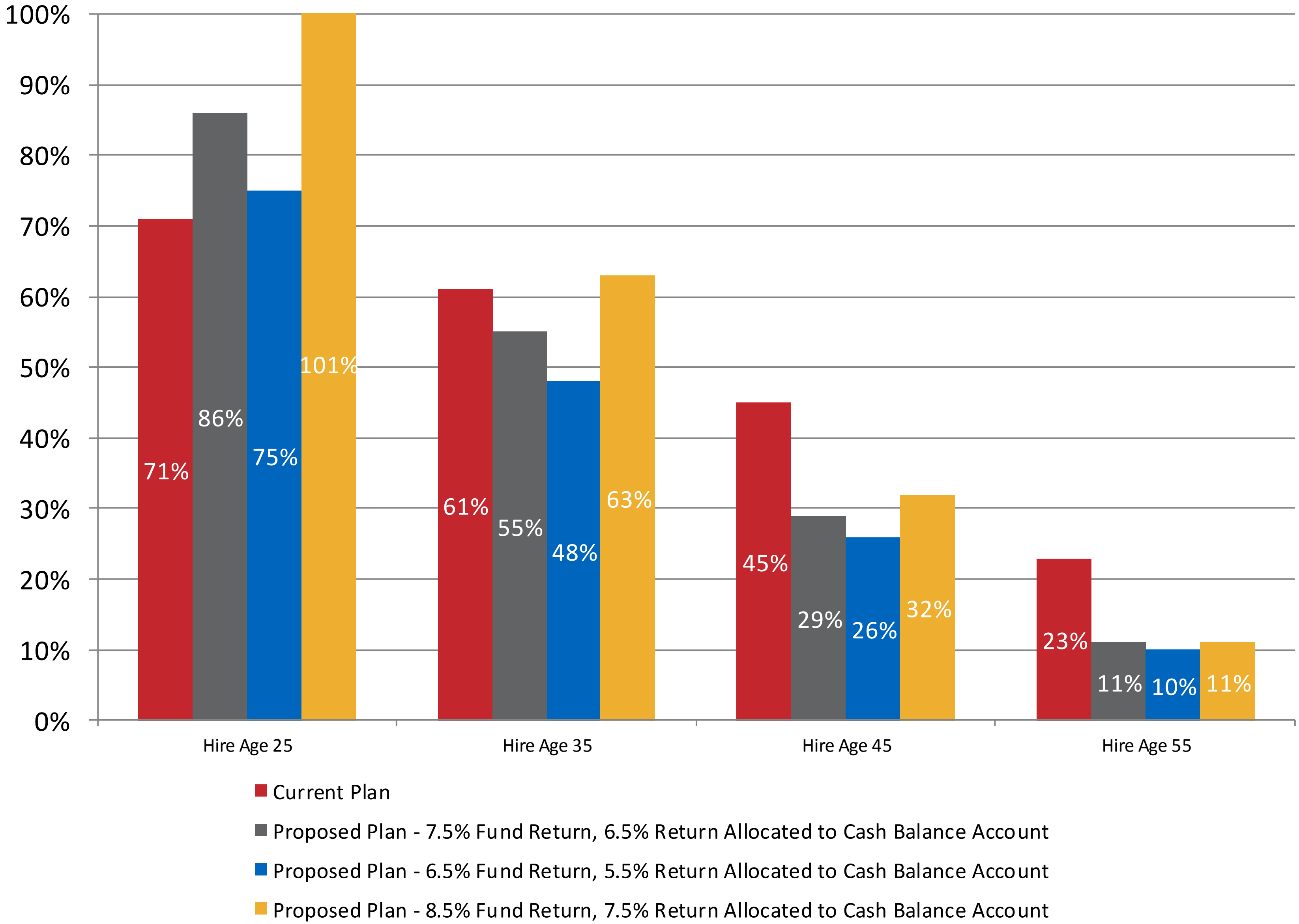
Replacement Ratio Assumptions and Methodology

Employee Contributions	All scenarios assume employees contributions as shown: 8.0% of pay for all plans
Salary Growth	Varies by age/service; per PWC final "agreed upon" salary assumption (see page 36)
Investment Return	5.5%, 6.5% and 7.5% annual investment return on Defined Contribution (DC) Plan and Personal Retirement Savings (1% less than the DB plan return)
Conversion of DC Balance/Personal Savings to Annual Annuity	Assumes employee balances in Defined Contribution and Savings plans converted to annuity at retirement based on IRS-published mortality table at 5.0% rate
Other	Replacement ratios have **not** adjusted to reflect change in purchasing power. Please note that post-retirement inflation will erode the purchasing power of plan benefits over time.

Replacement Ratio at Age 55 for Police and Fire Employees Hired at Ages 25, 35, and 45



Replacement Ratio at Age 65 for General Employees Hired at Ages 25, 35, 45, and 55



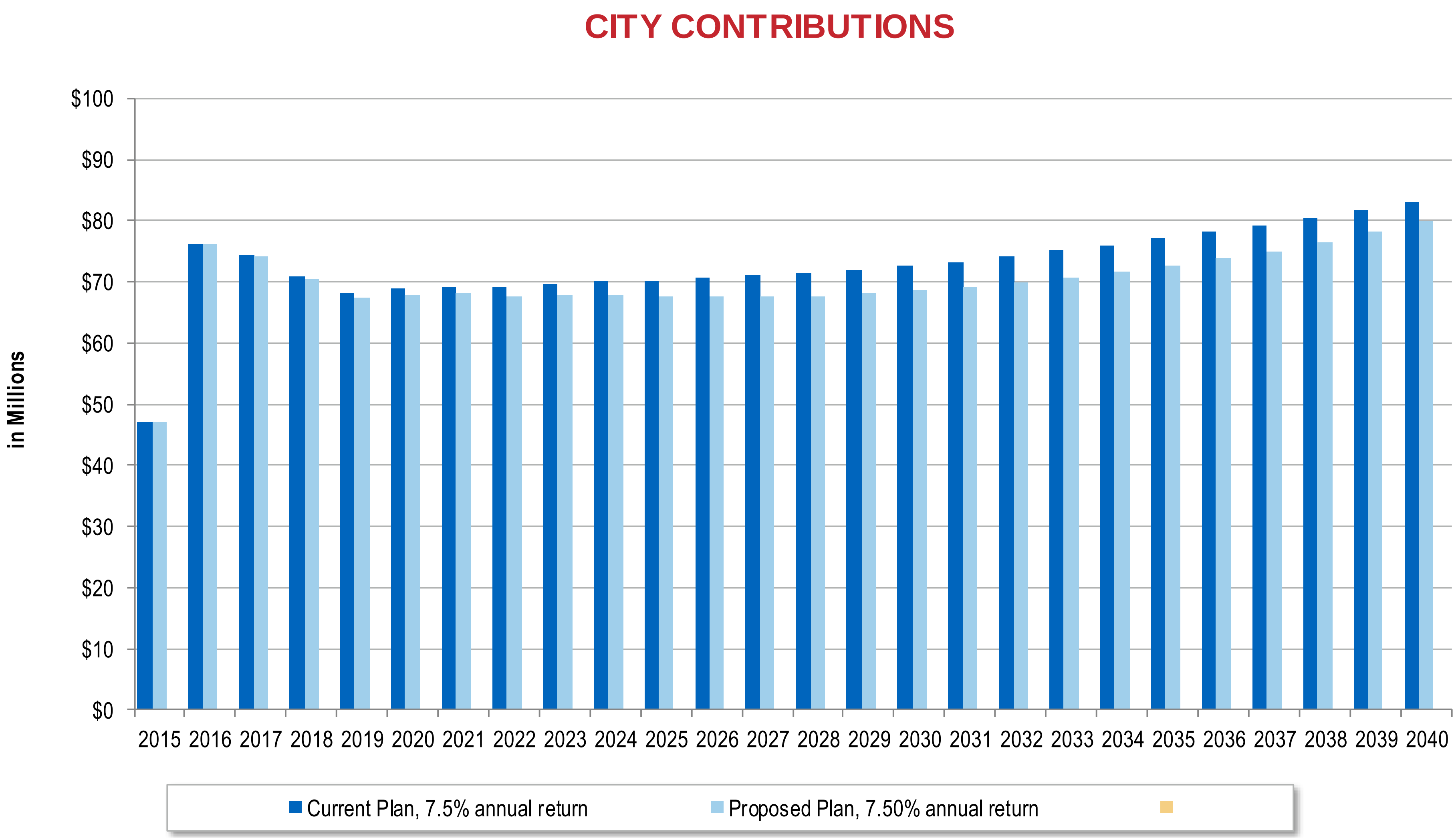
Future Cost for Current vs Proposed Plan

	Plan		
	Current Plan	Mayor’s Plan (Old)	Mayor’s Plan
	2.25% DB Plan	16.0% DC Plan	Market-based Cash Balance plan
A. Total Contribution Rate – Includes both Employee and City contributions as percentage of payroll	14.60%	17.25%	14.20%
B. Employee Contribution Rate – Employee contributions as percentage of payroll	8.00%	8.00%	8.00%
C. City Contribution Rate [(A) (B)] – City contributions as percentage of payroll	6.60%	9.25%	6.20%
D. Employee % of Total [(B) / (A)] – Employee contributions as percentage of total cost	~55%	~46%	~56%

Note: Above amounts derived from PWC projections. DC plan includes 1.25% for ancillary benefits.

Proposed Plan Projected Cost (in Dollars)

- The following compares the projected cost of the current plan to the proposed plan for new hires only.



Projected Pension Savings (in Dollars)

The following compares the impact on the City's projected pension contributions under the Current and Proposed plans for future hires only

Fiscal Year	Current Plan	Change from Current Plan Proposed Plan
2015	47.0	$0.0
2016	76.2	($0.2)
2017	74.3	($0.4)
2018	70.8	($0.7)
2019	68.2	($1.0)
2020	68.8	($1.2)
2021	69.3	($1.5)
2022	69.3	($1.9)
2023	69.7	($2.2)
2024	70.1	($2.6)
2025	70.2	($3.0)
2026	70.7	($3.3)
2027	71.1	($3.6)
2028	71.3	($3.8)
2029	72.0	($4.0)
2030	72.8	($4.2)
2031	73.3	($4.3)
2032	74.2	($4.4)
2033	75.2	($4.5)
2034	76.0	($4.5)
2035	77.2	($4.4)
2036	78.3	($4.2)
2037	79.1	($3.9)
2038	80.4	($3.5)
2039	81.7	($3.1)
2040	83.1	$0.0
Total	**$1,890.3**	**($70.4)**
Present Value @ 5.0%	**$1,021.2**	**($32.8)**

Cost of Grandfathering (in Dollars)

Fiscal Year	Proposed Plan (Future Hires Only)	Proposed Plan (Employees with 5 or less years of service)	Proposed Plan (Employees with 10 or less years of service)	Impact of Grandfathering	
				5 or less years of service	10 or less years of service
2015	47.0	47.0	47.0	$0.0	$0.0
2016	76.2	73.1	66.2	($3.1)	($10.0)
2017	74.1	71.0	63.8	($3.1)	($10.3)
2018	70.4	67.2	59.8	($3.2)	($10.6)
2019	67.5	64.2	56.8	($3.3)	($10.7)
2020	67.9	64.6	57.1	($3.3)	($10.8)
2021	68.0	64.8	57.4	($3.2)	($10.6)
2022	67.8	64.6	57.4	($3.2)	($10.4)
2023	67.8	64.7	57.7	($3.1)	($10.1)
2024	67.9	65.0	58.1	($2.9)	($9.8)
2025	67.6	64.9	58.2	($2.7)	($9.5)
2026	67.7	65.2	58.5	($2.5)	($9.1)
2027	67.7	65.4	58.9	($2.3)	($8.8)
2028	67.7	65.6	59.2	($2.2)	($8.6)
2029	68.2	66.2	59.9	($2.0)	($8.3)
2030	68.8	66.9	60.8	($1.8)	($7.9)
2031	69.1	67.4	61.4	($1.7)	($7.7)
2032	69.9	68.4	62.6	($1.6)	($7.4)
2033	70.8	69.5	63.8	($1.3)	($7.0)
2034	71.6	70.4	65.1	($1.2)	($6.5)
2035	72.7	71.7	66.6	($1.0)	($6.0)
2036	73.9	73.0	68.3	($0.9)	($5.6)
2037	74.9	74.3	70.4	($0.6)	($4.5)
2038	76.5	76.2	72.6	($0.3)	($3.9)
2039	78.2	78.1	75.5	($0.1)	($2.7)
2040	80.0	80.3	78.3	$0.3	($1.7)
Total	**$1,772.9**	**$1,722.7**	**$1,574.4**	**($50.1)**	**($198.5)**
Present Value @ 5.0%	**$992.4**	**$959.1**	**$869.4**	**($33.3)**	**($123.0)**

Proposed Plan Observations

- Annuitization of 401(a) balances is a very positive plan design
  - The annuitization feature is a benefit to the employees as they can convert their balances to lifetime income under favorable terms. Thereby being protected from outliving their benefits. Note, the City bears a cost for allowing this feature since it assumes the post-retirement mortality risk.
- For long service general employees the proposed plan matches quite well with current plan
  - Particularly long serviced employees are likely to receive a larger benefit from the proposed plan.
- The proposed plan retains the elements of investment and longevity pooling
  - These are core strengths of public sector DB plans. This also provides additional flexibility in future years as human resource needs evolve.

Additional Considerations

- Limited lump-sum options
  - To ease the transition into retirement, the City may want to add a limited lump-sum option to the DC portion of the benefit structure (i.e. no more than 10% of the balance).
- Cost-of-living adjustment (COLA) options for the post-retirement annuity
  - The current plan does not have an automatic COLA. However, ad-hoc COLAs have been granted on a fairly consistent basis in prior years. Given the proposed plan benefit is based on a 5% annuity purchase conversion rate, the City may want to consider some form of gain-sharing to provide limited COLAs based on future plan investment experience.
- Consider ceiling options for the crediting rate
  - This would provide additional funding flexibility and management for inter-generational equity for participants and tax payers.
- Review the benefit accrual rates for F&P and older hires due to the accrual limitations from shorter service periods
  - Consider retention and recruitment issues when developing the benefit accrual structure.

Thank you!

I. Background

II. Current Plan

III. Proposed Plan

Appendices

Current Plan

*Pension Plan Highlights—General Employees**

	1948 Plan	1978 Plan	2012 Plan
Total Normal Cost (as % of Pay):	~13.5%	16.5%	14.6%
Employee Contribution (as % of Pay):	5.0%	8.0%	8.0%
City Normal Cost (as % of Pay):	~8.5%	~8.5%	~6.6%
Vesting	10 years	10 years	10 years
Refund of Contributions	Contributions plus following annualized interest based on years at termination: 0 – 5 years: 0.0%, 5 – 14 years: ~8.0%, 15 or more years: ~7.5%		
Multiplier:	2.50% up to 25 years; 1.0% thereafter (max 72.5%)		2.25% up to 25 years; 1.0% thereafter (max 72.5%)
Final Average Earnings:	~ 1 year	~1 year	3 years
Normal Retirement Age (NRA):	60/10 or 25 years	60/10 or 65/5 or 25 years	55/10 or 65/5 or 25 years
Early Retirement Age (ERA):	N/A	N/A	5% per year from Age 62
Cost-of-Living-Adjustment (COLA):	N/A	N/A	N/A
Normal Form:	100% J&S	75% J&S	75% J&S

* Note that the City does not participate in Social Security

Current Plan

*Pension Plan Highlights—Fire and Police**

	1948 Plan	1978 Plan	2012 Plan
Total Normal Cost (as % of Pay):	17.0%	17.0%	14.6%
Employee Contribution (as % of Pay):	5.0%	8.0%**	8.0%
City Normal Cost (as % of Pay):	12.0%	~9.0%**	~6.6%
Vesting	10 years	10 years	10 years
Refund of Contributions	Contributions plus following annualized interest based on years at termination: 0 – 5 years: 0.0%, 5 – 14 years: ~8.0%, 15 or more years: ~7.5%		
Multiplier:	2.50% up to 25 years; 1.0% thereafter (max 72.5%)		2.25% up to 25 years; 1.0% thereafter (max 72.5%)
Final Average Earnings:	~ 1 year	3 years	3 years
Normal Retirement Age (NRA):	60/10 or 25 years	60/10 or 25 years	55/10 or 25 years
Early Retirement Age (ERA):	N/A	N/A	5% per year from Age 52
Cost-of-Living-Adjustment (COLA):	N/A	N/A	N/A
Normal Form:	100% J&S	75% J&S	75% J&S

* Note that the City does not participate in Social Security
** Effective July 1, 2012, increases 0.5% of pay until reaching 8.0% of pay