

# ATLANTA CITY COUNCIL MEETING



**Eric J. Atwater, FCA, FSA, MAAA, EA**  
*Consulting Actuary*

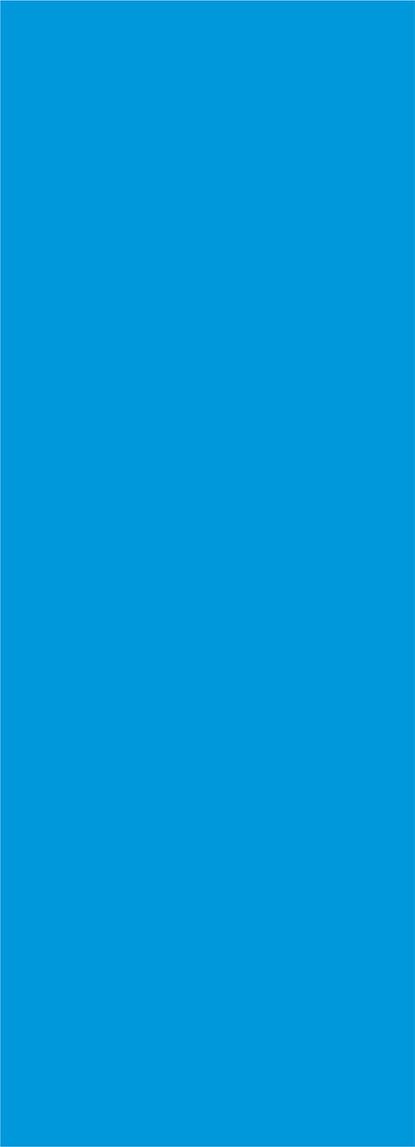
June 29, 2011

Copyright ©2011 by The Segal Group, Inc., parent of The Segal Company. All rights reserved.

Doc #7398184



 **SEGAL**

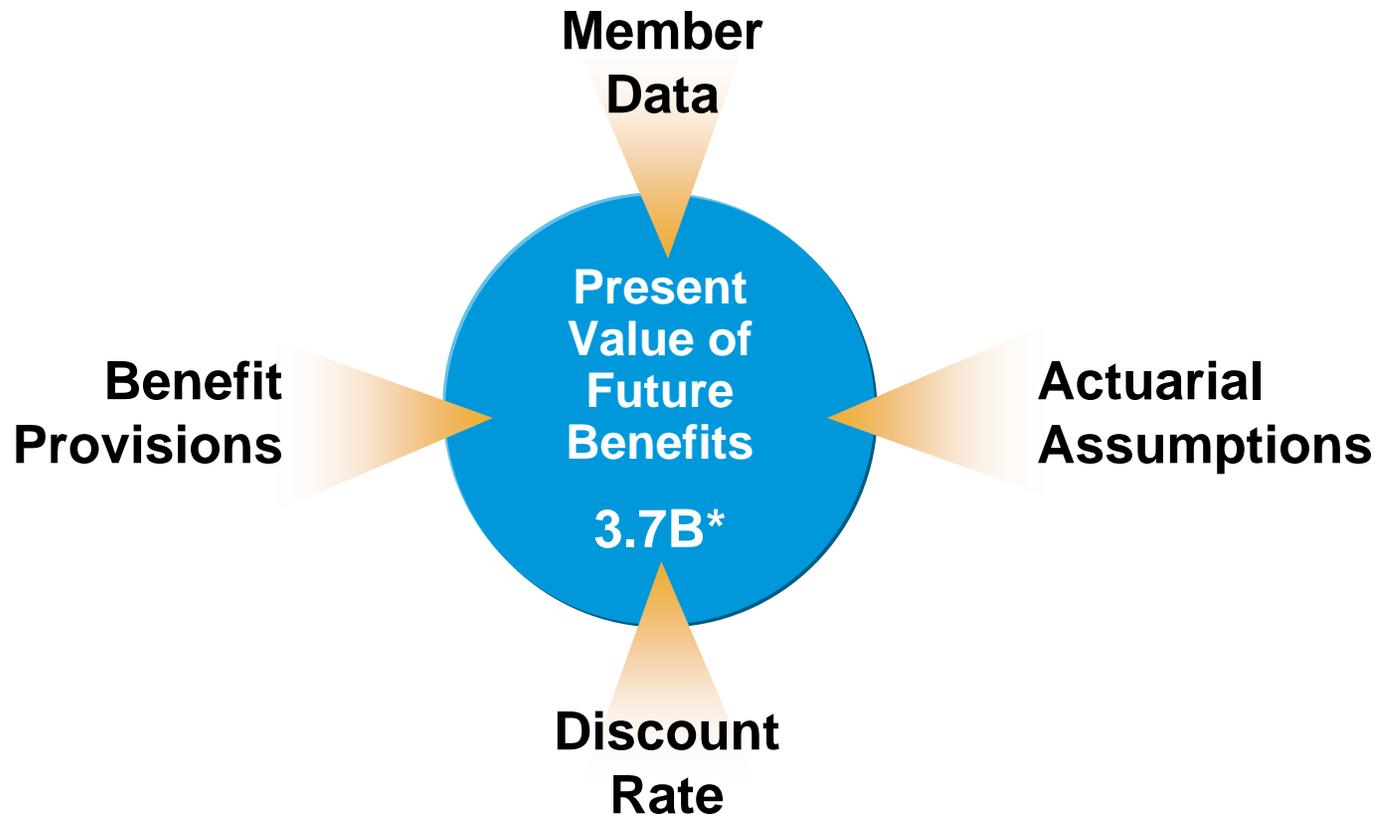
- 
- ① Assumptions and Methods
  - ② Impact on City of Proposed Plan
  - ③ Impact on Employees of Proposed Plan
  - ④ Appendices

# Assumptions and Methodology

<b>Discount Rate</b>	8.00% for General; 7.75% for Police and Fire
<b>Investment Return</b>	8.00% for General; 7.75% for Police and Fire annually unless specifically stated
<b>Projection Methodology</b>	<p>Projected liabilities based on July 1, 2010 valuation assuming all Economic and Demographic assumptions are met thereafter;</p> <p>Future Hire age 35 (28 for Public Safety) with average salary of \$35K (\$40K for Public Safety) assumed to replace current employees such that participant counts remain constant; projected salary assumed to increase 3.25% per year</p>
<b>Market Value of Assets</b>	<p>Based on assets as of April 12, 2011 as reported by Gray &amp; Co.</p> <p>General Employees = \$850,644,269 ; Fire = \$501,925,302; Police = \$704,496,006</p>
<b>Asset Valuation Method</b>	5-year smoothing of investment gains/losses
<b>Funding Method</b>	Replacement Life Entry Age Normal (i.e., Normal cost reflects the benefit structure for new employees)
<b>Data</b>	General Employees as of July 1, 2009 with age/service adjusted to July 1, 2010; Fire & Police as of January 1, 2010 with age/service adjusted to July 1, 2010
<b>Employee's Contributions</b>	<b><i>Assumes employees contribute 11.75% toward retirement</i></b> (unless specifically stated)
<b>City's Contribution</b>	<p>Based on July 1<sup>st</sup> valuation preceding fiscal year, adjusted for timing;</p> <p>Assumes City fully funds Annual Required Contribution (ARC); <math>ARC = \text{Normal Cost} + \text{Payment to amortize Unfunded Actuarial Accrued Liability (UAAL) over closed 30-year period increasing approximately 3.50\% per year}</math></p>

# Actuarial Cost Method

The **Present Value of Future Benefits (PVB)** is the present value of total benefits promised to current participants, based on projected pay and service at retirement

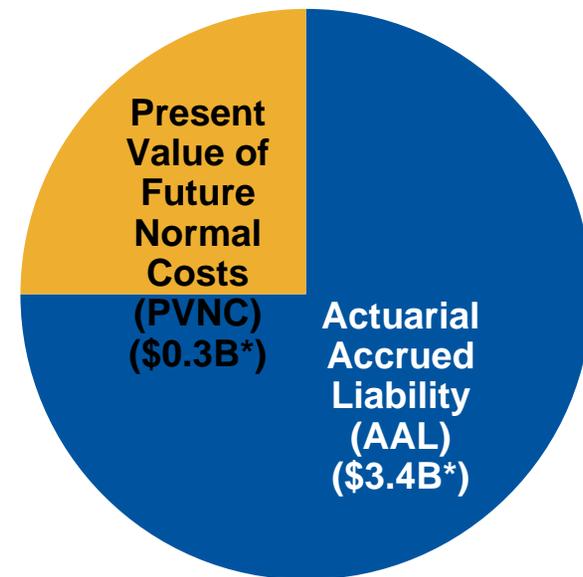


\* As of FY 2012 based on Current Plan.

# Actuarial Cost Method *continued*

- The **Actuarial Cost Method** is a mechanism to allocate the present value of future benefits (PVB) to time periods (i.e., benefits related to past service vs. future service):
  - The **Present Value of Future Normal Cost (PVNC)** is the portion of the PVB allocated to future service
  - The **Actuarial Accrued Liability (AAL)** is the portion of PVB allocated to past service

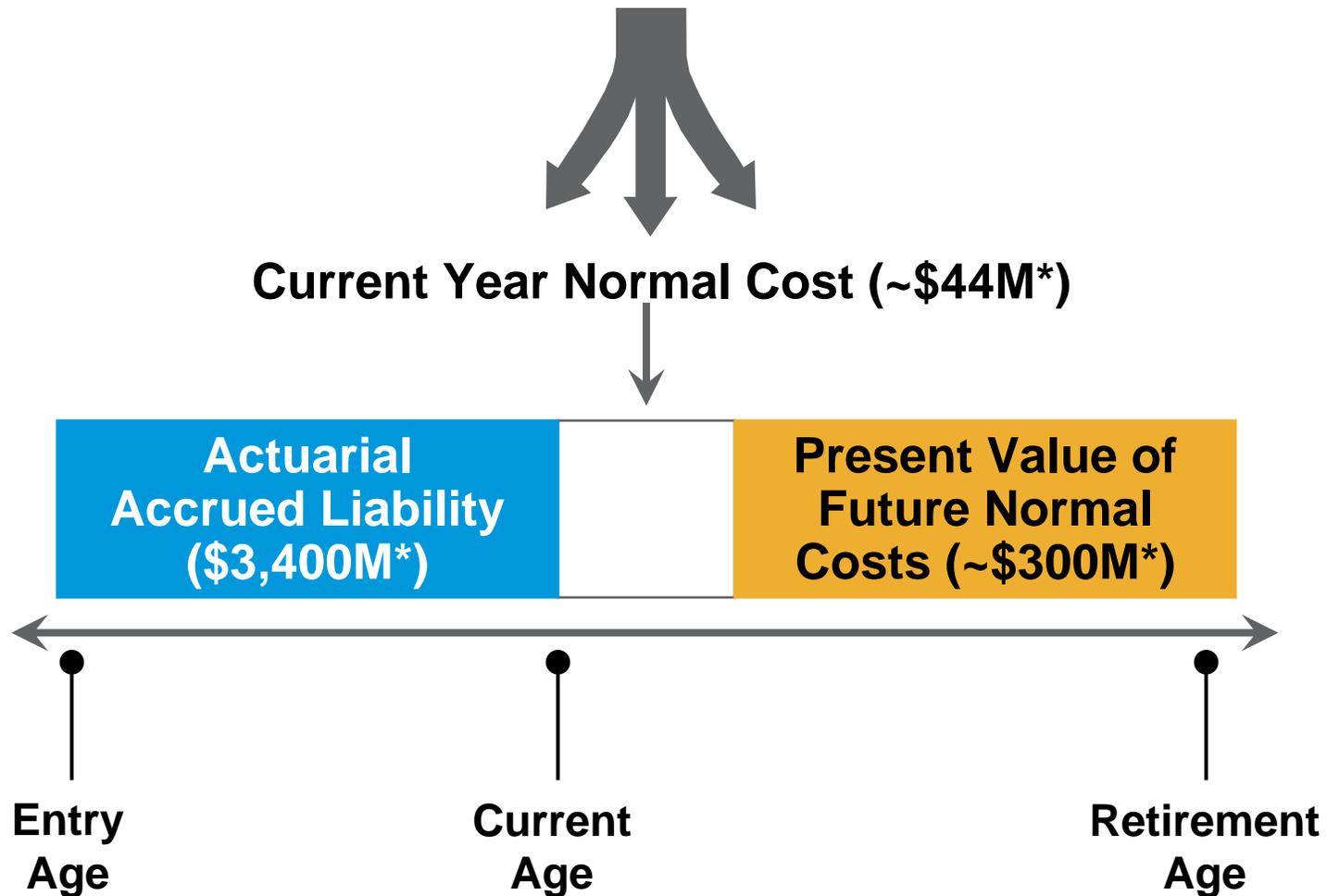
$$\text{PRESENT VALUE OF FUTURE BENEFITS} = \text{PVNC} + \text{AAL}$$



\* As of FY 2012 based on Current Plan; PVNC and AAL determined as a level percent of payroll

# Actuarial Cost Method *continued*

## Present Value of Future Benefits



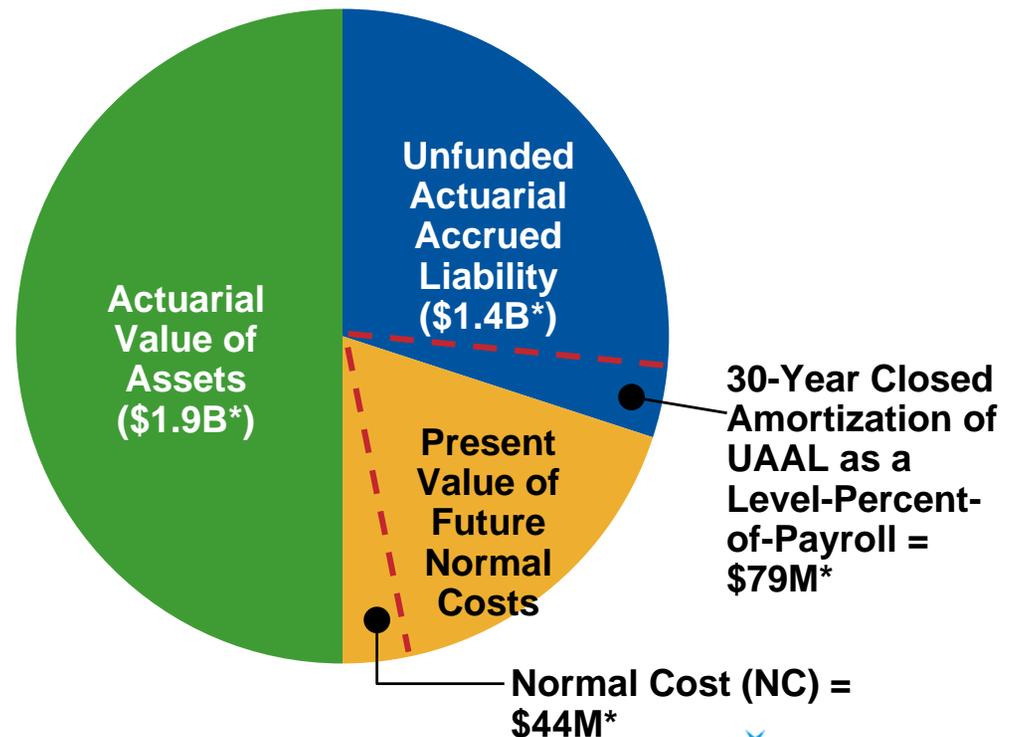
\* As of FY 2012 based on Current Plan; PVNC and AAL determined as level percent of payroll

# Annual Cost

**Annual Required Contribution (ARC) = Normal Cost (NC) + 30-Year Amortization of Unfunded Actuarial Accrued Liability (UAAL)**

- Normal Cost (NC) = Cost attributable to benefits accruing during upcoming year
- Unfunded Actuarial Accrued Liability (UAAL) = Actuarial Accrued Liability (AAL) – Assets

**PRESENT VALUE OF FUTURE BENEFITS = AAL + PVNC**

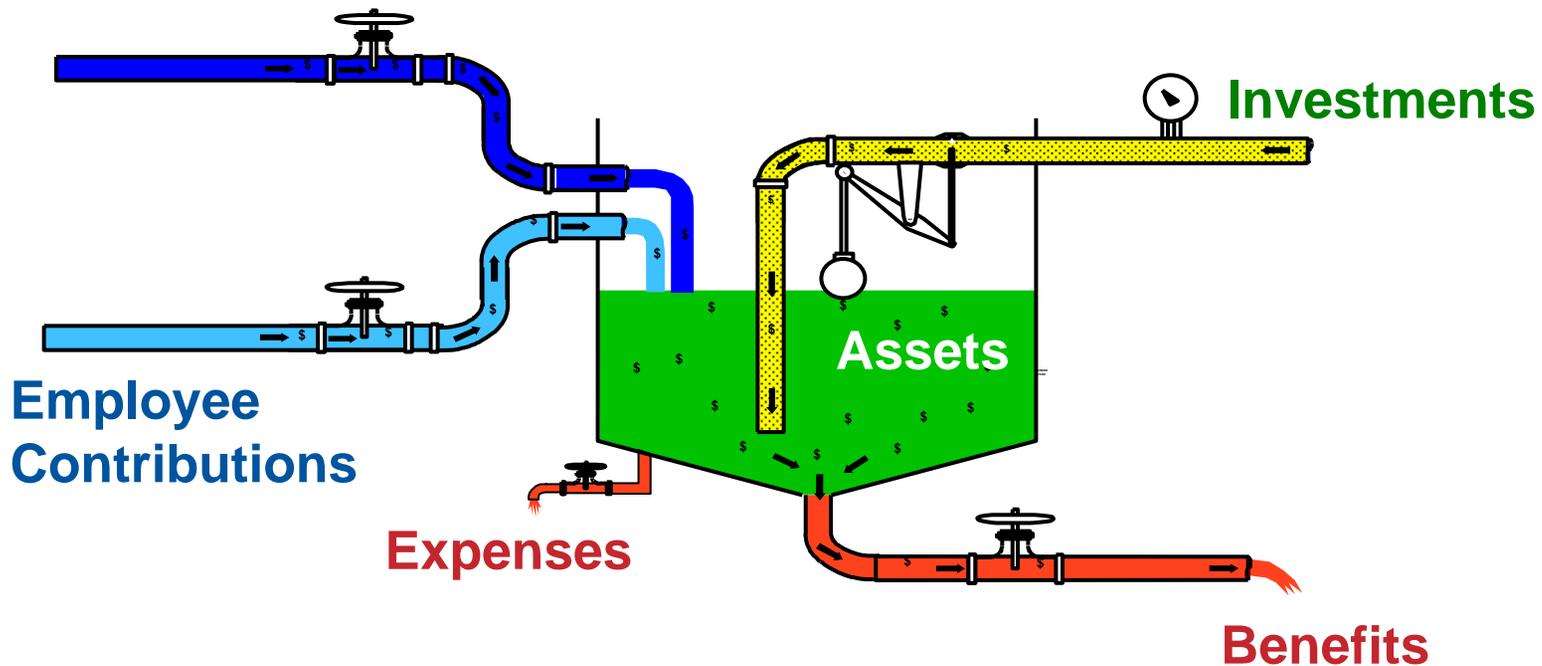


\* As of FY 2012 based on Current Plan; Normal Cost and UAAL Amortization payment determined as a level percent of payroll

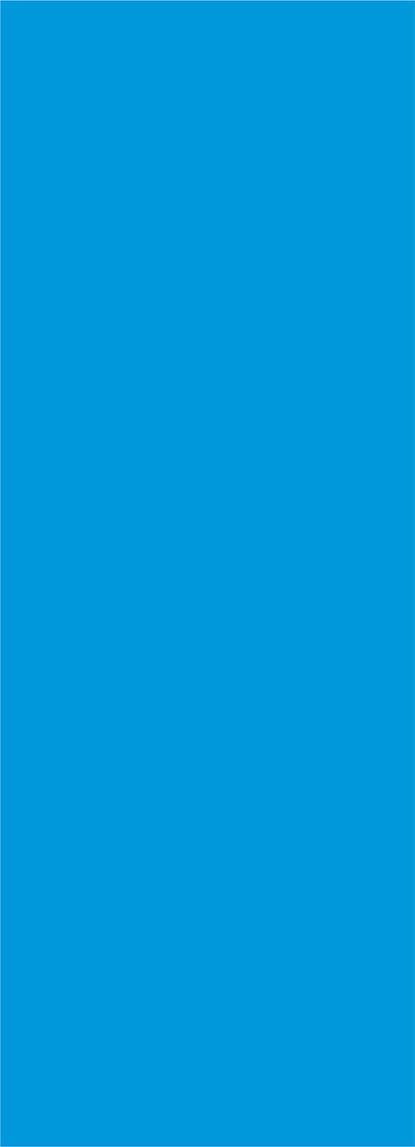
# Funding Mechanics

Ultimately, Contributions + Investment Return = Benefits + Expenses

City Contributions



Assumptions and funding methods affect only the timing of costs.  
“Nobody ever made a benefit payment from assumed interest!”

- 
- ① Assumptions and Methods
  - ② Impact on City of Proposed Plan
  - ③ Impact on Employees of Proposed Plan
  - ④ Appendices

# Proposed Plan Changes

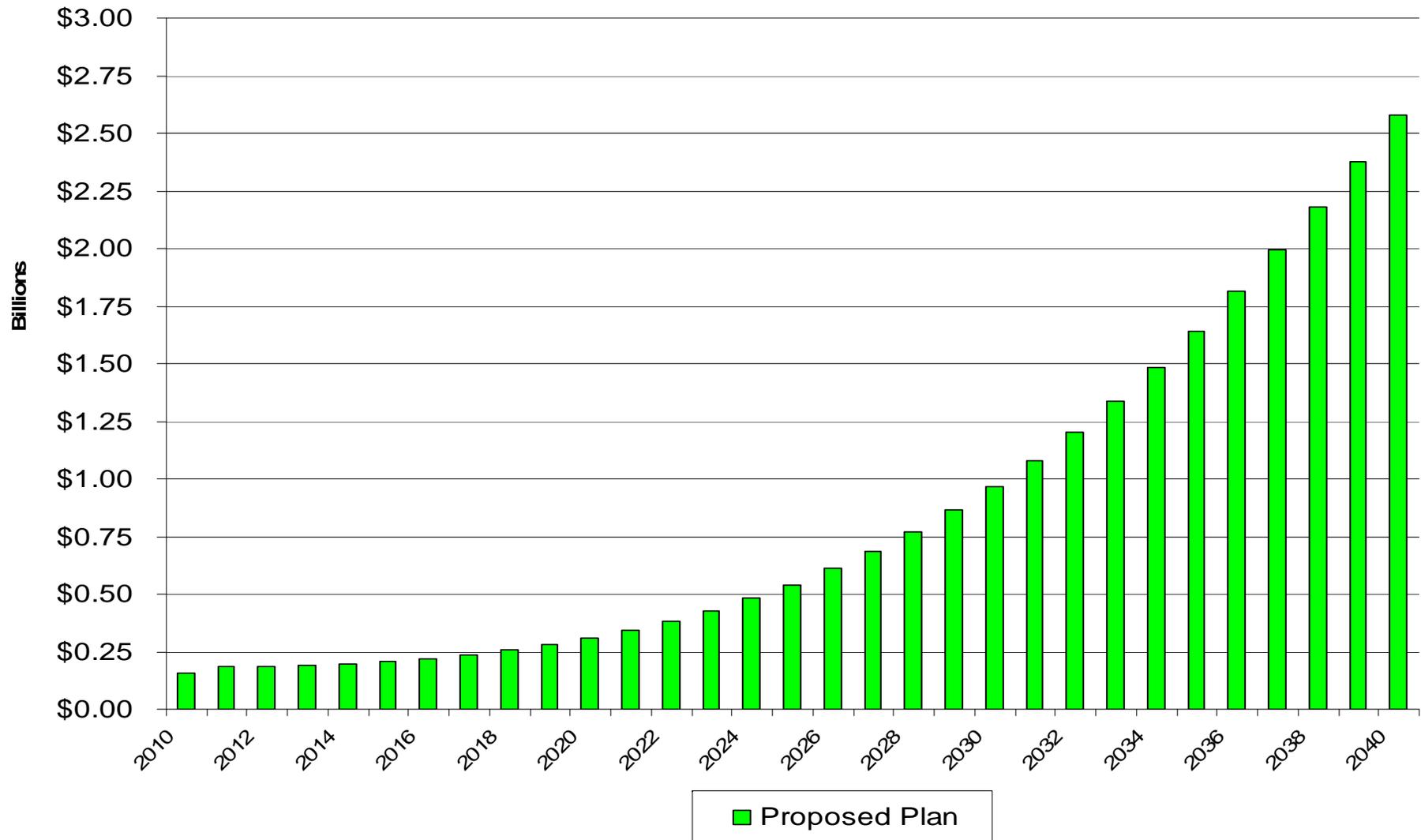
	Current Employees – DB ONLY PLAN	Future Employees – HYBRID PLAN*	
		DB	DC
<b>Multiplier</b>	3.00% (Sworn Fire and Police) ----- 2.50% (General Employees) ----- 2.00% (All hires on or after July 1, 2010)	1.00%	N/A
<b>City Match</b>	N/A	N/A	1-to-1 Match up to 8.00%
<b>Employee Contributions</b>	12.00% (Without Beneficiary) ----- 13.00% (With Beneficiary)	8.00% (Mandatory - With or Without Beneficiary)	3.75% (Mandatory) ----- 4.25% (Voluntary)
<b>Standard Form of Payment</b>	>Without Beneficiary - Single Life Annuity >With Beneficiary - 75% Joint-and-Survivor	>With or Without Beneficiary - Single Life Annuity (Other Optional Forms Available)	
<b>Vesting Period</b>	10 Years ----- 15 Years (Hires on or after July 1, 2010)	15 Years	5 Years
<b>Normal Retirement Age (NRA)</b>	Age 55 (Sworn Fire and Police) ----- Age 60 (General Employees)	Age 57 (Sworn Fire and Police) ----- Age 62 (General Employees)	
<b>Early Retirement Age (ERA)</b>	No minimum age; penalty applied for early retirement	Age 47 (Sworn Fire and Police) with penalty ----- Age 52 (General Employees) with penalty	
<b>Early Retirement Penalty</b>	6.00% per year for first 5 years before NRA; 3.00% per year thereafter	6.00% per year before NRA	
<b>COLA</b>	Up to 3.00%	Up to 1.00%	N/A
<b>Salary Calculation</b>	Highest Consecutive 3 Years (Avg.)	Highest Consecutive 10 Years (Avg.)	N/A
<b>Sick Leave/Vacation</b>	Application unchanged	Not applied to benefits	Not applied to benefits

\*Pending City Council approval with effective date of November 1, 2011; Only impacts employees covered by Defined Benefit plans (i.e., Current and future sworn Atlanta Fire & Police and General Employees grade 18 and below)

# Reduction in Future Defined Benefit Plan Liability

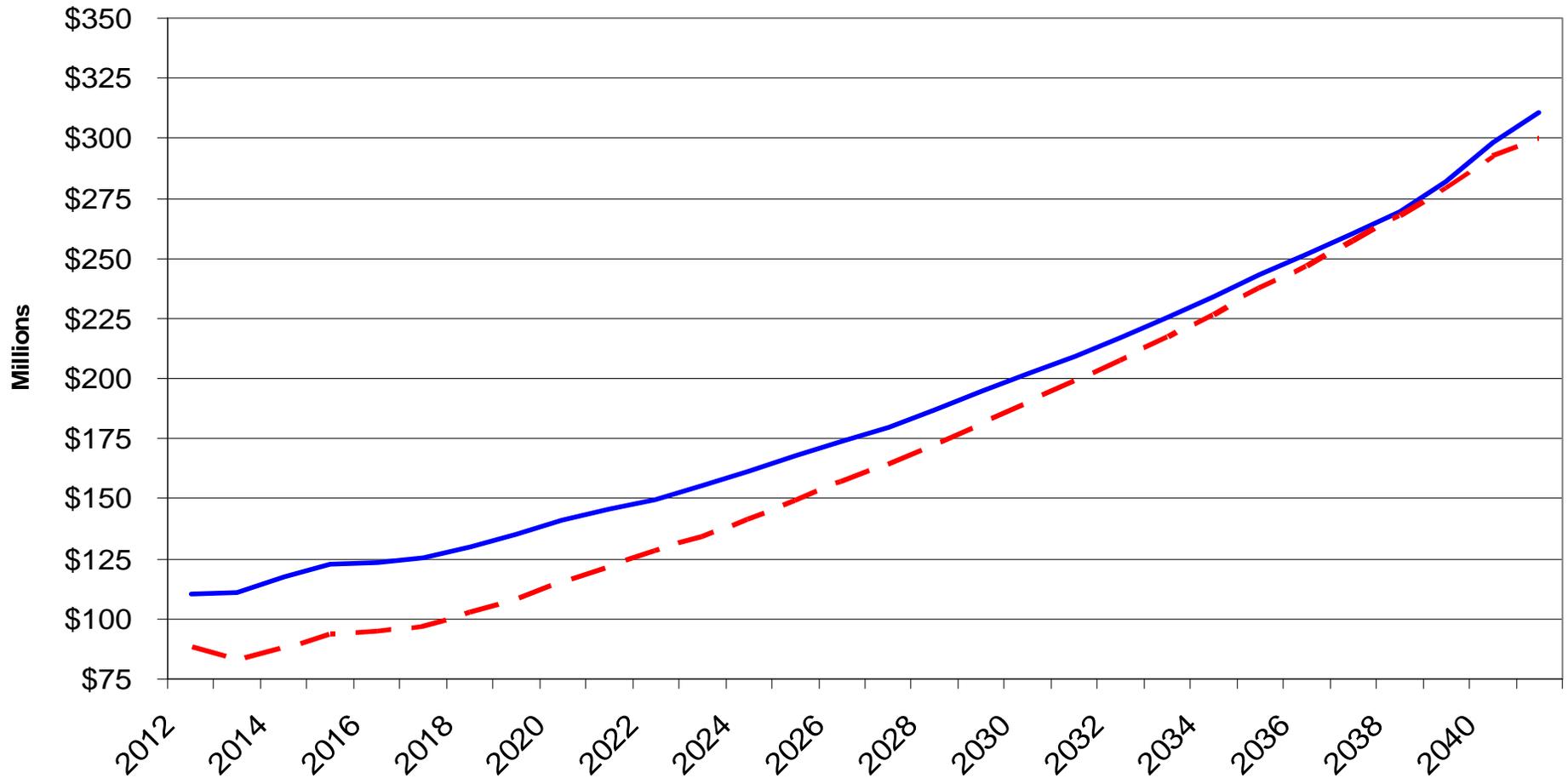
## *Proposed Plan*

Reduction in Future Actuarial Accrued Liability for Defined Benefit Plans



# Total Retirement Plan Contributions

## 8% Annual Investment Return

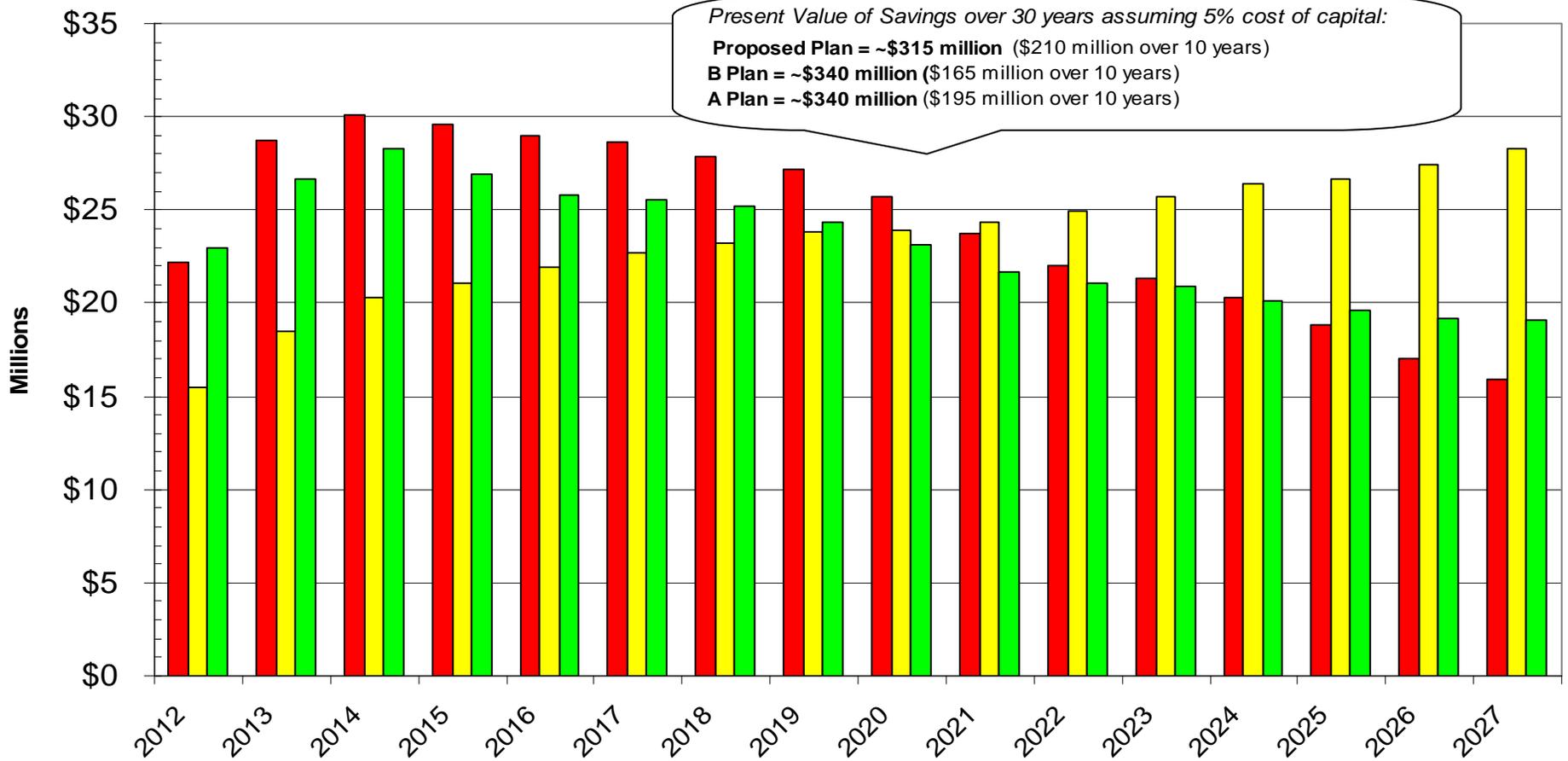


— Current Plan: 2.50%/3.00% DB Plan for Hires before July 1, 2010; 2.00% DB for Hires after July 1, 2010

- - Proposed Plan: Current Plan with 5% increased Employee Contributions for Current Employees; 1.00% DB w/ 1% COLA, 10-year Average (8% Employee Contributions) + 100% Matching DC Plan up to 8% for Future Employees (3.75% mandatory)

# Total Retirement Plan Savings

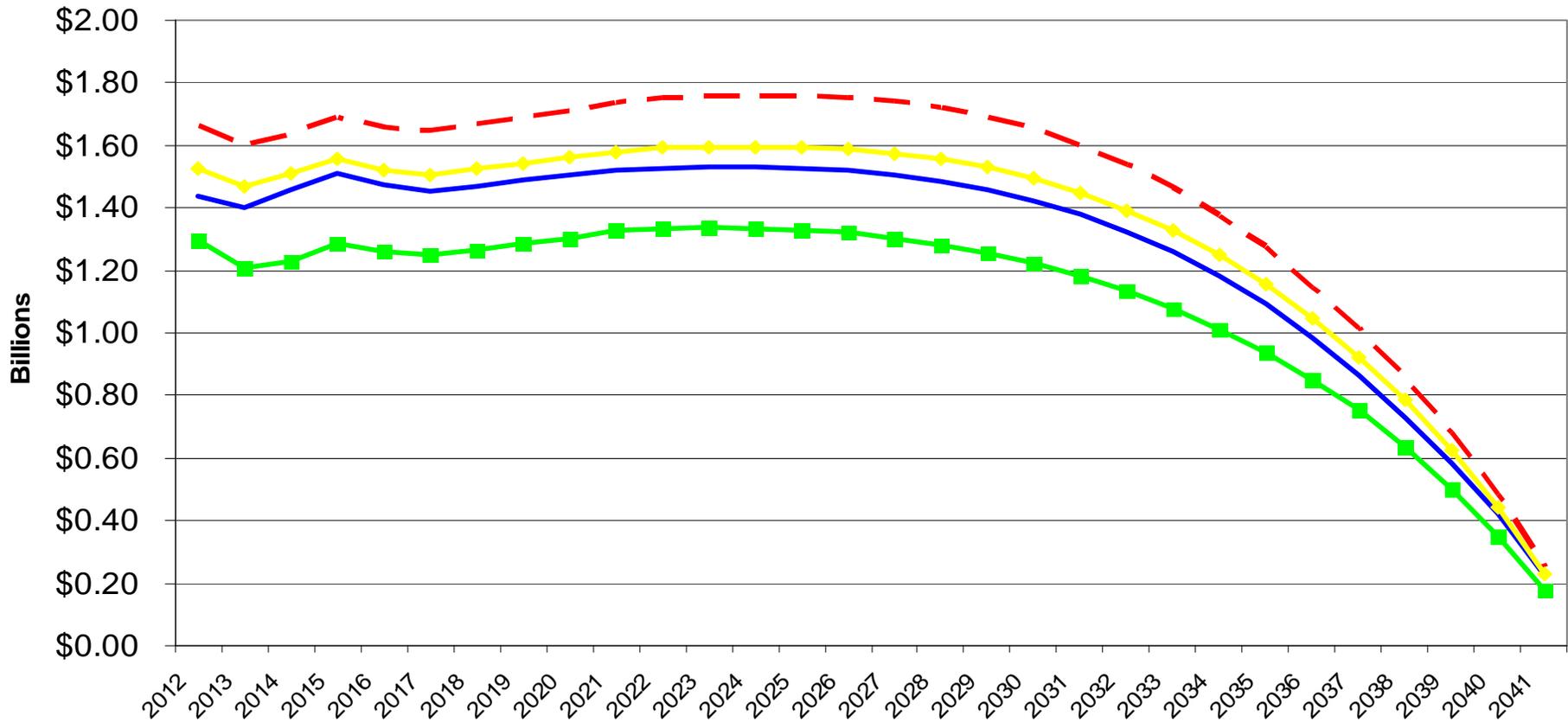
## 8% Annual Investment Return



- **Proposed Plan:** Current Plan with 5% increased Employee Contributions for Current Employees; 1.00% DB w/ 1% COLA, 10-year Average (8% Employee Contributions) + 100% Matching DC Plan up to 8% for Future Employees (3.75% mandatory)
- **Plan B:** Current Plan with 5% increased Employee Contributions for Current Employees; 2.00% DB with 13% Employee Contributions w/ 1% COLA, 5-year avg pay for Future Employees (NO additional contribs toward Unfunded)
- **Plan A:** 1.00% DB w/ 1% COLA + 100% Matching DC Plan up to 8% for Current Employees\*; 100% Matching DC Plan up to 8% + Social Security for Future Hires

# Unfunded Liability

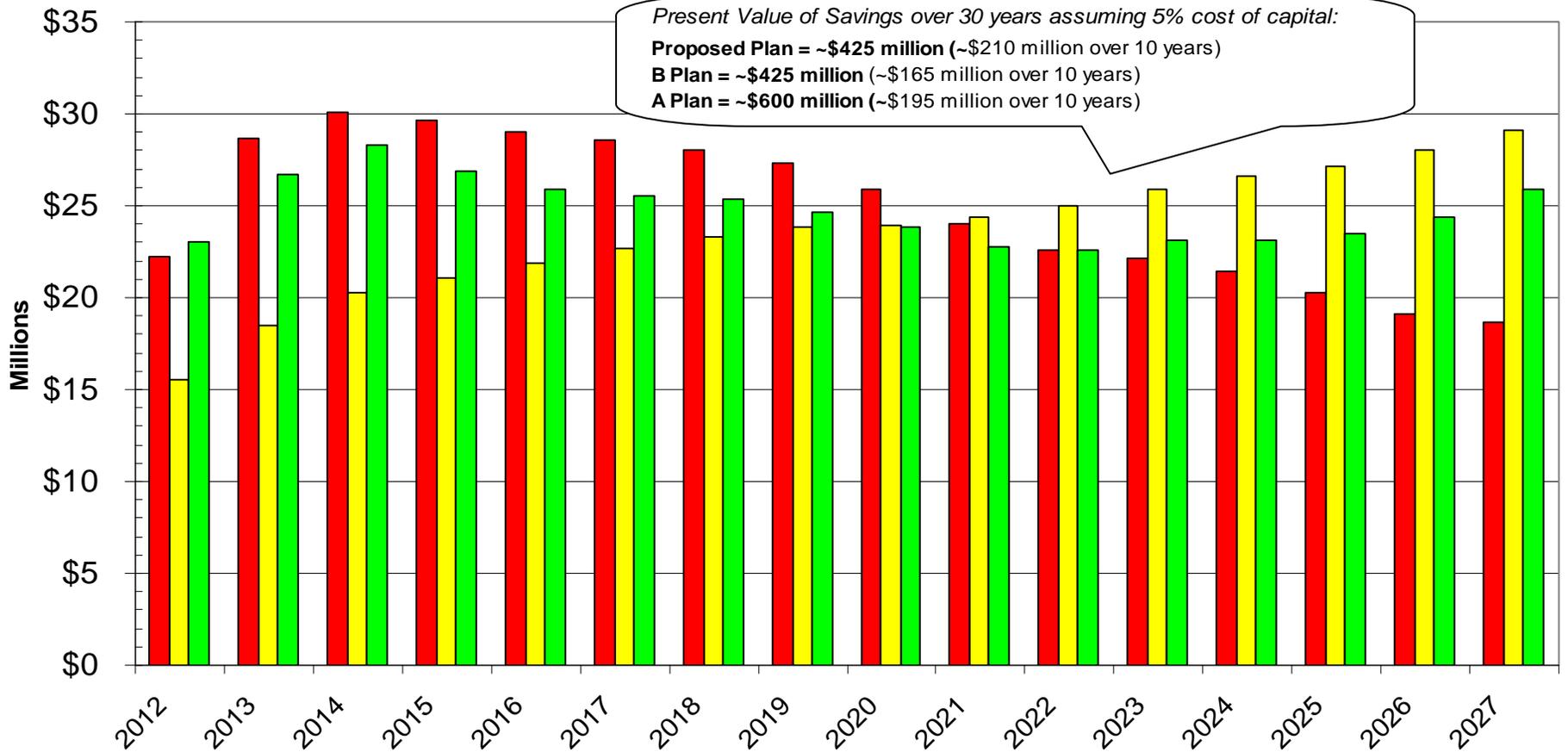
## 8% Annual Investment Return



- Current Plan: 2.50%/3.00% DB Plan for Hires before July 1, 2010; 2.00% DB for Hires after July 1, 2010
- - Proposed Plan: Current Plan with 5% increased Employee Contributions for Current Employees; 1.00% DB w/ 1% COLA, 10-year Average (8% Employee Contributions) + 100% Matching DC Plan up to 8% for Future Employees (3.75% mandatory)
- ◆ Plan B: Current Plan with 5% increased Employee Contributions for Current Employees; 2.00% DB with 13% Employee Contributions w/ 1% COLA, 5-year avg pay for Future Employees (NO additional contribs toward Unfunded)
- Plan A: 1.00% DB w/ 1% COLA + 100% Matching DC Plan up to 8% for Current Employees\*; 100% Matching DC Plan up to 8% + Social Security for Future Hires

# Total Retirement Plan Savings

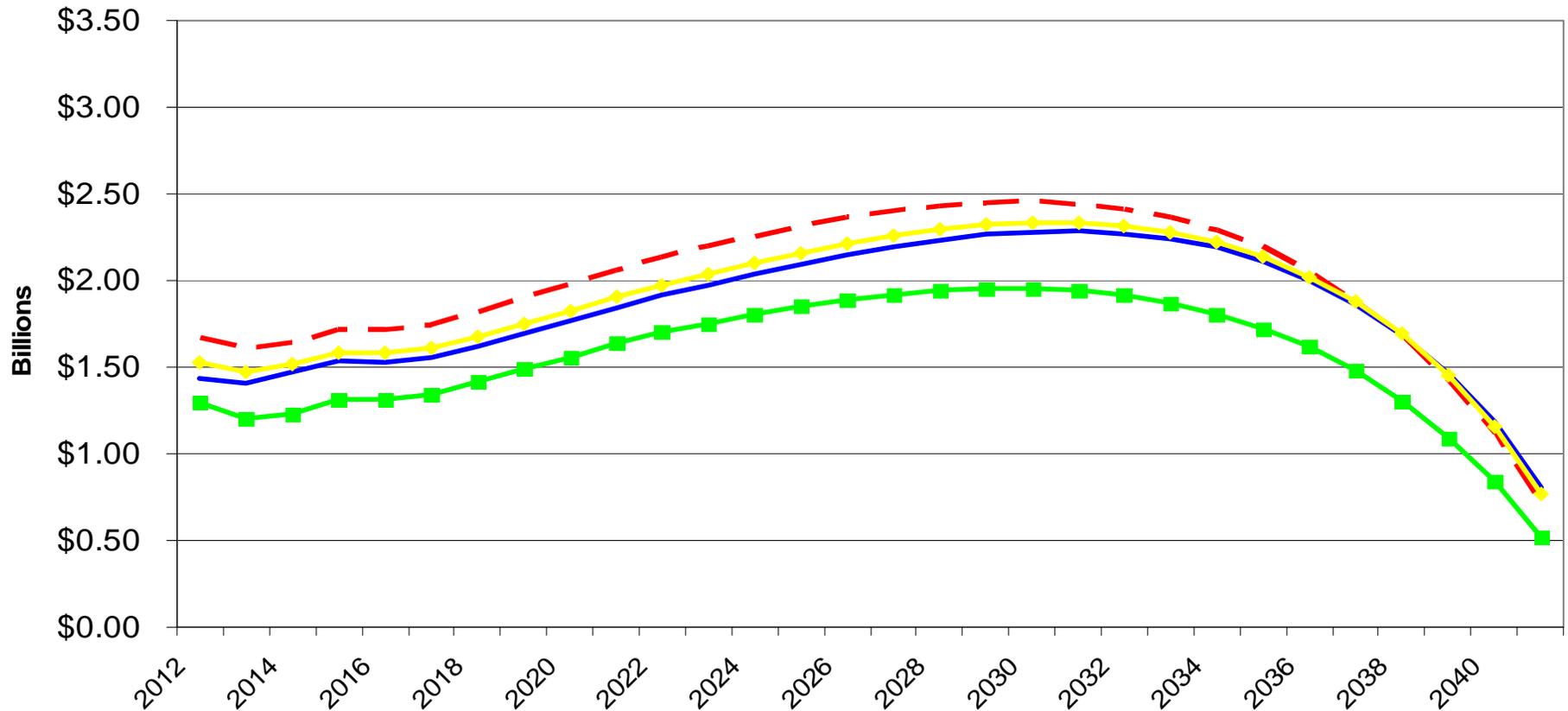
## 6% Annual Investment Return



- Proposed Plan: Current Plan with 5% increased Employee Contributions for Current Employees; 1.00% DB w/ 1% COLA, 10-year Average (8% Employee Contributions) + 100% Matching DC Plan up to 8% for Future Employees (3.75% mandatory)
- Plan B: Current Plan with 5% increased Employee Contributions for Current Employees; 2.00% DB with 13% Employee Contributions w/ 1% COLA, 5-year avg pay for Future Employees (NO additional contribs toward Unfunded)
- Plan A: 1.00% DB w/ 1% COLA + 100% Matching DC Plan up to 8% for Current Employees\*; 100% Matching DC Plan up to 8% + Social Security for Future Hires

# Unfunded Liability

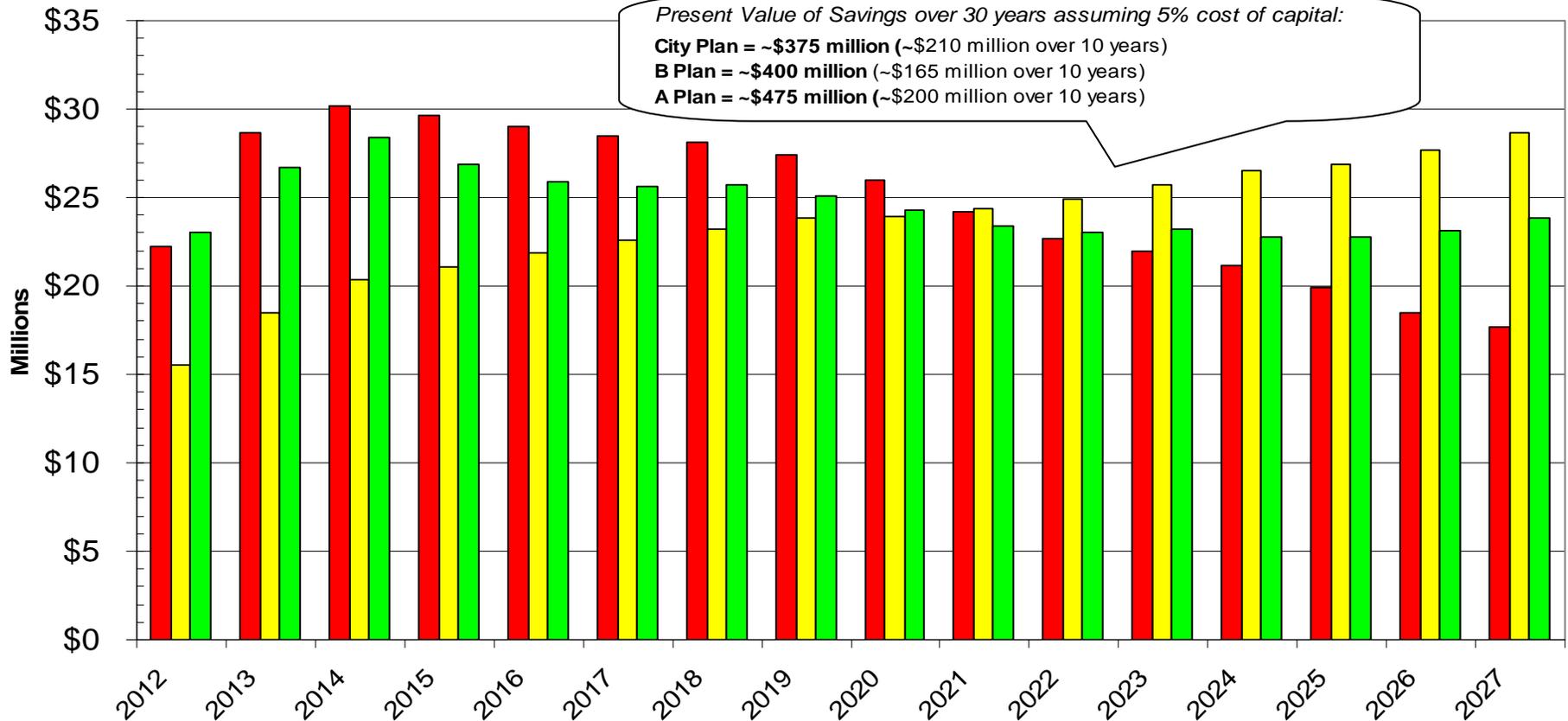
## 6% Annual Investment Return



- Current Plan: 2.50%/3.00% DB Plan for Hires before July 1, 2010; 2.00% DB for Hires after July 1, 2010
- - Proposed Plan: Current Plan with 5% increased Employee Contributions for Current Employees; 1.00% DB w/ 1% COLA, 10-year Average (8% Employee Contributions) + 100% Matching DC Plan up to 8% for Future Employees (3.75% mandatory)
- ◆ Plan B: Current Plan with 5% increased Employee Contributions for Current Employees; 2.00% DB with 13% Employee Contributions w/ 1% COLA, 5-year avg pay for Future Employees (NO additional contribs toward Unfunded)
- Plan A: 1.00% DB w/ 1% COLA + 100% Matching DC Plan up to 8% for Current Employees\*; 100% Matching DC Plan up to 8% + Social Security for Future Hires

# Total Retirement Plan Savings

*3% Annual Investment Return for 5 Years, 7% Thereafter*

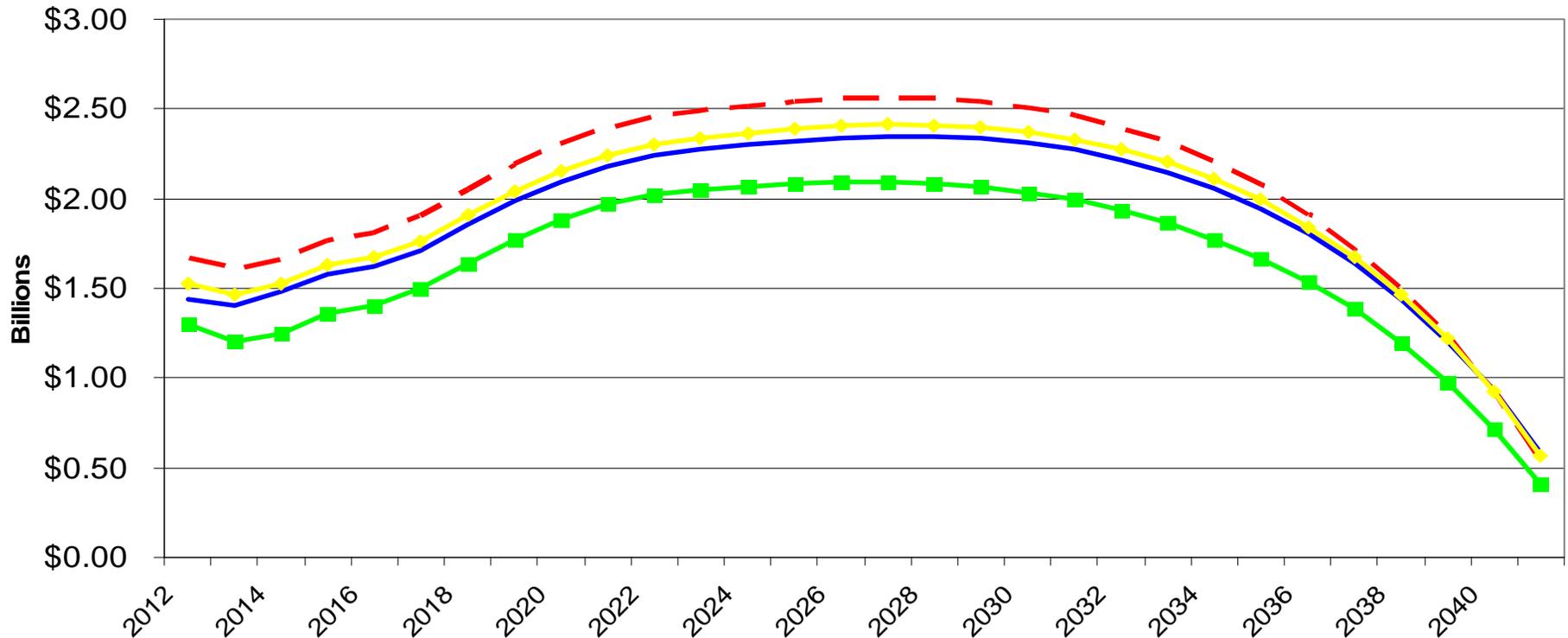


- City Plan: Current Plan with 5% increased Employee Contributions for Current Employees; 1.00% DB w/ 1% COLA, 10-year Average (8% Employee Contributions) + 100% Matching DC Plan up to 8% for Future Employees (3.75% mandatory)
- Plan B: 2.50% DB with 13% Employee Contributions for Current Employees; 2.50% DB with 13% Employee Contributions w/ 1% COLA, 5-year avg pay for Future Employees (NO additional contribs toward Unfunded)
- Plan A: 1.00% DB w/ 1% COLA + 100% Matching DC Plan up to 8% for Current Employees\*; 100% Matching DC Plan up to 8% + Social Security for Future Hires

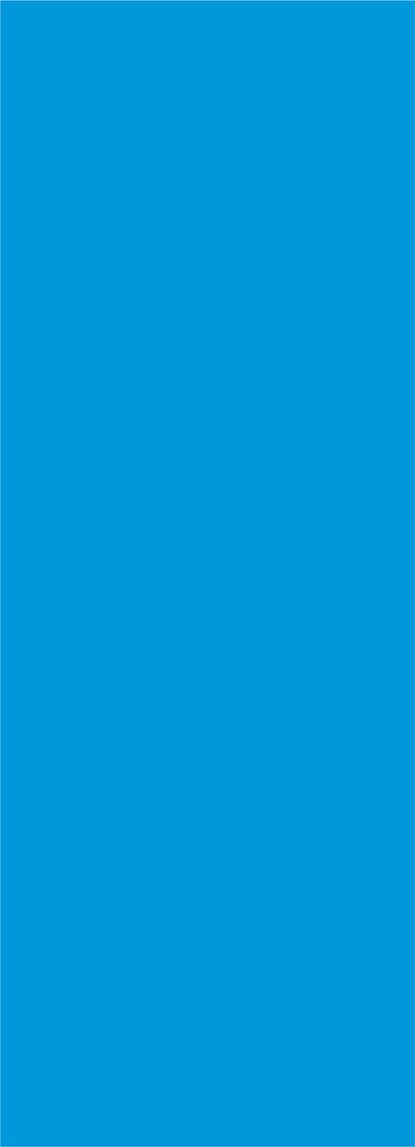
# Unfunded Liability

*3% Annual Investment Return for 5 Years, 7% Thereafter*

Unfunded Actuarial Accrued Liability



- Current Plan
- - City Plan: Current Plan with 5% increased Employee Contributions for Current Employees; 1.00% DB w/ 1% COLA, 10-year Average (8% Employee Contributions) + 100% Matching DC Plan up to 8% for Future Employees (3.75% mandatory)
- ◆ Plan B: 2.50% DB with 13% Employee Contributions for Current Employees; 2.50% DB with 13% Employee Contributions w/ 1% COLA, 5-year avg pay for Future Employees (NO additional contribs toward Unfunded)
- Plan A: 1.00% DB w/ 1% COLA + 100% Matching DC Plan up to 8% for Current Employees\*; 100% Matching DC Plan up to 8% + Social Security for Future Hires

- 
- ① Assumptions and Methods
  - ② Impact on City of Proposed Plan
  - ③ Impact on Employees of Proposed Plan**
  - ④ Appendices

# Impact on Employees:

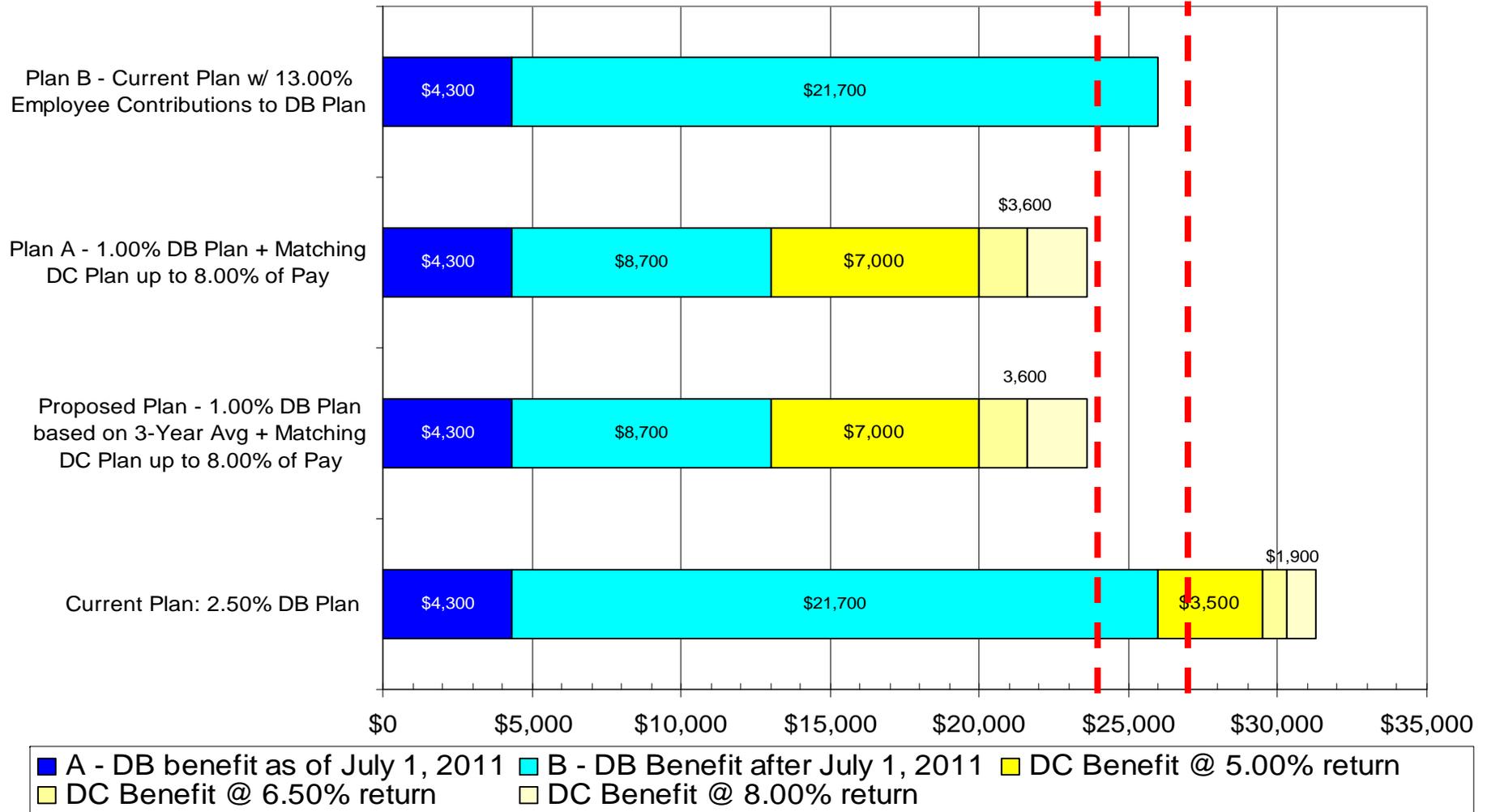
## *Employee Examples Assumptions and Methodology*

<b>Salary growth</b>	2.00% annual increase in salary;
<b>Investment return</b>	5.00%, 6.50% and 8.00% annual investment return on Defined Contribution (DC) and Savings Plans
<b>Conversion of DC balances to annual annuities</b>	Assumes employee balances in Defined Contribution and Savings plans converted to annuity at retirement based on RP-2000 mortality table (blended 50/50) at 1.94% rate;
<b>Beginning DC and Savings balances</b>	\$0 personal Savings or DC account balances assumed as of effective date
<b>Employee Contributions</b>	<b>Assumes 8.00% of salary contributions to DB plan (where applicable) unless specifically stated; 13.00% of salary total toward retirement;</b>
<b>Retirement Age</b>	Age 55 for Public Safety; Age 60 for General Employees
<b>Social Security</b>	Amount payable at Age 62 shown at retirement ages for illustrative purposes only; not available before Age 62
<b>Other</b>	The samples do not make an adjustment for inflation in the 1.0% COLA (the Current Plan and DC balances are assumed to keep pace with inflation)

# General Employee: *5 Years of Service Today, Retires after 30 Years of Service at Age 60*

## Annual Retirement Income at Age 60

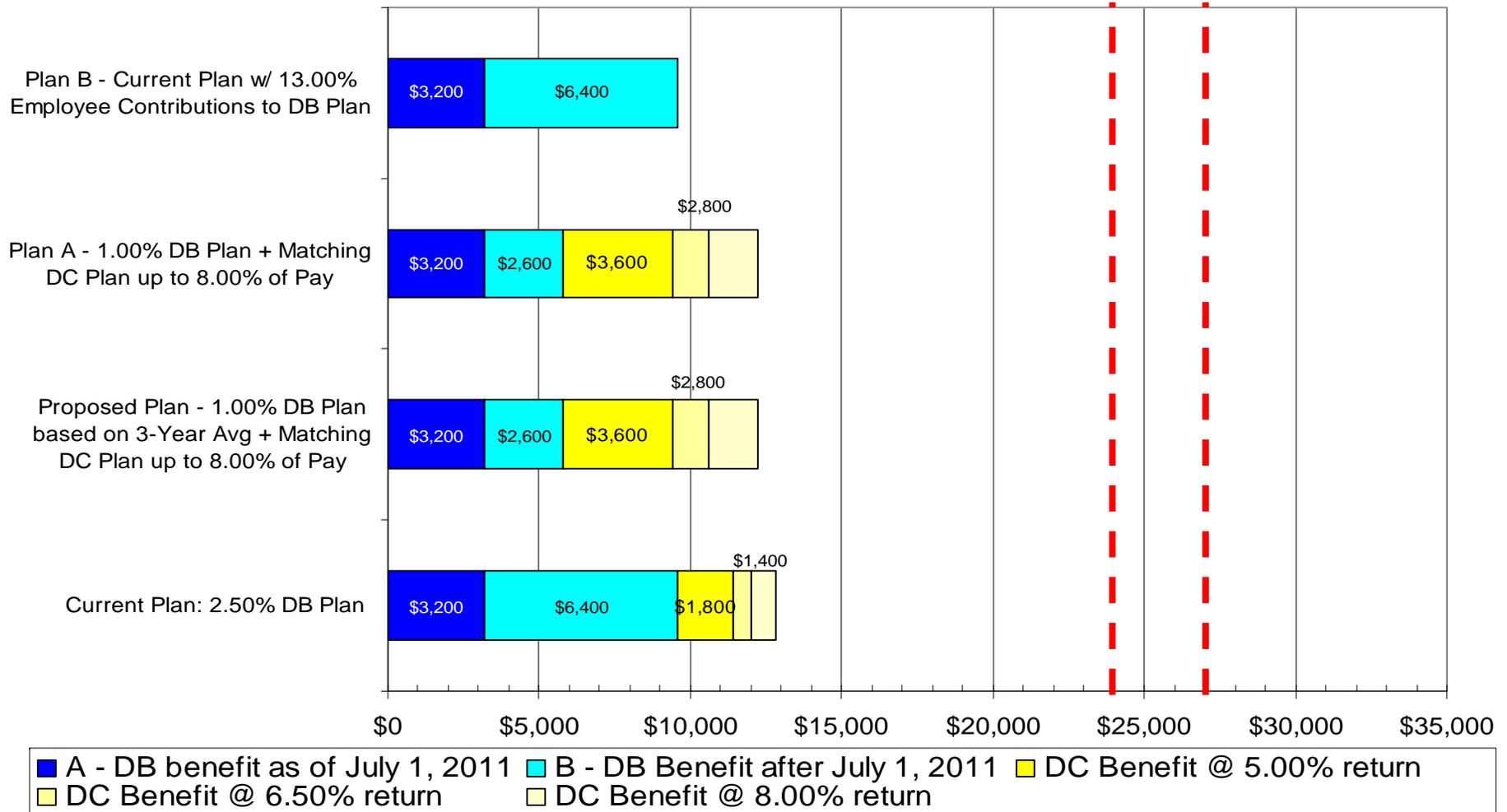
Current Age = 35, Current Service = 5, Current Salary = \$22.0K, Avg Salary at Retirement = \$34.7K



# General Employee: *5 Years of Service Today, Terminates after 15 Years of Service, Retires at Age 60*

## Annual Retirement Income at Age 60

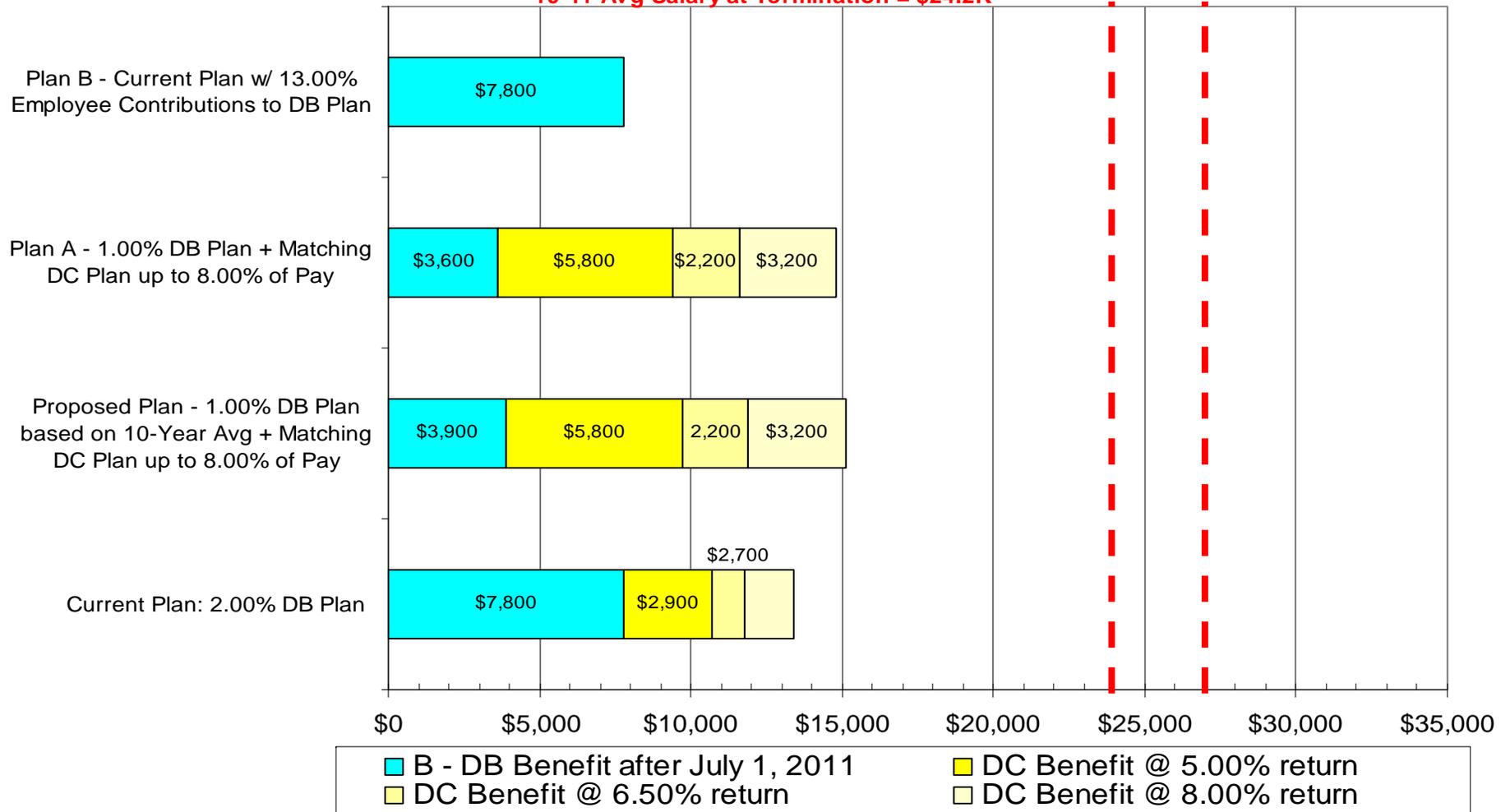
Current Age = 35, Current Service = 5, Current Salary = \$22.0K, Avg Salary at Termination = \$25.8K



# New Employee: *Terminates after 15 Years of Service, Retires at Age 62*

## Annual Retirement Income at Age 62

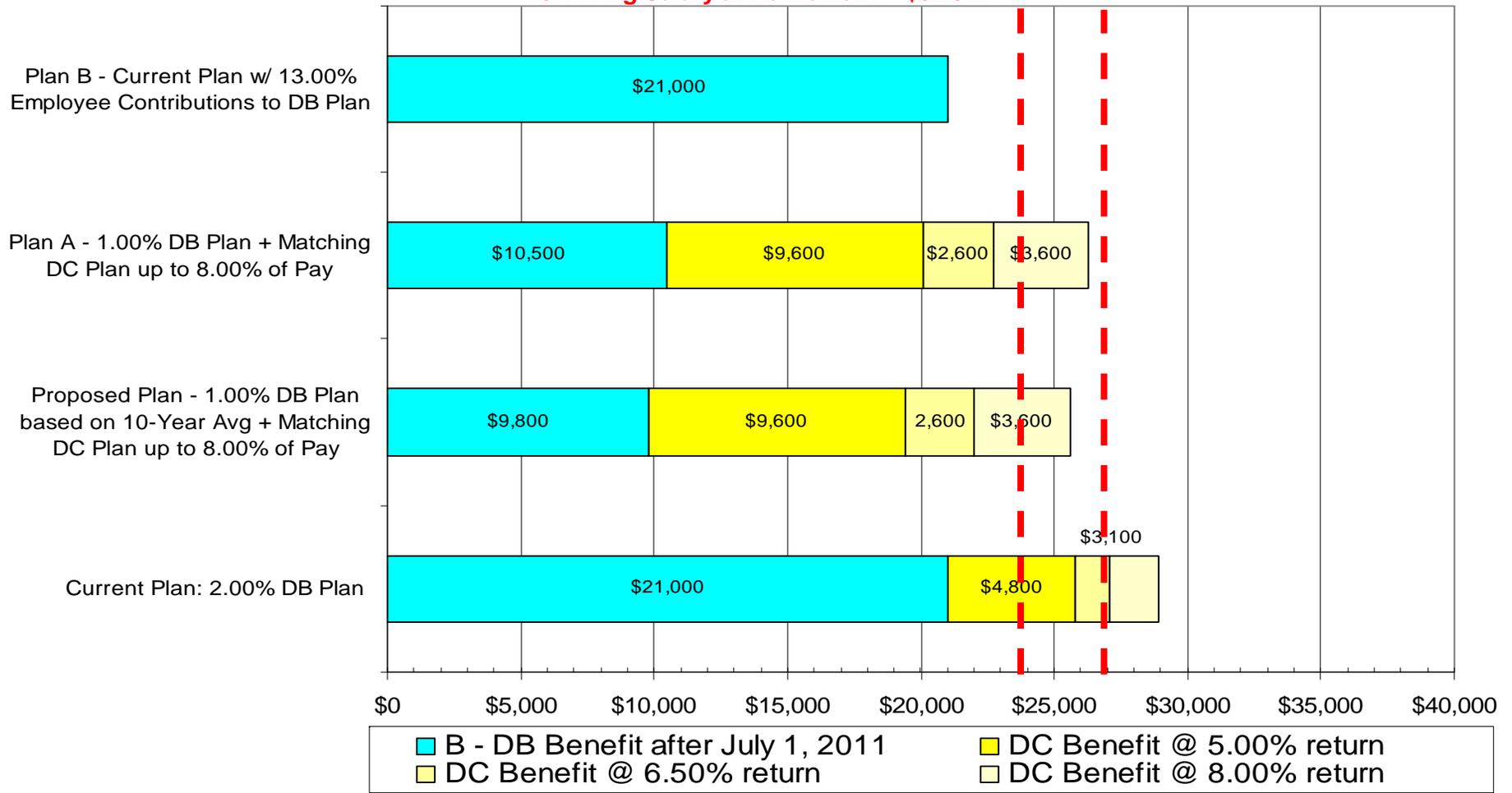
Current Age = 32, Current Service = 0, Current Salary = \$20.0K, 3-Yr Avg Salary at Termination = \$25.8K, 10-Yr Avg Salary at Termination = \$24.2K



# New Employee: *Stays with City for 30 Years, Retires at Age 62*

## Annual Retirement Income at Age 60

Current Age = 30, Current Service = 0, Current Salary = \$20.0K, 3-Yr Avg Salary at Retirement = \$34.8K,  
10-Yr Avg Salary at Retirement = \$32.5K

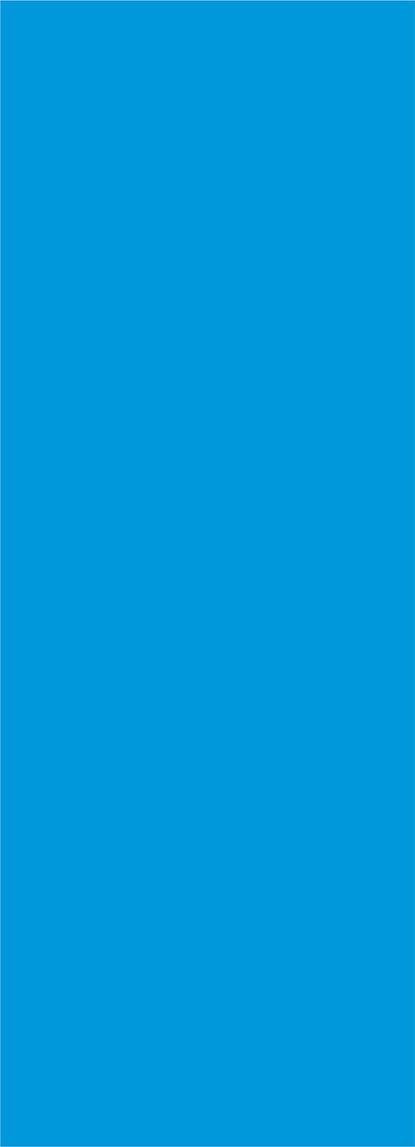


# Questions



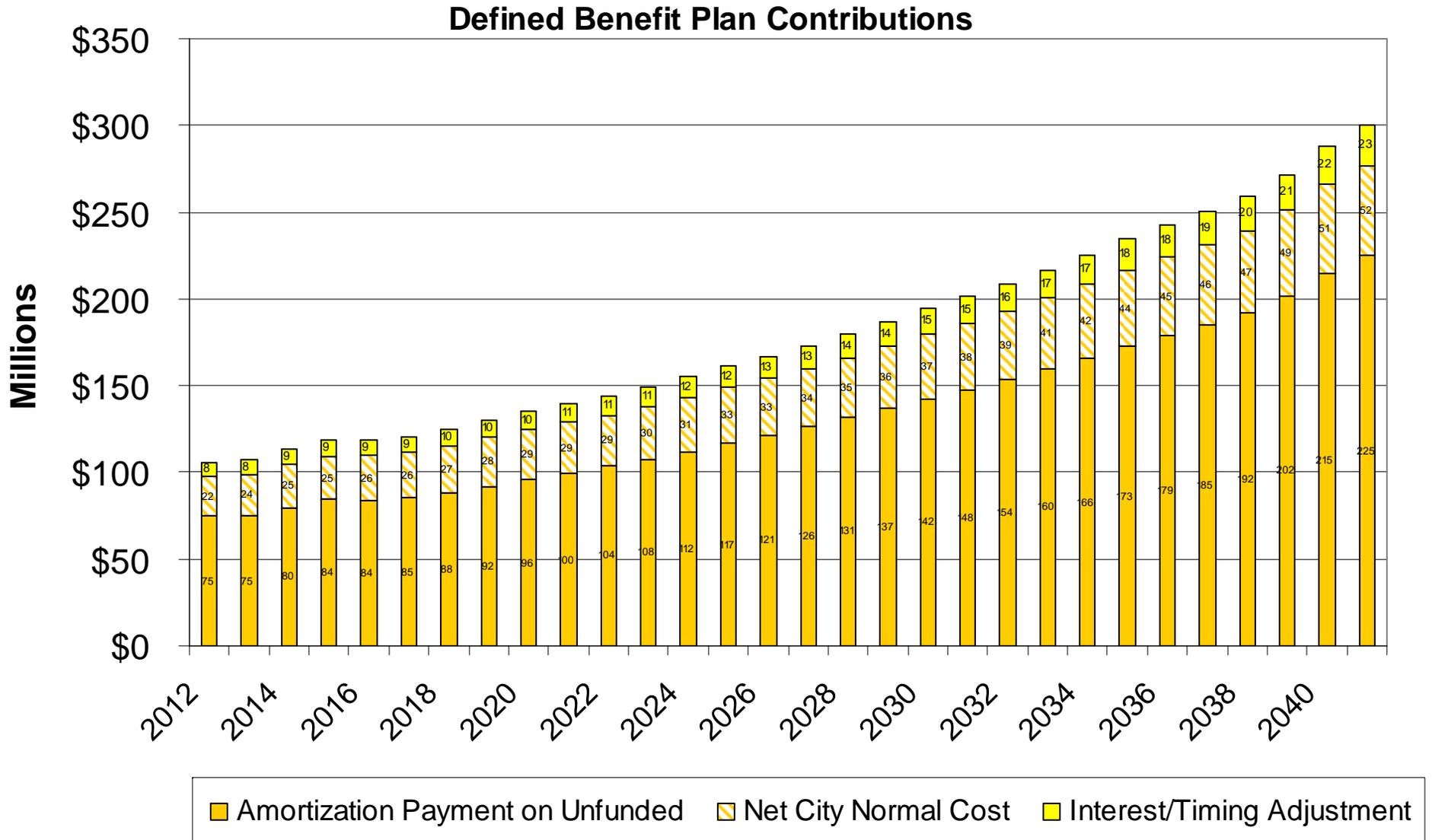
2018 Powers Ferry Road, Suite 850  
Atlanta, GA 30339-7200  
T 678.306.3142 F 678.306.3190  
[www.segalco.com](http://www.segalco.com)

**Eric J. Atwater, FSA, EA, MAAA**  
*Consulting Actuary*  
[eatwater@segalco.com](mailto:eatwater@segalco.com)

- 
- ① Assumptions and Methods
  - ② Impact on City of Proposed Plan
  - ③ Impact on Employees of Proposed Plan
  - ④ **Appendices**

# Defined Benefit Plan Contributions (Current Plan)

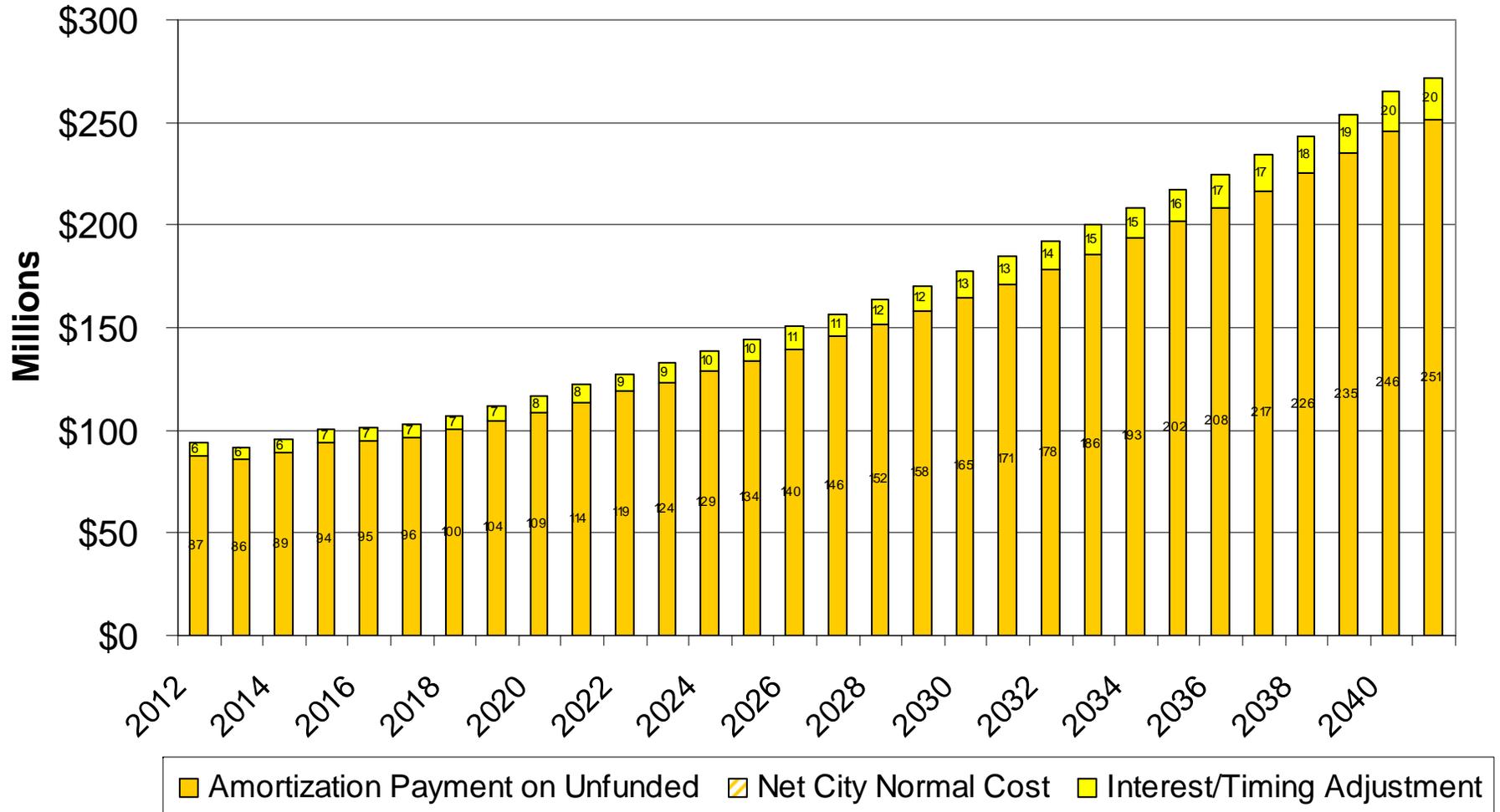
## 8% Annual Investment Return



# Defined Benefit Plan Contributions (*Proposed Plan*)

## 8% Annual Investment Return

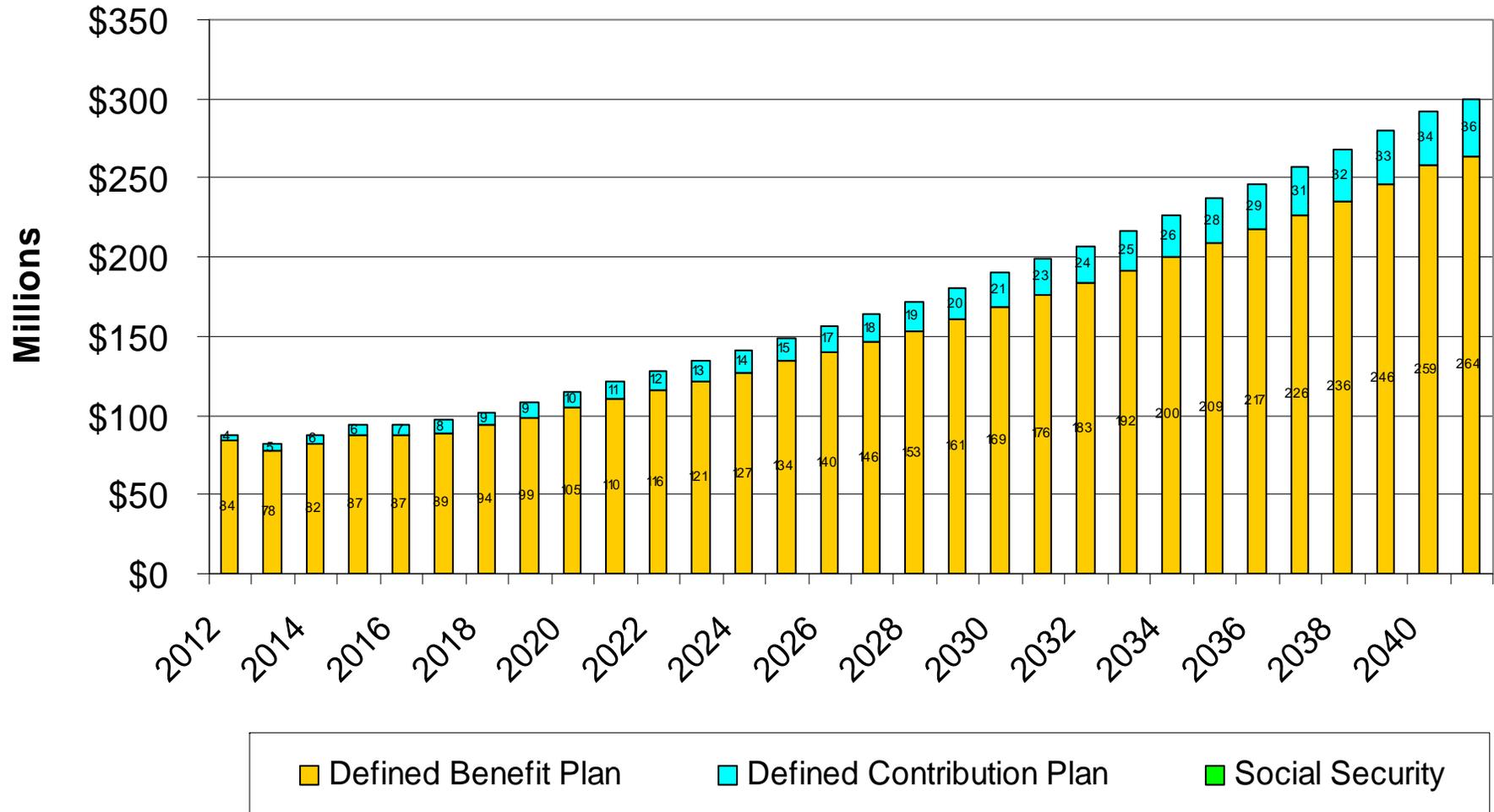
Defined Benefit Plan Contributions



# Total Retirement Plan Contributions

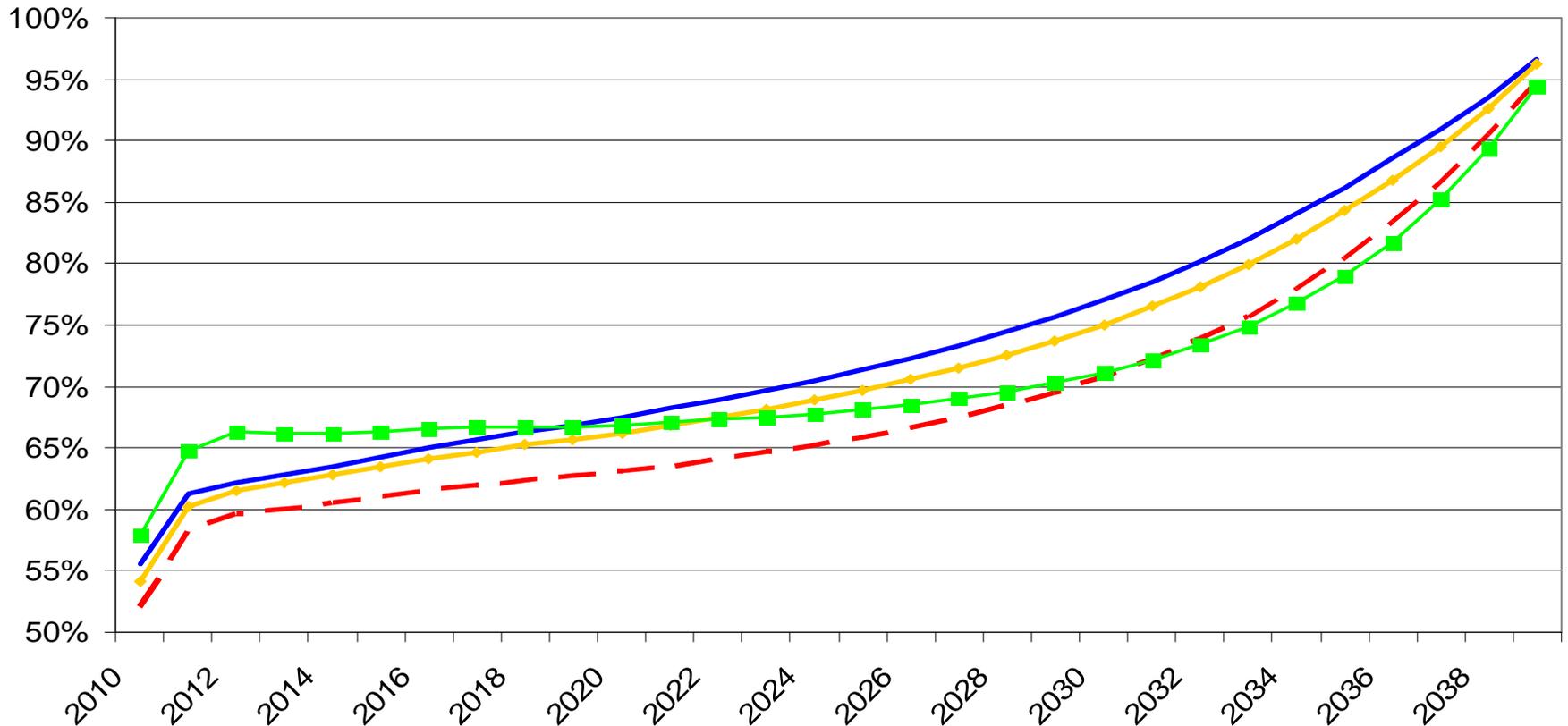
*8% Annual Investment Return*

*Proposed Plan*



# Funded Percentage (Market Value of Assets / Liabilities)

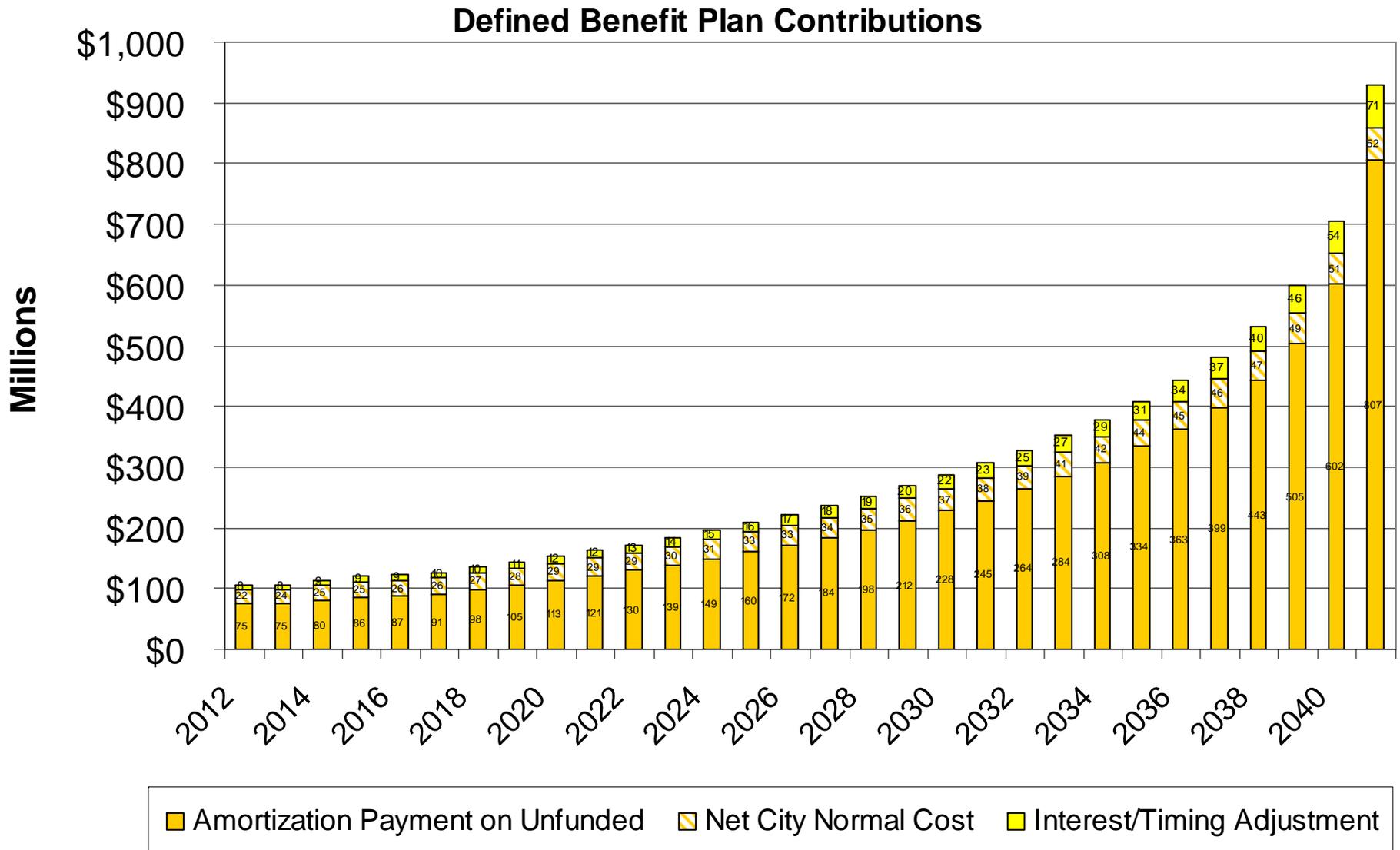
## 8% Annual Investment Return



- Current Plan: 2.50%/3.00% DB Plan for Hires before July 1, 2010; 2.00% DB for Hires after July 1, 2010
- - Proposed Plan: Current Plan with 5% increased Employee Contributions for Current Employees; 1.00% DB w/ 1% COLA, 10-year Average (8% Employee Contributions) + 100% Matching DC Plan up to 8% for Future Employees (3.75% mandatory)
- Plan B: Current Plan with 5% increased Employee Contributions for Current Employees; 2.00% DB with 13% Employee Contributions w/ 1% COLA, 5-year avg pay for Future Employees (NO additional contribs toward Unfunded)
- Plan A: 1.00% DB w/ 1% COLA + 100% Matching DC Plan up to 8% for Current Employees\*; 100% Matching DC Plan up to 8% + Social Security for Future Hires

# Defined Benefit Plan Contributions (Current Plan)

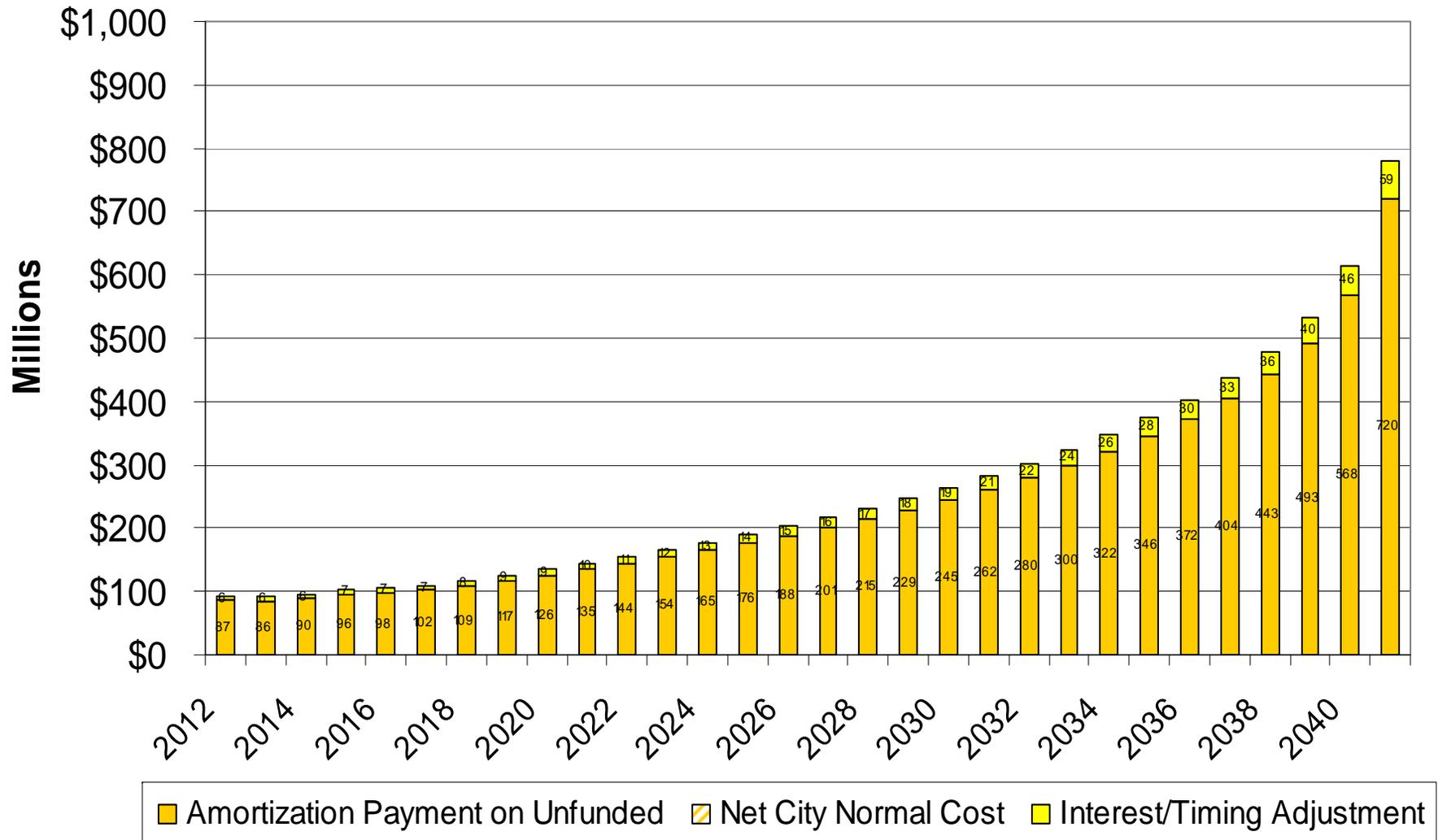
## 6% Annual Investment Return



# Defined Benefit Plan Contributions (*Proposed Plan*)

## 6% Annual Investment Return

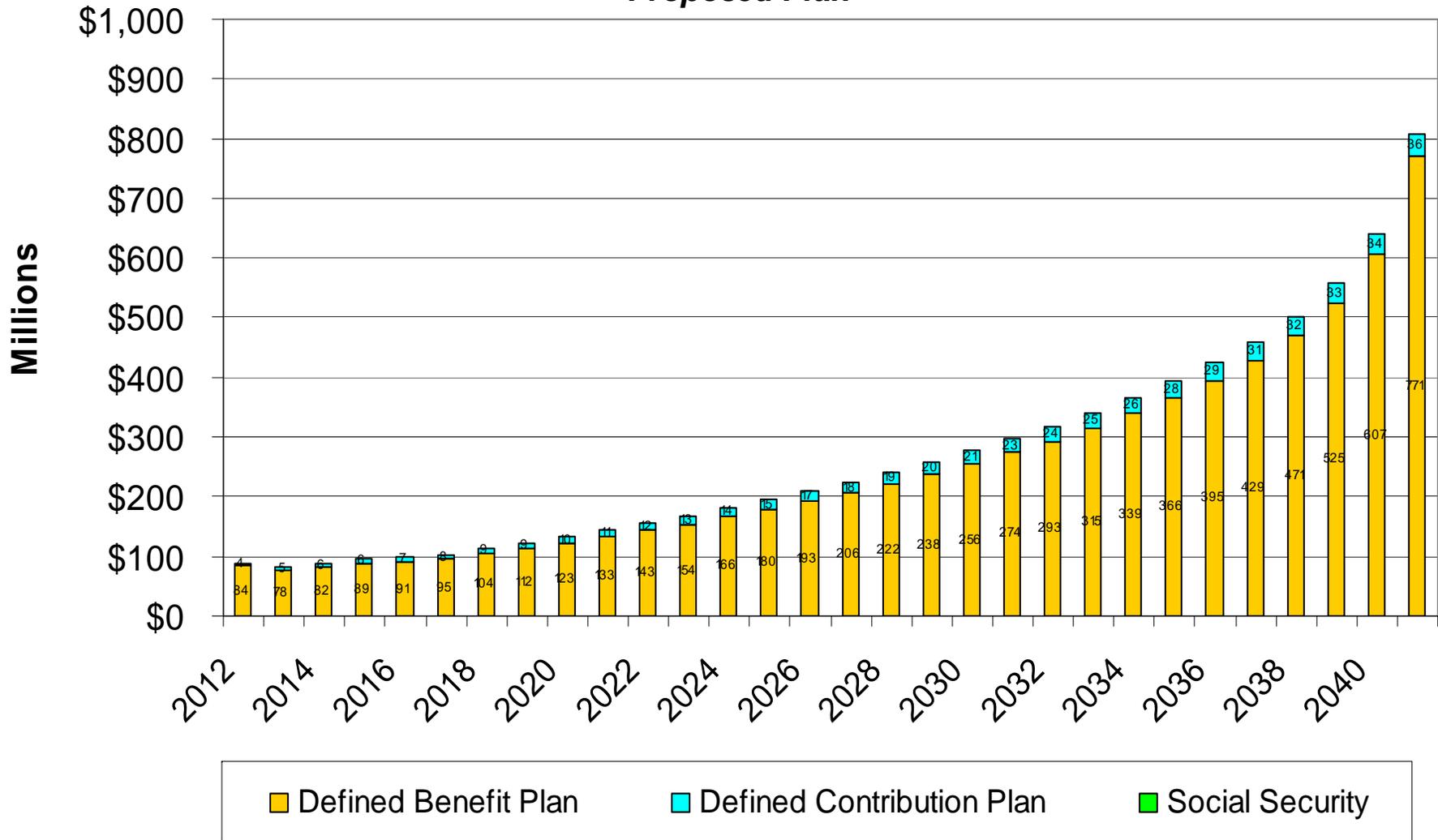
Defined Benefit Plan Contributions



# Total Retirement Plan Contributions

## 6% Annual Investment Return

Proposed Plan



# Funded Percentage (Market Value of Assets / Liabilities)

## 6% Annual Investment Return

