

April 2, 2012

To: Members of Knoxville City Council  
From: William Lyons, Deputy to the Mayor and Chief Policy Officer  
Re: Pension Plan Alternatives – DRAFT 1

I am writing to update you on the progress we have made in getting options ready for your consideration as we deal with the pension system. As you know, the Council Pension Task Force concluded that our pension system is not sustainable. Subsequent to the release of this decision, Mayor Rogero asked Eddie Mannis, Councilman Saunders and me to work with the pension system's actuary, Alan Pennington, to prepare a range of alternatives to our present pension system.

The Blackwell court decision led us to prepare alternatives that do not impact vested employees or retirees. We decided not to pursue changes to current but non-vested employees because we did not want to change the retirement system that was present when our employees came on board and create a dividing line at which benefits were different for existing employees. Any employees joining the city after a change in benefits will have the benefit of that information at the time of their decision to accept employment.

As a starting point for discussion, we have arrived at five alternatives ranging from pure defined benefit (DB) through hybrids (DBDC) to pure defined contribution (DC) plans. These five alternatives all substantially reduce the city's present, unsustainable commitment. All the alternatives will place the normal retirement age at 57 for Fire and Police and 65 for general government. They eliminate enhancements such as the DROP, and the rule of 80 for general government. They all substantially reduce the COLA. Any salary that goes into a defined benefit calculation averages the highest five years rather than the highest two. The employee contribution is continued at six percent (6%) for all plans for general government and fire and police.

We want to reiterate that we offer these alternatives as the starting point for public discussion. The objective is to create a sustainable pension system that provides competitive benefits while still reducing long-term expected costs and reducing market risk.

With this background, we have attached materials that can guide our discussion at the workshop that has been scheduled for next **Monday, April 9<sup>th</sup> at 7 p.m. in the Main Assembly room**. This material was produced by Alan Pennington, who will be with us at the workshop to answer questions. It was shared with representatives of our employee groups on Friday afternoon. All copies were collected, edits were made for clarification, and the document is now being distributed to City Council and the three employee groups' representatives. This information will be posted on the city website. We will send a press release today and notify the public via the city website and social media.

#### The Attached Document

Alan has been working with us to create examples of the outcomes for these plans, their costs to the city, and the benefits to the employee, under various return scenarios. Again, the plans presented are

starting points. All assumptions can be recomputed and reconfigured as needed as we move through the process and hear from stakeholders.

Page 1 graphically illustrates our current situation by showing projected necessary city contributions to the pension system on two assumed rates of return – the 7.375% return presently used by the pension board along with a 6.5% return which assumes a less volatile investment mix that has less risk and thus lower anticipated return. It assumes no change in the pension system. The graph falls off at 2036 because the amortization of our present unfunded liability will be complete at that point.

At present there are separate plans for General Government, and Fire and Police. We have continued that approach with the change scenarios, with details for both the status quo and each alternative. Please note that there is presently a G1 and G2 for general government, where all employees are on a hybrid up to ten years of service (G1) at which time there is a one-time option to switch to G2, a pure defined benefit plan.

Alternative plans are labeled as follows:

- (M2) for General Government and (C1) for Fire and Police - reduced versions of the present defined benefit system
- (DBDC - Basic) - a hybrid system with two components - defined benefit and defined contribution through all levels of compensation. It is a reduced version of our present G1 system.
- (DBDC - Plus) - a hybrid with defined benefit based on salary up to a set salary level with defined contribution on salary above this level. The initial proposed level is set at \$40,000.
- (DBDC - Max) - a hybrid with defined benefit based on salary up to a certain salary (again \$40,000) or, if greater, an annuity based on the member's defined contribution account.
- (DC) - a pure defined contribution plan.

Page 2 summarizes each suggested plan relative to the present plan for General Government.

Page 3 likewise summarizes plans for Fire and Police. This first column in each table summarizes the city's share of market risk, which ranges from 100% for the current and modified current plans to 0% for the Defined Contribution plan.

Page 4 depicts the long-term expected city pension cost for the present system and each alternative assuming a 7.375% return.

Page 5 shows the same information with a 6.5% return. The city's proportion of market risk is also shown. Obviously the greater the city's proportion of market risk the greater the impact of differing rates of return.

While the graphs clearly illustrate the long-term cost savings (savings which are slowly realized as more new members enter the system), the graphs do not reflect the reduced market risk (see below) to the city through more conservative investing and through risk-sharing with members, both of which are key objectives. In the short run present obligations to retirees and employees will dominate the computation until new hires can move through the system.

Pages 6 and 7 summarize the long-term city and employee contributions under various scenarios for General Government, and Fire and Police respectively under both return scenarios. The city figures represent percent of payroll. This provides another benchmark for comparison. The "EXP STUDY"

indicates that the model that produces these numbers reflects the 2011 experience study regarding when employees choose to retire, etc.

Finally, Pages 8 and 9 provide examples for two hypothetical employees, again for General Government, and Fire and Police.

### Market Risk

A major variable among all the plans is the bearer of the market risk. The DB plan places all risk on the city. The DBDC plans divide the risk between the employee and the city. The DC plan places all market risk on the employee.

When the city maintains all the market risk, as is the case in a pure defined benefit (DB) plan, the employee / future retiree knows his or her benefit with certainty. The monthly retirement benefit will be a function of their salary and service prior to retirement. In this case, the city does not know its future obligation. It can only be estimated based on future investment performance.

On the other hand, the city can know its future obligation under a defined contribution (DC) plan. It is a function of total payroll costs. In this case the employee / retiree does not know his or her future retirement benefit, which can only be estimated relative to future investment performance.

In hybrid plans (like the DBDC alternatives) the city will know part of its future obligation and is at risk for part. Likewise the employee will know part of the future retirement benefit and is at market risk for the remainder.

Mayor Rogero's recommendation is for a plan that reduces present benefits and shares market risk between the city and the employees, in particular a version of the DBDC Plus or DBDC Max plan which places the risk to employees for the portion above a set salary level. Lower paid employees have little or no market risk while higher paid employees assume progressively more market risk. This approach protects the future taxpayer, assures that we can recruit and retain the best people, and is fair and equitable to our employees and retirees.

Again, this is all a point to start a conversation based on specific assumptions and their long-term impacts based on a range of alternatives. We will work with you and with input from stakeholders, most especially our employees, as well as the public, to tweak assumptions and details as we move toward a final decision among the alternatives, in order to place a new pension system on the November ballot.

We will begin this discussion at the April 9th workshop. I will be working with you and Vice Mayor Pavlis to schedule future workshops as necessary. We face a June 21, 2012 deadline for finalizing a ballot-ready charter change to appear on the November 6th ballot. That is the last date that a charter change can be sent to the pension board for their review for proper form, after which they forward the change with their comment to the Council for final approval. If we do not meet this deadline we must wait until the next statewide election cycle in 2014.

We look forward to working with you as we create a sustainable pension system.

Cc: Mayor Madeline Rogero and Cabinet Members  
Mark Taylor, President, Fraternal Order of Police  
Kevin Faddis, President, Knoxville Firefighters Association, IAFF Local 65  
Anita Cash, President, City Employees League

**City of Knoxville Pension System**

**Plan Design Considerations**

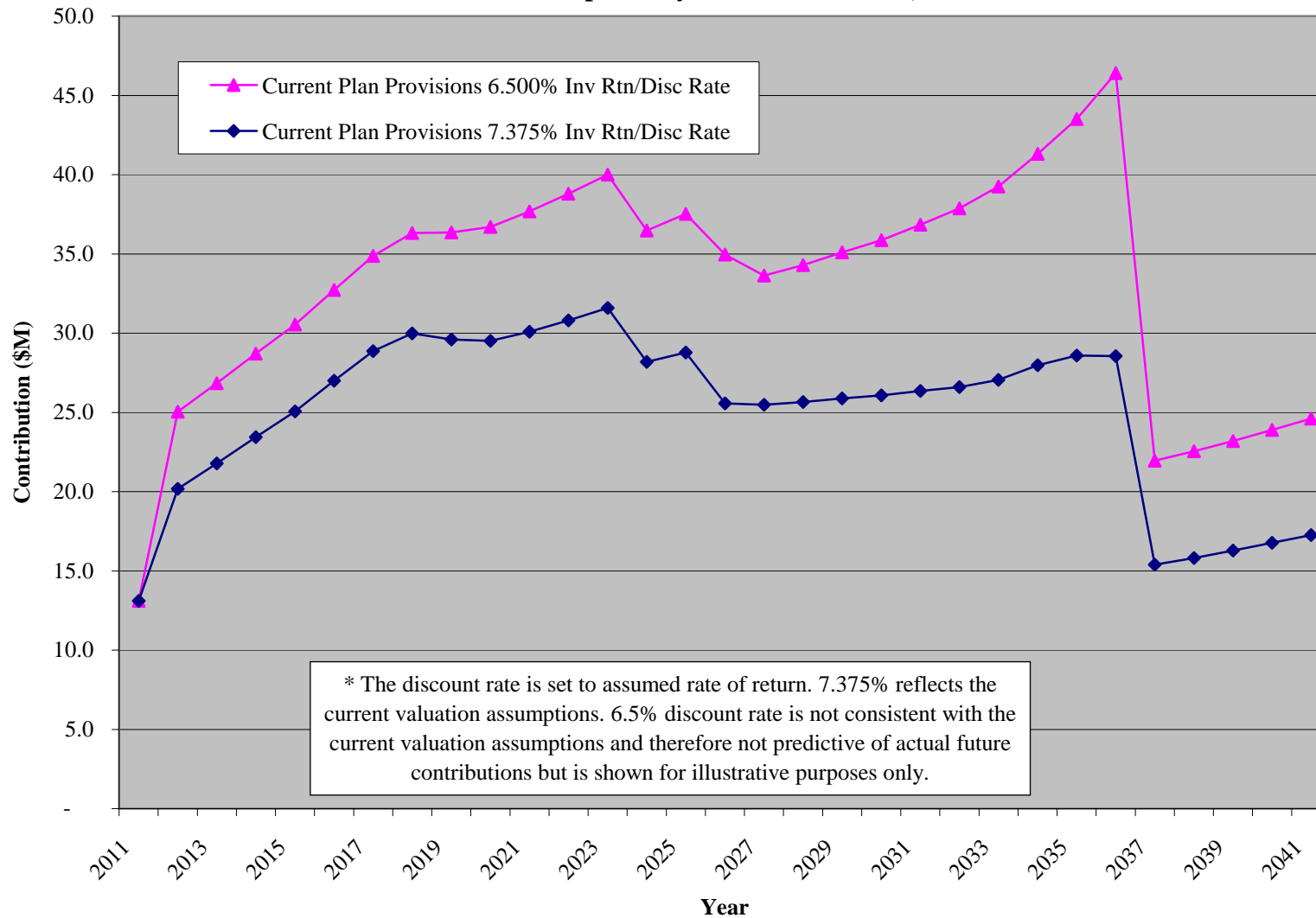
**March 31, 2012**

**DRAFT I**

**To Initiate Discussion**

**Further Drafts to Follow**

**City of Knoxville Pension System - Employer Contribution Projections**  
**Current Plan Provisions and Various Investment Return/Discount Rate Assumptions\***  
**Prepared by BPSM - March 31, 2012**



# General Government

Knoxville Pension System  
Summary of Design Options  
Prepared by BPSM  
March 31, 2012

	City Market Risk <sup>1</sup>	Formula Multiplier	Final Average Pay	Normal Retirement Age	Contributions			Defined Contribution Payment Form	COLA	DROP
					Employee		City <sup>4</sup>			
					Defined Benefit Plan	Defined Contribution Plan	Defined Contribution Plan			
Current G1	80%	1.15%	2 year	62 or Rule 80	3.0%	3.0%	1.5%	LS or Ann	3% to 4%	2 yr
Current G2	100%	2.1%	2 year	62 or Rule 80	6.0%	n/a	n/a	n/a	3% to 4%	2 yr
M2 - Modified G2	100%	2.1%	5 year	65	6.0%	n/a	n/a	n/a	0% to 3%	n/a
G3 - DB/DC Basic	60%	1.35%	5 year	65	3.0%	3.0%	1.5%	LS or Ann	0% to 3%	n/a
G4 - DB/DC Plus <sup>2</sup>	70%	2.0%	5 year	65	6.0% <sup>2</sup>	6.0% <sup>2</sup>	8.0% <sup>2</sup>	LS or Ann	0% to 3%	n/a
G5 - DB/DC Max <sup>3</sup>	50%	2.0%	5 year	65	6.0% <sup>3</sup>	6.0% <sup>3</sup>	8.0% <sup>3</sup>	Ann	0% to 3%	n/a
DC Only	0%	n/a	n/a	n/a	n/a	6.0%	8.0%	LS	n/a	n/a

<sup>1</sup> Approximate % of investment risk born by taxpayer/city.

In any scenario where taxpayer/city bears a portion of the City Market Risk, this risk may be reduced by adopting a relatively more conservative investment policy.

City Market Risk is not a calculated number but just an estimate of the amount of risk born by the taxpayer/city

<sup>2</sup> DB Benefit based on pay up to \$40,000. DC contributions based on pay over \$40,000.

6% employee contribution on pay up to \$40,000 goes to DB; 6% employee contribution on pay over \$40,000 goes to DC.

City contribution of 8% on pay over \$40,000 goes to DC.

City Market Risk may be increased or decreased by changing base pay amount.

<sup>3</sup> DB Max provides a benefit the greater of 2% of Average Pay (pay limited to \$40,000) times service, or, if greater, the annuity value of a DC account with 6% employee contributions and 8% City contributions (contributions based on total pay)

<sup>4</sup> City Contributions to any of the Defined Benefit Plans are set annually based on the level of benefits and the value of assets in the Plan.

## Fire and Police

Knoxville Pension System  
Summary of Design Options  
Prepared by BPSM  
March 31, 2012

	City Market Risk <sup>1</sup>	Formula Multiplier	Final Average Pay	Normal Retirement Age	Contributions			Defined Contribution Payment Form	COLA	DROP
					Employee		City <sup>4</sup>			
					Defined Benefit Plan	Defined Contribution Plan	Defined Contribution Plan			
Current Div C	100%	2.50%	2 year	50 and 25 Yrs	6.0%	n/a	n/a	n/a	3% to 4%	2 yr
C1 - Modified Div C	100%	2.50%	5 year	57 and 25 Yrs	6.0%	n/a	n/a	n/a	0% to 3%	n/a
C3 - DB/DC Basic	60%	1.15%	5 year	57 and 25 Yrs	3.0%	3.0%	1.5%	LS or Ann	0% to 3%	n/a
C4 - DB/DC Plus <sup>2</sup>	70%	2.0%	5 year	57 and 25 Yrs	6.0% <sup>2</sup>	6.0% <sup>2</sup>	10.0% <sup>2</sup>	LS or Ann	0% to 3%	n/a
C5 - DB/DC Max <sup>3</sup>	50%	2.0%	5 year	57 and 25 Yrs	6.0% <sup>3</sup>	6.0% <sup>3</sup>	10.0% <sup>3</sup>	Ann	0% to 3%	n/a
DC Only	0%	n/a	n/a	n/a	n/a	6.0%	10.0%	LS	n/a	n/a

<sup>1</sup>Approximate % of investment risk born by taxpayer/city.

In any scenario where taxpayer/city bears a portion of the City Market Risk, this risk may be reduced by adopting a relatively more conservative investment policy.

City Market Risk is not a calculated number but just an estimate of the amount of risk born by the taxpayer/city

<sup>2</sup> DB Benefit based on pay up to \$40,000. DC contributions based on pay over \$40,000.

6% employee contribution on pay up to \$40,000 goes to DB; 6% employee contribution on pay over \$40,000 goes to DC.

City contribution of 10% on pay over \$40,000 goes to DC.

City Market Risk may be increased or decreased by changing base pay amount.

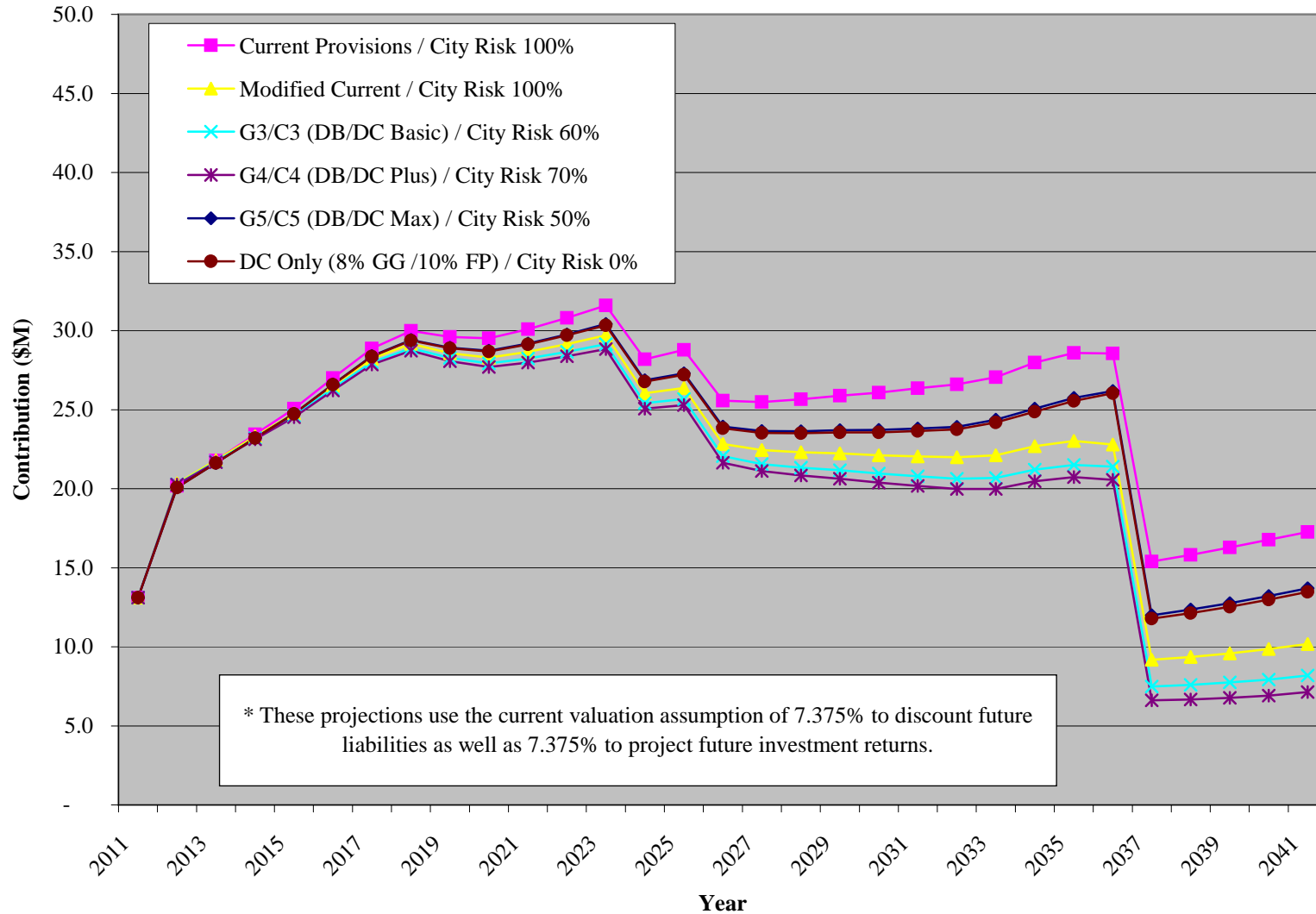
<sup>3</sup> DB Max provides a benefit the greater of 2% of Average Pay (pay limited to \$40,000) times service, or, if greater, the annuity value of a DC account with 6% employee contributions and 10% City contributions (contributions based on total pay)

<sup>4</sup> City Contributions to any of the Defined Benefit Plans are set annually based on the level of benefits and the value of assets in the Plan.

## City of Knoxville Pension System - Employer Contribution Projections

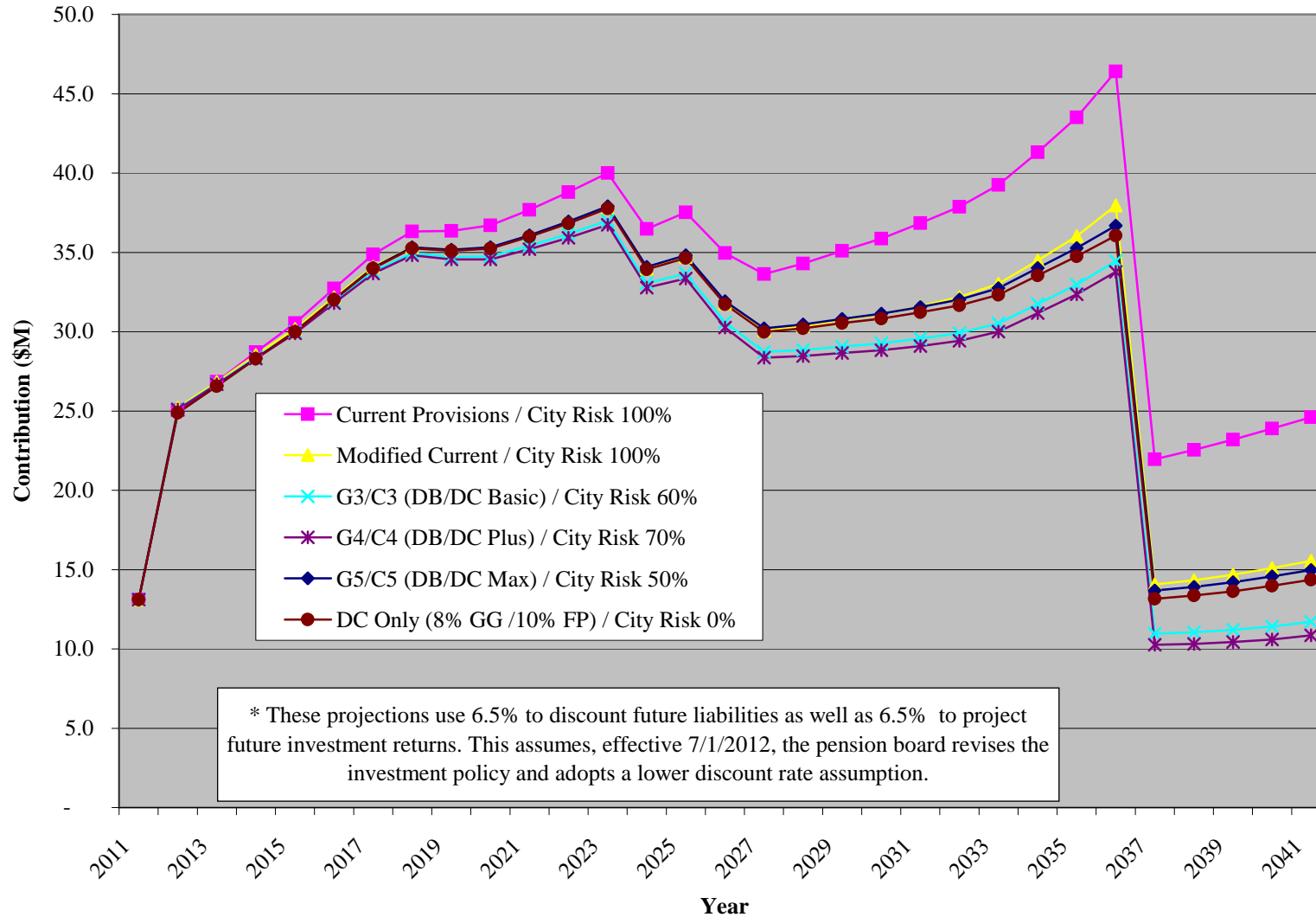
7.375% Discount Rate and Investment Return\*

Prepared by BPSM - March 31, 2012





**City of Knoxville Pension System - Employer Contribution Projections**  
**6.5% Discount Rate and Investment Return\***  
**Prepared by BPSM - March 31, 2012**



**City of Knoxville Pension System**  
**Plan Design Options**  
**General Government**  
**Prepared by BPSM**  
**March 31, 2012**

**General Government: New Entrant Expected Long-Term Costs/ Benefits**  
(estimated cost shown below does not reflect unfunded liability of current plan)  
Objective - comparison of Scenarios II to VI to determine possible alternative design

Scenario	Ia	Ib	Ic	II	III	IV	V	VI
Assumed Investment Return/Discount Rate	8.0%	7.375%	6.5%	6.5%	6.5%	6.5%	6.5%	6.50%
Plan Provisions	Current	Current	Current	Modified	DB/DC Basic	DB/DC Plus	DB/DC Max	DC Only
Valuation Assumptions	2011 Val	Exp Study	Exp Study	Exp Study	Exp Study	Exp Study	Exp Study	n/a
<b>Long Term Expected City Contribution</b>								
Defined Benefit Plan	5.24%	6.94%	9.42%	6.70%	5.10%	4.78%	4.78%	0.00%
Defined Contribution Plan*	0.75%	0.75%	0.75%	0.00%	1.50%	1.00%	8.00%	8.00%
Total Long Term Expected City Contribution	5.99%	7.69%	10.17%	6.70%	6.60%	5.78%	8.00%	8.00%
Employee Contribution to Defined Benefit Plan **	4.50%	4.50%	4.50%	6.00%	3.00%	5.20%	0.00%	0.00%
Employee Contribution to Defined Contr Plan	1.50%	1.50%	1.50%	0.00%	3.00%	0.80%	6.00%	6.00%
Total Expected Cost (Defined Benefit plus Defined Contr)	11.99%	13.69%	16.17%	12.70%	12.60%	11.78%	14.00%	14.00%

\* About half the G1/G2 payroll may be attributable to members in G1, therefore the 1.5% City Match is about 0.75% of total payroll (scenario I).

\*\* About half the G1/G2 payroll may be attributable to members in G1, therefore the employee contribution  
(3% G1; 6% G2) is approximately 4.5% of total payroll (scenario I).

Current - current plan provisions

Modified - same as G2 current but FAE60, NRA 65, lower COLA (assume 2.5%), no rule 80, no DROP

All DB/DC options have FAE60, NRA 65 and COLA 0% to 3%

DB/DC Basic (G3) - similar to G1 with no option to transfer to G2 after 10 years

DB/DC Plus (G4) - 2% of pay up to 40,000 times service at age 65; 8% City Contr to DC plan on pay over \$40,000

DB/DC Max (G5) - Plan provides life annuity at age 65 based on DC account or, if greater, defined benefit of 2% times pay up to \$40,000 times service

**City of Knoxville Pension System**  
**Plan Design Options**  
**Fire Police**  
**Prepared by BPSM**  
**March 31, 2012**

**Fire/Police: New Entrant Expected Long-Term Costs/ Benefits**  
 (estimated cost shown below does not reflect unfunded liability of current plan)  
 Objective - comparison of Scenarios II to VI to determine possible alternative design

Scenario	Ia	Ib	Ic	II	III	IV	V	VI
Assumed Investment Return/Discount Rate	8.0%	7.375%	6.5%	6.5%	6.5%	6.5%	6.5%	6.50%
Plan Provisions	Current	Current	Current	Modified	DB/DC Basic	DB/DC Plus	DB/DC Max	DC Only
Valuation Assumptions	2011 Val	Exp Study	Exp Study	Exp Study	Exp Study	Exp Study	Exp Study	n/a
<b>Long Term Expected City Contribution</b>								
Defined Benefit Plan	12.72%	17.16%	22.44%	13.73%	7.24%	5.61%	5.61%	0.00%
Defined Contribution Plan	0.00%	0.00%	0.00%	0.00%	1.50%	1.60%	10.00%	10.00%
Total Long Term Expected City Contribution	12.72%	17.16%	22.44%	13.73%	8.74%	7.21%	10.00%	10.00%
Employee Contribution to Defined Benefit Plan	6.00%	6.00%	6.00%	6.00%	3.00%	5.00%	0.00%	0.00%
Employee Contribution to Defined Contr Plan	0.00%	0.00%	0.00%	0.00%	3.00%	1.00%	6.00%	6.00%
Total Expected Cost (Defined Benefit plus Defined Contr)	18.72%	23.16%	28.44%	19.73%	14.74%	13.21%	16.00%	16.00%

\* C5 City Contribution is greater of 10% of minimum required contribution to defined benefit plan.

Current - current plan provisions

Modified (C1) - same as current but FAE60, NRA 57 and 25 years, lower COLA (assume 2.5%), no DROP

All DB/DC options have FAE60, NRA 57 and 25 years and COLA 0% to 3%

DB/DC Basic (C3) - similar to G1

DB/DC Plus (C4) - 2% of pay up to 40,000 times service at age 57 and 25 years; 10% City Contr to DC plan on pay over \$40,000

DB/DC Max (C5) - Plan provides life annuity at retirement based on DC account or, if greater, defined benefit of 2% times pay up to \$40,000 times service

**City of Knoxville Pension System  
Comparison of Benefits - General Government  
Prepared by BPSM**

**March 31, 2012**

Page 8

Future Salary Increases *	4.0%
Future Investment Return	6.5%
Wage Base for DB-Plus	40,000

\* 4% reflects salary increases, promotions and merit increases and is consistent with the 2011 Experience Study

### Example 1

Hire Age	35
Retire Age	65
Service	30
Annuity Factor at Retirement	11.3
Final Pay	50,000

Plan	G1	G2	M2	G3	G4	G5	DC Only
DB Multiplier	1.35%	2.10%	2.10%	1.35%	2.00%	2.00%	
Early Retirement Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Years in Final Average Pay	2.00	2.00	5.00	5.00	5.00	5.00	
Final Average Pay	49,038	49,038	46,299	46,299	40,000	40,000	
DB Annual Benefit	19,861	30,894	29,168	18,751	24,000	24,000	
					23.31		
DC Projected Balance	103,605	-	-	103,605	5,342	322,326	322,326
DC Balance as Annual Benefit	9,201	-	-	9,201	474	28,625	28,625
<b>Total Annual Benefit</b>	<b>29,061</b>	<b>30,894</b>	<b>29,168</b>	<b>27,952</b>	<b>24,474</b>	<b>28,625</b>	<b>28,625</b>
Estimated Annuity Stop	death	death	death	death	death	death	age 82

## Example 2

Hire Age	32
Retire Age	62
Service	30
Annuity Factor at Retirement	12.4
Final Pay	50,000

[illegible]

**City of Knoxville Pension System**  
**Comparison of Benefits - Fire/Police**  
**Prepared by BPSM**

**March 31, 2012**

Page 9

Future Salary Increases \* 4.0%  
 Future Investment Return 6.5%  
 Wage Base for DB-Plus 40,000

\* 4% reflects salary increases, promotions and merit increases and is consistent with the 2011 Experience Study

**Example 1**

Hire Age 27  
 Retire Age 57  
 Service 30  
 Annuity Factor at Retirement 13.5  
 Final Pay 50,000

<b>Plan</b>	<b>C</b>	<b>C1</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>DC Only</b>
DB Multiplier	2.50%	2.50%	1.35%	2.00%	2.00%	
Early Retirement Factor	1.00	1.00	1.00	1.00	1.00	
Years in Final Average Pay	2.00	5.00	5.00	5.00	5.00	
Final Average Pay	49,038	46,299	46,299	40,000	40,000	
DB Annual Benefit	36,779	34,724	18,751	24,000	24,000	
DC Projected Balance	-	-	103,605	6,105	368,373	368,373
DC Balance as Annual Benefit	-	-	7,652	451	27,208	27,208
<b>Total Annual Benefit</b>	<b>36,779</b>	<b>34,724</b>	<b>26,403</b>	<b>24,451</b>	<b>27,208</b>	<b>27,208</b>
Estimated Annuity Stop	death	death	death	death	death	age 79

**Example 2**

Hire Age 24  
 Retire Age 54  
 Service 30  
 Annuity Factor at Retirement 14.5  
 Final Pay 50,000

<b>Plan</b>	<b>C</b>	<b>C1</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>DC Only</b>
DB Multiplier	2.50%	2.50%	1.35%	2.00%	2.00%	
Early Retirement Factor	1.00	0.88	0.88	0.88	0.88	
Years in Final Average Pay	2.00	5.00	5.00	5.00	5.00	
Final Average Pay	49,038	46,299	46,299	40,000	40,000	
DB Annual Benefit	36,779	30,557	16,501	21,120	21,120	
DC Projected Balance	-	-	103,605	5,342	368,373	368,373
DC Balance as Annual Benefit	-	-	7,126	367	25,336	25,336
<b>Total Annual Benefit</b>	<b>36,779</b>	<b>30,557</b>	<b>23,627</b>	<b>21,487</b>	<b>25,336</b>	<b>25,336</b>
Estimated Annuity Stop	death	death	death	death	death	age 78