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January 25, 2008

Ms. Natasha Campbell
Director, Office of Labor Relations and Collective Bargaining
Executive Office of the Mayor
441 4th Street, Suite 820 North
Washington, DC 20001

Re: Actuarial Analysis of Retirement Options Amendment Act of 2007 - REVISED

Dear Ms. Campbell:

As requested, we have estimated the actuarial impact associated with Metropolitan Police Department Retirement Options Amendment Act of 2007 (the Act). Specifically, we have estimated the impact on individuals and on the liabilities and costs for the District of Columbia Police Officers' and Fire Fighters' Retirement Plan. Unless otherwise noted, all of the calculations described herein have been based on the data, actuarial assumptions, and plan provisions as of the most recent valuation (October 1, 2007).

Background

Under the current benefit structure, there are three separate tiers for Police and Fire members. A summary of the provisions of those tiers is shown in Table 1 below.

Table 1: Summary of Major Benefit Provisions

	Current Benefit Provisions (as of October 1, 2007)		
	Tier 1 (hired before 2/15/80)	Tier 2 (hired 2/15/80 - 11/9/96)	Tier 3 (hired after 11/9/96)
Retirement Eligibility (all members also eligible at age 60+)	20 years of service	Age 50 with 25 years of service	25 years of service
Benefit Multiplier	2.5% for first 20 years, then 3.0%	2.5% for first 25 years, then 3.0%	2.5% for all years of service
Employee Contributions	7.0%	7.0%	8.0%
Averaging Period for Final Pay	12 months	36 months	36 months
Retiree COLA	Based on increases in CPI	Based on increases in CPI	Based on increases in CPI (not to exceed 3.0% annually)

Under the Act, any currently employed Plan participant would be able to make a one-time election to change his or her benefit tier. Upon such election, that member would be subject to all benefit provisions of the elected tier, including all of those shown in Table 1 as well as other provisions (e.g., death and disability benefits). Additionally, any future participant may elect upon employment any of the three tiers. A stipulation of the Act is that the cost of the benefits resulting from tier election will be at the expense of the individual member.

Analysis of Benefits

As shown in Table 1, there are several advantages to be gained by transferring from Tier 2 or Tier 3 to Tier 1. The following is a brief analysis of some of the potential advantages of transferring between tiers.

1. Eligibility – In most cases, this is the most significant (and most costly) difference between Tier 1 benefits and those of Tiers 2 and 3. Transferring to Tier 1 would allow retirement at least five years earlier (up to ten years for some Tier 2 members). A transfer to Tier 1 could provide immediate eligibility for Tier 2 or 3 members with at least 20, but fewer than 25 years of service. A transfer from Tier 2 to Tier 3 may also provide for more liberal retirement eligibility opportunities, due to the lack of an age requirement for Tier 3.

2. Benefit Multiplier –The benefit multiplier improves from 2.5% to 3.0% after 20 years of service for Tier 1 members, whereas this increased multiplier does not apply for Tier 3 members at all, and does not apply until 25 years of service for Tier 2 members. Therefore a transfer to Tier 1 entails an additional benefit of 0.5% of pay for each year of service above 20 years for Tier 3 transferees and for each year from 20-24 years of service for Tier 2 transferees.

3. Final Average Pay Years – Since Tier 1 provides a one year final average pay period (versus three years for Tiers 2 and 3), a higher benefit will generally result.

   A Tier 2 or Tier 3 member could transfer to Tier 1 and receive an enhanced benefit due to the multiplier and final average pay period, even if they do not take advantage of the earlier retirement eligibility conditions.

4. Cost-Of-Living-Adjustments (COLA) – All retirees receive automatic inflation-based COLAs; however, the annual increase for Tier 3 members is limited to 3.0%.

   Note that while a member could transfer from Tier 2 to Tier 3 to obtain earlier eligibility, they would be sacrificing potentially higher retiree COLAs.

For most Tier 2 and Tier 3 members, there are potential advantages, and consequently costs, associated with a transfer to an alternate benefit tier. It stands to reason that members would elect an alternate tier if they believe it will be to their benefit. Actual costs will differ from case to case depending upon actual demographic and economic experience, especially retirement behavior.

Table 2 shows a summary of the Police and Fire populations as of the most recent actuarial valuation of the Plan.

Table 2: Summary of Participant Data as of October 1, 2007

	Police			Fire		
	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
Number of Active Participants	62	2,089	1,693	58	770	878
Average Age	57	44	33	54	44	31
Average Service	34	18	5	30	19	4
Average Pay	$86,000	$76,000	$57,000	$106,000	$78,000	$51,000

Individual Impact

Since the Act requires individuals to pay the cost of transferring between tiers, this cost needs to be both defined and estimated.

To estimate the total cost of a member transferring between tiers, an actuarial calculation determining the change in the Present Value of Future Benefits (PVFB) due to differences in benefit provisions must be performed. This will include the impact of any change in benefit provisions as well as any Federal portion of the member's benefit which will be paid by the District as a result of the transfer. The total amount of contributions made by the transferring member could potentially change, due to either a different employee contribution rate or a change in the expected length of the member's career, thereby decreasing the Present Value of Future Employee Contributions (PVFEC).

Since a change in benefit tier can affect both PVFB and PVFEC (both of which impact Plan costs), a reasonable approach to estimate the total cost is to determine the net impact of an increase in the PVFB and a decrease in the PVFEC. Benefits under the Plan are defined as percent of pay, therefore we have expressed the transfer impact in the same manner. Most of the examples that were considered for this study resulted in costs that represent more than 100% of pay, so Table 3 shows costs as a *multiple* of pay. For example, "3x" = 3 times the member's current pay rate.

Table 3: Examples of Estimated Cost of Transferring Benefit Tiers (as a multiple of current pay)

Age	Service	Police	Fire
From Tier 2 to Tier 1			
35 - 40	15	7x – 9x	7.5x – 9.5x
45	15	3.5x – 4.5x	4x – 5x
40 - 45	20	8x – 10x	8x – 10x
50	20	4.5x – 5.5x	4.5x – 5x
45	25	11x – 11.5x	10x – 10.5x
From Tier 3 to Tier 1			
25 - 30	2	5x – 6.5x	7x – 8.5x
30 - 35	5	4.5x – 6.5x	6x – 8x
40	5	2x – 3x	3x – 4x
30 - 35	10	7x – 9x	8.5x – 10x
40	10	4.5x – 5.5x	6x – 6.5x
45	10	2x – 3x	3x – 4x
From Tier 2 to Tier 3			
35	15	3x – 4x	4x – 4.5x
40	20	4x – 4.5x	4x – 4.5x
45	25	5x – 5.5x	4.5x – 5x

Using Table 3, one can estimate the cost of a member transferring from one tier to another by applying the multiple to that member's current pay. For example, the approximate total cost of transferring from Tier 3 to Tier 1 for a 40 year old Police Officer with 5 years of service and a salary of $60,000 would be $120,000 - $180,000 (two to three times the rate of pay).

As described above, there are advantages for any member to transfer from one benefit tier to another. For purposes of the estimates in Table 3, we have assumed that a member will behave in a manner that maximizes the value of the transfer. For example, if a Tier 2 member who is currently not eligible for retirement transfers to Tier 1 and becomes eligible, it is assumed that this member will retire immediately, thus obtaining the most value out of the transfer.

Individual calculations would be required for actual transfers to determine the cost based on actual age, service, and pay; however, the factors shown in Table 3 represent reasonable estimates. Any changes in actuarial assumptions or plan provisions would also impact these calculations. A change in funding method may also warrant a revision of the calculation methodology.

New Hire Annual Costs

Currently, all newly hired Police Officers and Fire Fighters enter Tier 3, and contribute 8% of their pay to the Fund. The District contribution for these new hires is 28% to 38% of pay based on the most recent actuarial valuation. Providing Tier 1 benefits for a new member would increase the total contribution rate by about 19% of pay. Under the Act, this would bring the employee contribution rate up to approximately 27% of pay. Any changes in actuarial assumptions or plan provisions could affect these calculations.

Methods of Payment

There are several possible methods that could be used to pay for the change in benefits. A brief description of some of these methods is outlined below.

1. Lump sum payment – The payment due from a transferring member would be due immediately upon transfer election.

2. Installments – The total cost would be spread over a number of years, charging interest at the valuation rate (currently 7.50%). For example, $270,000 could be paid over 8 years in monthly installments equal to $3,749 each.

3. Increased contributions – Similar to installments, this would spread out the cost over a number of years. Instead of paying a flat dollar installment, each payment would be equal to an estimated percentage of pay. The payment period would be determined as the number of years until the member becomes eligible for retirement (under the new tier). So, if transfer makes the member immediately eligible (e.g. Tier 2 member with 20 years of service transferring to Tier 1), then this would be equivalent to a lump sum.

   The actuarial calculation methodology for this method would be a similar to what is used to determine annual contribution amounts. There is a degree of uncertainty with this method because it involves assumptions regarding future pay increases, making it quite impractical for current members. It would also result in extraordinarily high contributions in many cases. It is; however, the most reasonable method for new hires.

4. Reduced Benefits – This method of payment involves an actuarial calculation which decreases the amount of the retirement benefit, based on age at retirement. The benefit must be reduced to a level such that the expected actuarial present value is the same as it would have been under the original benefit tier.

   For example, a Tier 2 member age 50 with 20 years of service transferring to Tier 1 and retiring immediately could incur a cost of about 4.5 times his current pay. To offset this cost, a 42% reduction in the retirement benefit would be applied.

No payment method is prescribed in the Act, so any of the above would be reasonable; however, the first three methods are highly sensitive to demographic gains and losses, especially when the transfer occurs years before retirement. This is because the calculations are based on assumed retirement, disability, and termination behavior of the transferring member. The fourth payment method eliminates the impact of these gains and losses because at the time of the calculation, retirement is certain rather than assumed. There will still be gains and losses due to economic experience as well as the actual lifetime of the member versus their assumed life expectancy.

Possible Impacts on the Plan

Since transferring members would be required to provide funding for any enhanced benefits, there would theoretically be no expected impact on (District) Plan costs; however, any time actuarial assumptions are used there will be gains and losses to the extent that actual experience (e.g. investment returns, salary increases, inflation, mortality) differs from what has been assumed. This is no exception. It is impossible to predict the exact impact on Plan costs; however allowing transfer only at retirement, such as in the fourth payment method described in the previous section, would greatly reduce the impact of transfer related gains and losses.

To assess the overall impact on the retirement program, it is necessary to estimate the extent to which this option will be utilized by Plan members. Although there are thousands of participants who could transfer to an alternate benefit tier, the high costs are likely to significantly limit the number of members who are willing to transfer.

There are several additional administrative costs that would be associated with this program. Some examples of these are administrative programming costs, ongoing administrative costs, and actuarial consulting fees. We have no way to determine programming cost impacts, but according to preliminary estimates provided by the US Treasury, an approximate cost of $1.5 million would be incurred to adapt the current benefit administration software. At least several hundred dollars of actuarial consulting fees would also be incurred for each individual calculation.

Please contact me if you have any questions regarding the above, or if further analysis is required.

Sincerely,

Gregory M. Stump

Gregory M. Stump, FSA

cc: Gary Hankins – FOPMPD
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