

City of Pittsburgh

Proposed Pension Restructuring

August 2, 1996

EXECUTIVE SUMMARY

The City of Pittsburgh proposes to restructure its existing pension payment obligations because of several pending problems which threaten the viability of the plans.

In 1984, the Pennsylvania Legislature passed the Municipal Pension Plan Funding Standard and Recovery Act (Act 205) which established minimum funding requirements for unfunded liabilities of municipal pension plans. Pursuant to the Act, the City elected to pay its January 1, 1985 unfunded actuarial accrued liability (UAAL) of \$430.5 million over a period of 40 years in annual installments compounded at 8.75% (the "actuarial rate") and escalating at 4.0% per year. Currently, the City's required pension contribution, before an estimated \$15.7 million State subsidy, is \$34.8 million. By the year 2000 this figure will be \$50.8 million. State subsidies have been decreasing since 1989 and the 1996 estimate is \$14.5 million.

The three primary problems with the plans are:

- 1) Depletion of Municipal Plan Assets
- 2) Increasing Amortization Payments
- 3) Defined Benefits without Defined Contribution option

Without an increase in City contributions, the Municipal Plan, which currently has assets valued at \$33.5 million, will be bankrupt. At that point the plan will fund claims on a "pay-as-you-go" basis. To resolve this problem, the City could either: (i) increase its annual contributions by \$17.5 million for each of the next five years, or (ii) issue approximately \$29 million of pension bonds.

Before State assistance, the UAAL amortization payment in 1996 is approximately \$29.1 million. By the year 2024, this figure will be about \$105 million. To resolve this problem the City can elect to switch to a level amortization schedule by either: (i) increasing annual contributions by \$17 million in 1998, \$15 million in 1999 and approximately \$5 million per year until 2007, or (ii) issuing pension bonds in an amount sufficient to generate savings that offset the contribution increases described in (i).

The current defined benefit plan is unattractive to both the City and its relatively young workforce. To resolve this problem the City would like to offer its employees the option of a defined contribution plan that has all the generally recognized advantages. Even if a significant portion of current and future employees chose defined contribution, there would not be a significant impact on the schedule of amortization payments.

If the City wants to switch from increasing to level amortization without making payments in the near term that are greater than the amounts required under the current schedule, the City will need to issue pension bonds in conjunction with refunding and restructuring some of its outstanding general obligation (G.O.) debt. Specifically, if the City refunds \$163.7 million of its 7%, Series 1986-B Bonds maturing between 1996 and 2007 (which are callable in December 1996 @ 102%) with the proceeds of new 6% bonds maturing between 2017 and 2024, it can create a "window" in its current debt service schedule that can be filled with the debt service on new 8.0% (\pm) pension bonds. By combining two bond issues this way -- moving lower rate tax-exempt debt to later years and higher rate taxable debt to earlier years -- the City lowers its blended cost of funds from 8.2% to 7.5% and generates total savings of \$352 million with a present value of \$66.6 million.

This analysis is based on a number of important assumptions and approvals including, among others: (i) enactment of a pending amendment to Act 205, (ii) constant or lower interest rates when the bonds are priced, (iii) future pension investment returns averaging 8.75% or better, and (iv) accuracy of actuarial projections.

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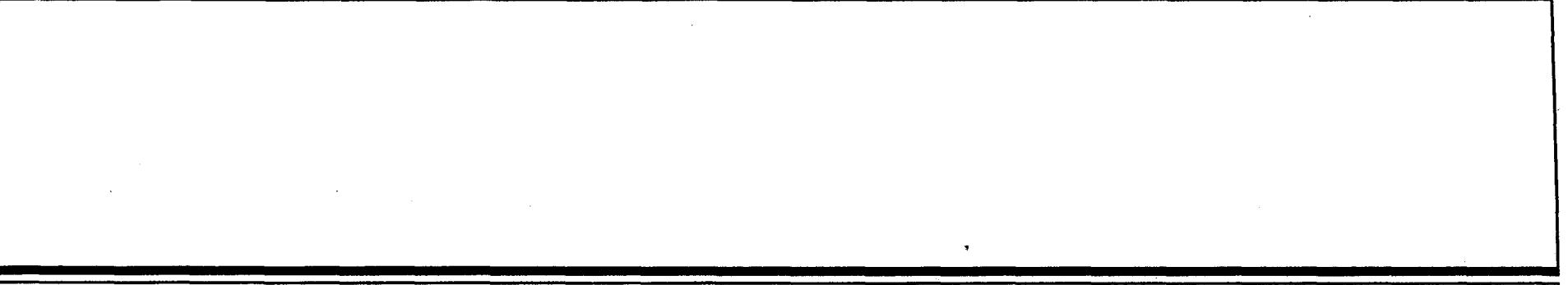
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Act 205

Its Impact on Historical & Projected Pension Plan Cash Flows

BEFORE ACT 205

- Three Separate Plans
 - Policemen's Relief and Pension Fund
est. 9/1/35 by State Law
 - Firemen's Relief and Pension Fund
est. 5/25/33 by State Law
 - Municipal Pension Fund
est. 5/28/15 by State Law
- Each Plan responsible for the management of its assets
- Funding until 1970's was pay-as-you-go

ACT 205 of 1984

Municipal Pension Plan Funding Standard and Recovery Act

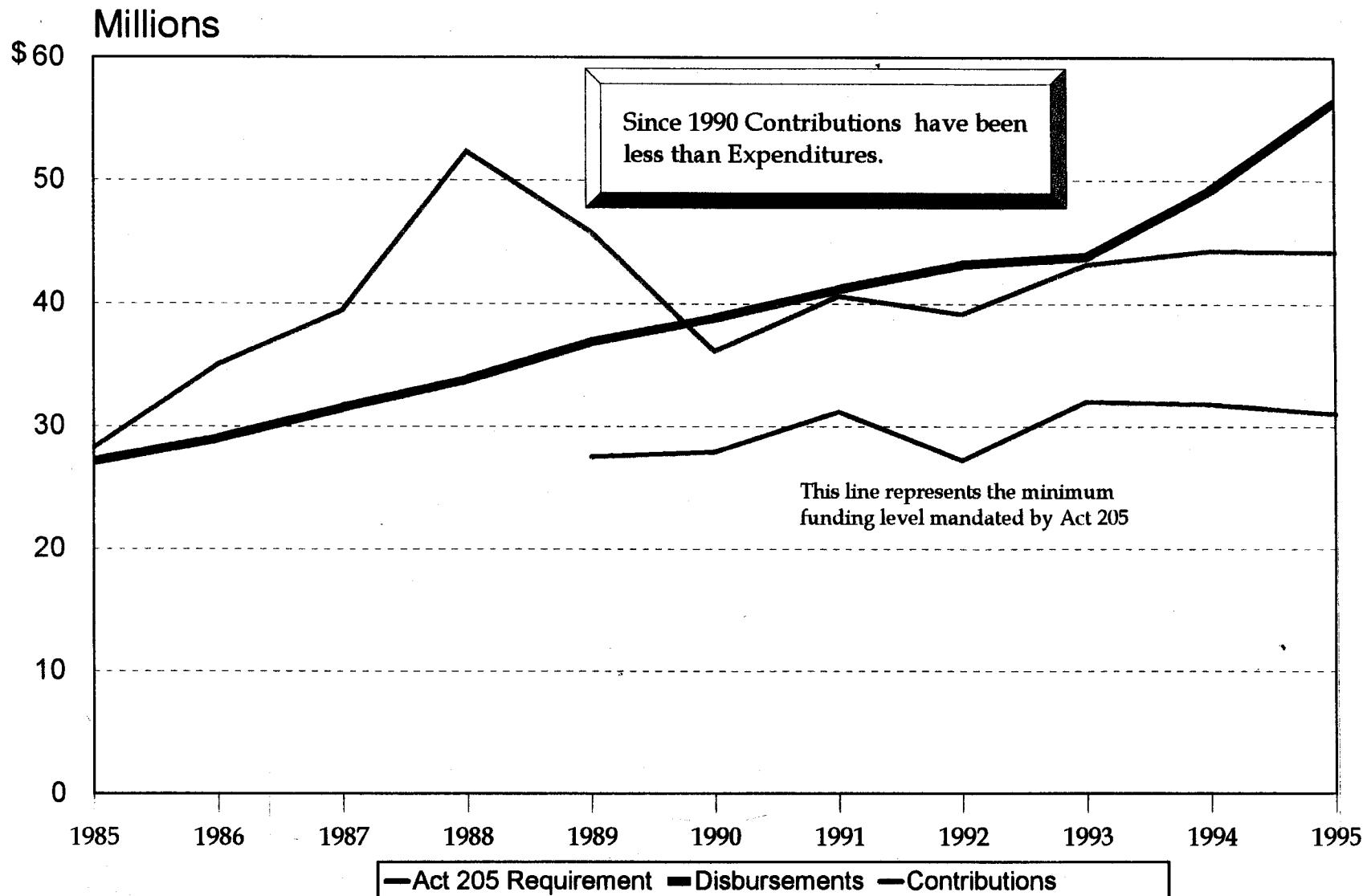
- Established actuarial reporting requirements for municipalities
- Set forth minimum municipal contributions
- Provided the framework for customized recovery programs for municipalities with large unfunded liabilities
- Changed the basis for distributing state pension aid

Changes Due to Act 205

- Assets of the three plans were pooled for investment purposes
- Comprehensive Municipal Pension Trust Fund (CMPTF) and Board was established to oversee these investments
- 40 year escalating (4% per annum) amortization schedule was elected to fund an unfunded liability of \$430,516,479 as of 1985

Historical Contributions & Disbursements

1985-1995



See supporting schedule on next page.

Historical Contributions & Disbursements

1985-1995

Supporting Schedule 1

BUDGET YEAR	Act 205 Requirement	Disbursements	Contributions
1985		27,169,000	28,193,000
1986		29,027,000	35,004,000
1987		31,581,000	39,443,000
1988		33,876,000	52,368,000
1989	27,504,160	36,902,000	45,833,000
1990	27,884,240	38,838,000	36,118,000
1991	31,201,280	41,168,000	40,619,000
1992	27,212,710	43,209,000	39,128,000
1993	32,039,360	43,806,000	43,133,000
1994	31,826,510	49,284,000	44,260,000
1995	31,023,550	56,100,000	43,722,000

From 1990 to 1993 a substantial portion of the City's Contribution was funded from a special trust fund which is now exhausted.

See supporting schedule on next page.

Historical Contributions & Disbursements

1985-1995

Supporting Schedule 2

MMO (Budget)	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Police			5,311,280	4,827,159	3,998,925	1,908,270	5,047,026	3,226,056	6,260,046	7,069,369	7,437,043
Fire			3,027,162	3,360,448	1,205,239		3,875,840	2,458,385	4,538,818	5,251,470	6,329,807
Municipal			3,329,000	69,943			2,654,327	1,227,412	4,742,934	3,710,935	1,556,704
Totals	-	-	11,667,442	8,257,550	5,204,164	1,908,270	11,577,193	6,911,853	15,541,798	16,031,774	15,323,554

Contributions & Disbursements

A. Employer Contributions

Police	3,239,000	5,131,000	4,644,000	5,544,000	5,586,000	4,383,000	5,599,000	5,536,000	7,153,000	8,152,000	7,860,000
Fire	1,865,000	2,992,000	3,161,000	3,508,000	2,478,000	1,858,000	4,420,000	4,326,000	5,745,000	6,031,000	6,800,000
Municipal	7,523,000	7,772,000	8,478,000	7,865,000	1,331,000	1,482,000	2,920,000	2,894,000	3,975,000	4,136,000	2,894,000
Totals	12,627,000	15,895,000	16,283,000	16,917,000	9,395,000	7,723,000	12,939,000	12,756,000	16,873,000	18,319,000	17,554,000

B. State Contributions

Police	2,459,000	3,915,000	3,975,000	6,769,000	11,858,000	9,034,000	8,832,000	8,410,000	7,695,000	7,416,000	7,441,000
Fire	2,111,000	3,255,000	3,549,000	6,042,000	8,814,000	6,777,000	6,754,000	6,408,000	5,772,000	5,563,000	5,492,000
Municipal	4,114,000	5,058,000	9,100,000	15,359,000	7,705,000	4,461,000	3,380,000	3,200,000	4,023,000	3,877,000	4,784,000
Totals	8,684,000	12,228,000	16,624,000	28,170,000	28,377,000	20,272,000	18,966,000	18,018,000	17,490,000	16,856,000	17,717,000

C. Employee Contributions

Police	2,101,000	2,066,000	1,917,000	2,101,000	2,336,000	2,372,000	2,654,000	2,580,000	2,498,000	2,988,000	2,891,000
Fire	1,964,000	2,065,000	2,065,000	2,080,000	2,262,000	2,364,000	2,486,000	2,469,000	2,303,000	2,724,000	2,712,000
Municipal	2,789,000	2,722,000	2,592,000	3,072,000	3,462,000	3,382,000	3,573,000	3,297,000	3,967,000	3,371,000	3,266,000
Totals	6,854,000	6,853,000	6,574,000	7,253,000	8,060,000	8,118,000	8,713,000	8,346,000	8,768,000	9,083,000	8,869,000

D. Disbursements

Police	8,676,000	9,529,000	10,702,000	11,093,000	12,229,000	13,517,000	13,581,000	14,202,000	15,301,000	18,979,000	24,399,000
Fire	6,803,000	7,198,000	8,133,000	9,001,000	9,870,000	10,154,000	10,773,000	11,348,000	11,607,000	12,146,000	12,850,000
Municipal	11,690,000	12,300,000	12,746,000	13,782,000	14,803,000	15,167,000	16,814,000	17,659,000	16,898,000	18,159,000	19,168,000
Totals	27,169,000	29,027,000	31,581,000	33,876,000	36,902,000	38,838,000	41,168,000	43,209,000	43,806,000	49,284,000	56,417,000

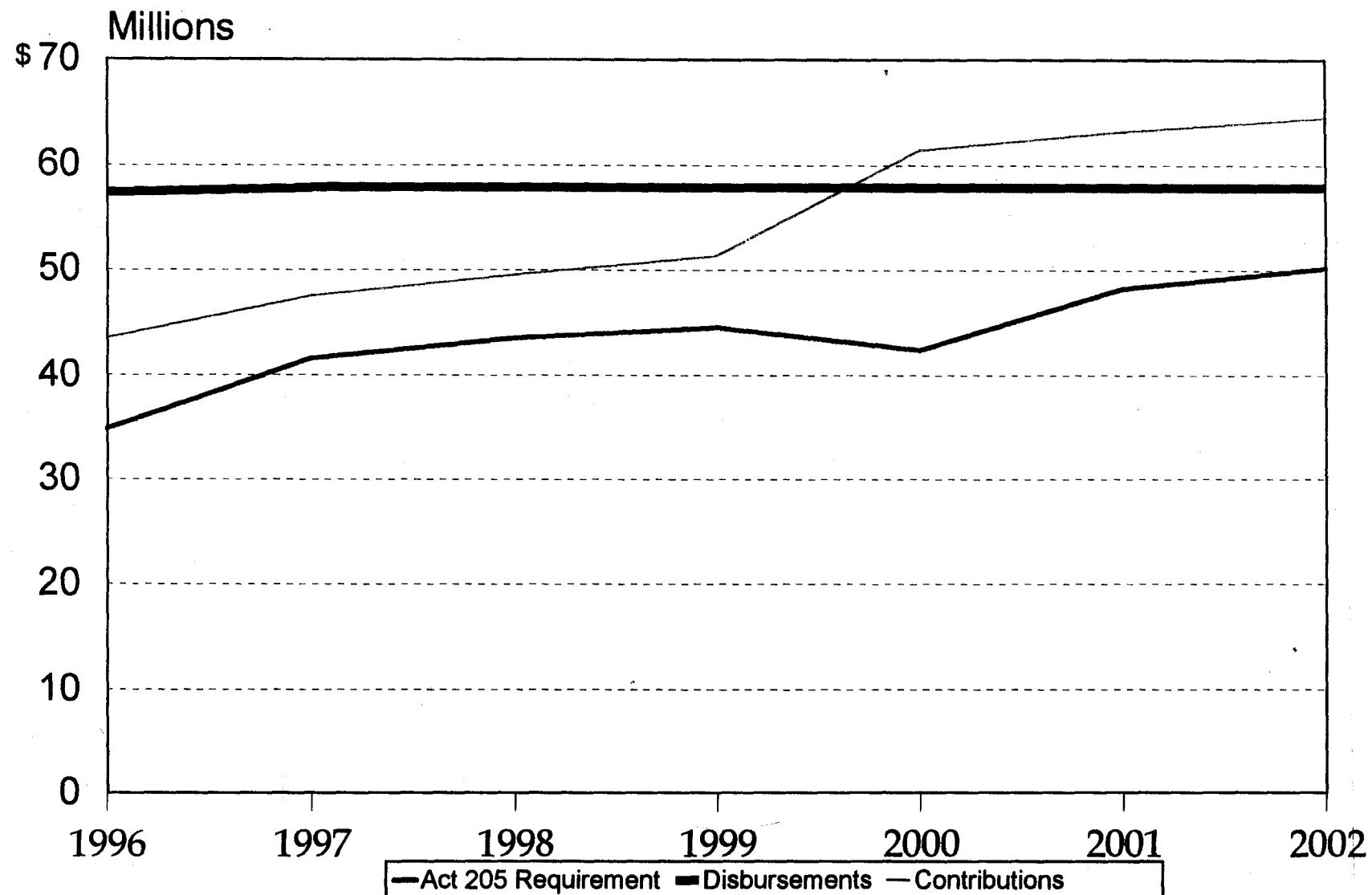
Excess/(Deficit)

(A+B+C-D)

Police	(877,000)	1,583,000	(166,000)	3,321,000	7,551,000	2,272,000	3,504,000	2,324,000	2,045,000	(423,000)	(6,207,000)
Fire	(863,000)	1,114,000	642,000	2,629,000	3,684,000	845,000	2,887,000	1,855,000	2,213,000	2,172,000	2,154,000
Municipal	2,736,000	3,252,000	7,424,000	12,514,000	(2,305,000)	(5,842,000)	(6,941,000)	(8,268,000)	(4,933,000)	(6,775,000)	(8,224,000)
Totals	996,000	5,949,000	7,900,000	18,464,000	8,930,000	(2,725,000)	(550,000)	(4,089,000)	(675,000)	(5,026,000)	(12,277,000)

Projected Contributions & Disbursements

1996-2002



See supporting schedule on next page.

Projected Contributions & Disbursements

1996-2002 Supporting Schedule 1

Budget Year	Act 205 Requirement	Disbursements	Contributions
1996	34,832,980	57,339,890	43,482,980
1997	41,602,628	57,820,116	47,539,125
1998	43,531,183	57,820,116	49,490,444
1999	44,529,137	57,820,116	51,293,988
2000	42,393,344	57,820,116	61,364,357
2001	48,262,766	57,820,116	63,135,136
2002	50,172,304	57,820,116	64,477,427

See supporting schedule on next page.

Historical Contributions & Disbursements

1985-1995

Supporting Schedule 2

MMO (Budget)	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Police	8,899,328	13,815,505	14,548,960	14,785,870	15,584,967	16,578,717	17,052,539
Fire	7,191,430	8,991,442	9,520,904	9,588,769	10,166,198	10,561,525	11,026,343
Municipal	3,042,222	870,219	1,384,867	2,384,531	10,552,541	10,380,236	10,200,179
Totals	19,132,980	23,677,166	25,454,731	26,759,170	36,303,706	37,520,478	38,279,061

Contributions & Disbursements

A. Employer Contributions

Police	9,715,728	13,815,505	14,548,960	14,785,870	15,584,967	16,578,717	17,052,539
Fire	7,395,530	8,991,442	9,520,904	9,588,769	10,166,198	10,561,525	11,026,343
Municipal	2,021,722	870,219	1,384,867	2,384,531	10,552,541	10,380,236	10,200,179
Totals	19,132,980	23,677,166	25,454,731	26,759,170	36,303,706	37,520,478	38,279,061

B. State Contributions

Police	6,358,500	4,003,091	4,003,091	4,003,091	4,003,091	4,003,091	4,003,091
Fire	4,353,700	4,941,459	4,941,459	4,941,459	4,941,459	4,941,459	4,941,459
Municipal	4,987,800	5,625,590	5,625,590	5,625,590	5,625,590	5,625,590	5,625,590
Totals	15,700,000	14,570,140	14,570,140	14,570,140	14,570,140	14,570,140	14,570,140

C. Employee Contributions

Police	2,570,000	2,709,554	2,864,616	3,028,593	3,202,000	3,385,377	3,579,299
Fire	2,770,000	2,926,943	3,094,645	3,271,990	3,459,532	3,657,857	3,867,586
Municipal	3,310,000	3,355,322	3,506,312	3,664,095	3,828,979	4,001,284	4,181,341
Totals	8,650,000	8,991,819	9,465,573	9,964,678	10,490,511	11,044,518	11,628,226

D. Disbursements

Police	24,830,945	25,636,823	25,636,823	25,636,823	25,636,823	25,636,823	25,636,823
Fire	12,180,000	12,176,183	12,176,183	12,176,183	12,176,183	12,176,183	12,176,183
Municipal	20,328,945	20,007,110	20,007,110	20,007,110	20,007,110	20,007,110	20,007,110
Totals	57,339,890	57,820,116	57,820,116	57,820,116	57,820,116	57,820,116	57,820,116

Excess/(Deficit)

(A+B+C-D)

Police	(6,186,717)	(5,108,673)	(4,220,156)	(3,819,269)	(2,846,765)	(1,669,638)	(1,001,894)
Fire	2,339,230	4,683,661	5,380,825	5,626,035	6,391,006	6,984,658	7,659,205
Municipal	(10,009,423)	(10,155,979)	(9,490,341)	(8,332,894)	-	-	-
Totals	(13,856,910)	(10,580,991)	(8,329,672)	(6,526,128)	3,544,241	5,315,020	6,657,311

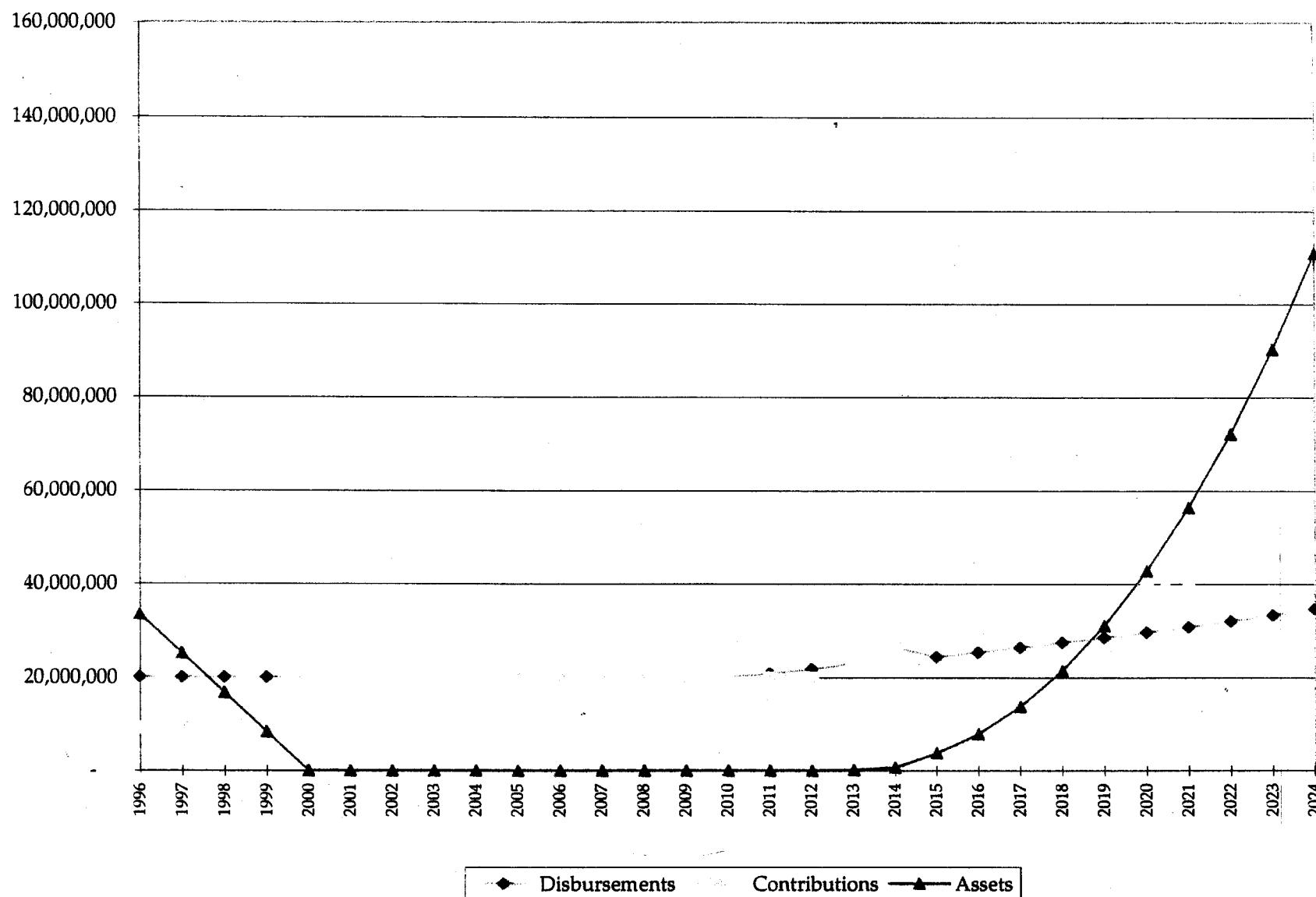
Problem 1

Depletion of Municipal Plan
Assets

Problem 1: Depletion of Municipal Plan Assets

- If the City continues to pay only the Act 205 Minimum Municipal Obligation (MMO), the Municipal Plan will be depleted of assets (in “default”) by 2000 forcing the City into a pay-as-you-go status for the Municipal Plan

**Municipal Plan's Projected Contributions, Disbursements & Assets
1996-2024**



See supporting schedule on next page.

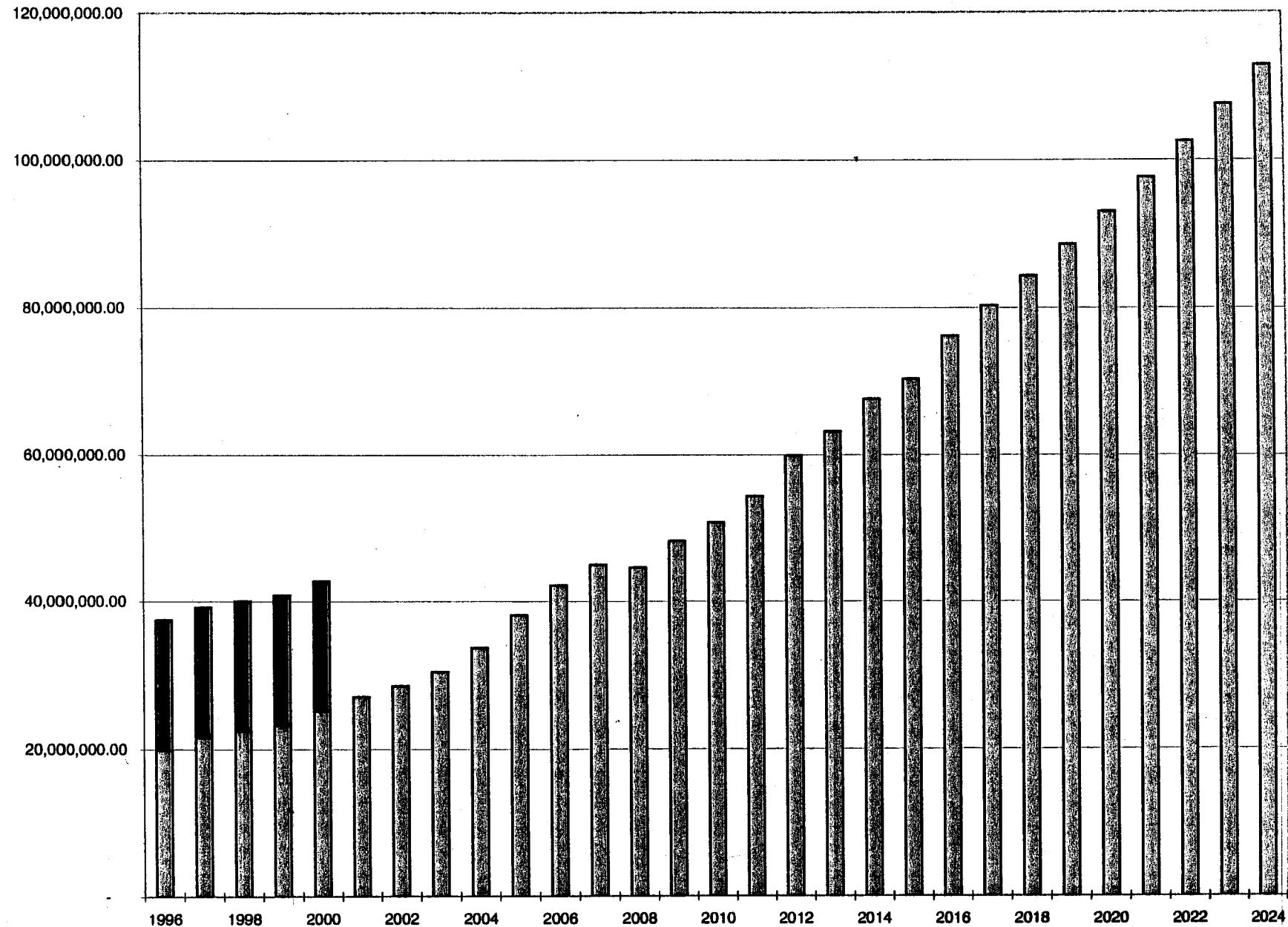
Municipal Plan's Projected Contributions, Disbursements & Assets
1996-2024
Supporting Schedule

Year	Disbursements	Contributions	Assets
1996	20,007,110	9,211,938	33,481,034
1997	20,007,110	9,851,131	25,153,066
1998	20,007,110	10,516,769	16,762,972
1999	20,007,110	11,674,216	8,332,894
2000	20,007,110	20,007,110	-
2001	20,007,110	20,007,110	-
2002	20,007,110	20,007,110	-
2003	20,007,110	20,007,110	-
2004	20,007,110	20,007,110	-
2005	20,007,110	20,007,110	-
2006	20,007,110	20,007,110	-
2007	20,007,110	20,007,110	-
2008	20,007,110	20,007,110	-
2009	20,007,110	20,007,110	-
2010	20,007,110	20,007,110	-
2011	20,807,394	20,007,110	-
2012	21,749,514	20,007,110	-
2013	22,972,903	22,972,903	109,824
2014	26,380,315	26,380,315	607,087
2015	24,341,709	27,953,520	3,762,452
2016	25,315,377	30,248,968	7,858,181
2017	26,327,992	32,568,181	13,690,681
2018	27,381,112	34,837,950	21,396,089
2019	28,476,356	37,071,259	31,044,482
2020	29,615,410	39,105,646	42,723,920
2021	30,800,026	41,164,787	56,358,992
2022	32,032,027	43,358,497	72,099,115
2023	33,313,308	45,529,932	90,219,400
2024	34,645,840	47,827,214	110,853,493

Resolution A to Problem 1

- City voluntarily increases contribution to Pension Fund by \$17.6 million a year for the next 5 years

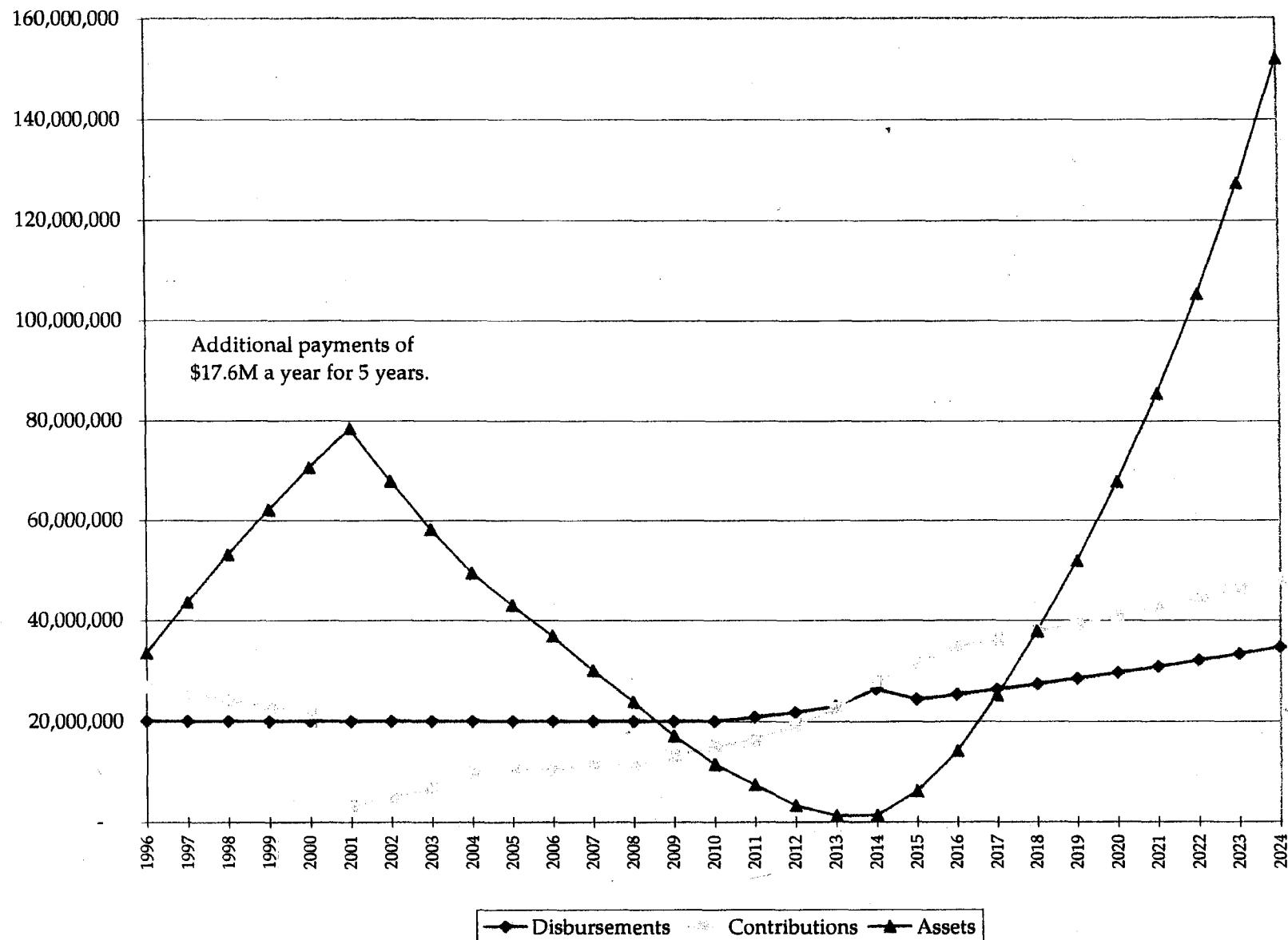
Increases in City Contribution Required to Avoid Municipal Plan Default



Increases in City Contribution Required to Avoid Municipal Plan Default
Supporting Schedule

Year	Normal Cost A	Amortization B	Employee Contributions C	State Aid D	City Budget Requirement E=A+B-C-D	Additional Contribution Needed to Avoid Default F	City Payment Needed to Avoid Default G=E+F
1996	13,933,757.00	29,047,876.00	8,542,117.00	14,570,140.00	19,869,376.00	\$17,615,650.89	37,485,026.89
1997	14,686,244.00	30,449,563.00	8,991,819.00	14,570,140.00	21,573,848.00	\$17,615,650.89	39,189,498.89
1998	15,479,809.00	30,961,037.00	9,465,573.00	14,570,140.00	22,405,133.00	\$17,615,650.89	40,020,783.89
1999	16,316,713.00	31,425,558.00	9,964,678.00	14,570,140.00	23,207,453.00	\$17,615,650.89	40,823,103.89
2000	17,199,346.00	32,962,899.00	10,490,511.00	14,570,140.00	25,101,594.00	\$17,615,650.89	42,717,244.89
2001	18,130,229.00	34,513,594.00	11,044,518.00	14,570,140.00	27,029,165.00		27,029,165.00
2002	19,112,025.00	35,614,365.00	11,628,226.00	14,570,140.00	28,528,024.00		28,528,024.00
2003	20,147,543.00	37,063,057.00	12,243,248.00	14,570,140.00	30,397,212.00		30,397,212.00
2004	21,239,748.00	39,862,844.00	12,891,281.00	14,570,140.00	33,641,171.00		33,641,171.00
2005	22,391,772.00	43,867,065.00	13,574,118.00	14,570,140.00	38,114,579.00		38,114,579.00
2006	23,606,922.00	47,393,524.00	14,293,650.00	14,570,140.00	42,136,656.00		42,136,656.00
2007	24,888,686.00	49,708,924.00	15,051,869.00	14,570,140.00	44,975,601.00		44,975,601.00
2008	26,240,747.00	48,789,824.00	15,850,883.00	14,570,140.00	44,609,548.00		44,609,548.00
2009	27,666,996.00	51,853,498.00	16,692,910.00	14,570,140.00	48,257,444.00		48,257,444.00
2010	29,171,538.00	53,753,170.00	17,580,288.00	14,570,140.00	50,774,280.00		50,774,280.00
2011	30,758,705.00	56,665,719.00	18,515,490.00	14,570,140.00	54,338,794.00		54,338,794.00
2012	32,433,077.00	61,538,248.00	19,501,123.00	14,570,140.00	59,900,062.00		59,900,062.00
2013	34,199,483.00	64,098,035.00	20,539,935.00	14,570,140.00	63,187,443.00		63,187,443.00
2014	36,063,026.00	67,766,775.00	21,634,825.00	14,570,140.00	67,624,836.00		67,624,836.00
2015	38,029,091.00	69,657,878.00	22,788,853.00	14,570,140.00	70,327,976.00		70,327,976.00
2016	40,103,364.00	74,670,604.00	24,005,250.00	14,570,140.00	76,198,578.00		76,198,578.00
2017	42,291,849.00	77,859,299.00	25,287,422.00	14,570,140.00	80,293,586.00		80,293,586.00
2018	44,600,888.00	80,973,672.00	26,638,962.00	14,570,140.00	84,365,458.00		84,365,458.00
2019	47,037,171.00	84,212,619.00	28,063,665.00	14,570,140.00	88,615,985.00		88,615,985.00
2020	49,607,771.00	87,581,124.00	29,565,530.00	14,570,140.00	93,053,225.00		93,053,225.00
2021	52,320,147.00	91,084,369.00	31,148,783.00	14,570,140.00	97,685,593.00		97,685,593.00
2022	55,182,183.00	94,727,744.00	32,817,879.00	14,570,140.00	102,521,908.00		102,521,908.00
2023	58,202,197.00	98,516,854.00	34,577,520.00	14,570,140.00	107,571,391.00		107,571,391.00
2024	61,388,981.00	102,457,528.00	36,432,667.00	14,570,140.00	112,843,702.00		112,843,702.00
						\$88,078,254.47	

**Projected Contributions, Disbursements & Assets after Additional City Contribution
1996-2024**



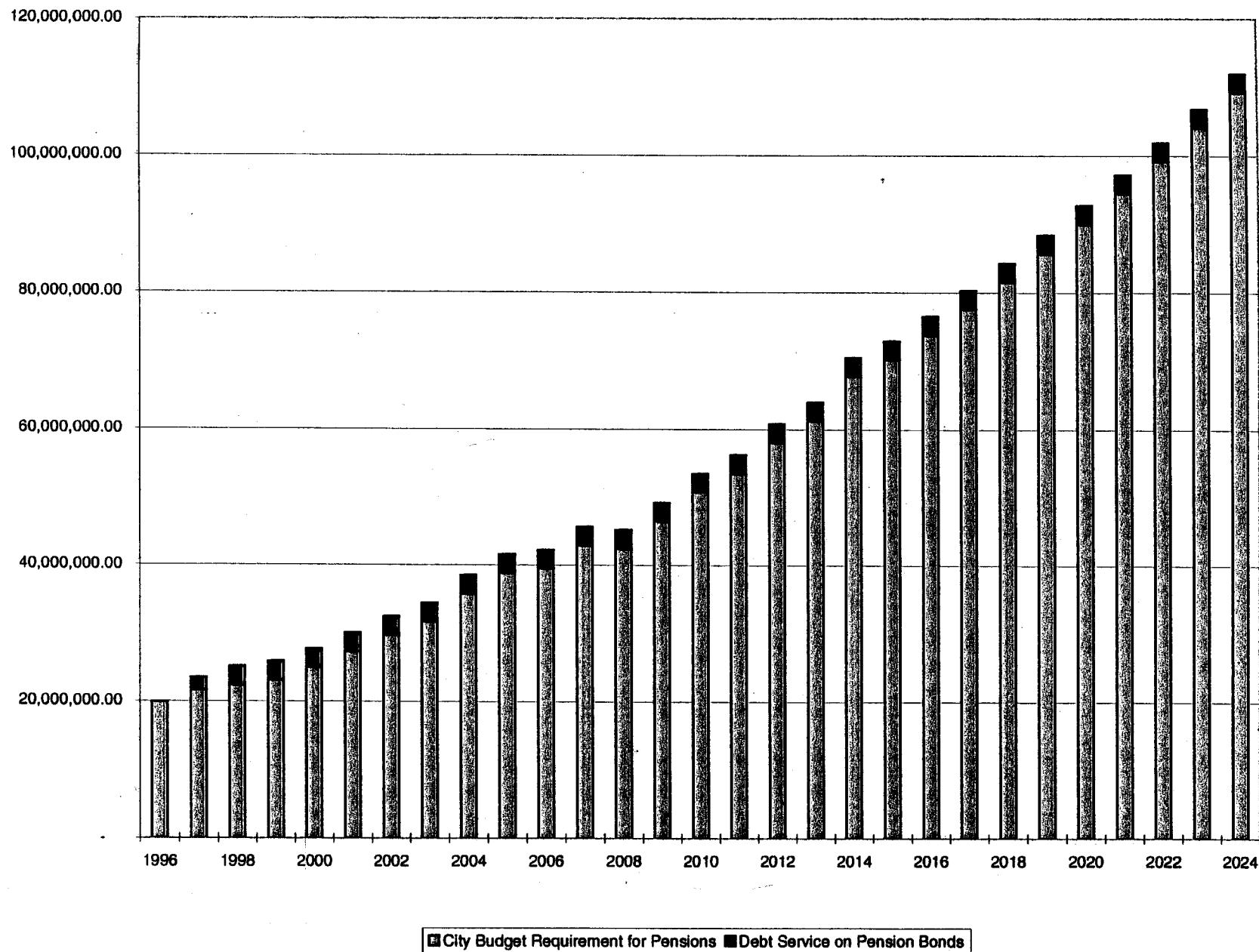
**Projected Contributions, Disbursements & Assets after Additional City Contributions
1996-2024
Supporting Schedule**

Year	Disbursements	Contributions	Assets
1996	20,007,110	26,827,589	33,481,034
1997	20,007,110	25,486,802	43,523,243
1998	20,007,110	24,172,460	53,045,929
1999	20,007,110	22,885,660	62,031,211
2000	20,007,110	21,627,544	70,460,788
2001	20,007,110	3,243,778	78,315,948
2002	20,007,110	5,094,662	67,687,243
2003	20,007,110	6,742,985	58,058,689
2004	20,007,110	9,761,102	49,306,561
2005	20,007,110	10,549,477	42,936,013
2006	20,007,110	10,343,128	36,830,185
2007	20,007,110	11,622,513	29,974,910
2008	20,007,110	11,515,747	23,853,983
2009	20,007,110	13,156,324	17,086,136
2010	20,007,110	15,124,647	11,436,949
2011	20,807,394	16,252,609	7,346,090
2012	21,749,514	19,352,445	3,238,994
2013	22,972,903	22,555,814	1,137,192
2014	26,380,315	27,943,205	1,289,397
2015	24,341,709	31,444,207	6,134,298
2016	25,315,377	34,806,115	14,077,766
2017	26,327,992	36,245,342	25,206,822
2018	27,381,112	37,744,253	37,754,556
2019	28,476,356	39,305,329	51,865,102
2020	29,615,410	40,931,159	67,696,105
2021	30,800,026	42,624,433	85,419,947
2022	32,032,027	44,387,960	105,225,070
2023	33,313,308	46,224,662	127,317,434
2024	34,645,840	48,137,586	151,922,091

Resolution B to Problem 1

- City deposits \$29M Pension Bond Proceeds in Municipal Plan

Increases in City Contribution Resulting from Issuance of \$29M in Pension Bonds

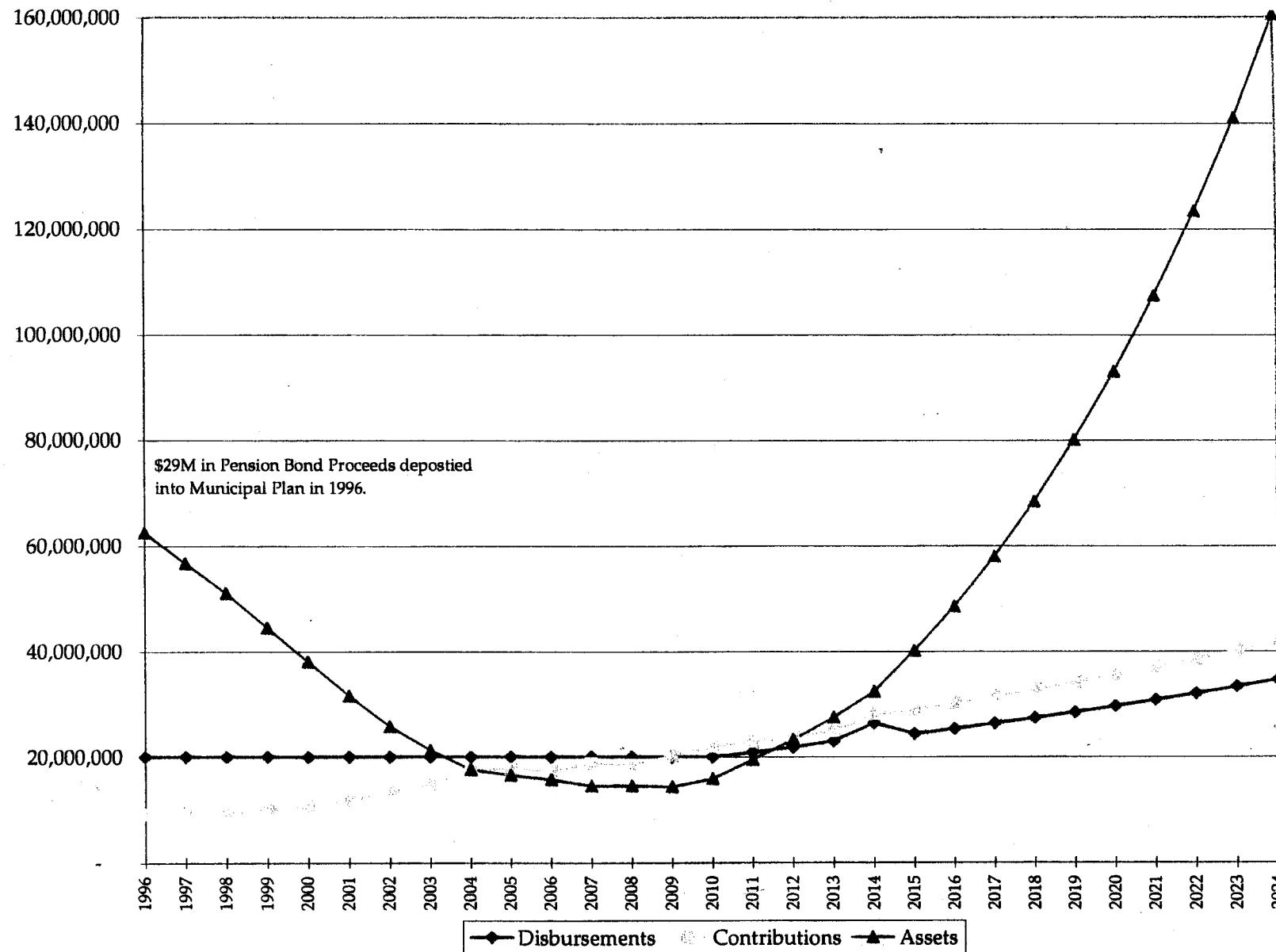


■ City Budget Requirement for Pensions ■ Debt Service on Pension Bonds

Increases in City Contribution Resulting from Issuance of Pension Bonds
Supporting Schedule

Year	Amortization			Employee Contributions C	State Aid D	City Budget Requirement E=A+B-C-D	Debt Service on Pension Bonds F	City Pension Requirement plus Debt Service G=E+F
	Normal Cost A	After \$29M Bond Proceeds B						
1996	13,933,757.00	29,047,876.00		8,542,117.00	14,570,140.00	19,869,376.00	-	19,869,376.00
1997	14,686,244.00	30,449,563.00		8,991,819.00	14,570,140.00	21,573,848.00	1,834,845.63	23,408,693.63
1998	15,479,809.00	30,827,738.00		9,465,573.00	14,570,140.00	22,271,834.00	2,743,510.00	25,015,344.00
1999	16,316,713.00	31,239,998.00		9,964,678.00	14,570,140.00	23,021,893.00	2,745,382.50	25,767,275.50
2000	17,199,346.00	32,722,988.00		10,490,511.00	14,570,140.00	24,861,683.00	2,744,571.25	27,606,254.25
2001	18,130,229.00	34,677,284.00		11,044,518.00	14,570,140.00	27,192,855.00	2,746,060.00	29,938,915.00
2002	19,112,025.00	36,701,351.00		11,628,226.00	14,570,140.00	29,615,010.00	2,744,766.25	32,359,776.25
2003	20,147,543.00	38,262,342.00		12,243,248.00	14,570,140.00	31,596,497.00	2,745,532.50	34,342,029.50
2004	21,239,748.00	41,944,010.00		12,891,281.00	14,570,140.00	35,722,337.00	2,743,211.25	38,465,548.25
2005	22,391,772.00	44,548,080.00		13,574,118.00	14,570,140.00	38,795,594.00	2,742,541.25	41,538,135.25
2006	23,606,922.00	44,727,427.00		14,293,650.00	14,570,140.00	39,470,559.00	2,743,062.50	42,213,621.50
2007	24,888,686.00	47,598,105.00		15,051,869.00	14,570,140.00	42,864,782.00	2,748,612.50	45,613,394.50
2008	26,240,747.00	46,566,492.00		15,850,883.00	14,570,140.00	42,386,216.00	2,744,212.50	45,130,428.50
2009	27,666,996.00	50,039,394.00		16,692,910.00	14,570,140.00	46,443,340.00	2,745,412.50	49,188,752.50
2010	29,171,538.00	53,737,063.00		17,580,288.00	14,570,140.00	50,758,173.00	2,746,612.50	53,504,785.50
2011	30,758,705.00	55,800,007.00		18,515,490.00	14,570,140.00	53,473,082.00	2,742,612.50	56,215,694.50
2012	32,433,077.00	59,645,432.00		19,501,123.00	14,570,140.00	58,007,246.00	2,746,593.75	60,753,839.75
2013	34,199,483.00	62,124,966.00		20,539,935.00	14,570,140.00	61,214,374.00	2,747,650.00	63,962,024.00
2014	36,063,026.00	67,887,751.00		21,634,825.00	14,570,140.00	67,745,812.00	2,741,693.75	70,487,505.75
2015	38,029,091.00	69,476,591.00		22,788,853.00	14,570,140.00	70,146,689.00	2,743,106.25	72,889,795.25
2016	40,103,364.00	72,217,947.00		24,005,250.00	14,570,140.00	73,745,921.00	2,745,856.25	76,491,777.25
2017	42,291,849.00	75,106,664.00		25,287,422.00	14,570,140.00	77,540,951.00	2,748,750.00	80,289,701.00
2018	44,600,888.00	78,110,931.00		26,638,962.00	14,570,140.00	81,502,717.00	2,746,137.50	84,248,854.50
2019	47,037,171.00	81,235,369.00		28,063,665.00	14,570,140.00	85,638,735.00	2,747,527.50	88,386,262.50
2020	49,607,771.00	84,484,785.00		29,565,530.00	14,570,140.00	89,956,886.00	2,746,882.50	92,703,768.50
2021	52,320,147.00	87,864,176.00		31,148,783.00	14,570,140.00	94,465,400.00	2,743,372.50	97,208,772.50
2022	55,182,183.00	91,378,743.00		32,817,879.00	14,570,140.00	99,172,907.00	2,740,403.75	101,913,310.75
2023	58,202,197.00	95,033,892.00		34,577,520.00	14,570,140.00	104,088,429.00	2,746,266.25	106,834,695.25
2024	61,388,981.00	98,835,248.00		36,432,667.00	14,570,140.00	109,221,422.00	2,745,011.25	111,966,433.25
							<u>75,950,196.88</u>	

Projected Contributions, Disbursements & Assets after Pension Bonds
1996-2024



Assumes current law.

See supporting schedule on next page.

Projected Contributions, Disbursements & Assets from Issuance of Pension Bonds
1996-2024
Supporting Schedule

Year	Disbursements	Contributions	Bond Proceeds	Assets
1996	20,007,110	9,211,938	29,000,000	62,481,034
1997	20,007,110	9,851,131		56,690,566
1998	20,007,110	9,437,190		51,060,004
1999	20,007,110	10,040,257		44,505,096
2000	20,007,110	10,668,405		38,005,532
2001	20,007,110	11,782,805		31,592,309
2002	20,007,110	13,446,377		25,780,062
2003	20,007,110	14,789,782		21,194,071
2004	20,007,110	17,542,654		17,607,752
2005	20,007,110	17,811,837		16,578,415
2006	20,007,110	17,504,799		15,739,724
2007	20,007,110	18,871,399		14,507,458
2008	20,007,110	18,576,514		14,592,504
2009	20,007,110	20,290,183		14,377,476
2010	20,007,110	22,007,600		15,930,703
2011	20,807,394	22,825,934		19,410,816
2012	21,749,514	23,795,747		23,214,262
2013	22,972,903	24,873,337		27,493,917
2014	26,380,315	28,118,463		32,369,124
2015	24,341,709	29,072,220		40,116,266
2016	25,315,377	30,242,361		48,559,571
2017	26,327,992	31,499,038		57,946,553
2018	27,381,112	32,808,097		68,409,412
2019	28,476,356	34,171,727		80,054,673
2020	29,615,410	35,592,213		92,998,776
2021	30,800,026	37,071,929		107,368,974
2022	32,032,027	38,613,356		123,304,305
2023	33,313,308	40,219,073		140,956,657
2024	34,645,840	41,891,774		160,491,922

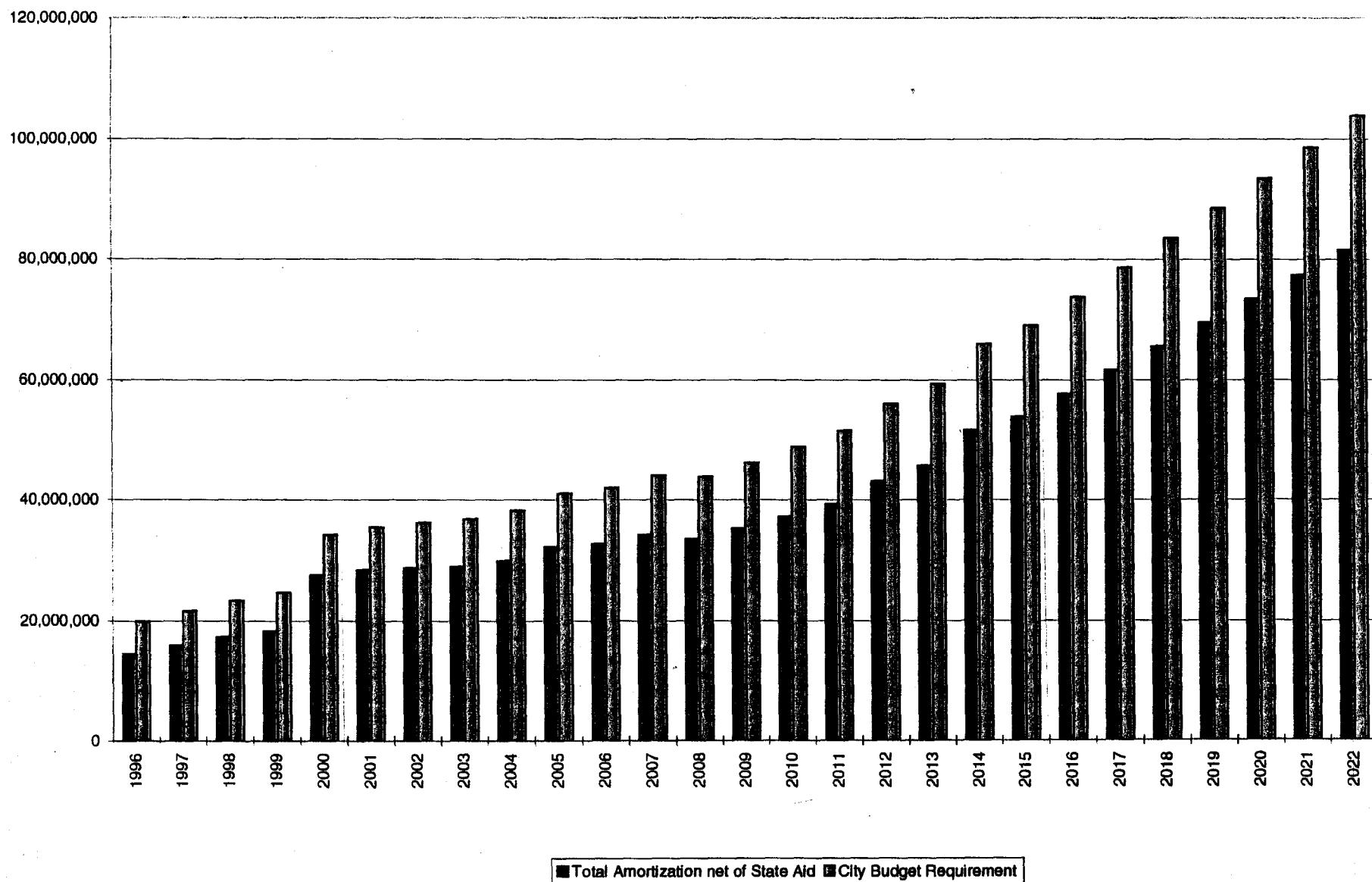
Problem 2

Increasing Amortization
Payments

Problem 2: Increasing Amortization Schedule

- The City is using a 40 year escalating (4% per annum) amortization schedule to fund its unfunded liability from 1985
- Thirty years remain

Projected Amortization Component of City Contribution 1996-2024



■ Total Amortization net of State Aid ■ City Budget Requirement

Projected Amortization Component of City Contribution

1996-2024

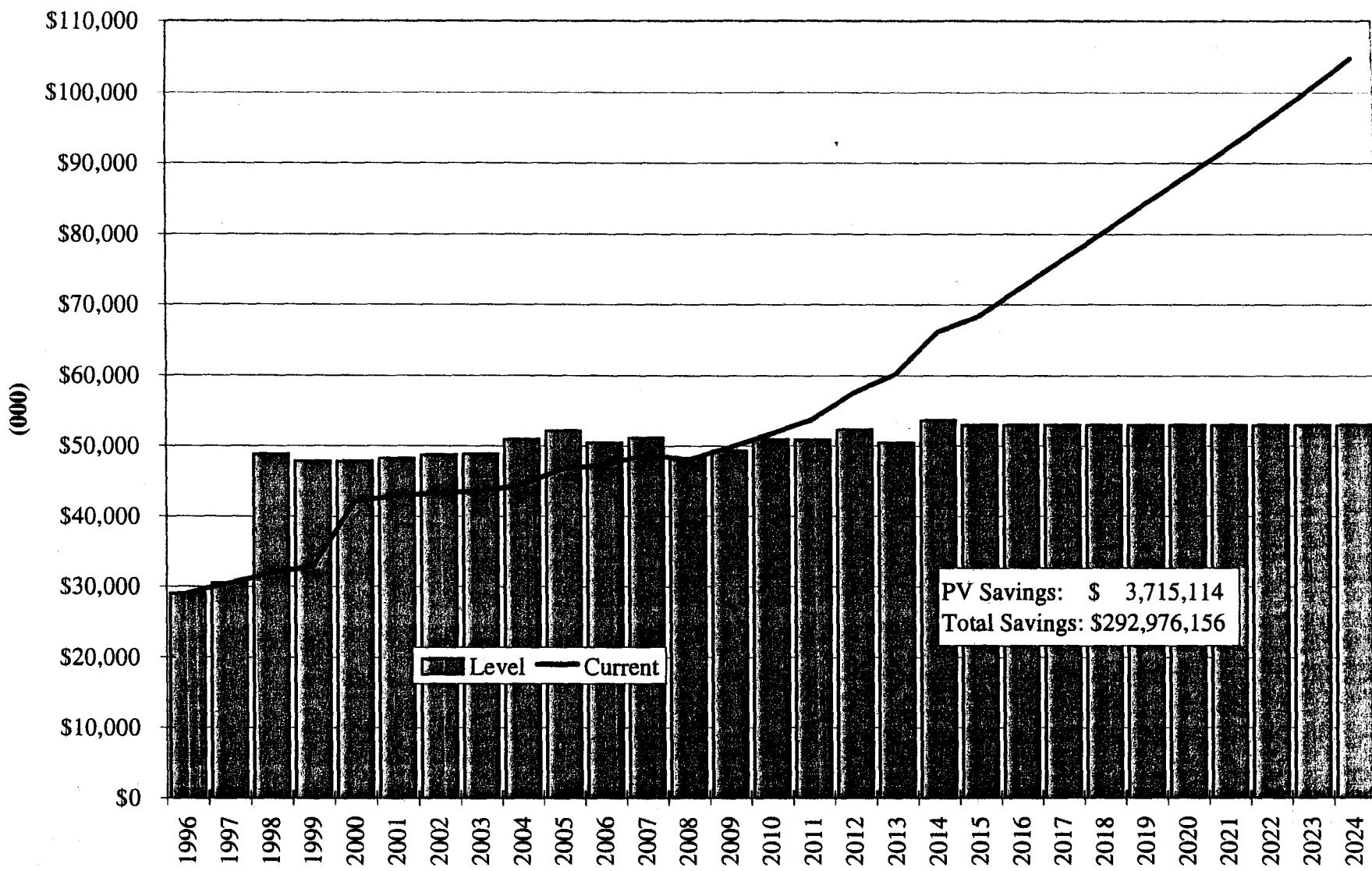
Supporting Schedule

Year	Normal Cost A	Municipal Default Cost B	Amortization w/ Default Effect C	Total Amortization D=B+C	State Aid E	Total Amortization net of State Aid F=D-E	Employee Contributions G	City Budget Requirement H=A+F-G
1996	13,933,757.00	-	29,047,876.00	29,047,876.00	14,570,140.00	14,477,736.00	8,542,117.00	19,869,376.00
1997	14,686,244.00	-	30,449,563.00	30,449,563.00	14,570,140.00	15,879,423.00	8,991,819.00	21,573,848.00
1998	15,479,809.00	-	31,907,317.00	31,907,317.00	14,570,140.00	17,337,177.00	9,465,573.00	23,351,413.00
1999	16,316,713.00	464,268.00	32,409,689.00	32,873,957.00	14,570,140.00	18,303,817.00	9,964,678.00	24,655,852.00
2000	17,199,346.00	8,127,481.21	33,934,211.79	42,061,693.00	14,570,140.00	27,491,553.00	10,490,511.00	34,200,388.00
2001	18,130,229.00	7,829,136.16	35,072,452.84	42,901,589.00	14,570,140.00	28,331,449.00	11,044,518.00	35,417,160.00
2002	19,112,025.00	6,858,238.45	36,403,845.55	43,262,084.00	14,570,140.00	28,691,944.00	11,628,226.00	36,175,743.00
2003	20,147,543.00	5,980,773.90	37,498,896.10	43,479,670.00	14,570,140.00	28,909,530.00	12,243,248.00	36,813,825.00
2004	21,239,748.00	3,634,889.31	40,773,576.69	44,408,466.00	14,570,140.00	29,838,326.00	12,891,281.00	38,186,793.00
2005	22,391,772.00	3,255,071.86	43,488,281.14	46,743,353.00	14,570,140.00	32,173,213.00	13,574,118.00	40,990,867.00
2006	23,606,922.00	3,827,287.36	43,402,450.64	47,229,738.00	14,570,140.00	32,659,598.00	14,293,650.00	41,972,870.00
2007	24,888,686.00	2,978,085.25	45,755,730.75	48,733,816.00	14,570,140.00	34,163,676.00	15,051,869.00	44,000,493.00
2008	26,240,747.00	3,419,584.75	44,577,503.25	47,997,088.00	14,570,140.00	33,426,948.00	15,850,883.00	43,816,812.00
2009	27,666,996.00	2,163,365.31	47,592,955.69	49,756,321.00	14,570,140.00	35,186,181.00	16,692,910.00	46,160,267.00
2010	29,171,538.00	438,202.20	51,298,370.80	51,736,573.00	14,570,140.00	37,166,433.00	17,580,288.00	48,757,683.00
2011	30,758,705.00	159,777.64	53,621,689.36	53,781,467.00	14,570,140.00	39,211,327.00	18,515,490.00	51,454,542.00
2012	32,433,077.00	-	57,599,198.53	57,599,198.53	14,570,140.00	43,029,058.53	19,501,123.00	55,961,012.53
2013	34,199,483.00	-	60,224,531.53	60,224,531.53	14,570,140.00	45,654,391.53	20,539,935.00	59,313,939.53
2014	36,063,026.00	-	66,149,602.53	66,149,602.53	14,570,140.00	51,579,462.53	21,634,825.00	66,007,663.53
2015	38,029,091.00	-	68,357,890.74	68,357,890.74	14,570,140.00	53,787,750.74	22,788,853.00	69,027,988.74
2016	40,103,364.00	-	72,224,553.69	72,224,553.69	14,570,140.00	57,654,413.69	24,005,250.00	73,752,527.69
2017	42,291,849.00	-	76,175,806.97	76,175,806.97	14,570,140.00	61,605,666.97	25,287,422.00	78,610,093.97
2018	44,600,888.00	-	80,140,784.43	80,140,784.43	14,570,140.00	65,570,644.43	26,638,962.00	83,532,570.43
2019	47,037,171.00	-	84,134,900.83	84,134,900.83	14,570,140.00	69,564,760.83	28,063,665.00	88,538,266.83
2020	49,607,771.00	-	87,998,218.39	87,998,218.39	14,570,140.00	73,428,078.39	29,565,530.00	93,470,319.39
2021	52,320,147.00	-	91,957,033.89	91,957,033.89	14,570,140.00	77,386,893.89	31,148,783.00	98,558,257.89
2022	55,182,183.00	-	96,123,883.78	96,123,883.78	14,570,140.00	81,553,743.78	32,817,879.00	103,918,047.78
2023	58,202,197.00	-	100,344,751.28	100,344,751.28	14,570,140.00	85,774,611.28	34,577,520.00	109,399,288.28
2024	61,388,981.00	-	104,770,687.84	104,770,687.84	14,570,140.00	90,200,547.84	36,432,667.00	115,156,861.84

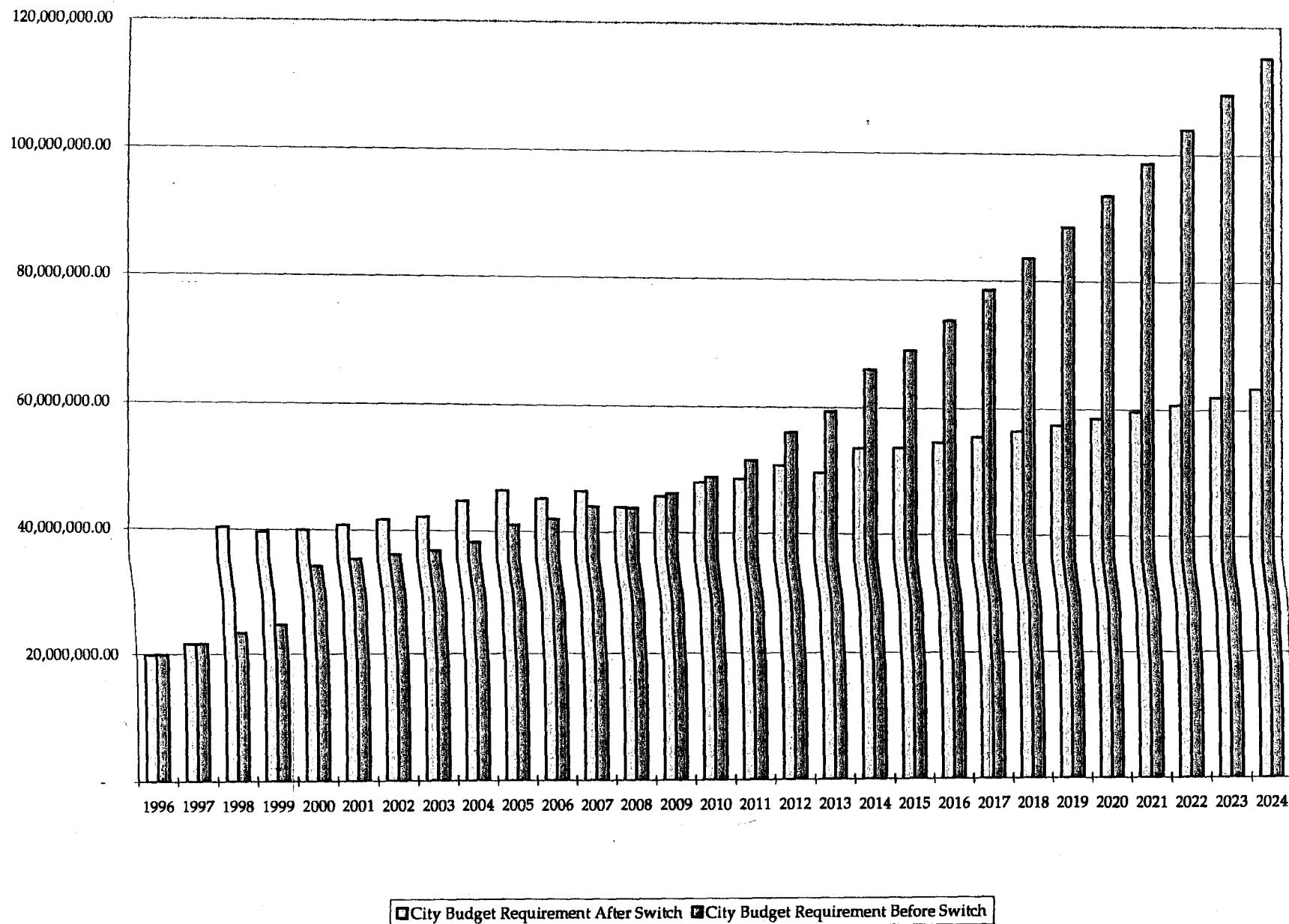
Resolution A to Problem 2

- Switch to Level Amortization by revising City contributions

Current vs. Level Amortization Payments

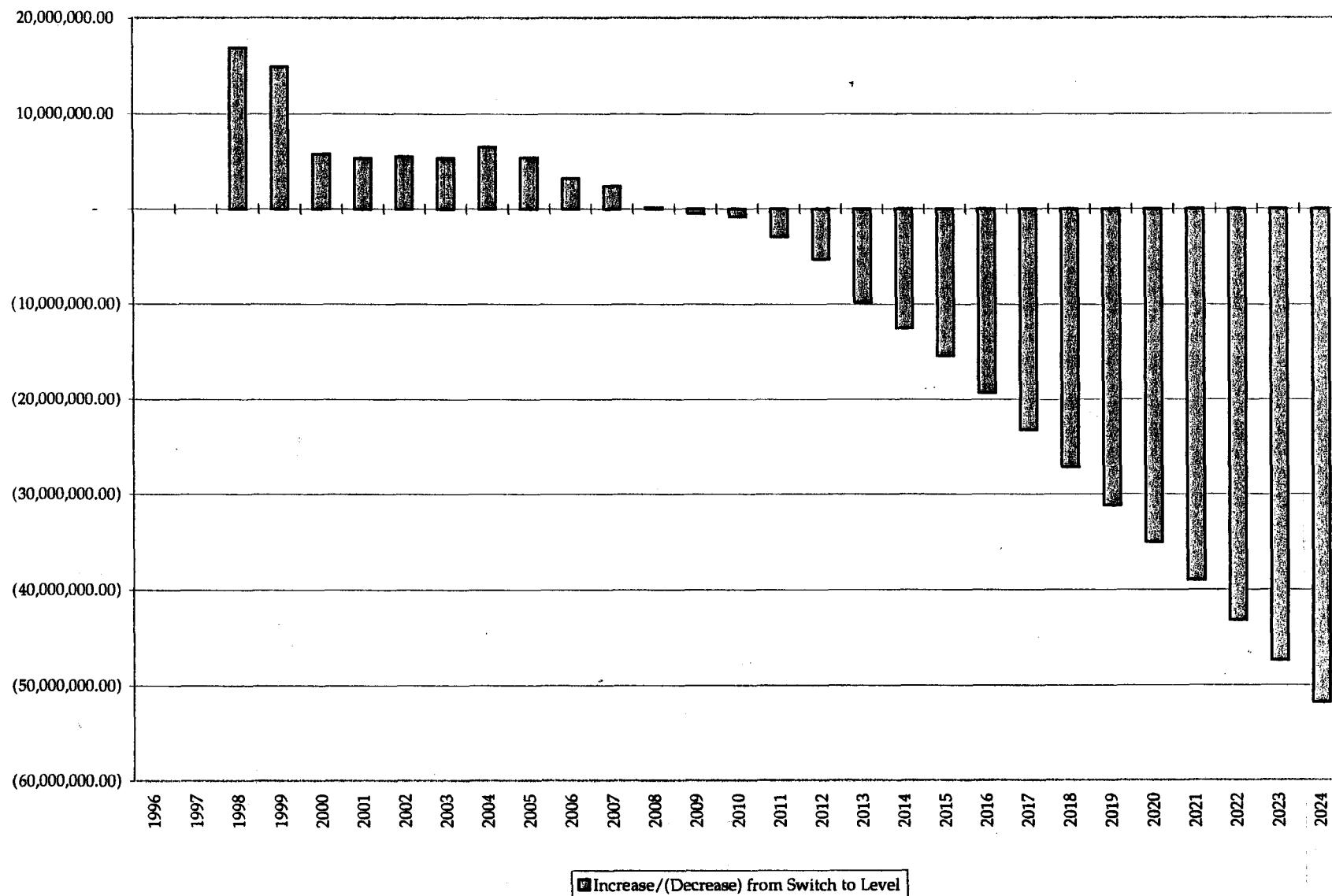


Increases in City Contribution Resulting from Switch to Level Amortization



City Budget Requirement After Switch City Budget Requirement Before Switch

Increases in City Contribution Resulting from Switching to Level Amortization



[■] Increase/(Decrease) from Switch to Level

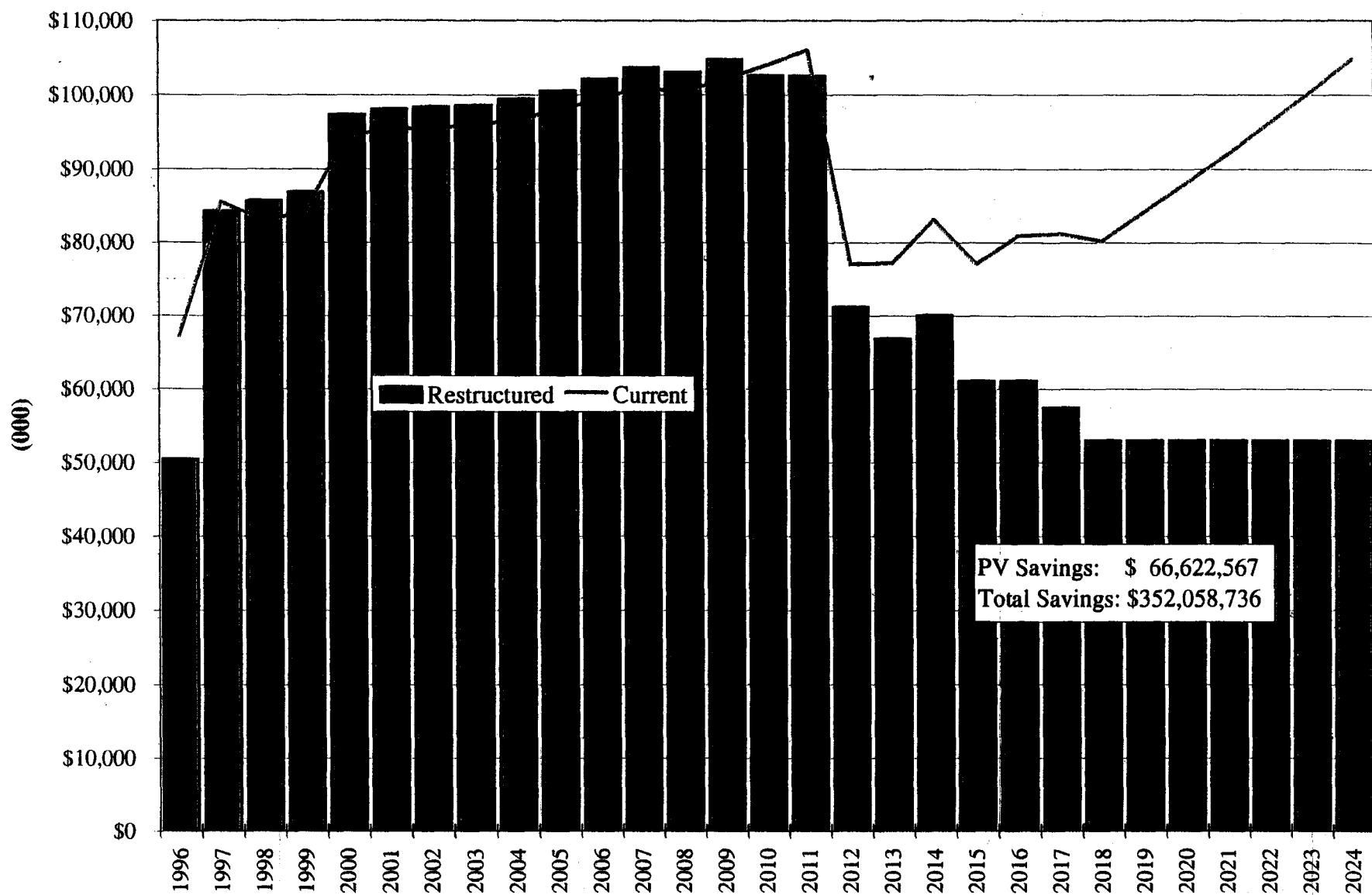
Increases in City Contribution Resulting from Switching to Level Amortization
Supporting Schedule

Year	Normal Cost A	Level Amortization B	Employee Contributions C	State Aid D	City Budget Requirement After E=A+B-C-D	Current Amortization with Default Cost F	Increase/(Decrease) from Switch to Level G=B-F	City Budget Requirement Before Switch H=E-G
1996	13,933,757.00	29,047,876.00	8,542,117.00	14,570,140.00	19,869,376.00	29,047,876.00	-	19,869,376.00
1997	14,686,244.00	30,449,563.00	8,991,819.00	14,570,140.00	21,573,848.00	30,449,563.00	-	21,573,848.00
1998	15,479,809.00	48,830,010.58	9,465,573.00	14,570,140.00	40,274,106.58	31,907,317.00	16,922,693.58	23,351,413.00
1999	16,316,713.00	47,816,318.58	9,964,678.00	14,570,140.00	39,598,213.58	32,873,957.00	14,942,361.58	24,655,852.00
2000	17,199,346.00	47,816,318.58	10,490,511.00	14,570,140.00	39,955,013.58	42,061,693.00	5,754,625.58	34,200,388.00
2001	18,130,229.00	48,228,304.58	11,044,518.00	14,570,140.00	40,743,875.58	42,901,589.00	5,326,715.58	35,417,160.00
2002	19,112,025.00	48,734,317.58	11,628,226.00	14,570,140.00	41,647,976.58	43,262,084.00	5,472,233.58	36,175,743.00
2003	20,147,543.00	48,826,645.58	12,243,248.00	14,570,140.00	42,160,800.58	43,479,670.00	5,346,975.58	36,813,825.00
2004	21,239,748.00	50,929,034.58	12,891,281.00	14,570,140.00	44,707,361.58	44,408,466.00	6,520,568.58	38,186,793.00
2005	22,391,772.00	52,133,991.58	13,574,118.00	14,570,140.00	46,381,505.58	46,743,353.00	5,390,638.58	40,990,867.00
2006	23,606,922.00	50,418,990.58	14,293,650.00	14,570,140.00	45,162,122.58	47,229,738.00	3,189,252.58	41,972,870.00
2007	24,888,686.00	51,127,614.58	15,051,869.00	14,570,140.00	46,394,291.58	48,733,816.00	2,393,798.58	44,000,493.00
2008	26,240,747.00	48,126,288.58	15,850,883.00	14,570,140.00	43,946,012.58	47,997,088.00	129,200.58	43,816,812.00
2009	27,666,996.00	49,281,953.58	16,692,910.00	14,570,140.00	45,685,899.58	49,756,321.00	(474,367.42)	46,160,267.00
2010	29,171,538.00	50,896,617.58	17,580,288.00	14,570,140.00	47,917,727.58	51,736,573.00	(839,955.42)	48,757,683.00
2011	30,758,705.00	50,841,921.58	18,515,490.00	14,570,140.00	48,514,996.58	53,781,467.00	(2,939,545.42)	51,454,542.00
2012	32,433,077.00	52,313,031.58	19,501,123.00	14,570,140.00	50,674,845.58	57,599,198.53	(5,286,166.95)	55,961,012.53
2013	34,199,483.00	50,455,836.22	20,539,935.00	14,570,140.00	49,545,244.22	60,224,531.53	(9,768,695.31)	59,313,939.53
2014	36,063,026.00	53,650,562.22	21,634,825.00	14,570,140.00	53,508,623.22	66,149,602.53	(12,499,040.31)	66,007,663.53
2015	38,029,091.00	52,967,106.22	22,788,853.00	14,570,140.00	53,637,204.22	68,357,890.74	(15,390,784.52)	69,027,988.74
2016	40,103,364.00	52,967,106.22	24,005,250.00	14,570,140.00	54,495,080.22	72,224,553.69	(19,257,447.47)	73,752,527.69
2017	42,291,849.00	52,967,106.22	25,287,422.00	14,570,140.00	55,401,393.22	76,175,806.97	(23,208,700.75)	78,610,093.97
2018	44,600,888.00	52,967,106.22	26,638,962.00	14,570,140.00	56,358,892.22	80,140,784.43	(27,173,678.21)	83,532,570.43
2019	47,037,171.00	52,967,106.22	28,063,665.00	14,570,140.00	57,370,472.22	84,134,900.83	(31,167,794.61)	88,538,266.83
2020	49,607,771.00	52,967,106.22	29,565,530.00	14,570,140.00	58,439,207.22	87,998,218.39	(35,031,112.17)	93,470,319.39
2021	52,320,147.00	52,967,106.22	31,148,783.00	14,570,140.00	59,568,330.22	91,957,033.89	(38,989,927.67)	98,558,257.89
2022	55,182,183.00	52,967,106.22	32,817,879.00	14,570,140.00	60,761,270.22	96,123,883.78	(43,156,777.56)	103,918,047.78
2023	58,202,197.00	52,967,106.22	34,577,520.00	14,570,140.00	62,021,643.22	100,344,751.28	(47,377,645.06)	109,399,288.28
2024	61,388,981.00	52,967,106.22	36,432,667.00	14,570,140.00	63,353,280.22	104,770,687.84	(51,803,581.62)	115,156,861.84

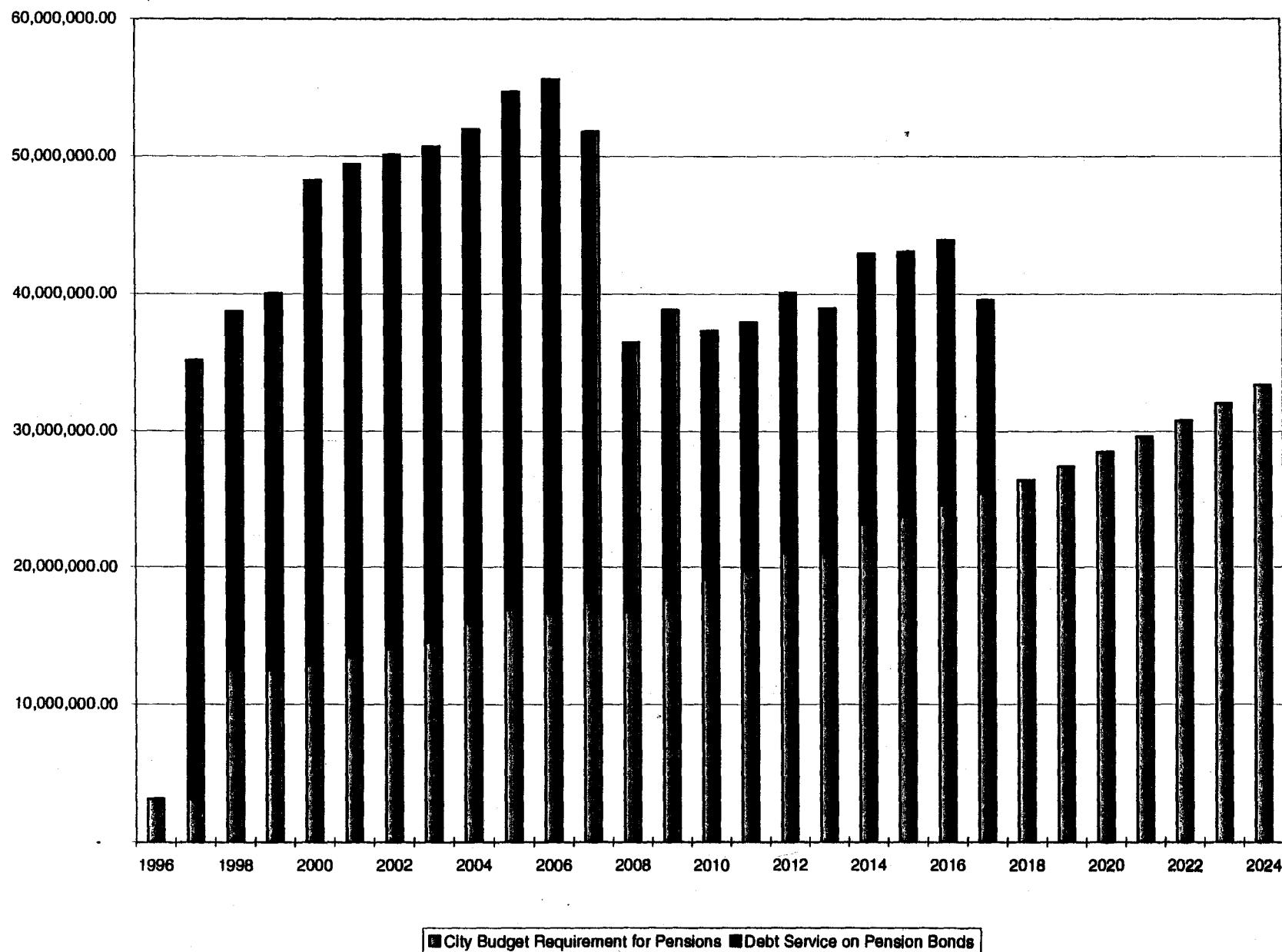
Resolution B to Problem 2

- Restructuring of Pension and G. O. Debt

Restructured Pension and G.O. Debt



Increases in City Contribution Resulting from Switching to Level and Issuance of \$300Million in Pension Bonds



Increases in City Contribution Resulting from Switching to Level Amortization and Issuance of \$300 Million in Pension Bonds
Supporting Schedule

Year	Amortization After \$300M Bond Proceeds and Switch to Level					City Budget Requirement E=A+B-C-D	Debt Service on \$300M Pension Bonds F	City Pension Requirement plus Debt Service G=E+F
	A	C	D					
1996	13,933,757.00	12,290,633.00	8,542,117.00	14,570,140.00	3,112,133.00	-	-	3,112,133.00
1997	14,686,244.00	11,967,118.92	8,991,819.00	14,570,140.00	3,091,403.92	32,080,574.38	-	35,171,978.30
1998	15,479,809.00	21,151,554.65	9,465,573.00	14,570,140.00	12,595,650.65	26,114,132.50	-	38,709,783.15
1999	16,316,713.00	20,716,350.75	9,964,678.00	14,570,140.00	12,498,245.75	27,539,402.50	-	40,037,648.25
2000	17,199,346.00	20,716,350.75	10,490,511.00	14,570,140.00	12,855,045.75	35,394,495.00	-	48,249,540.75
2001	18,130,229.00	20,900,821.13	11,044,518.00	14,570,140.00	13,416,392.13	36,003,437.50	-	49,419,829.63
2002	19,112,025.00	21,134,166.12	11,628,226.00	14,570,140.00	14,047,825.12	36,075,975.00	-	50,123,800.12
2003	20,147,543.00	21,186,159.16	12,243,248.00	14,570,140.00	14,520,314.16	36,191,351.25	-	50,711,665.41
2004	21,239,748.00	22,122,765.76	12,891,281.00	14,570,140.00	15,901,092.76	36,064,533.75	-	51,965,626.51
2005	22,391,772.00	22,638,875.86	13,574,118.00	14,570,140.00	16,886,389.86	37,823,016.25	-	54,709,406.11
2006	23,606,922.00	21,884,667.75	14,293,650.00	14,570,140.00	16,627,799.75	38,980,600.00	-	55,608,399.75
2007	24,888,686.00	22,194,380.81	15,051,869.00	14,570,140.00	17,461,057.81	34,356,625.00	-	51,817,682.81
2008	26,240,747.00	20,890,863.32	15,850,883.00	14,570,140.00	16,710,587.32	19,780,225.00	-	36,490,812.32
2009	27,666,996.00	21,396,754.95	16,692,910.00	14,570,140.00	17,800,700.95	21,054,625.00	-	38,855,325.95
2010	29,171,538.00	22,103,134.63	17,580,288.00	14,570,140.00	19,124,244.63	18,222,625.00	-	37,346,869.63
2011	30,758,705.00	22,079,577.21	18,515,490.00	14,570,140.00	19,752,652.21	18,188,225.00	-	37,940,877.21
2012	32,433,077.00	22,710,572.58	19,501,123.00	14,570,140.00	21,072,386.58	19,031,193.75	-	40,103,580.33
2013	34,199,483.00	21,903,549.80	20,539,935.00	14,570,140.00	20,992,957.80	17,979,175.00	-	38,972,132.80
2014	36,063,026.00	23,307,892.38	21,634,825.00	14,570,140.00	23,165,953.38	19,767,943.75	-	42,933,897.13
2015	38,029,091.00	23,016,243.74	22,788,853.00	14,570,140.00	23,686,341.74	19,378,725.00	-	43,065,066.74
2016	40,103,364.00	23,016,243.74	24,005,250.00	14,570,140.00	24,544,217.74	19,379,837.50	-	43,924,055.24
2017	42,291,849.00	23,016,243.74	25,287,422.00	14,570,140.00	25,450,530.74	14,138,362.50	-	39,588,893.24
2018	44,600,888.00	23,016,243.74	26,638,962.00	14,570,140.00	26,408,029.74	-	-	26,408,029.74
2019	47,037,171.00	23,016,243.74	28,063,665.00	14,570,140.00	27,419,609.74	-	-	27,419,609.74
2020	49,607,771.00	23,016,243.74	29,565,530.00	14,570,140.00	28,488,344.74	-	-	28,488,344.74
2021	52,320,147.00	23,016,243.74	31,148,783.00	14,570,140.00	29,617,467.74	-	-	29,617,467.74
2022	55,182,183.00	23,016,243.74	32,817,879.00	14,570,140.00	30,810,407.74	-	-	30,810,407.74
2023	58,202,197.00	23,016,243.74	34,577,520.00	14,570,140.00	32,070,780.74	-	-	32,070,780.74
2024	61,388,981.00	23,016,243.74	36,432,667.00	14,570,140.00	33,402,417.74	-	-	33,402,417.74
						563,545,080.63		

Problem 3

Defined Benefit Plan

Problem 3: Defined Benefit Plan

- Employees displeased with Defined Benefit
- Employees' Benefit set for life at retirement
- Single distribution option
- No interest paid at termination
- Poor survivor benefits

Resolution to Problem 3: Offer a Defined Contribution Plan

- Nationally Portable
- Funds can continue to grow after retirement
- Flexible, individually tailored payout and survivorship options
- Participant-directed investments
- Retirement benefit not set by a predetermined formula

Defined Contribution Plan's Impact on Amortization

- Assumed:
 - City Contribution 3% of pay
 - Employee Contribution 5% of pay
 - All employees under age 40 elect
- Impact:
 - Amortization payment decreased by \$477,000 a year for 20 years

Necessary Steps to offer a Defined Contribution Plan

- Bargainable item with each union
- Change state laws governing City's Pension Plans

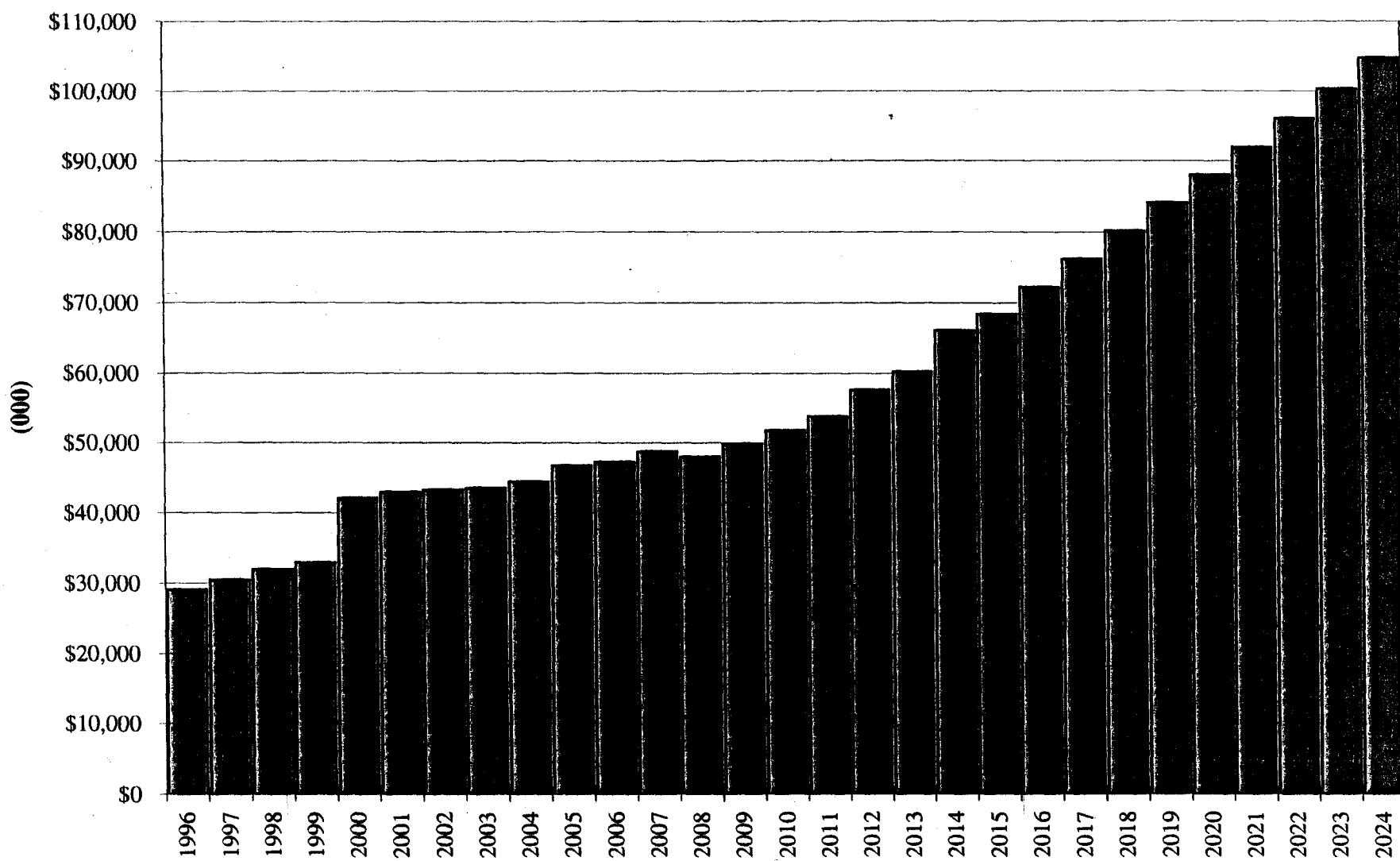


Proposed Debt Restructuring

Proposed Debt Restructuring

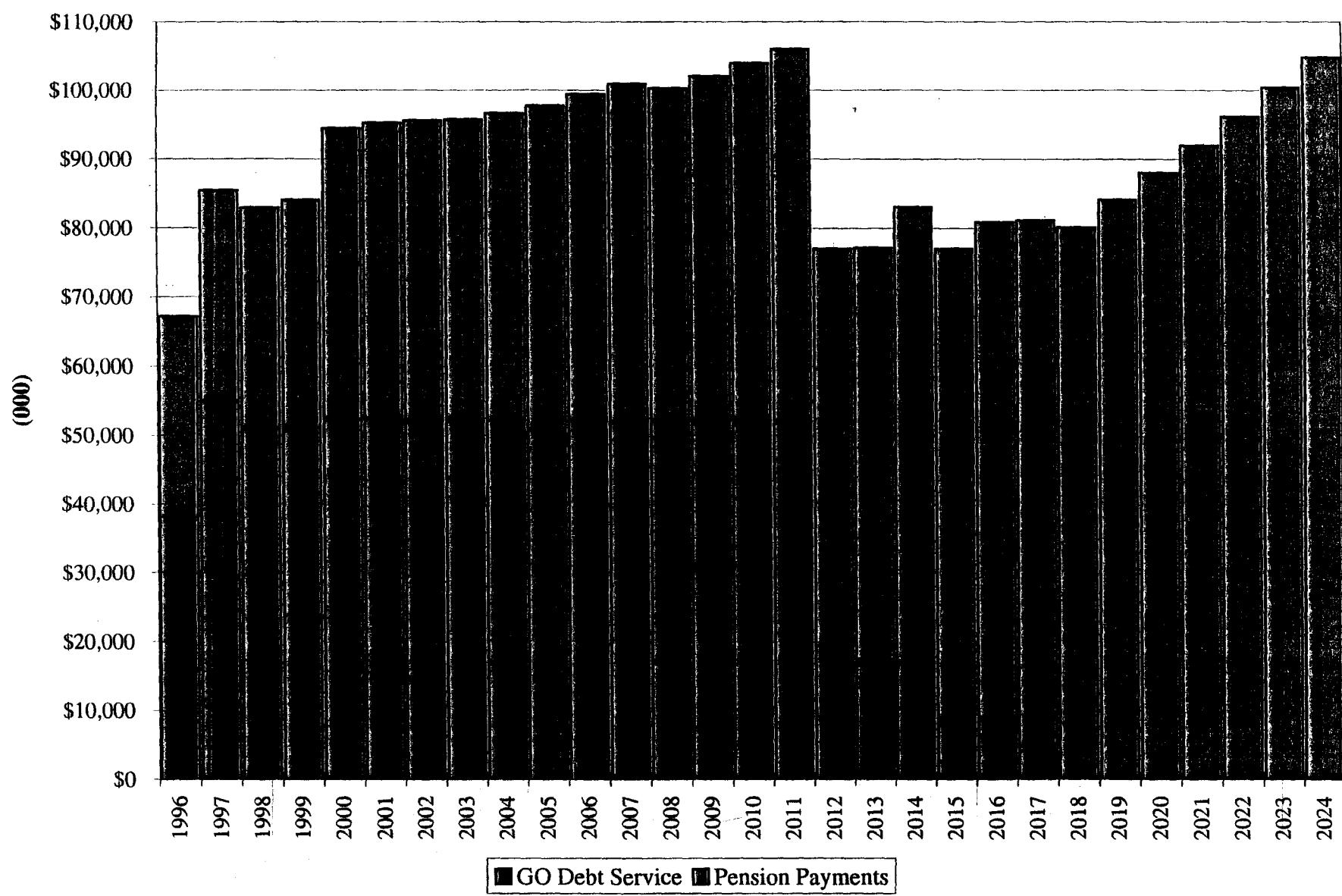
- Refund Outstanding \$163.7 Million Tax-Exempt Bonds, Series 1986-B
- Issue \$300 Million of Pension Bonds
- Pay Remaining UAAL Using Level Amortization
- PV Savings: \$66.6 Million
- Gross Savings: \$352.1 Million

Current Pension Amortization Payments

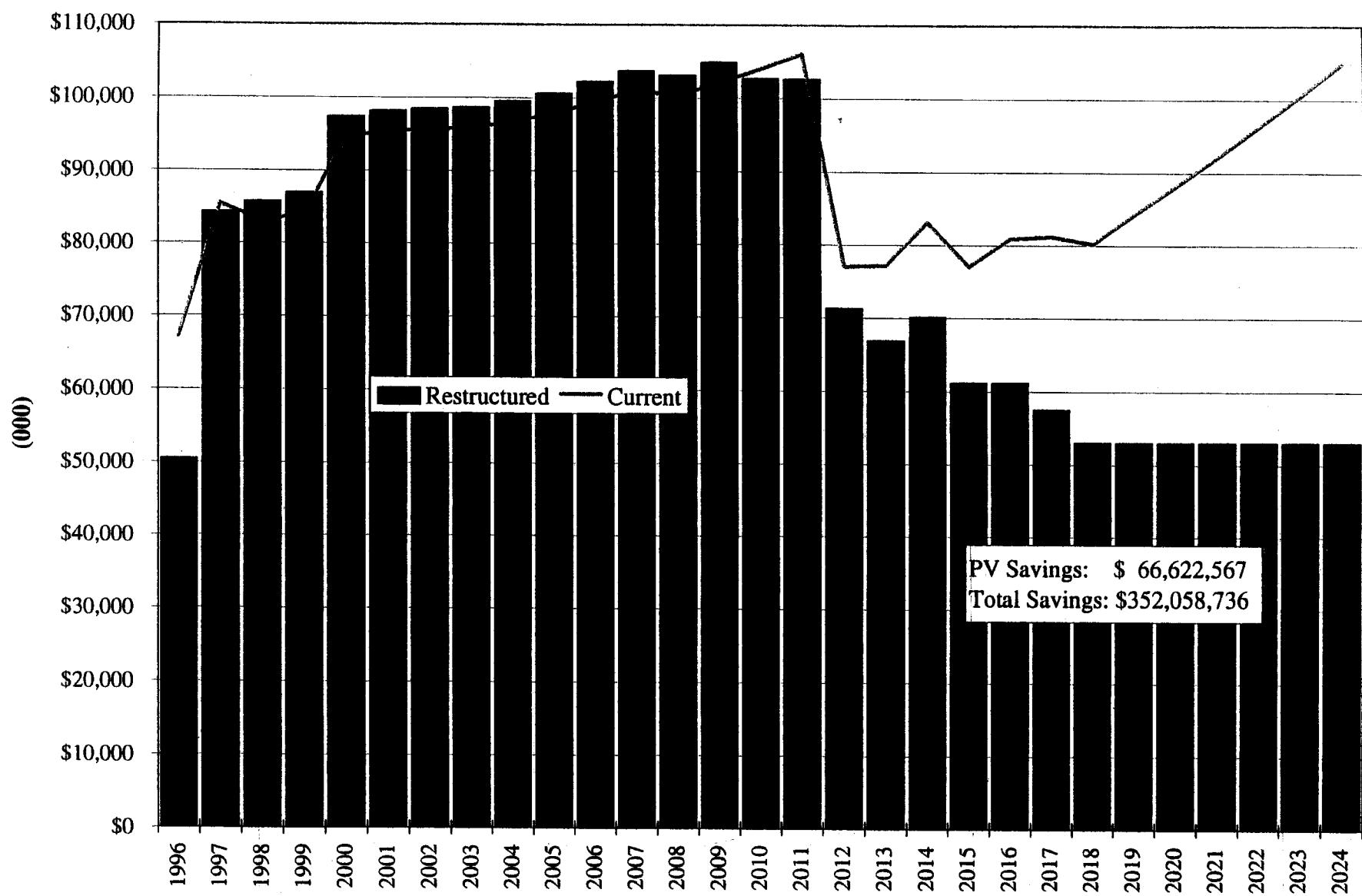


Assuming Municipal Plan Default

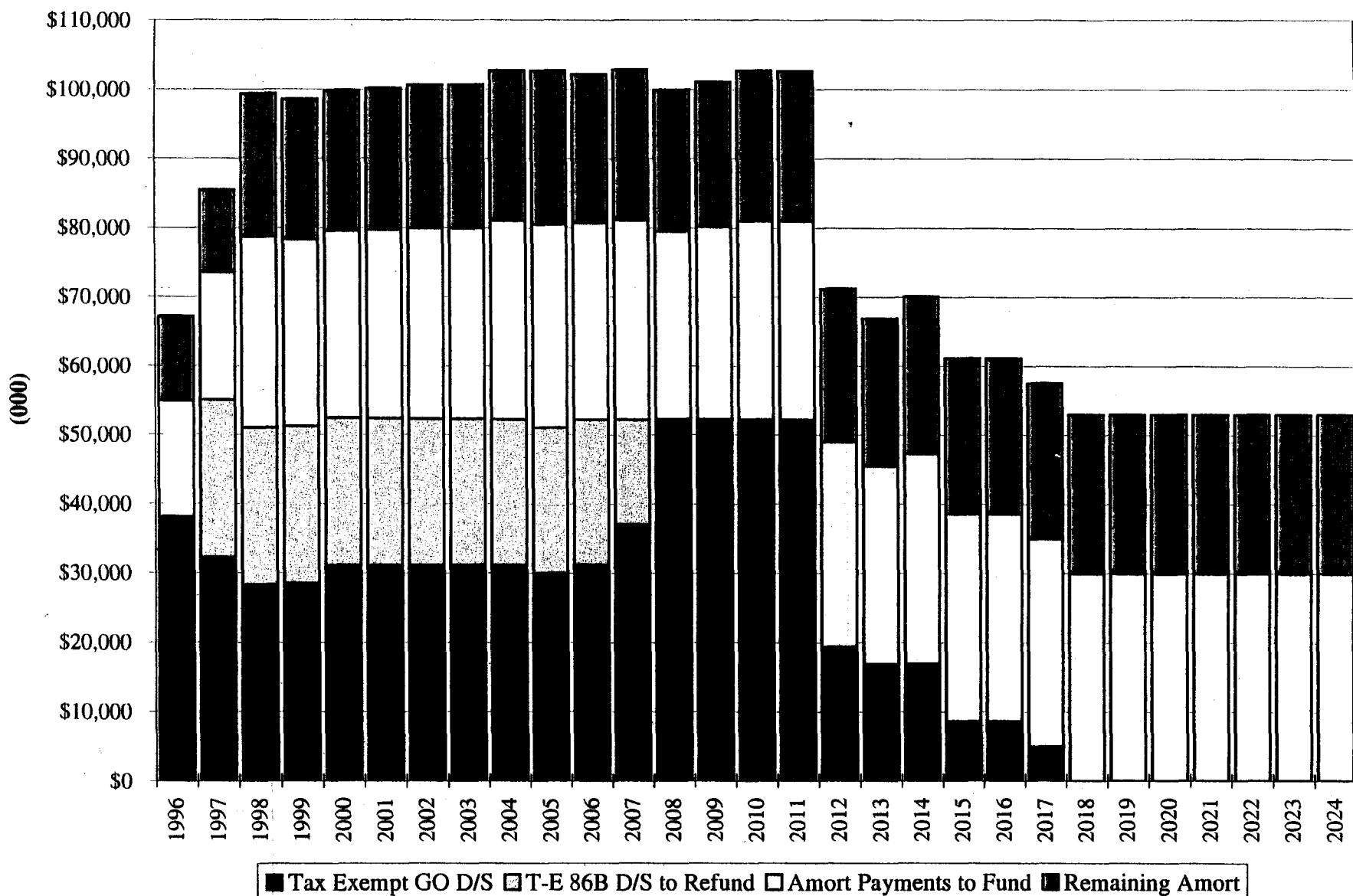
Combined Pension Amortization and G.O. Debt Service Payments



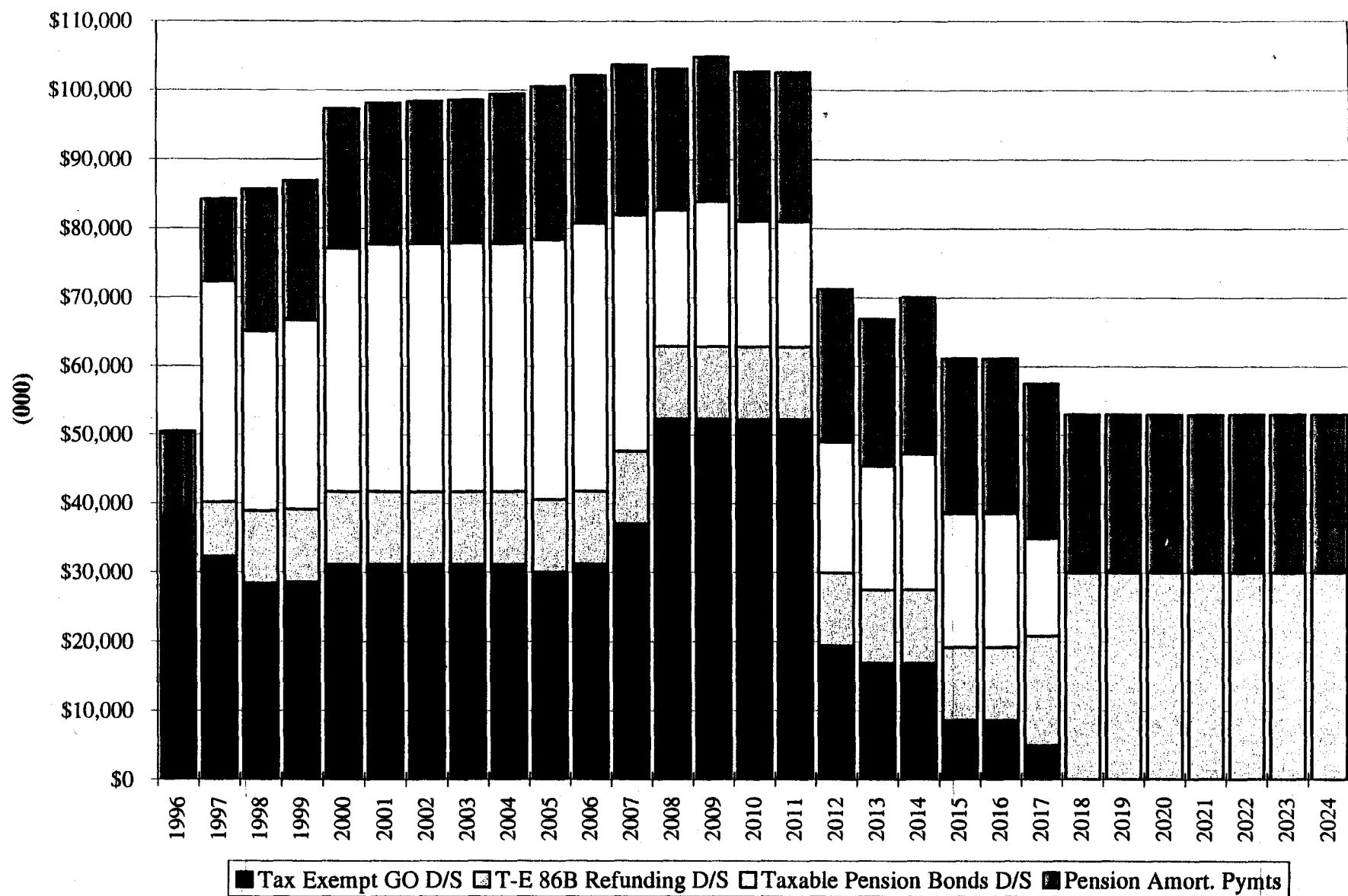
Restructured Pension and G.O. Debt



Components of Restructured Debt Before Restructuring



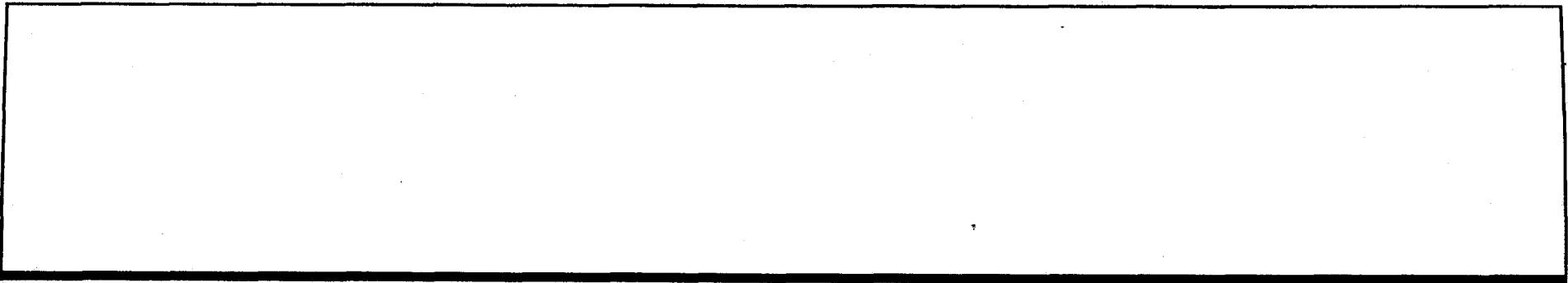
Components of Restructured Debt After Restructuring



Year	Annual Savings from Restructuring					
	<1.0%	<0.75%	<0.5%	<0.25%	Current Rates	>0.25%
Assuming various changes in interest rates						
1996 \$ 16,757,243.00 \$ 16,757,243.00 \$ 16,757,243.00 \$ 16,757,243.00 \$ 16,757,243.00 \$ 16,757,243.00 \$ 16,757,243.00						
1997 18,940,322.21 9,636,004.08 1,824,225.33 1,711,184.08 1,203,749.08 1,204,108.46						
1998 1,702,390.48 63,335.48 (349,827.02) (1,731,489.52) (2,767,623.02) (4,139,148.27)						
1999 43,343.75 79,826.25 (346,543.75) (1,806,317.50) (2,832,823.75) (4,134,563.75)						
2000 48,329.75 85,722.25 (312,280.25) (1,805,775.25) (2,835,155.25) (4,129,817.75)						
2001 79,530.37 22,072.87 (302,984.63) (1,806,748.38) (2,835,272.13) (4,127,339.63)						
2002 48,166.63 69,302.88 (304,339.62) (1,804,297.12) (2,831,659.62) (4,123,537.12)						
2003 86,390.84 91,938.34 (308,482.91) (1,800,839.16) (2,845,867.91) (4,144,236.66)						
2004 47,777.74 56,365.24 (301,471.01) (1,796,422.26) (2,784,436.01) (4,133,129.76)						
2005 44,269.64 32,529.64 (307,069.11) (1,801,122.66) (2,785,291.61) (4,134,742.86)						
2006 76,350.25 82,875.25 (306,926.00) (1,798,394.75) (2,777,082.25) (4,135,709.75)						
2007 52,090.19 52,446.44 (308,379.81) (1,810,642.31) (2,750,417.31) (4,102,663.56)						
2008 348,879.68 348,185.93 (308,379.81) (1,810,642.31) (2,750,417.31) (4,102,663.56)						
2009 951,246.05 953,833.55 (951,751.05) (950,169.80) (2,791,036.45) (4,121,657.70)						
2010 1,316,693.37 1,315,862.12 (1,314,623.37) (1,317,892.12) (1,314,835.87) (1,314,664.62)						
2011 3,416,944.79 3,415,738.54 (3,418,012.29) (3,413,968.54) (3,417,687.29) (3,418,472.29)						
2012 5,762,462.20 5,763,568.45 (5,762,060.95) (5,763,423.45) (5,761,454.70) (5,760,733.45)						
2013 10,246,299.23 10,246,549.23 (10,243,310.48) (10,246,579.23) (10,245,829.23) (10,245,326.73)						
2014 12,977,002.65 12,975,527.65 (12,974,532.65) (12,973,707.65) (12,977,788.90) (12,976,330.15)						
2015 15,868,033.25 15,870,277.00 (15,867,019.50) (15,867,644.50) (15,866,944.50) (15,869,742.00)						
2016 19,734,814.94 19,734,627.44 (19,733,032.44) (19,733,907.44) (19,732,494.94) (19,733,267.44)						
2017 23,686,148.23 23,686,069.48 (23,687,290.73) (23,685,049.48) (23,684,523.23) (23,685,148.23)						
2018 27,174,525.69 27,171,863.19 (27,173,680.69) (27,174,088.19) (27,172,190.69) (27,174,190.69)						
2019 31,168,847.09 31,168,869.59 (31,167,680.84) (31,165,724.59) (31,168,093.34) (31,169,282.09)						
2020 35,028,599.65 35,031,830.90 (35,032,674.65) (35,031,612.15) (35,033,474.65) (35,033,068.40)						
2021 38,989,290.15 38,991,002.65 (38,989,377.65) (38,989,790.15) (38,991,940.15) (38,990,946.40)						
2022 43,155,890.03 43,158,915.03 (43,158,915.03) (43,157,077.53) (43,156,040.03) (43,156,077.53)						
2023 47,377,632.54 47,379,432.54 (47,379,432.54) (47,379,201.29) (47,377,157.54) (47,375,338.79)						
2024 51,803,944.10 51,802,819.10 (51,802,819.10) (51,802,387.85) (51,802,044.10) (51,801,787.85)						
Total \$ 406,933,458.50 \$ 396,043,221.63 \$ 384,435,012.88 \$ 369,510,744.13 \$ 352,058,736.63 \$ 336,106,619.75						
PV \$ 116,484,418.32 \$ 103,539,482.18 \$ 91,041,743.33 \$ 78,825,549.58 \$ 66,622,567.15 \$ 54,903,096.14						

Interest Rate Sensitivity Analysis
(assuming same demand as in Act 205)





Restructuring Detail

Restructuring Detail
Level Amortization, Pension Bonds and Defined Contribution With Tax-Exempt Refunding
 (assuming amendment to Act 205 and closing in 1996)

Date	Current Situation			Switch to Level Pension Amortization and Defined Contribution					
	Escalating * Pension Payments A	Outstanding G.O. Debt Service B	Pension and G.O. Debt Service C (A + B)	Level Pension Payments D	Escalating To Level Difference E (A - D)	Level with Defined Contribution Pension Payments F	Defined Contribution Difference G (D - F)	Level Pension Payments with D.C. and G.O. Debt Service H (B + F)	Difference I (C - H)
1996	29,047,876.00	38,127,068.50	67,174,944.50	29,047,876.00	-	29,047,876.00	-	67,174,944.50	-
1997	30,449,563.00	54,991,431.25	85,440,994.25	30,449,563.00	-	30,449,563.00	-	85,440,994.25	-
1998	31,907,317.00	51,005,578.13	82,912,895.13	48,830,010.58	(16,922,693.58)	48,353,010.58	477,000.00	99,358,588.71	(16,445,693.58)
1999	32,873,957.00	51,191,830.00	84,065,787.00	47,816,318.58	(14,942,361.58)	47,339,318.58	477,000.00	98,531,148.58	(14,465,361.58)
2000	42,061,693.00	52,427,603.75	94,489,296.75	47,816,318.58	(5,754,625.58)	47,339,318.58	477,000.00	99,766,922.33	(5,277,625.58)
2001	42,901,589.00	52,372,140.00	95,273,729.00	48,228,304.58	(5,326,715.58)	47,751,304.58	477,000.00	100,123,444.58	(4,849,715.58)
2002	43,262,084.00	52,308,197.50	95,570,281.50	48,734,317.58	(5,472,233.58)	48,257,317.58	477,000.00	100,565,515.08	(4,995,233.58)
2003	43,479,670.00	52,279,602.50	95,759,272.50	48,826,645.58	(5,346,975.58)	48,349,645.58	477,000.00	100,629,248.08	(4,869,975.58)
2004	44,408,466.00	52,240,516.25	96,648,982.25	50,929,034.58	(6,520,568.58)	50,452,034.58	477,000.00	102,692,550.83	(6,043,568.58)
2005	46,743,353.00	51,011,396.25	97,754,749.25	52,133,991.58	(5,390,638.58)	51,656,991.58	477,000.00	102,668,387.83	(4,913,638.58)
2006	47,229,738.00	52,171,609.38	99,401,347.38	50,418,990.58	(3,189,252.58)	49,941,990.58	477,000.00	102,113,599.96	(2,712,252.58)
2007	48,733,816.00	52,182,727.50	100,916,543.50	51,127,614.58	(2,393,798.58)	50,650,614.58	477,000.00	102,833,342.08	(1,916,798.58)
2008	47,997,088.00	52,296,827.50	100,293,915.50	48,126,288.58	(129,200.58)	47,649,288.58	477,000.00	99,946,116.08	347,799.42
2009	49,756,321.00	52,268,650.00	102,024,971.00	49,281,953.58	474,367.42	48,804,953.58	477,000.00	101,073,603.58	951,367.42
2010	51,736,573.00	52,226,307.50	103,962,880.50	50,896,617.58	839,955.42	50,419,617.58	477,000.00	102,645,925.08	1,316,955.42
2011	53,781,467.00	52,202,606.25	105,984,073.25	50,841,921.58	2,939,545.42	50,364,921.58	477,000.00	102,567,527.83	3,416,545.42
2012	57,599,198.53	19,375,912.50	76,975,111.03	52,313,031.58	5,286,166.95	51,836,031.58	477,000.00	71,211,944.08	5,763,166.95
2013	60,224,531.53	16,885,150.00	77,109,681.53	50,455,836.22	9,768,695.31	49,978,836.22	477,000.00	66,863,986.22	10,245,695.31
2014	66,149,602.53	16,904,068.75	83,053,671.28	53,650,562.22	12,499,040.31	53,173,562.22	477,000.00	70,077,630.97	12,976,040.31
2015	68,357,890.74	8,612,818.75	76,970,709.49	52,967,106.22	15,390,784.53	52,490,106.22	477,000.00	61,102,924.97	15,867,784.53
2016	72,224,553.69	8,616,450.00	80,841,003.69	52,967,106.22	19,257,447.47	52,490,106.22	477,000.00	61,106,556.22	19,734,447.47
2017	76,175,806.97	4,966,650.00	81,142,456.97	52,967,106.22	23,208,700.76	52,490,106.22	477,000.00	57,456,756.22	23,685,700.76
2018	80,140,784.43		80,140,784.43	52,967,106.22	27,173,678.21	52,967,106.22	-	52,967,106.22	27,173,678.21
2019	84,134,900.83		84,134,900.83	52,967,106.22	31,167,794.62	52,967,106.22	-	52,967,106.22	31,167,794.62
2020	87,998,218.39		87,998,218.39	52,967,106.22	35,031,112.18	52,967,106.22	-	52,967,106.22	35,031,112.18
2021	91,957,033.89		91,957,033.89	52,967,106.22	38,989,927.67	52,967,106.22	-	52,967,106.22	38,989,927.67
2022	96,123,883.78		96,123,883.78	52,967,106.22	43,156,777.56	52,967,106.22	-	52,967,106.22	43,156,777.56
2023	100,344,751.28		100,344,751.28	52,967,106.22	47,377,645.06	52,967,106.22	-	52,967,106.22	47,377,645.06
2024	104,770,687.84		104,770,687.84	52,967,106.22	51,803,581.63	52,967,106.22	-	52,967,106.22	51,803,581.63
Total	1,732,572,415.43	896,665,142.25	2,629,237,557.68	1,439,596,259.32	292,976,156.11	1,430,056,259.32	9,540,000.00	2,326,721,401.57	302,516,156.11
PV					3,715,114.00		4,433,013.00		8,148,127.00

* Includes Cost of Municipal Plan Default.

Restructuring Detail
Level Amortization, Pension Bonds and Defined Contribution With Tax-Exempt Refunding
 (assuming amendment to Act 205 and closing in 1996)

Date	<i>Tax Exempt Refunding and Pension Bonds</i>						
	T -E Debt Service to be Refunded <i>J</i>	Portion of Level Pension Payments to Fund with Bonds <i>K</i>	Debt Service Target for Pension and Tax Exempt Bonds <i>L</i> (<i>J + K</i>)	Tax Exempt Bonds Debt Service <i>M</i>	Pension Bonds Debt Service <i>N</i>	Tax Exempt and Pension Bonds Debt Service <i>O</i> (<i>M + N</i>)	Savings/ (Dissavings) From Target <i>P</i> (<i>L - O</i>)
1996							
1997	22,731,612.50	18,482,444.08	41,214,056.58	7,929,733.13	32,080,574.38	40,010,307.50	1,203,749.08
1998	22,686,715.63	27,678,455.93	50,365,171.56	10,572,977.50	26,114,132.50	36,687,110.00	13,678,061.56
1999	22,644,950.00	27,099,967.83	49,744,917.83	10,572,977.50	27,539,402.50	38,112,380.00	11,632,537.83
2000	21,309,975.00	27,099,967.83	48,409,942.83	10,572,977.50	35,394,495.00	45,967,472.50	2,442,470.33
2001	21,263,375.00	27,327,483.46	48,590,858.46	10,572,977.50	36,003,437.50	46,576,415.00	2,014,443.46
2002	21,212,375.00	27,600,151.46	48,812,526.46	10,572,977.50	36,075,975.00	46,648,952.50	2,163,573.96
2003	21,147,950.00	27,640,486.42	48,788,436.42	10,572,977.50	36,191,351.25	46,764,328.75	2,024,107.67
2004	21,090,375.00	28,806,268.83	49,896,643.83	10,572,977.50	36,064,533.75	46,637,511.25	3,259,132.58
2005	21,029,225.00	29,495,115.72	50,524,340.72	10,572,977.50	37,823,016.25	48,395,993.75	2,128,346.97
2006	20,954,425.00	28,534,322.83	49,488,747.83	10,572,977.50	38,980,600.00	49,553,577.50	(64,829.67)
2007	15,162,750.00	28,933,233.78	44,095,983.78	10,572,977.50	34,356,625.00	44,929,602.50	(833,618.72)
2008	-	27,235,425.27	27,235,425.27	10,572,977.50	19,780,225.00	30,353,202.50	(3,117,777.23)
2009	-	27,885,198.63	27,885,198.63	10,572,977.50	21,054,625.00	31,627,602.50	(3,742,403.87)
2010	-	28,793,482.95	28,793,482.95	10,572,977.50	18,222,625.00	28,795,602.50	(2,119.55)
2011	-	28,762,344.37	28,762,344.37	10,572,977.50	18,188,225.00	28,761,202.50	1,141.87
2012	-	29,602,459.00	29,602,459.00	10,572,977.50	19,031,193.75	29,604,171.25	(1,712.25)
2013	-	28,552,286.41	28,552,286.41	10,572,977.50	17,979,175.00	28,552,152.50	133.91
2014	-	30,342,669.84	30,342,669.84	10,572,977.50	19,767,943.75	30,340,921.25	1,748.59
2015	-	29,950,862.47	29,950,862.47	10,572,977.50	19,378,725.00	29,951,702.50	(840.03)
2016	-	29,950,862.47	29,950,862.47	10,572,977.50	19,379,837.50	29,952,815.00	(1,952.53)
2017	-	29,950,862.47	29,950,862.47	15,813,677.50	14,138,362.50	29,952,040.00	(1,177.53)
2018	-	29,950,862.47	29,950,862.47	29,950,452.50	-	29,950,452.50	409.97
2019	-	29,950,862.47	29,950,862.47	29,950,563.75	-	29,950,563.75	298.72
2020	-	29,950,862.47	29,950,862.47	29,948,500.00	-	29,948,500.00	2,362.47
2021	-	29,950,862.47	29,950,862.47	29,948,850.00	-	29,948,850.00	2,012.47
2022	-	29,950,862.47	29,950,862.47	29,951,600.00	-	29,951,600.00	(737.53)
2023	-	29,950,862.47	29,950,862.47	29,951,350.00	-	29,951,350.00	(487.53)
2024	-	29,950,862.47	29,950,862.47	29,952,400.00	-	29,952,400.00	(1,537.53)
Total	231,233,728.13	799,380,389.39	1,030,614,117.52	434,283,699.38	563,545,080.63	997,828,780.00	32,785,337.52
PV							

Restructuring Detail
Level Amortization, Pension Bonds and Defined Contribution With Tax-Exempt Refunding
(assuming amendment to Act 205 and closing in 1996)

Date	<i>Restructured Debt Service and Pension Payments</i>				
	T-E Debt Service not Refunded <i>Q</i> <i>(B - J)</i>	Tax-Exempt and Pension Bonds		Savings/ (Dissavings) from Current <i>T</i> <i>(C - O)</i>	PV Savings/ (Dissavings) <i>U</i>
		Remaining Level w/ DC Pension Payments <i>R</i> <i>(F - K)</i>	Debt Service PLUS Pension Payments <i>S</i> <i>(O + Q + R)</i>		
1996	38,127,068.50	12,290,633.00	50,417,701.50	16,757,243.00	16,757,243.00
1997	32,259,818.75	11,967,118.92	84,237,245.17	1,203,749.08	1,140,231.45
1998	28,318,862.50	20,674,554.65	85,680,527.15	(2,767,632.02)	(2,438,792.15)
1999	28,546,880.00	20,239,350.75	86,898,610.75	(2,832,823.75)	(2,322,177.39)
2000	31,117,628.75	20,239,350.75	97,324,452.00	(2,835,155.25)	(2,162,031.81)
2001	31,108,765.00	20,423,821.13	98,109,001.13	(2,835,272.13)	(2,011,357.99)
2002	31,095,822.50	20,657,166.12	98,401,941.12	(2,831,659.62)	(1,868,723.60)
2003	31,131,652.50	20,709,159.16	98,605,140.41	(2,845,867.91)	(1,747,141.81)
2004	31,150,141.25	21,645,765.76	99,433,418.26	(2,784,436.01)	(1,590,230.41)
2005	29,982,171.25	22,161,875.86	100,540,040.86	(2,785,291.61)	(1,479,799.51)
2006	31,217,184.38	21,407,667.75	102,178,429.62	(2,777,082.25)	(1,372,556.87)
2007	37,019,977.50	21,717,380.81	103,666,960.81	(2,750,417.31)	(1,264,589.56)
2008	52,296,827.50	20,413,863.32	103,063,893.32	(2,769,977.82)	(1,184,777.19)
2009	52,268,650.00	20,919,754.95	104,816,007.45	(2,791,036.45)	(1,110,542.79)
2010	52,226,307.50	21,626,134.63	102,648,044.63	1,314,835.87	486,688.10
2011	52,202,606.25	21,602,577.21	102,566,385.96	3,417,687.29	1,176,849.44
2012	19,375,912.50	22,233,572.58	71,213,656.33	5,761,454.70	1,845,568.32
2013	16,885,150.00	21,426,549.80	66,863,852.30	10,245,829.23	3,053,194.59
2014	16,904,068.75	22,830,892.38	70,075,882.38	12,977,788.90	3,597,638.09
2015	8,612,818.75	22,539,243.74	61,103,764.99	15,866,944.50	4,091,847.74
2016	8,616,450.00	22,539,243.74	61,108,508.74	19,732,494.94	4,733,883.41
2017	4,966,650.00	22,539,243.74	57,457,933.74	23,684,523.23	5,285,786.28
2018	-	23,016,243.74	52,966,696.24	27,174,088.19	5,641,691.42
2019	-	23,016,243.74	52,966,807.49	31,168,093.34	6,019,687.95
2020	-	23,016,243.74	52,964,743.74	35,033,474.65	6,294,429.18
2021	-	23,016,243.74	52,965,093.74	38,991,940.15	6,517,144.93
2022	-	23,016,243.74	52,967,843.74	43,156,040.03	6,710,169.90
2023	-	23,016,243.74	52,967,593.74	47,377,157.54	6,852,835.79
2024	-	23,016,243.74	52,968,643.74	51,802,044.10	6,970,398.65
Total	665,431,414.13	613,918,626.93	2,277,178,821.06	352,058,736.63	66,622,567.15
PV					

Taxable Interest Rate Scale				Tax-Exempt Scale		
Date	Treasuries (6/7/96)	Spread	Pension Bonds Coupon	Date	Tax-Exempt Coupon	
1-Dec-96				1-Dec-96		
1-Mar-97	5.650%	0.300%	5.950%	1-Mar-97	3.70%	
1-Sep-97				1-Sep-97		
1-Mar-98	6.100%	0.400%	6.500%	1-Mar-98	4.25%	
1-Sep-98				1-Sep-98		
1-Mar-99	6.300%	0.500%	6.800%	1-Mar-99	4.55%	
1-Sep-99				1-Sep-99		
1-Mar-00	6.450%	0.600%	7.050%	1-Mar-00	4.70%	
1-Sep-00				1-Sep-00		
1-Mar-01	6.500%	0.700%	7.200%	1-Mar-01	4.80%	
1-Sep-01				1-Sep-01		
1-Mar-02	6.550%	0.800%	7.350%	1-Mar-02	4.90%	
1-Sep-02				1-Sep-02		
1-Mar-03	6.600%	0.850%	7.450%	1-Mar-03	5.00%	
1-Sep-03				1-Sep-03		
1-Mar-04	6.650%	0.900%	7.550%	1-Mar-04	5.10%	
1-Sep-04				1-Sep-04		
1-Mar-05	6.700%	0.950%	7.650%	1-Mar-05	5.20%	
1-Sep-05				1-Sep-05		
1-Mar-06	6.750%	1.000%	7.750%	1-Mar-06	5.30%	
1-Sep-06				1-Sep-06		
1-Mar-07	6.900%	1.100%	8.000%	1-Mar-07	5.40%	
1-Sep-07				1-Sep-07		
1-Mar-08	6.900%	1.100%	8.000%	1-Mar-08	5.50%	
1-Sep-08				1-Sep-08		
1-Mar-09	6.900%	1.100%	8.000%	1-Mar-09	5.60%	
1-Sep-09				1-Sep-09		
1-Mar-10	6.900%	1.100%	8.000%	1-Mar-10	5.65%	
1-Sep-10				1-Sep-10		
1-Mar-11	6.900%	1.100%	8.000%	1-Mar-11	5.70%	
1-Sep-11				1-Sep-11		
1-Mar-12	7.100%	1.150%	8.250%	1-Mar-12	5.75%	
1-Sep-12				1-Sep-12		
1-Mar-13	7.100%	1.150%	8.250%	1-Mar-13	5.80%	
1-Sep-13				1-Sep-13		
1-Mar-14	7.100%	1.150%	8.250%	1-Mar-14	5.85%	
1-Sep-14				1-Sep-14		
1-Mar-15	7.100%	1.150%	8.250%	1-Mar-15	5.90%	
1-Sep-15				1-Sep-15		
1-Mar-16	7.100%	1.150%	8.250%	1-Mar-16	5.90%	
1-Sep-16				1-Sep-16		
1-Mar-17	7.100%	1.200%	8.300%	1-Mar-17	5.90%	
1-Sep-17				1-Sep-17		
1-Mar-18	7.100%	1.200%	8.300%	1-Mar-18	5.95%	
1-Sep-18				1-Sep-18		
1-Mar-19	7.100%	1.200%	8.300%	1-Mar-19	5.95%	
1-Sep-19				1-Sep-19		
1-Mar-20	7.100%	1.200%	8.300%	1-Mar-20	6.00%	
1-Sep-20				1-Sep-20		
1-Mar-21	7.100%	1.200%	8.300%	1-Mar-21	6.00%	
1-Sep-21				1-Sep-21		
1-Mar-22	7.100%	1.250%	8.350%	1-Mar-22	6.00%	
1-Sep-22				1-Sep-22		
1-Mar-23	7.100%	1.250%	8.350%	1-Mar-23	6.00%	
1-Sep-23				1-Sep-23		
1-Mar-24	7.100%	1.250%	8.350%	1-Mar-24	6.00%	
1-Sep-24				1-Sep-24		
1-Mar-25	7.100%	1.250%	8.350%	1-Mar-25	6.00%	
1-Sep-25				1-Sep-25		
1-Mar-26	7.100%	1.250%	8.350%	1-Mar-26	6.00%	

Note:

Treas rates estimated from WSJ, 6/7
Spread resembles URA
special tax development bonds
taxable series of 1995

TE rates from Bond Buyer,
AAA (ins.) GO Ylds,
Municipal Market Data., 6/7/96.

Assumptions
Tax-Exempt Refunding
and Pension Bonds

Estimated Financing Costs:

Underwriter's Discount	1.000%	1,766,550.00
Fixed Costs		300,000.00
Insurance Premium	0.500%	2,171,418.50
Total		4,237,968.50

Estimated Dates:

Dated	1-Dec-96
Settlement	1-Dec-96
First Coupon	1-Mar-97

Estimated Days:

Dated to Settlement	0
Dated to First Coupon	90

Estimated Sources and Uses
Tax-Exempt Refunding

Sources

Principal Amount of Bonds	176,655,000.00
Underwriter's Discount	(1,766,550.00)
Accrued Interest	
Total	174,888,450.00

Uses

Call Requirement	172,415,096.88
Insurance Premium	2,171,418.50
Financing Costs	300,000.00
Miscellaneous	1,934.63
Accrued Interest	
Total	174,888,450.00

TIC **7.4956%**

Debt Service - 1986B Refunded Bonds

Date	Principal	Coupon	Interest	Semiannual Debt Service	Annual Debt Service
1-Dec-96					
1-Mar-97	11,715,000	6.750%	5,705,996.88	17,420,996.88	
1-Sep-97			5,310,615.63	5,310,615.63	22,731,612.50
1-Mar-98	12,495,000	6.875%	5,310,615.63	17,805,615.63	
1-Sep-98			4,881,100.00	4,881,100.00	22,686,715.63
1-Mar-99	13,350,000	7.000%	4,881,100.00	18,231,100.00	
1-Sep-99			4,413,850.00	4,413,850.00	22,644,950.00
1-Mar-00	12,935,000	7.000%	4,413,850.00	17,348,850.00	
1-Sep-00			3,961,125.00	3,961,125.00	21,309,975.00
1-Mar-01	13,825,000	7.000%	3,961,125.00	17,786,125.00	
1-Sep-01			3,477,250.00	3,477,250.00	21,263,375.00
1-Mar-02	14,775,000	7.000%	3,477,250.00	18,252,250.00	
1-Sep-02			2,960,125.00	2,960,125.00	21,212,375.00
1-Mar-03	15,780,000	7.000%	2,960,125.00	18,740,125.00	
1-Sep-03			2,407,825.00	2,407,825.00	21,147,950.00
1-Mar-04	16,865,000	7.000%	2,407,825.00	19,272,825.00	
1-Sep-04			1,817,550.00	1,817,550.00	21,090,375.00
1-Mar-05	18,025,000	7.000%	1,817,550.00	19,842,550.00	
1-Sep-05			1,186,675.00	1,186,675.00	21,029,225.00
1-Mar-06	19,255,000	7.000%	1,186,675.00	20,441,675.00	
1-Sep-06			512,750.00	512,750.00	20,954,425.00
1-Mar-07	14,650,000	7.000%	512,750.00	15,162,750.00	
					15,162,750.00
Total	163,670,000		67,563,728.13	231,233,728.13	231,233,728.13

Call Requirement
Tax-Exempt Refunding

Date	Principal	Interest	Premium 2.00%	Total Call Requirement
1-Mar-97	163,670,000	5,705,997	3,039,100	172,415,097
Total	163,670,000	5,705,997	3,039,100	172,415,097

Debt Service Schedule - 1996 Refunding Bonds to Refund 1986A Bonds

Date	Principal	Coupon	Interest	Semiannual Debt Service	Annual Debt Service
1-Dec-96					
1-Mar-97			2,643,244	2,643,244	
1-Sep-97			5,286,489	5,286,489	7,929,733
1-Mar-98			5,286,489	5,286,489	
1-Sep-98			5,286,489	5,286,489	10,572,978
1-Mar-99			5,286,489	5,286,489	
1-Sep-99			5,286,489	5,286,489	10,572,978
1-Mar-00			5,286,489	5,286,489	
1-Sep-00			5,286,489	5,286,489	10,572,978
1-Mar-01			5,286,489	5,286,489	
1-Sep-01			5,286,489	5,286,489	10,572,978
1-Mar-02			5,286,489	5,286,489	
1-Sep-02			5,286,489	5,286,489	10,572,978
1-Mar-03			5,286,489	5,286,489	
1-Sep-03			5,286,489	5,286,489	10,572,978
1-Mar-04			5,286,489	5,286,489	
1-Sep-04			5,286,489	5,286,489	10,572,978
1-Mar-05			5,286,489	5,286,489	
1-Sep-05			5,286,489	5,286,489	10,572,978
1-Mar-06			5,286,489	5,286,489	
1-Sep-06			5,286,489	5,286,489	10,572,978
1-Mar-07			5,286,489	5,286,489	
1-Sep-07			5,286,489	5,286,489	10,572,978
1-Mar-08			5,286,489	5,286,489	
1-Sep-08			5,286,489	5,286,489	10,572,978
1-Mar-09			5,286,489	5,286,489	
1-Sep-09			5,286,489	5,286,489	10,572,978
1-Mar-10			5,286,489	5,286,489	
1-Sep-10			5,286,489	5,286,489	10,572,978
1-Mar-11			5,286,489	5,286,489	
1-Sep-11			5,286,489	5,286,489	10,572,978
1-Mar-12			5,286,489	5,286,489	
1-Sep-12			5,286,489	5,286,489	10,572,978
1-Mar-13			5,286,489	5,286,489	
1-Sep-13			5,286,489	5,286,489	10,572,978
1-Mar-14			5,286,489	5,286,489	
1-Sep-14			5,286,489	5,286,489	10,572,978
1-Mar-15			5,286,489	5,286,489	
1-Sep-15			5,286,489	5,286,489	10,572,978
1-Mar-16			5,286,489	5,286,489	
1-Sep-16			5,286,489	5,286,489	10,572,978
1-Mar-17	5,400,000.00	5.900%	5,286,489	10,686,489	
1-Sep-17			5,127,189	5,127,189	15,813,678
1-Mar-18	20,300,000.00	5.950%	5,127,189	25,427,189	
1-Sep-18			4,523,264	4,523,264	29,950,453
1-Mar-19	21,545,000.00	5.950%	4,523,264	26,068,264	
1-Sep-19			3,882,300	3,882,300	29,950,564
1-Mar-20	22,870,000.00	6.000%	3,882,300	26,752,300	
1-Sep-20			3,196,200	3,196,200	29,948,500
1-Mar-21	24,285,000.00	6.000%	3,196,200	27,481,200	
1-Sep-21			2,467,650	2,467,650	29,948,850
1-Mar-22	25,790,000.00	6.000%	2,467,650	28,257,650	
1-Sep-22			1,693,950	1,693,950	29,951,600
1-Mar-23	27,385,000.00	6.000%	1,693,950	29,078,950	
1-Sep-23			872,400	872,400	29,951,350
1-Mar-24	29,080,000.00	6.000%	872,400	29,952,400	
1-Sep-24				29,952,400	
Total	176,655,000.00		257,628,699	434,283,699	434,283,699

Sources and Uses of Funds
Pension Bonds

Sources

Principal Amount of Bonds	306,385,000.00
Underwriter's Discount	(3,063,850.00)
Accrued Interest	
Total	303,321,150.00

Uses

Pension Fund Deposit	300,000,000.00
Capitalized Interest	2,817,725.40
Insurance Premium	500,000.00
Financing Costs	3,424.60
Miscellaneous	
Accrued Interest	
Total	303,321,150.00
TIC	7.4956%

Pension Bonds Targets

Year	Pension Refunding Target	Tax-Exempt Refunded Debt Service	Tax-Exempt Refunding Debt Service	Net Pension Bonds Target
	A	B	C	(A + B - C)
1997	18,482,444	22,731,613	7,929,733	33,284,323
1998	27,678,456	22,686,716	10,572,978	39,792,194
1999	27,099,968	22,644,950	10,572,978	39,171,940
2000	27,099,968	21,309,975	10,572,978	37,836,965
2001	27,327,483	21,263,375	10,572,978	38,017,881
2002	27,600,151	21,212,375	10,572,978	38,239,549
2003	27,640,486	21,147,950	10,572,978	38,215,459
2004	28,806,269	21,090,375	10,572,978	39,323,666
2005	29,495,116	21,029,225	10,572,978	39,951,363
2006	28,534,323	20,954,425	10,572,978	38,915,770
2007	28,933,234	15,162,750	10,572,978	33,523,006
2008	27,235,425	-	10,572,978	16,662,448
2009	27,885,199	-	10,572,978	17,312,221
2010	28,793,483	-	10,572,978	18,220,505
2011	28,762,344	-	10,572,978	18,189,367
2012	29,602,459	-	10,572,978	19,029,482
2013	28,552,286	-	10,572,978	17,979,309
2014	30,342,670	-	10,572,978	19,769,692
2015	29,950,862	-	10,572,978	19,377,885
2016	29,950,862	-	10,572,978	19,377,885
2017	29,950,862	-	15,813,678	14,137,185
2018	29,950,862	-	29,950,453	410
2019	29,950,862	-	29,950,564	299
2020	29,950,862	-	29,948,500	2,362
2021	29,950,862	-	29,948,850	2,012
2022	29,950,862	-	29,951,600	(738)
2023	29,950,862	-	29,951,350	(488)
2024	29,950,862	-	29,952,400	(1,538)
Total	799,380,389	231,233,728	434,283,699	596,330,418

**Debt Service Schedule
Pension Bonds**

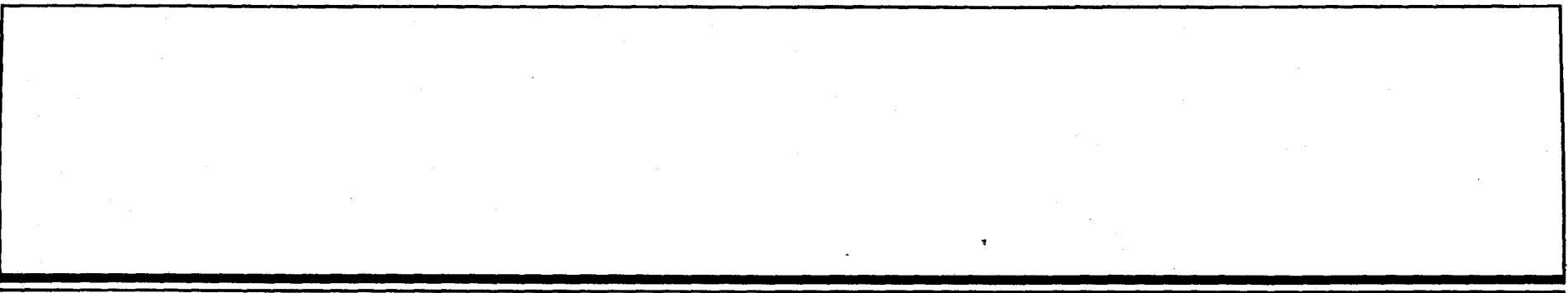
Date	Principal	Coupon	Interest	Semiannual Debt Service	Annual Debt Service	savings/ dissavings
1-Dec-96						16,757,243.00
1-Mar-97	14,800,000.00	5.950%	5,906,958.13	20,706,958.13		
1-Sep-97			11,373,616.25	11,373,616.25	32,080,574.38	1,203,749.08
1-Mar-98	3,480,000.00	6.500%	11,373,616.25	14,853,616.25		
1-Sep-98			11,260,516.25	11,260,516.25	26,114,132.50	(2,767,632.02)
1-Mar-99	5,195,000.00	6.800%	11,260,516.25	16,455,516.25		
1-Sep-99			11,083,886.25	11,083,886.25	27,539,402.50	(2,832,823.75)
1-Mar-00	13,710,000.00	7.050%	11,083,886.25	24,793,886.25		
1-Sep-00			10,600,608.75	10,600,608.75	35,394,495.00	(2,835,155.25)
1-Mar-01	15,355,000.00	7.200%	10,600,608.75	25,955,608.75		
1-Sep-01			10,047,828.75	10,047,828.75	36,003,437.50	(2,835,272.13)
1-Mar-02	16,590,000.00	7.350%	10,047,828.75	26,637,828.75		
1-Sep-02			9,438,146.25	9,438,146.25	36,075,975.00	(2,831,659.62)
1-Mar-03	17,985,000.00	7.450%	9,438,146.25	27,423,146.25		
1-Sep-03			8,768,205.00	8,768,205.00	36,191,351.25	(2,845,867.91)
1-Mar-04	19,255,000.00	7.550%	8,768,205.00	28,023,205.00		
1-Sep-04			8,041,328.75	8,041,328.75	36,064,533.75	(2,784,436.01)
1-Mar-05	22,605,000.00	7.650%	8,041,328.75	30,646,328.75		
1-Sep-05			7,176,687.50	7,176,687.50	37,823,016.25	(2,785,291.61)
1-Mar-06	25,620,000.00	7.750%	7,176,687.50	32,796,687.50		
1-Sep-06			6,183,912.50	6,183,912.50	38,980,600.00	(2,777,082.25)
1-Mar-07	22,905,000.00	8.000%	6,183,912.50	29,088,912.50		
1-Sep-07			5,267,712.50	5,267,712.50	34,356,625.00	(2,750,417.31)
1-Mar-08	9,630,000.00	8.000%	5,267,712.50	14,897,712.50		
1-Sep-08			4,882,512.50	4,882,512.50	19,780,225.00	(2,769,977.82)
1-Mar-09	11,760,000.00	8.000%	4,882,512.50	16,642,512.50		
1-Sep-09			4,412,112.50	4,412,112.50	21,054,625.00	(2,791,036.45)
1-Mar-10	9,790,000.00	8.000%	4,412,112.50	14,202,112.50		
1-Sep-10			4,020,512.50	4,020,512.50	18,222,625.00	1,314,835.87
1-Mar-11	10,570,000.00	8.000%	4,020,512.50	14,590,512.50		
1-Sep-11			3,597,712.50	3,597,712.50	18,188,225.00	3,417,687.29
1-Mar-12	12,345,000.00	8.250%	3,597,712.50	15,942,712.50		
1-Sep-12			3,088,481.25	3,088,481.25	19,031,193.75	5,761,454.70
1-Mar-13	12,310,000.00	8.250%	3,088,481.25	15,398,481.25		
1-Sep-13			2,580,693.75	2,580,693.75	17,979,175.00	10,245,829.23
1-Mar-14	15,235,000.00	8.250%	2,580,693.75	17,815,693.75		
1-Sep-14			1,952,250.00	1,952,250.00	19,767,943.75	12,977,788.90
1-Mar-15	16,140,000.00	8.250%	1,952,250.00	18,092,250.00		
1-Sep-15			1,286,475.00	1,286,475.00	19,378,725.00	15,866,944.50
1-Mar-16	17,530,000.00	8.250%	1,286,475.00	18,816,475.00		
1-Sep-16			563,362.50	563,362.50	19,379,837.50	19,732,494.94
1-Mar-17	13,575,000.00	8.300%	563,362.50	14,138,362.50		
1-Sep-17			-	-	14,138,362.50	23,684,523.23
1-Mar-18		8.300%	-	-		
1-Sep-18			-	-		27,174,088.19
1-Mar-19		8.300%	-	-		
1-Sep-19			-	-		31,168,093.34
1-Mar-20		8.300%	-	-		
1-Sep-20			-	-		35,033,474.65
1-Mar-21		8.300%	-	-		
1-Sep-21			-	-		38,991,940.15
1-Mar-22		8.350%	-	-		
1-Sep-22			-	-		43,156,040.03
1-Mar-23		8.350%	-	-		
1-Sep-23			-	-		47,377,157.54
1-Mar-24		8.350%	-	-		
1-Sep-24			-	-		51,802,044.10
Total	306,385,000.00		257,160,080.63	563,545,080.63	563,545,080.63	352,058,736.63

True Interest Cost
Pension Bonds

Date	Cash Out (1)	Cash In (2)	Net Cash Flow	PV Factor	
				7.4956%	PV Cash Flow
1-Dec-96	(702,214,522.69)		(702,214,522.69)	1.0000000	(702,214,522.69)
1-Mar-97	23,350,202.50	23,350,202.50	0.9817718	22,924,571.40	
1-Sep-97	28,627,223.92	28,627,223.92	0.9463063	27,090,121.67	
1-Mar-98	20,140,105.00	20,140,105.00	0.9121219	18,370,230.18	
1-Sep-98	37,221,559.65	37,221,559.65	0.8791723	32,724,165.59	
1-Mar-99	21,742,005.00	21,742,005.00	0.8474131	18,424,459.37	
1-Sep-99	36,609,725.75	36,609,725.75	0.8168011	29,902,863.92	
1-Mar-00	30,080,375.00	30,080,375.00	0.7872949	23,682,126.80	
1-Sep-00	36,126,448.25	36,126,448.25	0.7588547	27,414,723.45	
1-Mar-01	31,242,097.50	31,242,097.50	0.7314418	22,851,774.69	
1-Sep-01	35,758,138.63	35,758,138.63	0.7050191	25,210,171.54	
1-Mar-02	31,924,317.50	31,924,317.50	0.6795510	21,694,201.30	
1-Sep-02	35,381,801.12	35,381,801.12	0.6550029	23,175,180.66	
1-Mar-03	32,709,635.00	32,709,635.00	0.6313415	20,650,950.05	
1-Sep-03	34,763,852.91	34,763,852.91	0.6085349	21,155,017.51	
1-Mar-04	33,309,693.75	33,309,693.75	0.5865522	19,537,872.55	
1-Sep-04	34,973,583.26	34,973,583.26	0.5653635	19,772,788.01	
1-Mar-05	35,932,817.50	35,932,817.50	0.5449403	19,581,240.35	
1-Sep-05	34,625,052.11	34,625,052.11	0.5252549	18,186,976.65	
1-Mar-06	38,083,176.25	38,083,176.25	0.5062805	19,280,770.42	
1-Sep-06	32,878,069.00	32,878,069.00	0.4879916	16,044,222.29	
1-Mar-07	34,375,401.25	34,375,401.25	0.4703634	16,168,930.38	
1-Sep-07	32,271,582.06	32,271,582.06	0.4533720	14,631,030.59	
1-Mar-08	20,184,201.25	20,184,201.25	0.4369943	8,820,381.64	
1-Sep-08	30,582,864.57	30,582,864.57	0.4212083	12,881,757.45	
1-Mar-09	21,929,001.25	21,929,001.25	0.4059926	8,903,011.93	
1-Sep-09	30,618,356.20	30,618,356.20	0.3913265	11,981,773.93	
1-Mar-10	19,488,601.25	19,488,601.25	0.3771902	7,350,909.35	
1-Sep-10	30,933,135.88	30,933,135.88	0.3635646	11,246,192.00	
1-Mar-11	19,877,001.25	19,877,001.25	0.3504311	6,965,520.21	
1-Sep-11	30,486,778.46	30,486,778.46	0.3377722	10,297,584.71	
1-Mar-12	21,229,201.25	21,229,201.25	0.3255705	6,911,600.69	
1-Sep-12	30,608,542.58	30,608,542.58	0.3138095	9,605,252.45	
1-Mar-13	20,684,970.00	20,684,970.00	0.3024735	6,256,654.52	
1-Sep-13	29,293,732.30	29,293,732.30	0.2915469	8,540,496.82	
1-Mar-14	23,102,182.50	23,102,182.50	0.2810150	6,492,060.88	
1-Sep-14	30,069,631.13	30,069,631.13	0.2708636	8,144,769.94	
1-Mar-15	23,378,738.75	23,378,738.75	0.2610790	6,103,696.71	
1-Sep-15	29,112,207.49	29,112,207.49	0.2516477	7,326,020.89	
1-Mar-16	24,102,963.75	24,102,963.75	0.2425572	5,846,347.28	
1-Sep-16	28,389,094.99	28,389,094.99	0.2337950	6,637,229.84	
1-Mar-17	24,824,851.25	24,824,851.25	0.22253494	5,594,265.98	
1-Sep-17	27,666,432.49	27,666,432.49	0.2172089	6,009,395.19	
1-Mar-18	25,427,188.75	25,427,188.75	0.2093624	5,323,498.02	
1-Sep-18	27,539,507.49	27,539,507.49	0.2017994	5,557,456.43	
1-Mar-19	26,068,263.75	26,068,263.75	0.1945096	5,070,527.60	
1-Sep-19	26,898,543.74	26,898,543.74	0.1874831	5,043,023.13	
1-Mar-20	26,752,300.00	26,752,300.00	0.1807105	4,834,420.96	
1-Sep-20	26,212,443.74	26,212,443.74	0.1741825	4,565,748.62	
1-Mar-21	27,481,200.00	27,481,200.00	0.1678903	4,613,827.20	
1-Sep-21	25,483,893.74	25,483,893.74	0.1618254	4,123,942.16	
1-Mar-22	28,257,650.00	28,257,650.00	0.1559796	4,407,618.21	
1-Sep-22	24,710,193.74	24,710,193.74	0.1503450	3,715,054.80	
1-Mar-23	29,078,950.00	29,078,950.00	0.1449140	4,213,945.76	
1-Sep-23	23,888,643.74	23,888,643.74	0.1396791	3,336,743.80	
1-Mar-24	29,952,400.00	29,952,400.00	0.1346333	4,032,590.68	
1-Sep-24	23,016,243.74	23,016,243.74	0.1297698	2,986,813.53	
Total	(702,214,522.69)	1,599,456,773.93	897,242,251.25	(0.00)	

(1) Sum of Net Proceeds (after all expenses) for TE Refunding and Pension Bonds, plus remaining UAAL.

(2) Payment stream for TE bonds, Pension bonds, and remaining Level Pension Amortization Payments.



Actuarial Assumptions

Supporting Restructured Pension Amortization Payments

Amortization Detail with No Pension Bonds

Year	40 Year Escalating Amortization		40 Year Escalating Total		Level Amortization		40 Year Escalating W/Def. Cont.		40 Year Escalating w/DC		Level W/Def. Cont.		Net Difference	
	A	B	C	(A+B)	D	E	F	G	H	I	J	K	L	(C-J)
1996	\$ 29,047,876	\$ -	\$ 29,047,876	\$ 29,047,876	\$ -	\$ 29,047,876	\$ -	\$ 29,047,876	\$ -	\$ 29,047,876	\$ -	\$ 29,047,876	\$ -	\$ -
1997	30,449,563	-	30,449,563	30,449,563	30,449,563	-	30,449,563	-	30,449,563	-	30,449,563	-	30,449,563	-
1998	31,907,317	-	31,907,317	48,830,011	(16,922,694)	31,430,317	-	31,430,317	-	31,430,317	477,000	48,353,011	477,000	(16,445,694)
1999	32,409,689	464,268	32,873,957	47,816,319	(14,942,362)	31,932,689	6,039,076	37,971,765	(5,097,808)	47,339,319	477,000	47,339,319	477,000	(14,465,362)
2000	33,986,395	8,075,298	42,061,693	47,816,319	(5,754,626)	33,509,395	8,982,549	42,491,944	(430,251)	47,339,319	477,000	47,339,319	477,000	(5,277,626)
2001	36,038,156	6,863,433	42,901,589	48,228,305	(5,326,716)	35,561,156	7,637,941	43,199,097	(297,508)	47,751,305	477,000	47,751,305	477,000	(4,849,716)
2002	38,249,535	5,012,549	43,262,084	48,734,318	(5,472,234)	37,772,535	5,752,195	43,524,730	(262,646)	48,257,318	477,000	48,257,318	477,000	(4,995,234)
2003	40,115,444	3,364,226	43,479,670	48,826,646	(5,346,976)	39,638,444	3,928,872	43,567,316	(87,646)	48,349,646	477,000	48,349,646	477,000	(4,869,976)
2004	44,062,357	346,109	44,408,466	50,929,035	(6,520,569)	43,585,357	835,548	44,420,905	(12,439)	50,452,035	477,000	50,452,035	477,000	(6,043,569)
2005	47,185,619	(442,266)	46,743,353	52,133,992	(5,390,639)	46,708,619	(46,997)	46,661,622	81,731	51,656,992	477,000	51,656,992	477,000	(4,913,639)
2006	47,465,655	(235,917)	47,229,738	50,418,991	(3,189,253)	46,988,655	193,069	47,181,724	48,014	49,941,991	477,000	49,941,991	477,000	(2,712,253)
2007	50,249,118	(1,515,302)	48,733,816	51,127,615	(2,393,799)	49,772,118	(1,170,338)	48,601,780	132,036	50,650,615	477,000	50,650,615	477,000	(1,916,799)
2008	49,405,624	(1,408,536)	47,997,088	48,126,289	(129,201)	48,928,624	(1,065,312)	47,863,312	133,776	47,649,289	477,000	47,649,289	477,000	347,799
2009	52,805,434	(3,049,113)	49,756,321	49,281,954	474,367	52,328,434	(2,904,960)	49,423,474	332,847	48,804,954	477,000	48,804,954	477,000	951,367
2010	56,754,009	(5,017,436)	51,736,573	50,896,618	839,955	56,277,009	(4,976,809)	51,300,200	436,373	50,419,618	477,000	50,419,618	477,000	1,316,955
2011	59,126,581	(5,345,114)	53,781,467	50,841,922	2,939,545	58,649,581	(5,355,676)	53,293,905	487,562	50,364,922	477,000	50,364,922	477,000	3,416,545
2012	63,122,049	(5,522,850)	57,599,199	52,313,032	5,286,167	62,645,049	(5,836,491)	56,808,558	790,640	51,836,032	477,000	51,836,032	477,000	5,763,167
2013	65,747,382	(5,522,850)	60,224,532	50,455,836	9,768,695	65,270,382	(6,427,779)	58,842,603	1,381,928	49,978,836	477,000	49,978,836	477,000	10,245,695
2014	71,672,453	(5,522,850)	66,149,603	53,650,562	12,499,040	71,195,453	(9,444,123)	61,751,330	4,398,273	53,173,562	477,000	53,173,562	477,000	12,976,040
2015	73,828,558	(5,470,667)	68,357,891	52,967,106	15,390,785	73,351,558	(9,223,613)	64,127,945	4,229,946	52,490,106	477,000	52,490,106	477,000	15,867,785
2016	76,781,701	(4,557,147)	72,224,554	52,967,106	19,257,447	76,304,701	(8,137,690)	68,167,011	4,057,542	52,490,106	477,000	52,490,106	477,000	19,734,447
2017	79,852,968	(3,677,161)	76,175,807	52,967,106	23,208,701	79,375,968	(7,080,842)	72,295,126	3,880,681	52,490,106	477,000	52,490,106	477,000	23,685,701
2018	83,047,087	(2,906,303)	80,140,784	52,967,106	27,173,678	83,047,087	(6,117,162)	76,929,925	3,210,859	52,967,106	-	52,967,106	-	27,173,678
2019	86,368,971	(2,234,070)	84,134,901	52,967,106	31,167,795	86,368,971	(5,250,104)	81,118,867	3,016,034	52,967,106	-	52,967,106	-	31,167,795
2020	89,823,731	(1,825,513)	87,998,218	52,967,106	35,031,112	89,823,731	(4,633,277)	85,190,454	2,807,764	52,967,106	-	52,967,106	-	35,031,112
2021	93,416,680	(1,459,646)	91,957,034	52,967,106	38,989,928	93,416,680	(4,046,316)	89,370,364	2,586,670	52,967,106	-	52,967,106	-	38,989,928
2022	97,153,347	(1,029,463)	96,123,884	52,967,106	43,156,778	97,153,347	(3,366,398)	93,786,949	2,336,935	52,967,106	-	52,967,106	-	43,156,778
2023	101,039,481	(694,730)	100,344,751	52,967,106	47,377,645	101,039,481	(2,763,304)	98,276,177	2,068,574	52,967,106	-	52,967,106	-	47,377,645
2024	105,081,060	(310,372)	104,770,688	52,967,106	51,803,582	105,081,060	(2,080,617)	103,000,443	1,770,245	52,967,106	-	52,967,106	-	51,803,582
TOTALS	\$ 1,766,193,840	\$ (33,621,425)	\$ 1,732,572,415	\$ 1,439,596,259	\$ 292,976,156	\$ 1,756,653,840	\$ (56,558,559)	\$ 1,700,095,281	\$ 32,477,135	\$ 1,430,056,259	\$ 9,540,000	\$ 302,516,156		
Present Values of Differences					\$ 3,715,114				\$ 2,554,115		\$ 4,433,013	\$ 8,148,128		

**Amortization Detail with \$300 Million Pension Bonds and
No Amendment to Act 205**

Year	40 Year Escalating Amortization			40 Year Escalating W/Def. Cont.			Level W/Def. Cont.			Net Difference	
	A	B	C (A-B)	D	E (A-D)	F	G (B-F)	H (A-F)			
1996	\$ 29,047,876	\$ 29,047,876	\$ -	\$ 29,047,876	\$ -	\$ 29,047,876	\$ -	\$ -	\$ -	\$ -	
1997	30,449,563	30,449,563	-	30,449,563	-	30,449,563	-	30,449,563	-	-	
1998	13,872,115	21,866,060	(7,993,945)	13,395,115	477,000	21,389,060	477,000	(7,516,945)			
1999	13,573,431	21,419,759	(7,846,329)	13,096,431	477,000	20,942,759	477,000	(7,369,329)			
2000	14,884,430	21,419,759	(6,535,329)	14,407,430	477,000	20,942,759	477,000	(6,058,329)			
2001	16,069,770	21,616,034	(5,546,264)	15,592,770	477,000	21,139,034	477,000	(5,069,264)			
2002	17,164,359	21,870,347	(4,705,989)	16,687,359	477,000	21,393,347	477,000	(4,228,989)			
2003	17,841,446	21,935,185	(4,093,739)	17,364,446	477,000	21,458,185	477,000	(3,616,739)			
2004	20,786,261	22,927,418	(2,141,157)	20,309,261	477,000	22,450,418	477,000	(1,664,157)			
2005	21,785,776	23,455,566	(1,669,790)	21,308,776	477,000	22,978,566	477,000	(1,192,790)			
2006	20,334,868	22,665,394	(2,330,525)	19,857,868	477,000	22,188,394	477,000	(1,853,525)			
2007	22,946,859	22,988,135	(41,275)	22,469,859	477,000	22,511,135	477,000	435,725			
2008	20,577,330	21,637,461	(1,060,131)	20,100,330	477,000	21,160,461	477,000	(583,131)			
2009	24,442,033	22,165,350	2,276,684	23,965,033	477,000	21,688,350	477,000	2,753,684			
2010	26,529,644	22,902,013	3,627,630	26,052,644	477,000	22,425,013	477,000	4,104,630			
2011	26,741,699	22,877,783	3,863,916	26,264,699	477,000	22,400,783	477,000	4,340,916			
2012	29,823,913	23,524,323	6,299,589	29,346,913	477,000	23,047,323	477,000	6,776,589			
2013	30,237,506	22,687,682	7,549,824	29,760,506	477,000	22,210,682	477,000	8,026,824			
2014	34,719,921	24,158,410	10,561,510	34,242,921	477,000	23,681,410	477,000	11,038,510			
2015	33,651,665	23,860,952	9,790,713	33,174,665	477,000	23,383,952	477,000	10,267,713			
2016	35,430,429	23,860,952	11,569,476	34,953,429	477,000	23,383,952	477,000	12,046,476			
2017	37,660,367	23,860,952	13,799,414	37,183,367	477,000	23,383,952	477,000	14,276,414			
2018	39,166,782	23,860,952	15,305,830	39,166,782	-	23,860,952	-	15,305,830			
2019	40,733,454	23,860,952	16,872,501	40,733,454	-	23,860,952	-	16,872,501			
2020	42,362,793	23,860,952	18,501,840	42,362,793	-	23,860,952	-	18,501,840			
2021	44,057,304	23,860,952	20,196,351	44,057,304	-	23,860,952	-	20,196,351			
2022	45,819,596	23,860,952	21,958,643	45,819,596	-	23,860,952	-	21,958,643			
2023	47,652,380	23,860,952	23,791,427	47,652,380	-	23,860,952	-	23,791,427			
2024	49,558,475	23,860,952	25,697,522	49,558,475	-	23,860,952	-	25,697,522			
TOTALS	\$ 847,922,043	\$ 680,223,644	\$ 167,698,398	\$ 838,382,043	\$ 9,540,000	\$ 670,683,644	\$ 9,540,000	\$ 177,238,398			
Present Values of Differences			\$ 3,190,293		\$ 4,433,013		\$ 4,433,013	\$ 7,623,306			

**Amortization Detail with \$300 Million Pension Bonds and
Amendment to Act 205**

Year	40 Year Escalating Amortization			40 Year Escalating W/Def. Cont.			Level W/Def. Cont.			Net Difference	
	A	B	C (A-B)	D	E (A-D)	F	G (B-F)	H (A-F)			
1996	\$ 12,290,633	\$ 12,290,633	\$ -	\$ 12,290,633	\$ -	\$ 12,290,633	\$ -	\$ -			
1997	11,967,119	11,967,119	-	11,967,119	-	11,967,119	-	-			
1998	13,424,873	21,151,555	(7,726,682)	12,947,873	477,000	20,674,555	477,000	(7,249,682)			
1999	13,102,941	20,716,351	(7,613,410)	12,625,941	477,000	20,239,351	477,000	(7,136,410)			
2000	14,400,859	20,716,351	(6,315,491)	13,923,859	477,000	20,239,351	477,000	(5,838,491)			
2001	15,561,054	20,900,821	(5,339,768)	15,084,054	477,000	20,423,821	477,000	(4,862,768)			
2002	16,617,687	21,134,166	(4,516,479)	16,140,687	477,000	20,657,166	477,000	(4,039,479)			
2003	17,246,609	21,186,159	(3,939,550)	16,769,609	477,000	20,709,159	477,000	(3,462,550)			
2004	20,150,296	22,122,766	(1,972,470)	19,673,296	477,000	21,645,766	477,000	(1,495,470)			
2005	21,064,768	22,638,876	(1,574,108)	20,587,768	477,000	22,161,876	477,000	(1,097,108)			
2006	19,571,229	21,884,668	(2,313,439)	19,094,229	477,000	21,407,668	477,000	(1,836,439)			
2007	22,187,368	22,194,381	(7,013)	21,710,368	477,000	21,717,381	477,000	469,987			
2008	19,771,722	20,890,863	(1,119,142)	19,294,722	477,000	20,413,863	477,000	(642,142)			
2009	23,649,169	21,396,755	2,252,414	23,172,169	477,000	20,919,755	477,000	2,729,414			
2010	25,678,993	22,103,135	3,575,858	25,201,993	477,000	21,626,135	477,000	4,052,858			
2011	25,823,544	22,079,577	3,743,966	25,346,544	477,000	21,602,577	477,000	4,220,966			
2012	28,876,332	22,710,573	6,165,760	28,399,332	477,000	22,233,573	477,000	6,642,760			
2013	29,234,123	21,903,550	7,330,573	28,757,123	477,000	21,426,550	477,000	7,807,573			
2014	33,674,669	23,307,892	10,366,777	33,197,669	477,000	22,830,892	477,000	10,843,777			
2015	32,496,486	23,016,244	9,480,242	32,019,486	477,000	22,539,244	477,000	9,957,242			
2016	34,235,773	23,016,244	11,219,530	33,758,773	477,000	22,539,244	477,000	11,696,530			
2017	36,435,868	23,016,244	13,419,624	35,958,868	477,000	22,539,244	477,000	13,896,624			
2018	37,893,303	23,016,244	14,877,059	37,893,303	-	23,016,244	-	14,877,059			
2019	39,409,036	23,016,244	16,392,792	39,409,036	-	23,016,244	-	16,392,792			
2020	40,985,398	23,016,244	17,969,154	40,985,398	-	23,016,244	-	17,969,154			
2021	42,624,813	23,016,244	19,608,569	42,624,813	-	23,016,244	-	19,608,569			
2022	44,329,805	23,016,244	21,313,562	44,329,805	-	23,016,244	-	21,313,562			
2023	46,102,998	23,016,244	23,086,754	46,102,998	-	23,016,244	-	23,086,754			
2024	47,947,117	23,016,244	24,930,874	47,947,117	-	23,016,244	-	24,930,874			
TOTALS	\$ 786,754,584	\$ 623,458,627	\$ 163,295,957	\$ 777,214,584	\$ 9,540,000	\$ 613,918,627	\$ 9,540,000	\$ 172,835,957			
Present Values of Differences			\$ 3,351,607		\$ 4,433,013		\$ 4,433,013	\$ 7,784,620			

**Amortization Detail with \$29 Million Pension Bonds and
Amendment to Act 205**

Year	40 Year Escalating Amortization			40 Year Escalating W/Def. Cont.			Level W/Def. Cont.			Net Difference	
	A	B	C (A-B)	D	E (A-D)	F	G (B-F)	H (A-F)			
1996	\$ 27,956,229	\$ 27,956,229	\$ -	\$ 27,956,229	\$ -	\$ 27,956,229	\$ -	\$ -	\$ -	\$ -	
1997	29,317,667	29,317,667	-	29,317,667	-	29,317,667	-	-	-	-	
1998	30,775,421	46,506,856	(15,731,435)	30,298,421	477,000	46,029,856	477,000	(15,254,435)			
1999	31,183,314	45,493,164	(14,309,850)	30,706,314	477,000	45,016,164	477,000	(13,832,850)			
2000	32,661,762	45,493,164	(12,831,402)	32,184,762	477,000	45,016,164	477,000	(12,354,402)			
2001	34,611,335	45,815,037	(11,203,702)	34,134,335	477,000	45,338,037	477,000	(10,726,702)			
2002	36,626,325	46,111,882	(9,485,557)	36,149,325	477,000	45,634,882	477,000	(9,008,557)			
2003	38,172,540	46,041,059	(7,868,520)	37,695,540	477,000	45,564,059	477,000	(7,391,520)			
2004	41,841,354	47,718,641	(5,877,287)	41,364,354	477,000	47,241,641	477,000	(5,400,287)			
2005	44,420,263	48,942,358	(4,522,095)	43,943,263	477,000	48,465,358	477,000	(4,045,095)			
2006	44,594,731	47,448,099	(2,853,368)	44,117,731	477,000	46,971,099	477,000	(2,376,368)			
2007	47,469,636	48,093,960	(624,325)	46,992,636	477,000	47,616,960	477,000	(147,325)			
2008	46,428,906	45,309,120	1,119,786	45,951,906	477,000	44,832,120	477,000	1,596,786			
2009	49,905,350	46,347,165	3,558,185	49,428,350	477,000	45,870,165	477,000	4,035,185			
2010	53,590,860	47,788,461	5,802,399	53,113,860	477,000	47,311,461	477,000	6,279,399			
2011	55,638,800	47,733,765	7,905,035	55,161,800	477,000	47,256,765	477,000	8,382,035			
2012	59,476,954	49,215,616	10,261,337	58,999,954	477,000	48,738,616	477,000	10,738,337			
2013	61,949,422	47,478,788	14,470,634	61,472,422	477,000	47,001,788	477,000	14,947,634			
2014	67,704,342	50,255,716	17,448,626	67,227,342	477,000	49,778,716	477,000	17,925,626			
2015	69,265,692	49,534,245	19,731,447	68,788,692	477,000	49,057,245	477,000	20,208,447			
2016	71,996,785	49,534,245	22,462,540	71,519,785	477,000	49,057,245	477,000	22,939,540			
2017	74,876,655	49,534,245	25,342,410	74,399,655	477,000	49,057,245	477,000	25,819,410			
2018	77,871,722	49,534,245	28,337,477	77,871,722	-	49,534,245	-	28,337,477			
2019	80,986,591	49,534,245	31,452,346	80,986,591	-	49,534,245	-	31,452,346			
2020	84,226,056	49,534,245	34,691,811	84,226,056	-	49,534,245	-	34,691,811			
2021	87,595,098	49,534,245	38,060,853	87,595,098	-	49,534,245	-	38,060,853			
2022	91,098,902	49,534,245	41,564,656	91,098,902	-	49,534,245	-	41,564,656			
2023	94,742,858	49,534,245	45,208,613	94,742,858	-	49,534,245	-	45,208,613			
2024	98,532,572	49,534,245	48,998,327	98,532,572	-	49,534,245	-	48,998,327			
TOTALS	\$ 1,665,518,144	\$ 1,354,409,203	\$ 311,108,941	\$ 1,655,978,144	\$ 9,540,000	\$ 1,344,869,203	\$ 9,540,000	\$ 320,648,941			
Present Values of Differences			\$ 3,208,168		\$ 4,433,013			\$ 4,433,013	\$ 7,641,181		

ACTUARIAL ASSUMPTIONS

- 1) The defined contribution plan is assumed to be effective January 1, 1997.
- 2) General municipal pension system state aid is used to reduce the City's contribution to the pension plans. Act 205, as amended, allows this aid to be used to pay pension debt service. In either event, state aid reduces the total amount that the City must pay from its general funds for pension contributions and pension debt service.
- 3) The state aid is approximately \$14,500,000. Higher state aid amounts will decrease the City's payments to the pension plans or pension debt service. Lower state aid will increase the City's payments.
- 4) Supplemental state assistance can not be used to reduce the City's contributions to its pension plans. Supplemental state assistance can be used to pay pension debt service, but the program will end in six years.
- 5) Police and fire salaries are assumed to increase 5.75 percent per year. Salaries for municipal employees are assumed to increase 4.5 percent per year.
- 6) Annual retirement benefit payments from the Municipal Pension Plan are assumed to remain constant through 2010, after which benefits will increase 4 percent per year. The benefits paid from the Police Plan follow the same schedule except that the increases start in 2007.
- 7) The Municipal Pension Plan will switch to a pay as you go basis unless \$71,000,000 or more is deposited into the fund. Future benefit improvements will require an additional deposit to avoid the switch to pay as you go.
- 8) The projected benefit payments from the Police Pension Plan will not force a change to a pay as you go basis. Future benefit improvements will force this change unless additional funds are deposited in the Plan.
- 9) For illustration purposes, employees of the Pittsburgh Sewer and Water Authority will continue to be covered by the defined benefit provisions of the municipal plan. The Authority will pay the full cost of coverage for its employees.
- 10) Employees who will earn 20 or more years of additional service through normal retirement date are assumed to transfer to the defined contribution plan.
- 11) The City will contribute three percent of pay to the defined contribution plan; employees will contribute six percent of pay. Police and firefighters currently contribute 6.5 percent of pay plus \$1 per month. Municipal employees contribute either four or five percent of pay, based on date of hire. For municipal employees, benefits under the defined contribution plan will be higher for an employee with 20 years of future service, if the defined contribution plan earns approximately 10.75 percent per year. Employees with 25 years of future service will receive higher benefits if the funds earn 9 percent per year.

continued

ACTUARIAL ASSUMPTIONS

continued

- 12) Shifting to a defined contribution plan will increase costs for municipal employees and decrease costs for police and firefighters.
- 13) Forfeitures, which are used to reduce the City's contributions to the defined contribution plans, will result in additional savings.
- 14) An employee's initial account balance in the defined contribution plan will be the greater of the employee's contributions or the present value of accrued benefits. The employees' contributions are the transfer amount for almost all of the employees assumed to transfer.
- 15) The defined contribution plan must have a mandatory employee contribution level to qualify as pre-tax contributions using the IRC "pick-up" provisions. Voluntary contributions must be made to a 457 plan to be made on a tax favored basis.
- 16) Employees transferring to the defined contribution plans will be required to sign an irrevocable waiver of participation in the defined benefit plan.
- 17) All plan design changes will be reviewed with the Public Employee Retirement Commission and the Department of the Auditor General.
- 18) Differences between disability and pre-retirement death benefits under the defined benefit and defined contribution plans will have to be addressed. Using insurance to fund these benefits is a possibility.
- 19) The unfunded actuarial accrued liability increases from \$515 million in 1995, to \$529 million in 1996 and to \$544 million in 1997. The remaining amortization period is also decreasing each year.
- 20) Changing to the 30 year escalating amortization period will prevent the municipal plan from switching to a pay as you go basis, if benefit payouts do not increase. There are several years in which the municipal plan will have assets of approximately \$3 million.
- 21) Changing to the 30 year escalating amortization will cause an existing base in the police plan and the change to defined contribution bases to be eliminated earlier than expected. The unfunded actuarial accrued liability will be paid before the end of their scheduled amortization.
- 22) The exhibits are amortization schedules for amortization bases appearing in the January 1, 1995 Actuarial Valuation Reports.