
**WAYNE COUNTY
EMPLOYEES RETIREMENT SYSTEM
SIXTIETH ANNUAL ACTUARIAL VALUATION**

SEPTEMBER 30, 2003

Submitted to

THE RETIREMENT COMMISSION

Wayne County Employees Retirement System

Gabriel, Roeder, Smith & Company

CONTENTS

<i>Section</i>	<i>Page</i>	
	1	Introduction
A		VALUATION RESULTS
	1	Funding Objectives
	2	Computed Contributions
	3-4	Historical Schedules
	5-6	Comments
	7	Actuarial Balance Sheet
	8	Benefit Promises
B		VALUATION DATA
	1-7	Summary of Benefit Provisions Evaluated
	8-11	Asset Information
	12-15	Retired Life Data
	16	Inactive Vested Members
	17-24	Active Member Data
C		METHODS AND ASSUMPTIONS
	1-5	Financing Principles
	6	Valuation Methods
	7-12	Actuarial Assumptions
	13	Miscellaneous and Technical Assumptions
D		FINANCIAL REPORTING
	1-6	Disclosures Required by GASB Statement No. 25

June 25, 2004

The Retirement Commission
Wayne County Employees Retirement System
Detroit, Michigan

Ladies and Gentlemen:

The results of the **Sixtieth Annual Actuarial Valuation** of the assets, actuarial present values and contribution rates needed to fund benefits provided by the Wayne County Employees Retirement System are presented in this report. The purpose of this valuation was to measure the System's funding progress and to recommend a contribution rate for the fiscal year beginning October 1, 2004.

The date of the valuation was September 30, 2003.

Valuation results and comments are presented in Section A.

The valuation was based upon information, furnished by your Executive Secretary and his staff concerning Retirement System benefits, financial assets and transactions, individual members, terminated members, retired members and beneficiaries. This information is summarized in Section B.

To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with the Retirement System Ordinance. The actuarial assumptions used for the valuations produce results which, in the aggregate, are reasonable.

Respectfully submitted,



Norman L. Jones



Judith A. Kermans

JAK/rgs

SECTION A

Valuation Results and Comments

FUNDING OBJECTIVE

The funding objective for the Retirement System is to establish and receive percent of payroll contributions which, when invested at the assumed rate of return, will accumulate assets over each member's working years that will be sufficient to pay expected retirement benefits.

CONTRIBUTION RATES

The Retirement System is supported by member contributions, County contributions and investment income on Retirement System assets. Members contribute percentages of their pay (by Ordinance and/or collective bargaining agreement) and the County contributes the actuarially determined remainder needed to meet the funding objective.

Contributions are determined by the actuarial valuation and are sufficient to:

- (1) cover the actuarial costs allocated to the current year by the actuarial cost method (the normal cost); and
- (2) finance over a period of future years the actuarial costs not covered by present assets and anticipated future normal costs (unfunded actuarial accrued liability).

Contribution requirements for the fiscal year beginning October 1, 2004 are shown on page A-2.

**CONTRIBUTIONS TO FINANCE DEFINED BENEFIT PLANS
OF THE RETIREMENT SYSTEM
FOR THE FISCAL YEAR BEGINNING OCTOBER 1, 2004**

Defined Benefit Plans - Contributions for	2004	2003
Normal Cost		
Service allowances	10.99 %	12.79 %
Disability allowances	0.81 %	0.65 %
Survivor allowances	0.51 %	0.55 %
Termination benefits		
Deferred service allowances	0.24 %	0.27 %
Refunds of member contributions	0.00 %	0.01 %
Total Normal Cost	12.55 %	14.27 %
Less Portion Paid by Members*	1.45 %	1.88 %
County Defined Benefit Normal Cost	11.10 %	12.39 %
Unfunded Actuarial Accrued Liability (Full Funding Credit)#	1.20 %	(4.33)%
Total Computed Employer Rate	12.30 %	8.06 %

* Weighted average of the various contribution rates.

Amortized as a level dollar amount over 15 years in 2004 and 15 years in 2003.

Historical contribution rates for prior fiscal years are shown on page A-3.

**HISTORICAL SCHEDULE OF NORMAL COST RATES
AND UNFUNDED ACTUARIAL ACCRUED LIABILITIES
CONTRIBUTION AMOUNTS FOR DEFINED BENEFIT PLANS**

Fiscal Year Beginning	Valuation Date September 30+	Normal Cost Rate	UAAL Contribution Amount
1991	1990	11.55 %	\$2,459,300
1992	1991#@	11.33 %	(243,079)
1993	1992*	12.45 %	2,173,494
1994	1993*	13.11 %	1,984,363
1995	1994	13.06 %	1,284,550
1996	1995*	14.62 %	3,637,980
1997	1996*@	12.36 %	none
1998	1997*	12.52 %	(898,609)
1999	1998#	13.18 %	(3,083,550)
2000	1999	13.14 %	(5,899,402)
2001	2000	13.14 %	(9,136,242)
2002	2001*	14.49 %	(7,441,908)
2003	2002**	12.39 %	(3,853,955)
2004	2003**	11.10 %	1,038,771

* *Benefit changes are reflected in this valuation.*

After assumption changes.

@ *Adjustment made to funding value of assets.*

+ *Valuations before 1998 were based on a fiscal year ending November 30.*

** *Includes Hybrid Plan 5.*

FUNDING PROGRESS INDICATORS

The funding progress and status of the defined benefit plans is measured by the following indicators:

- *The ratio of the funding value of assets to accrued liabilities.* The ratio is expected to hold steady or gradually move toward 100% in the absence of benefit improvements.
- *The ratio of the unfunded actuarial accrued liability to member payroll.* In a soundly financed retirement system, the amount of the unfunded actuarial accrued liabilities will be controlled and prevented from increasing in the absence of benefit improvements. The ratio is a relative indicator of the condition in an inflationary environment.

Valuation Date September 30##	Accrued Liability	Funding Value of Assets(1)	Percent Funded	Member Payroll +	Unfunded Actuarial Accrued Liability	
					Dollars	% of Payroll
(\$ in thousands)						
1986	\$ 615,503	\$ 570,016	93%	\$125,131	\$45,487	36 %
1987	648,388	586,559	90%	134,890	61,829	46 %
1988	657,258	608,928	93%	135,941	48,330	36 %
1989	668,021	633,653	95%	147,799	34,368	23 %
1990	680,676	643,173	94%	157,406	37,503	24 %
1991#@	720,838	724,554	101%	166,936	(3,716)	-
1992*	761,660	730,036	96%	180,686	31,624	18 %
1993*	777,454	749,538	96%	184,010	27,916	15 %
1994	783,534	766,070	98%	182,662	17,464	10 %
1995*	829,174	781,424	94%	192,903	47,750	25 %
1996@*	861,655	861,655	100%	208,569	0	-
1997*	870,052	877,926	101%	224,075	(7,874)	-
1998#	906,620	879,774	97%	230,989	(26,381)	-
1999	915,339	965,798	106%	256,379	(50,458)	-
2000	947,557	1,028,626	109%	275,627	(81,069)	-
2001*	979,176	1,041,645	106%	294,128	(62,469)	-
2002	1,010,744	1,043,282	103%	308,962	(32,538)	-
2003	1,007,734	996,621	99%	289,250	11,113	4 %

* *Benefit changes are reflected in this valuation.*

After changes in assumptions.

+ *Includes defined contribution Plan 4 payroll.*

(1) *Reserve for inflation equity not included in this schedule.*

@ *After one time adjustment of funding value of assets.*

Valuations before 1998 were based on a fiscal year ending November 30.

Comments on the Actuarial Valuation

COMMENT A: Effective October 1, 2001, a new hybrid Plan 5 was established. Plan 5 is available to future hires and to current system members who wish to transfer, under certain conditions. Members who transfer may purchase service in Plan 5 based on a formula established by the Retirement Board. As of September 30, 2003, there were 880 members in Plan 5. Most of these individuals are transfers with prior service credit (presumably from Plan 4).

COMMENT B: Computed accrued liabilities exceed the funding value of assets by \$11 million. The manner in which the unfunded actuarial accrued liability (UAAL) is recognized is a matter of policy. In this valuation, the UAAL was amortized over a period of 15 years. Using a longer amortization period would result in a somewhat lower computed employer contribution rate.

COMMENT C: Recognized investment return was 3.0% on a funding value basis (see page B-9). However, on a market value basis there was a \$15 million gain. Under the asset valuation method, gains and losses are spread over a 4 year period. The net result of this year's market value gain, and carryover losses from prior years, is that the funding value of assets exceeds the market value by \$102 million. If the unrecognized losses are not offset by future market gains (i.e., returns in excess of 8.0%), the funded status will decline over the next few years and the computed contribution rate will continue to increase.

RECOMMENDATION: Useful and reliable valuation results are dependent on an underlying set of appropriate actuarial assumptions. A single set of assumptions will not continue to be suitable indefinitely. From time to time the assumptions should be reevaluated in the light of emerging experience - the plan's own and the experience of similar groups -- and expected future experience. The last experience study for WCERS was conducted 6 years ago. It is again time for an analysis to be made of the Retirement System's experience. Such a study would:

- analyze retirement probabilities, termination probabilities, probabilities of disablement, mortality rates and pay changes;
- look at economic and demographic experience separately; and
- suggest appropriate changes in economic and demographic assumptions and show their effect on computed contribution rates.

Comments on the Actuarial Valuation (Continued)

Continued use of outdated assumptions can lead to an incomplete measure of funding progress and possibly distort the measurement of the effect of plan changes that may be considered from time to time.

We recommend that an experience study be undertaken covering the 5-year period ending September 30, 2003.

CONCLUSION: The Retirement System continues in sound condition as measured by the funding progress test on page A-4.

ACTUARIAL BALANCE SHEET - SEPTEMBER 30, 2003

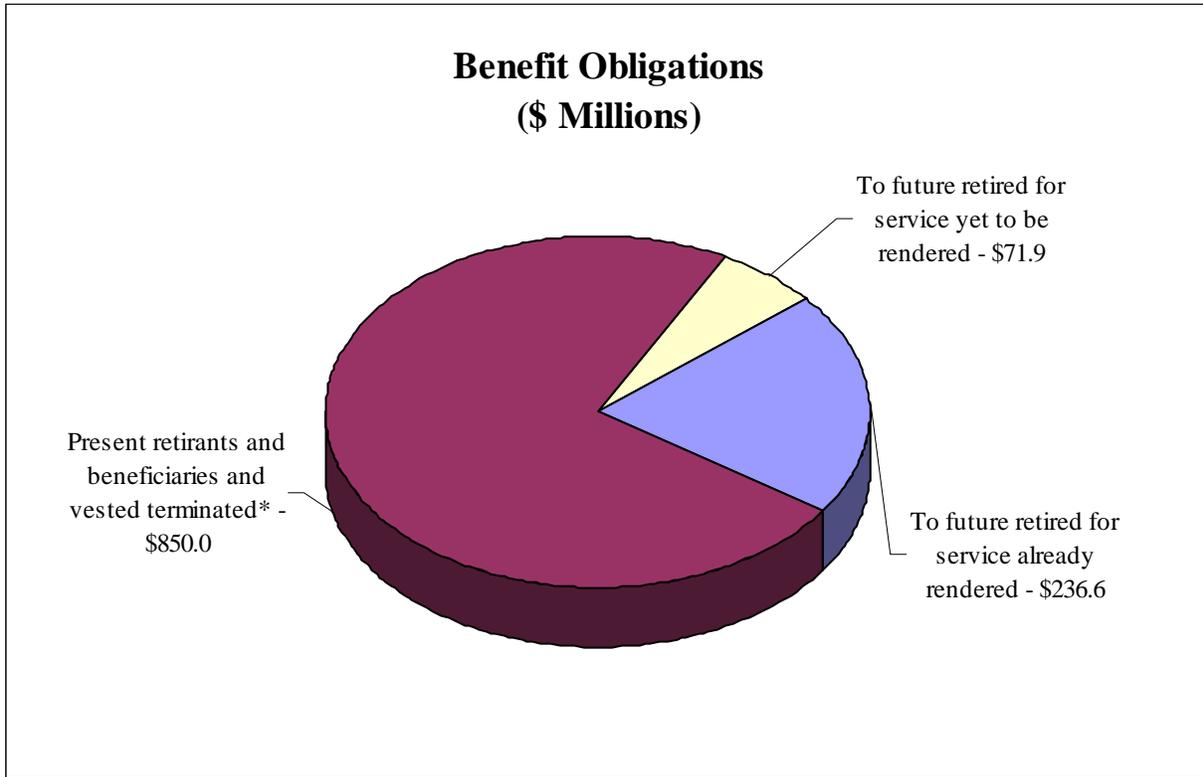
Present Resources and Expected Future Resources

A. Valuation assets	
1. Net assets from system financial statements (market value)	\$ 973,714,944
2. Valuation adjustment	101,712,532
3. Valuation assets	1,075,427,476
B. Actuarial present value of expected future employer contributions	
1. For normal costs	66,359,810
2. For unfunded actuarial accrued liabilities	11,113,230
3. Total	77,473,040
C. Actuarial present value of expected future member contributions	5,586,077
D. Total Actuarial Present Value of Present and Expected Future Resources	\$1,158,486,593

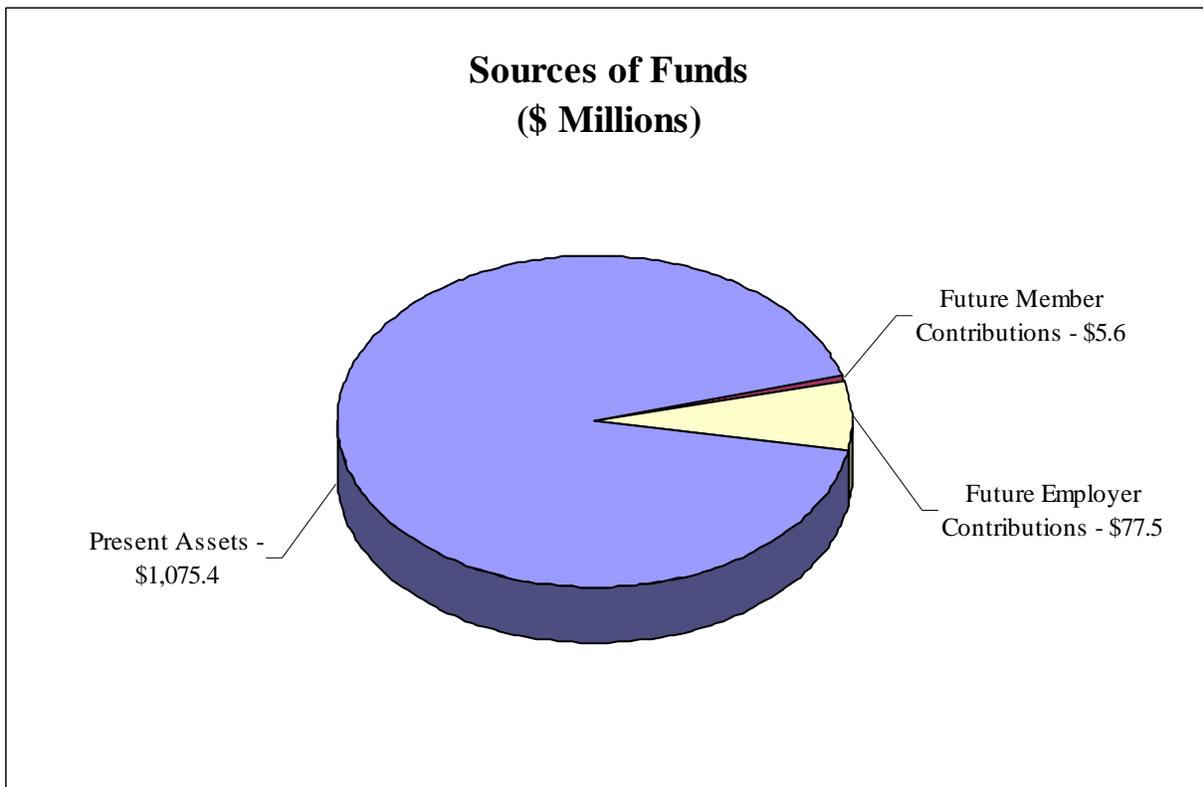
Actuarial Present Value of Expected Future Benefit Payments and Reserves

A. To retired members and beneficiaries	\$ 764,906,621
B. To vested terminated members	6,274,543
C. To present active members	
1. Allocated to service rendered prior to valuation date	236,552,981
2. Allocated to service likely to be rendered after valuation date	71,945,887
3. Total	308,498,868
D. Total Actuarial Present Value of Expected Future Benefit Payments	1,079,680,032
E. Reserve for Inflation Equity	78,806,561
F. Total Actuarial Present Value of Expected Future Benefit Payments and Reserves	\$1,158,486,593

**FINANCING \$1,158.5 MILLION OF BENEFIT PROMISES
SEPTEMBER 30, 2003**



* Includes Inflation Equity Fund



SECTION B

Summary of Benefit Provisions and Valuation Data

BRIEF SUMMARY OF BENEFIT PROVISIONS
DEFINED BENEFIT PLAN 1
(SEPTEMBER 30, 2003)

Availability

Defined Benefit Plan 1 was closed to new hires on August 15, 1983
(or on the date in a negotiated agreement).

Normal Retirement (no reduction factor for age):

Eligibility - Sheriff: 25 years of service or age 60 with 5 years of service.

Others: Age 50 with 25 years of service, age 60 with 5 years of service or any age with 30 years of service.

Pension Amount – Total service times 2.65% of average final compensation.

Maximum pension is 75% of AFC (less worker's compensation payments). Minimum monthly pension is \$5 times years of service.

Average Final Compensation (AFC) - Monthly average of covered compensations for best 4 years of credited service. Some lump sums, overtime & premium pay are included.

Vested Termination (deferred retirement):

Eligibility - 8 years of service. Pension begins at age 60.

Pension Amount - Computed as normal retirement but based upon service and AFC at time of termination.

Duty Disability Retirement:

Eligibility - No age or service requirements.

Pension Amount - Computed as normal retirement with additional service credit granted from date of retirement to age 60. Minimum pension is \$4,800 annually. Maximum pension is the lesser of 75% of AFC, and 100% of AFC less outside earnings and social security disability benefits. Worker's compensation payments offset the maximum.

Non-Duty Disability Retirement:

Eligibility - 10 years of service.

Pension Amount - Computed as normal retirement but based on service and AFC at time of termination.

BRIEF SUMMARY OF BENEFIT PROVISIONS
DEFINED BENEFIT PLAN 1
(SEPTEMBER 30, 2003)

Duty Death Before Retirement:

Eligibility - No age or service requirements.

Pension Amount - Pension to the spouse is computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election. Additional service credit is granted from date of death to date the deceased member would have attained 60 years of age. If there is no eligible spouse, unmarried children under age 18 receive equal shares of 50% of normal retirement pension. Spouse's pension shall not be less than \$4,800. Worker's compensation payments offset the maximum.

Non-Duty Death Before Retirement:

Eligibility - 10 years of service.

Pension Amount - Pension to the spouse is computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election. If there is no eligible spouse, unmarried children under age 18 receive equal shares of 50% of normal retirement pension.

Post-Retirement Cost-of-Living Adjustment:

Eligible for distributions from Reserve for Inflation Equity.

Member Contributions:

Sheriff Command Officers and Deputies: 5.00% of annual compensation.

Others:

Credited Service	Contribution Rate
0 yrs. thru 8 yrs.	6.00% or 6.58% of compensation
9 yrs. thru 12 yrs.	4.00% or 4.58% of compensation
13 yrs. thru 16 yrs.	3.00% or 3.58% of compensation
17 yrs. or more	2.00% or 2.58% of compensation

BRIEF SUMMARY OF BENEFIT PROVISIONS
DEFINED BENEFIT PLAN 2
(SEPTEMBER 30, 2003)

Availability - Defined Benefit Plan 2 was available to persons hired after August 15, 1983 and to DBP 1 and DBP 3 members who elect to be covered by DBP 2. **Eligibility to enter this Plan ceased as of October 1, 2001.**

Normal Retirement (no reduction factor for age):

Eligibility - Age 55 with 25 years of service or age 60 with 20 years of service; or, age 65 with 8 years of service. Sheriffs may retire with 25 years of service regardless of age.

Pension Amount - Average final compensation multiplied by the sum of a) 1% of credited service up to 20 years; and, b) 1.25% of credited service over 20 years. Maximum County financed portion is 75% of AFC.

Average Final Compensation (AFC) - Monthly average of covered compensation for the best 5 years of credited service. Covered compensation includes overtime, premium and holiday pay, but not lump sums.

Vested Termination (deferred retirement):

Eligibility - 8 years of service. Pension begins at age 65.

Pension Amount - Computed as normal retirement based on service and AFC at time of termination.

Duty Disability Retirement:

Eligibility - No age or service requirements.

Pension Amount - Computed as normal retirement with additional service credit granted from date of retirement to age 60. Maximum pension is the lesser of 75% of AFC, and 100% of AFC less outside earnings and social security disability benefits. Worker's compensation payments offset the maximum. Minimum pension for Sheriff Command Officers and Probate GAA is 75% of AFC.

Non-Duty Disability Retirement:

Eligibility - 10 years of service.

Pension Amount - Computed as normal retirement but based on service and AFC at time of termination.

Death Before Retirement:

Eligibility - 10 years of service; or age 65 and 8 years of service (any amount of service if Duty related).

Pension Amount - Pension to the spouse is computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election. If there is no eligible spouse, unmarried children under 18 receive equal shares of 50% of normal retirement pension.

Post-Retirement Cost-of-Living Adjustment:

Eligible for distributions from the Reserve for Inflation Equity.

Member Contributions:

None.

BRIEF SUMMARY OF BENEFIT PROVISIONS
DEFINED BENEFIT PLAN 3
(SEPTEMBER 30, 2003)

Availability - Defined Benefit Plan 3 was available to persons last hired prior to August 15, 1983; and, to other persons if offered by collective bargaining agreement. **Eligibility to enter this Plan ceased as of October 1, 2001.**

Normal Retirement (no reduction factor for age):

Eligibility - Age 55 with 25 years of service; or age 60 with 20 years of service; or age 65 with 5 years of service. Sheriff Command may retire with 25 years of service regardless of age.

Pension Amount - Average final compensation multiplied by the sum of a) 1.5% of credited service up to 20 years; and b) 2.0% of credited service between 20 and 25 years; and, c) 2.5% of credited service over 25 years.

Average Final Compensation (AFC) - Monthly average of covered compensation for the last 5 years of credited service. Covered compensation includes overtime, premium and holiday pay, up to 320 hours of lump sum payments for unused sick leave and up to 120 hours of lump sum payments for unused vacation time.

Vested Termination (deferred retirement):

Eligibility - 8 years of service. Pension begins at age 65.

Pension Amount - Computed as normal retirement but based upon service and AFC at time of termination.

Duty Disability Retirement:

Sheriff Command Officers and Probate GAA receive 75% of AFC.

Others: covered outside of Retirement System.

Non-Duty Disability Retirement:

Covered outside of Retirement System.

Non-Duty Death Before Retirement:

Eligibility - 10 years of service; or, age 65 with 5 years of service (any amount of service if Duty related).

Pension Amount - Pension to the spouse is computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election. If there is no eligible spouse, unmarried children under age 18 receive equal shares of 50% of normal retirement pension.

Post-Retirement Cost-of-Living Adjustment:

Eligible for distributions from the Reserve for Inflation Equity.

Member Contributions:

3% of covered compensation.

BRIEF SUMMARY OF BENEFIT PROVISIONS
DEFINED CONTRIBUTION PLAN 4
(SEPTEMBER 30, 2003)

Defined Contribution Plan 4 is not included in this valuation with the exception of the following provision covered under the Defined Benefit Plans:

Duty Disability Retirement:

Sheriff Deputy Officers receive 75% of AFC.

Eligibility – No age or service requirements.

The Duty Disability benefit is partially funded by the member's account balance and may be offset by worker's compensation benefits, if any.

Members in Plan 4 are eligible to roll account balances into Defined Benefit Plan 5 to receive a defined benefit. This benefit would be based on the amount of service that can be purchased by the member's account balance.

BRIEF SUMMARY OF BENEFIT PROVISIONS
HYBRID PLAN 5
(SEPTEMBER 30, 2003)

Availability - Hybrid Plan 5 is obligatory for persons hired after October 1, 2001. Exempt employees may choose between Plan 5 and DC Plan 4. Members may transfer from Plan 4 into this Plan.

DEFINED BENEFIT PROVISIONS

Normal Retirement (no reduction for age):

Eligibility - Age 55 with 25 years of service; or age 60 with 20 years of service; or age 65 with 8 years of service. Sheriffs may retire with 30 years of service regardless of age.

Pension Amount - Average final compensation multiplied by the sum of a) 1.25% of credited service up to 20 years; and b) 1.5% of credited service over 20 years. Maximum pension is 75% of AFC (less worker's compensation payments).

Average Final Compensation (AFC) - Monthly average of covered compensation for the last 5 years of credited service. Covered compensation includes overtime and premium pay.

Vested Termination (deferred retirement):

Eligibility - 8 years of service. Pension begins at age 65.

Pension Amount - Computed as normal retirement but based upon service and AFC at time of termination.

Duty Disability Retirement:

Eligibility - No age or service requirements.

Pension Amount - Computed as normal retirement with additional service credit granted from date of retirement to age 60. Worker's compensation payments and Federal Social Security benefit payments offset the defined benefit portion of the pension.

Non-Duty Disability Retirement:

Eligibility - 10 years of service.

Pension Amount - Computed as normal retirement but based on service and AFC at time of termination.

Duty Death Before Retirement:

Eligibility - No age or service requirements.

BRIEF SUMMARY OF BENEFIT PROVISIONS
HYBRID PLAN 5
(SEPTEMBER 30, 2003)

Pension Amount - Pension to the spouse is computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election. Additional service credit is granted from date of death to date the deceased member would have attained 60 years of age. If there is no eligible spouse, unmarried children under age 18 receive equal shares of 50% of normal retirement pension. Worker's compensation payments offset the maximum.

Non-Duty Death Before Retirement:

Eligibility - 10 years of service.

Pension Amount - Pension to the spouse is computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election. If there is no eligible spouse, unmarried children under age 18 receive equal shares of 50% of normal retirement pension.

Post-Retirement Cost-of-Living Adjustment:

Eligible for distributions from the Reserve for Inflation Equity.

Member Contributions:

None.

DEFINED CONTRIBUTION PROVISIONS

Contributions:

6% of base compensation (3% member plus 3% employer). Contributions are invested by the members based on investment options established by the Retirement Commission. Contribution balances are credited with actual net market rates of return of the selected investments.

Vesting:

Member portion – 100% immediately.

Employer portion – 50% after 1 year of total service
75% after 2 years of total service
100% after 3 years of total service

Distribution Options:

Terminating members may choose between:

- Lump sum distribution of vested account balance, or
- Rollover of vested account balance to a qualified plan, or
- Annuitized vested account balance if the member is also eligible for a defined benefit pension.

**DEFINED BENEFIT PLANS RESERVE BALANCES
(INCLUDING ADJUSTING ENTRIES)**

Accounts	Reserve Balances
	September 30, 2003
Reserve for Accum. Member Contributions	\$ 63,201,295
Reserve for Def. Ben. Employer Contributions	26,636,516
Reserve for Pension Payments	764,906,621
Reserve for Inflation Equity	78,806,561
Reserve for Undist. Investment Income & Exp.	40,163,951
Total Reserve Balances (Market Value)	\$973,714,944

DEVELOPMENT OF FUNDING VALUE OF RETIREMENT SYSTEM ASSETS

Year Ended September 30:	2001	2002	2003	2004	2005	2006
A. Funding Value Beginning of Year	\$1,157,112,947	\$1,154,747,086	\$1,139,243,294			
B. Market Value End of Year	1,063,566,032	967,999,904	973,714,944			
C. Market Value Beginning of Year	1,315,297,293	1,063,566,032	967,999,904			
D. Non-Investment Net Cash Flow	(93,955,449)	(82,672,525)	(96,135,483)			
E. Investment Income						
E1. Market Total: B - C - D	(157,775,812)	(12,893,603)	101,850,523			
E2. Amount for Immediate Recognition	88,810,818	89,072,866	87,294,044			
E3. Amount for Phased-In Recognition: E1-E2	(246,586,630)	(101,966,469)	14,556,479			
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.25 x E3	(61,646,658)	(25,491,617)	3,639,120			
F2. First Prior Years	28,524,776	(61,646,658)	(25,491,617)	\$ 3,639,120		
F3. Second Prior Years	36,709,367	28,524,776	(61,646,658)	(25,491,617)	\$ 3,639,120	
F4. Third Prior Years	(808,715)	36,709,366	28,524,776	(61,646,656)	(25,491,618)	\$3,639,119
F5. Total Recognized Investment Gain	2,778,770	(21,904,133)	(54,974,379)	(83,499,153)	(21,852,498)	3,639,119
G. Funding Value End of Year: A + D + E2 + F5	\$1,154,747,086	\$1,139,243,294	\$1,075,427,476			
H. Difference between Market & Funding Value	(91,181,054)	(171,243,390)	(101,712,532)	(18,213,379)	3,639,119	0
I. Recognized Rate of Return	8.3%	6.0%	3.0%			
J. Market Value Rate of Return	(12.4)%	(1.3)%	11.1%			
K. Ratio of Funding Value to Market Value	108.6%	117.7%	110.4%			

The Funding Value of Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) are phased in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than Market Value. The Funding Value of Assets is *unbiased* with respect to Market Value. At any time it may be either greater or less than Market Value. If assumed rates are exactly realized for 3 consecutive years, it will become equal to Market Value.

DERIVATION OF RESERVE FOR INFLATION EQUITY

	9/30/2002	9/30/2003
Rate of investment return		
(1) Actual return on funding value of assets	6.03 %	2.96 %
(2) Threshold return	8.00 %	8.00 %
(3) Excess, if any, of (1) over (2)	0.00 %	0.00 %
Actuarial present value of pensions	\$716,829,704	\$764,906,621
Dollars available for allocation	0	0
Reserve balance - start of year	113,102,497	95,961,769
Disbursements during year	17,140,728	17,155,207
Transfer for minimum pensions	0	0
Current year addition	0	0
Reserve balance - end of year	\$ 95,961,769	\$ 78,806,562
Reserve for year end transfer	N/A	N/A

**APPLICATION OF THE FUNDING VALUE
OF DEFINED BENEFIT PLAN ASSETS
IN FINANCING ACTUARIAL ACCRUED LIABILITIES**

Reserve for	Applied To		
	Active & Inactive Members	Retired Members and Beneficiaries	Totals
Accum. Member Contributions	\$ 63,201,295		\$ 63,201,295
Defined Ben. Employer Contributions	168,512,999		168,512,999
Pension Payments		\$764,906,621	764,906,621
Total Assets Applied			996,620,915
Inflation Equity Reserve			78,806,561
Undist. Investment Income			none
Funding Value of Assets*			\$1,075,427,476

* Development of the funding value of assets is shown on page B-9.

RETIRED MEMBERS AND BENEFICIARIES ADDED AND REMOVED

Year Ended Sept. 30	Added		Removed		Net Increase		End of Year	
	No.	Annual Pensions	No.	Annual@ Pensions	No.	Annual Pensions	No.	Annual Pensions
1970	298	\$1,887,508	148	\$ 307,186	150	\$1,580,322	2,454	\$ 7,067,753
1975	323	2,300,782	129	575,157	194	1,725,625	3,277	14,532,239
1980	322	3,629,866	140	1,009,861	182	2,620,005	4,359	28,307,255
1985	329	4,609,633	204	2,002,018	125	2,607,615	5,861	53,297,557
1990	176	3,004,814	172	1,986,571	4	1,018,243	6,149	59,607,315
1991	169	2,531,422	154	1,868,781	15	662,641	6,164	60,269,956
1992	195	3,876,810	148	1,831,565	47	2,045,245	6,211	62,315,201
1993	172	3,914,864	173	1,885,010	(1)	2,029,854	6,210	64,345,055
1994	191	3,626,150	163	1,844,072	28	1,782,078	6,238	66,127,133
1995	150	3,481,882	171	2,223,393	(21)	1,258,489	6,217	67,385,622
1996	212	6,445,919	210	3,101,236	2	3,344,683	6,219	70,730,305
1997	171	4,593,132	188	1,328,817	(17)	3,264,315	6,202	73,994,620
1998	112	3,428,743	174	1,823,043	(62)	1,605,700	6,140	75,600,320
1999	133	3,496,500	221	2,143,122	(88)	1,353,378	6,052	76,953,698
2000	136	4,414,263	204	2,481,571	(68)	1,932,692	5,984	78,886,390
2001	131	4,993,401	221	2,733,398	(90)	2,260,003	5,894	81,146,393
2002	125	4,462,475	186	2,247,194	(61)	2,215,281	5,833	83,361,674
2003	177	7,530,715	201	2,267,018	(24)	5,263,697	5,809	88,625,371

@ Includes annual benefit adjustments.

RETIRED MEMBERS AND BENEFICIARIES COMPARATIVE SCHEDULE

Valuation Date Sept. 30	Pensions Being Paid					Average Pension	Active Member Ratio(2)
	No.	Amount*	% of Member Payroll#	Annual % Increase(1)			
				No.	Amount		
1950	477	\$ 450	2.0 %	37.9 %	44.4 %	\$ 943	11.9
1955	931	1,166	3.6 %	14.3 %	21.0 %	1,252	6.9
1960	1,487	2,454	5.9 %	9.3 %	14.7 %	1,565	4.7
1965	1,949	4,025	7.8 %	7.4 %	14.2 %	2,065	3.8
1970	2,454	7,068	8.7 %	6.5 %	11.9 %	2,880	3.3
1975	3,277	14,532	12.5 %	6.3 %	15.5 %	4,435	2.4
1980	4,359	28,307	15.9 %	5.9 %	14.3 %	6,494	1.6
1985	5,861	53,298	41.0 %	6.1 %	13.5 %	9,094	0.8
1990	6,149	59,607	37.9 %	1.0 %	2.3 %	9,694	0.8
1995	6,217	67,386	85.0 %	0.2 %	2.5 %	10,839	0.9
1996	6,219	70,730	94.9 %	0.0 %	5.0 %	11,373	0.9
1997	6,202	73,995	103.2 %	(0.3)%	4.6 %	11,931	0.9
1998	6,140	75,600	112.1 %	(1.0)%	2.2 %	12,313	0.9
1999	6,052	76,954	113.3 %	(1.4)%	1.8 %	12,715	1.0
2000	5,984	78,886	118.0 %	(1.1)%	2.5 %	13,183	1.0
2001	5,894	81,146	128.7 %	(1.5)%	2.9 %	13,768	1.0
2002	5,833	83,362	97.4 %	(1.0)%	2.7 %	14,291	1.0
2003	5,809	88,625	106.5 %	(0.4)%	6.3 %	15,257	1.0

(1) For 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990 and 1995 the percentage increase shown is the average of the 5 annual increases ending with the stated year.

(2) Number of active members (including defined contribution plan members) divided by number of retired members and beneficiaries.

* In thousands of dollars.

EXCLUDES Defined Contribution Plan payroll after 1991.

RETIRED MEMBERS AND BENEFICIARIES SEPTEMBER 30, 2003
BY ATTAINED AGE GROUPS

Attained Age Group	Totals	
	No.	Annual Pensions
Under 35	6	\$ 50,021
35-39	2	9,595
40-44	11	98,530
45-49	55	1,394,218
50-54	320	9,253,971
55-59	558	15,151,822
60-64	673	16,070,015
65-69	658	10,973,223
70-74	850	11,532,498
75-79	1,075	11,723,821
80-84	870	7,803,330
85-89	487	3,326,968
90-94	204	1,048,932
95-99	37	180,752
100 & Over	3	7,675
Totals	5,809	\$88,625,371

Average age now: 72.4 yrs.
Average age at retirement: 55.6 yrs.
Average service at retirement: 23.3 yrs.

RETIRED MEMBERS AND BENEFICIARIES SEPTEMBER 30, 2003
BY TYPE OF RETIREMENT

Type of Pension Being Paid	Benefit Paid	Number
Age & Service Pensions		
S.S. Equated		
Straight Life	\$ 19,490,075	1,189
Option1	876,278	36
Option2	13,312,731	621
Option3	9,915,308	410
Total	43,594,392	2,256
Not S.S. Equated		
Staight Life	\$ 14,930,796	1,261
Option1	770,469	25
Option2	7,236,942	353
Option3	8,869,842	497
Total	31,808,049	2,136
Survivor beneficiary of deceased retired member	6,435,332	765
Total Age and Service Pension	\$ 81,837,773	5,157
Casualty Pensions		
Duty Disability	\$ 2,923,159	171
Non-Duty Disabilty	1,573,428	187
Survivor beneficiary of deceased retired member	823,941	109
Duty Death	134,927	18
Non-Duty Death	1,332,143	167
Total Casualty Pension	6,787,598	652
Total Pension Being Paid	\$ 88,625,371	5,809

Vested former members included in the valuation totaled 140. A vested former member is a person who has left the employ of the County after acquiring credited service sufficient for a vested pension and has not withdrawn the accumulated member contributions from the Reserve for Accumulated Member Contributions. A vested former member may retire upon satisfying the conditions for normal retirement.

VESTED FORMER MEMBERS SEPTEMBER 30, 2003
TABULATED BY ATTAINED AGE GROUPS

Attained Ages	No.	Estimated Annual Allowances
20-24		
30-34		
35-39		
40-44	1	\$ 1,917
45-49	7	17,741
50-54	6	33,673
55-59	34	180,271
60-64	57	287,828
65-69	23	137,538
70 & Up	12	127,463
Totals	140	\$786,431

Also included in the valuation, in the General division, were 15 former members who were transferred to State employment during 1981 and are eligible for deferred retirement and 8 former members who transferred to the State and have since terminated. The total vested benefits for the 8 terminated members is \$52,555.

ACTIVE MEMBERS SEPTEMBER 30, 2003

Plan	No.	Valuation Payroll	Average		
			Pay	Age	Service
Defined Benefit Plan #1					
General	332	\$ 21,541,308	\$64,883	54.7 yrs.	26.4 yrs.
DPS	95	5,927,908	62,399	49.9	25.6
Sheriff	98	6,885,463	70,260	52.1	26.4
Total	525	34,354,679	65,437	53.3	26.3
Defined Benefit Plan #2					
General	85	3,371,846	39,669	47.2	13.4
DPS	15	586,626	39,108	48.2	16.6
Sheriff	37	1,741,576	47,070	35.4	8.8
Total	137	5,700,048	41,606	44.1	12.5
Defined Benefit Plan #3					
General	35	1,574,741	44,993	50.6	17.3
DPS	5	351,949	70,390	52.9	18.4
Sheriff	62	3,793,169	61,180	46.0	19.0
Total	102	5,719,859	56,077	47.9	18.4
Defined Benefit Plan #5	880	37,460,262	42,568	38.9	7.3
Defined Benefit Sub-total	1,644	83,234,848	50,629	44.5	14.5
Defined Contribution Plan #4	4,351	206,015,408	47,349	42.7	9.4
Total	5,995	\$289,250,256	\$48,249	43.2	10.8

**ACTIVE AND INACTIVE MEMBERS IN VALUATION
HISTORICAL SCHEDULE
PLAN ONE ONLY**

Valuation Date September 30	Inactive @		Active Members				
	No.	Estimated Pensions	No.	Valuation Payroll#	Average Pay	Age	Service
Defined Benefit Plan 1							
1960	189	\$ 170,799	6,927	\$ 41,340,361	\$ 5,968	- yrs.	- yrs.
1965	215	206,806	7,416	51,699,553	6,971	-	-
1970	283	N/A	8,170	81,395,280	9,963	41.8	10.2
1975	254	579,747	7,906	115,811,211	14,649	42.0	10.5
1980	323	1,107,547	6,832	178,221,092	26,086	42.8	12.1
1985	245	1,229,467	3,520	104,007,698	29,548	43.6	13.4
1990	181	985,556	2,212	83,199,604	37,613	47.7	18.2
1995	110	700,859	1,454	67,055,260	46,118	50.3	22.1
1999	74	529,010	981	55,641,299	56,719	51.8	23.9
2000	72	519,980	874	53,822,371	61,582	52.3	24.2
2001	69	490,230	773	49,891,050	64,542	52.7	24.7
2002	64	454,657	686	46,125,812	67,239	53.4	25.3
2003	60	419,316	525	34,354,679	65,437	53.3	26.3

Cost-of-living increases included since 1976. Beginning in 1979 gross fiscal pay was provided.

@ In addition, 304 members were transferred to the State in 1981 (with 15 remaining in 2003 and 8 who have since terminated from the State) who are eligible for deferred retirement.

ACTIVE AND INACTIVE MEMBERS IN VALUATION HISTORICAL SCHEDULE

Valuation Date September 30	Inactive @		Active Members				
	No.	Estimated Pensions	No.	Valuation Payroll#	Average Pay	Age	Service
Defined Benefit Plan 2							
1999	79	\$ 364,018	189	\$ 7,076,081	\$37,440	40.5 yrs.	10.0 yrs.
2000	80	365,994	185	7,025,511	37,976	40.4	9.9
2001	81	369,832	179	7,284,627	40,696	41.7	10.5
2002	81	369,832	152	6,838,161	44,988	43.0	11.6
2003	80	367,115	137	5,700,048	41,606	44.1	12.5
Defined Benefit Plan 3							
1999	0	\$ 0	110	\$ 5,216,777	\$47,425	44.2 yrs.	14.3 yrs.
2000	0	0	108	6,007,889	55,629	45.5	15.3
2001	0	0	106	5,869,972	55,377	46.0	16.3
2002	0	0	103	6,021,860	58,465	47.1	17.4
2003	0	0	102	5,719,859	56,077	47.9	18.4
Defined Contribution Plan 4							
1999	NA	NA	4,623	\$188,444,349	\$40,762	39.8 yrs.	7.3 yrs.
2000	NA	NA	4,828	208,770,801	43,242	40.3	7.7
2001	NA	NA	5,018	231,082,080	46,051	41.0	8.0
2002	NA	NA	4,499	223,379,142	49,651	41.9	8.6
2003	NA	NA	4,351	206,015,408	47,349	42.7	9.4
Defined Benefit/Contribution Plan 5							
2002	NA	NA	579	\$ 26,596,747	\$45,936	39.6 yrs.	8.3 yrs.
2003	NA	NA	880	37,460,262	42,568	38.9	7.3
Retirement System Totals							
1965	215	\$ 206,806	7,416	\$ 51,699,553	\$6,971	- yrs.	- yrs.
1970	283	461,045	8,170	81,396,280	9,963	41.7	10.2
1975	254	579,747	7,906	115,811,211	14,649	42.0	10.5
1980	323	1,107,547	6,832	178,221,092	26,086	42.8	12.1
1985	245	1,229,467	4,758	129,534,998	27,225	41.1	11.0
1990	251	1,286,311	4,999	157,406,461	31,488	41.0	10.9
1995	198	1,114,099	5,407	192,903,829	35,677	41.1	10.3
1999	153	893,028	5,903	256,378,506	43,432	41.9	10.3
2000	152	885,974	5,995	275,626,572	45,976	42.1	10.3
2001	150	860,061	6,076	294,127,729	48,408	42.6	10.4
2002	145	824,488	6,019	308,961,722	51,331	43.1	10.7
2003	140	786,431	5,995	289,250,256	48,249	43.2	10.8

Cost-of-living increases included since 1976. Beginning in 1979 gross fiscal pay was provided.

@ In addition, 304 members were transferred to the State in 1981 (with 15 remaining in 2003 and 8 who have since terminated from the State) who are eligible for deferred retirement.

DEFINED BENEFIT PLAN #1
ACTIVE MEMBERS SEPTEMBER 30, 2003
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Salary
30-34									
35-39				1	3			4	\$ 284,638
40-44		1		16	30	1		48	2,699,624
45-49			4	17	41	24	4	90	5,878,578
50-54			4	9	44	79	35	171	11,761,812
55-59		3	1	5	19	48	52	128	8,151,505
60		1		1	1	6	11	20	1,252,042
61	1	1		1	6	4	7	20	1,336,474
62					1	4	2	7	434,935
63				1	1		7	9	647,752
64				1		1	3	5	258,768
65						2	2	4	302,993
66					2		1	3	146,893
67					1	1	1	3	168,305
68							1	1	58,901
69						1	3	4	371,478
74						1		1	118,886
75						1		1	26,346
76							1	1	79,532
77						1	1	2	191,487
79						1	2	3	183,730
Totals	1	6	9	52	149	175	133	525	\$34,354,679

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 53.3 years
Service: 26.3 years
Annual Pay: \$65,437

DEFINED BENEFIT PLAN #2
ACTIVE MEMBERS SEPTEMBER 30, 2003
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Salary
Under 25	2	1						3	\$ 75,531
25-29	8	3						11	417,961
30-34	10	7	6					23	878,985
35-39	2	2	4	2				10	352,696
40-44	1	1	10	8				20	885,037
45-49	3	3	7	9	1			23	1,248,843
50-54	3	2	6	4	2	4	3	24	973,566
55-59		1	4	2	2		4	13	569,499
60	1	1						2	52,762
61				1				1	31,412
62	1		1					2	91,763
63				1				1	30,504
65		1						1	26,395
67				1				1	40,760
70			1					1	8,336
71	1							1	15,998
Totals	32	22	39	28	5	4	7	137	\$5,700,048

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 44.1 years
Service: 12.5 years
Annual Pay: \$41,606

DEFINED BENEFIT PLAN #3
ACTIVE MEMBERS SEPTEMBER 30, 2003
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Salary
35-39				7				7	\$ 309,169
40-44				33	1			34	2,048,565
45-49			1	20	1			22	1,291,244
50-54				22	1			23	1,273,173
55-59			2	8				10	507,565
60				1				1	40,192
62				1				1	27,801
63				2				2	125,218
64				1				1	46,661
69				1				1	50,271
Totals			3	96	3			102	\$5,719,859

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 47.9 years
Service: 18.4 years
Annual Pay: \$56,077

DEFINED CONTRIBUTION PLAN #4
ACTIVE MEMBERS SEPTEMBER 30, 2003
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Salary
15-19									
20-24	59	6						65	\$ 1,856,127
25-29	210	97	1					308	10,719,687
30-34	224	291	95	8				618	25,501,179
35-39	177	265	203	102	1			748	34,065,244
40-44	188	205	217	199	13	2		824	41,015,021
45-49	153	201	155	166	36	6	1	718	37,088,764
50-54	115	152	103	100	24	29	9	532	28,426,157
55-59	80	75	68	41	15	17	10	306	15,975,505
60	13	12	7	5	3		2	42	2,038,690
61	5	15	14	7			3	44	1,975,424
62	6	8	10	2	1	1		28	1,230,697
63	3	6	10	4			3	26	1,374,793
64	6	4	2	7	1		1	21	1,154,911
65		5	6	4			1	16	861,244
66	3	8	5				1	17	797,606
67	1	5	2	1			1	10	562,707
68	1	3	3		1			8	484,729
69	2			3				5	256,091
70		2	1					3	109,683
71		1						1	54,708
72	1	1	1				1	4	177,370
73	1	1						2	89,752
74		1						1	24,020
75			1					1	39,153
77							1	1	43,381
79		2						2	92,765
Totals	1,248	1,366	904	649	95	55	34	4,351	\$206,015,408

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 42.7 years
Service: 9.4 years
Annual Pay: \$47,349

DEFINED CONTRIBUTION PLAN #5
ACTIVE MEMBERS SEPTEMBER 30, 2003
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Salary
15-19	4							4	\$ 105,136
20-24	89	1						90	2,450,803
25-29	107	6						113	3,613,485
30-34	87	21	11					119	4,459,380
35-39	58	16	47	30				151	7,200,811
40-44	65	10	20	38	5			138	6,905,734
45-49	34	2	10	30	7	8		91	4,491,550
50-54	40	4	5	15	4	18	3	89	4,191,396
55-59	18	1	9	9	2	11	6	56	2,822,631
60	3			2		1	2	8	323,117
61	2	1		1		1		5	241,554
62	3		1	1				5	178,841
63	1	1		1				3	122,348
64	1							1	82,700
65	1			1				2	116,843
66				1				1	83,607
67	1							1	11,715
69	1							1	20,841
71	1							1	10,017
75				1				1	27,753
Totals	516	63	103	130	18	39	11	880	\$37,460,262

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 38.9 years
Service: 7.3 years
Annual Pay: \$42,568

SECTION C

Financial Principles
Actuarial Valuation Process
Actuarial Cost Methods
Actuarial Assumptions
and
Definitions of Technical Terms

BASIC FINANCIAL PRINCIPLES AND OPERATION OF THE RETIREMENT SYSTEM

Benefit Promises Made Which Must Be Paid For. A retirement program is an orderly means of handing out, keeping track of, and financing pension promises to a group of employees. As each member of the retirement program acquires a unit of service credit the member is, in effect, handed an "IOU" which reads: "The Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire."

The principal related financial question is: When shall the money required to cover the "IOU" be contributed? This year, when the benefit of the member's service is received? Or, some future year when the "IOU" becomes a cash demand?

The Constitution of the State of Michigan is directed to the question:

"Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities."

This Retirement System meets this requirement by having as its financial objective the establishment and receipt of contributions, expressed as percents of active member payroll, which will remain approximately level from year to year and will not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contribution objective means that the contribution rate must be at least:

Normal Cost (the present value of future benefits assigned to members' service being rendered in the current year)

. . . plus . . .

Interest on the Unfunded Actuarial Accrued Liability (the difference between the actuarial accrued liability and current system assets).

The accumulation of invested assets is a by-product of level percent of payroll contributions, not the objective. Investment income becomes the 3rd major contributor to the retirement program, and the amount is directly reacted to the amount of contributions and investment performance.

If contributions to the retirement program are less than the preceding amount, the difference, plus investment earnings not realized thereon, will have to be contributed at some later time, or, benefits will have to be reduced, to satisfy the fundamental fiscal equation under which all retirement programs must operate:

$$\mathbf{B = C + I - E}$$

The aggregate amount of **B**enefit payments to any group of members and their beneficiaries cannot exceed the sum of:

The aggregate amount of **C**ontributions received on behalf of the group

. . . plus . . .

Investment earnings on contributions received and not required for immediate cash payments of benefits

. . . minus . . .

The **E**xpenses of operating the program.

Computed Contribution Rate Needed To Finance Benefits. From a given schedule of benefits and from the data furnished, the actuary calculates the contribution rate *by means of an actuarial valuation* - the technique of assigning monetary values to the risks assumed in operating a retirement program.

THE ACTUARIAL VALUATION PROCESS

The financing diagram on page C-3 shows the relationship between the two fundamentally different philosophies of paying for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program) which is an *increasing contribution method*; and the *level contribution method* which equalizes contributions between the generations.

The actuarial valuation is the mathematical process by which the level contribution rate is determined, and the flow of activity constituting the valuation may be summarized as follows:

- A. **Census Data**, furnished by plan administrator.
 - Retired lives now receiving benefits
 - Former employees with vested benefits not yet payable
 - Active employees

- B. + **Asset data** (cash & investments), furnished by plan administrator

- C. + **Assumptions concerning future experience in various risk areas**, which assumptions are established by the Retirement System after consulting with the actuary

- D. + **The funding method** (the long-term, planned pattern for employer contributions)

- E. + **Mathematically combining the assumptions, the funding method, and the data**

- F. = Determination of:
 - Plan financial position; and/or
 - New Employer Contribution Rate

ACTUARIAL COST METHODS

The actuarial cost method is a procedure for allocating the actuarial present value of benefits and expenses to time periods. The method used for your valuation is known as the projected unit credit actuarial cost method, and has the following characteristics:

- (i) The future annual normal costs for each individual active member are sufficient to accumulate the value of the member's pension, at time of retirement, attributable to service likely to be rendered after the valuation date.

- (ii) Each annual normal cost is the percentage of the member's current pay that is expected to finance the portion of the member's future benefit that is accruing in the current year.

The projected unit credit actuarial cost method allocates the actuarial present value of each member's projected benefits to time periods in the ratio of credited service during the time period to total projected credited service.

The portion of the actuarial present value allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future normal costs is called the actuarial accrued liability. Deducting accrued assets from the actuarial accrued liability determines the unfunded actuarial accrued liability.

The base rate of increase in salaries used to calculate the actuarial liability was assumed to be 4.0%.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Contribution requirements and actuarial present values are calculated by applying estimates of future experience (actuarial assumptions) to the benefit provisions and participant data of the System, using the actuarial cost methods described on page C-6.

The principal areas of activity which require experience estimates are:

- long-term rates of investment return to be generated by the assets of the System
- patterns of pay increases to members
- rates of mortality among members, retired members and beneficiaries
- rates of withdrawal of active members
- rates of disability among active members
- the age patterns of actual retirements.

In an actuarial valuation, the monetary effect of each activity is calculated for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with the experience estimates. Each valuation provides a complete recalculation of estimated future experience and takes into account all past differences between estimated and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time one or more of the estimates are modified to reflect experience trends but not random or temporary year to year fluctuations.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Investment Return (net of administrative expenses).

8.0% per year, compounded annually. This rate consists of a real rate of return of **4.0%** a year plus a long-term rate of inflation of **4.0%** a year.

This assumption is used to equate the value of payments due at different points in time and was first used for the September 30, 1998 valuation. Approximate rates of investment return, for the purpose of comparisons with assumed rates, are shown below.

	Year Ended September 30					5-Year Average
	2003	2002	2001	2000	1999	
Recognized Rate of Return	3.0%	6.0%	8.3%	17.1%	15.1%	9.8%

The nominal rate of return was computed using the approximate formula $i = I$ divided by $1/2 (A + B - I)$, where I is recognized investment income net of expenses, A is the beginning of year asset value, and B is the end of year asset value.

These rates of return should not be used for measurement of an investment advisor's performance or for comparisons with other systems -- *to do so will mislead*.

Rates of salary increase were as follows:

Sample Ages	Annual Rate of Salary Increase for Sample Age		
	Base Assumption	Merit & Longevity	
		General & DPS	Sheriff
20	4.0%	2.5%	2.5%
25	4.0%	2.5%	2.5%
30	4.0%	2.5%	2.5%
35	4.0%	2.4%	2.4%
40	4.0%	2.2%	2.2%
45	4.0%	2.0%	2.0%
50	4.0%	1.7%	1.7%
55	4.0%	1.4%	1.4%
60	4.0%	1.1%	1.1%
Ref		172	172

These rates are used to project current salaries to those upon which pension amounts are likely to be based. The current rates were first used for the supplemental September 30, 1998 actuarial valuation.

Rates of separation from active membership were as follows:

Sample Ages	% of Active Members Separating Within the Next Year		
	General	DPS	Sheriff
20	5.00%	10.30%	4.50%
25	5.10%	10.30%	4.50%
30	4.90%	9.60%	3.90%
35	4.40%	8.10%	2.30%
40	3.60%	6.20%	0.90%
45	2.80%	4.10%	0.50%
50	2.00%	2.30%	0.50%
55	1.30%	1.20%	0.50%
60	1.00%	1.00%	0.50%
Ref	1 30	1 28	1 53

Rates for all divisions were first used for the September 30, 1998 valuation.

The probabilities of retirement for members satisfying the age and service conditions for retirement are as follows:

Retirement Ages	Percent of Defined Benefit Active Members Retiring Within Next Year					
	General Plan 1	D.P.S. Plan 1	General & D.P.S. Plans 2, 3 & 5	Sheriff Plans 1, 2, & 3	Service	Sheriff Plan 5
45-49	30%	30%		30%	15	25%
50	18%	25%		30%	16	25%
51	18%	25%		30%	17	25%
52	18%	25%		30%	18	25%
53	18%	25%		25%	19	25%
54	18%	25%		20%	20	25%
55	18%	25%	30%	20%	21	25%
56	18%	25%	30%	20%	22	25%
57	18%	25%	30%	20%	23	27%
58	18%	25%	30%	20%	24	27%
59	18%	25%	30%	20%	25	27%
60	18%	25%	30%	20%	26	27%
61	18%	25%	30%	20%	27	27%
62	25%	35%	30%	20%	28	30%
63	25%	35%	25%	25%	29	30%
64	25%	35%	20%	25%	30	100%
65	25%	35%	20%	25%	31	100%
66	20%	35%	20%	25%	32	100%
67	20%	35%	20%	25%	33	100%
68	20%	35%	20%	25%	34	100%
69	20%	35%	20%	25%	35	100%
70-74	20%	100%	20%	100%	36	100%
75 & Over	100%	100%	25%	100%	37	100%
Ref	558	560	559	559	Ref	369

Defined Benefit Plan 1 General and D.P.S.: Assumed age and service conditions for retirement were any age with 30 or more years of service; age 50 with 25 or more years of service; or, age 60 with 5 or more years of service. **Sheriff:** Assumed age and service conditions for retirement were 25 or more years of service; or, age 60 with 5 or more years of service. For those who are age 50 and have at least 28 years of service, a 30% probability of retirement was assumed.

Defined Benefit Plans 2, 3 and 5: Assumed age and service conditions for retirement were age 55 with 25 or more years of service; or, age 60 with 20 or more years of service; or, age 65 with 5 (8 years for plan 2 and plan 5) or more years of service. **Plans 2 and 3 Sheriff:** In addition to the aforementioned conditions, assumed service condition of 25 years of service regardless of age. **Plan 5 Sheriff:** Assumed service condition of 30 years of service regardless of age; or, age 55 with 25 or more years of service; or, age 60 with 20 or more years of service; or, age 65 with 8 or more years of service.

The rates were first used for the September 30, 1998, valuation for defined benefit plan 1, the November 30, 1983 actuarial valuation for defined benefit plans 2 and 3, and the September 30, 2003 valuation for Plan 5.

Rates of disability are represented by the following table:

Sample Ages	Percent Becoming Disabled Within Next Year	
	Plan 1 General	Other
20	0.08%	0.10%
25	0.08%	0.10%
30	0.08%	0.07%
35	0.08%	0.12%
40	0.20%	0.28%
45	0.26%	0.51%
50	0.49%	0.81%
55	0.89%	1.13%
60	1.41%	1.44%
Ref	9 x 1	8 x 1

Lump sum redemption factors are used to project increases in average final compensation from the inclusion of lump sum redemptions of unused sick leave and vacation time.

Lump sum redemption factors applicable to Defined Benefit Plans 1 and 3 are:

Factors			
Service Retirements		Death- in-Service	Disability Retirements
Regular	Deferred		
5.0%	5.0%	0.0%	0.0%

The lump sum redemption factors applicable to Defined Benefit Plans 2 and 5 is zero.

Number of active members: The number of active members (in all plans) was assumed to remain constant.

The mortality table used to measure post-retirement mortality was the 1983 Group Annuity Mortality Table. This assumption was first used for the September 30, 1998 supplemental actuarial valuation.

Mortality rates are used to measure the probabilities of members dying before retirement and the probabilities of each pension payment being made after retirement.

Sample Attained	Single Life Retirement Values			
	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Men	Women	Men	Women
Ages				
45	\$138.18	\$144.67	33.74	39.69
50	132.10	140.42	29.18	34.92
55	124.57	134.74	24.82	30.24
60	115.04	127.24	20.64	25.67
65	103.26	117.61	16.69	21.29
70	90.18	105.53	13.18	17.13
75	76.40	91.57	10.15	13.37
80	62.65	77.16	7.64	10.20
Ref:	30 x 1.00	31 x 1.00		

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

SEPTEMBER 30, 2003

Marriage Assumption:	100% of males and 100% of females are assumed to be married. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of (Fiscal) year.
Decrement Timing:	Decrements are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements do not operate during the first 5 years of service. Disability and turnover do not operate during retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form.
Loads:	The Plan 1 and Plan 3 Normal Cost for age and service benefits was increased by 5% to account for lump sum redemptions of unused sick leave and vacation time.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
Benefit Service:	Exact Fractional service is used to determine the amount of benefit payable.
Option Factors:	Option factors are based upon 7.0% interest and the 1971 Group Annuity Mortality Table, set back six years for females with an 85% Unisex Blend.

SECTION D

Financial Reporting

**STATEMENT OF MARKET VALUE OF ASSETS
AS OF SEPTEMBER 30, 2002 AND SEPTEMBER 30, 2003**

	2003	2002
Assets:		
Cash and short-term investments	\$ 141,703,601	\$124,476,024
Receivables:		
Accrued interest and dividends	4,304,223	6,826,168
Investments, at fair value:		
U.S. Government Bonds	215,704,715	195,246,252
Corporate Bonds	121,894,952	127,446,180
Bond Mutual Funds	0	0
Mortgages	57,268,139	112,029,148
Investments in Partnerships	114,568,206	49,942,448
Stocks	365,628,348	352,263,647
Other	309,551	122,722
	875,373,911	837,050,397
Total Assets	\$1,021,381,735	\$968,352,589
Liabilities		
Payables	47,666,791	352,685
Net assets held in trust for pension benefits (A schedule of funding progress for the plan is presented on page D-4.)	\$ 973,714,944	\$967,999,904

**STATEMENT OF CHANGES IN MARKET VALUE OF NET ASSETS FOR THE
FISCAL YEARS ENDED SEPTEMBER 30, 2002 AND SEPTEMBER 30, 2003**

	Reconciliation as of September 30, 2003	Reconciliation as of September 30, 2002
Additions:		
Contributions		
Employer	\$ 3,002,263	\$ 44,964
Plan members	5,896,850	17,468,232
Total contributions	8,899,113	17,513,196
Investment Income	107,666,495	(6,939,053)
Total Additions	116,565,608	10,574,143
Deductions:		
Benefits	104,757,042 @	100,013,786 @
Refunds of contributions	277,554	171,935
Investment expenses	2,918,766	3,148,185
Administrative expenses	2,897,206	2,806,365
Total deductions	110,850,568	106,140,271
Net Increase	5,715,040	(95,566,128)
Net assets held in trust for pension benefits:		
Beginning of year	967,999,904	1,063,566,032
End of year	\$973,714,944	\$ 967,999,904

@ Includes 13th check disbursement.

Plan Description. The Wayne County Employees Retirement System is a single-employer defined benefit and defined contribution pension plan that covers the employees of Wayne County.

The plan provides retirement, disability, and death benefits to plan members and their beneficiaries.

Contributions. Plan members' contributions are in accordance with the schedules on pages B-2, B-3, B-4, and B-7.

The employer's funding policy provides for periodic employer contributions based upon a *fundamental financial objective of having rates of contribution which remain relatively level from generation to generation of Wayne County citizens.* To determine the employer contribution rates and to assess the extent to which the fundamental financial objective is being achieved, the System has actuarial valuations prepared annually. In preparing those valuations, the projected unit credit actuarial cost method is used to determine normal cost and actuarial accrued liabilities.

On the basis of the September 30, 2003 actuarial valuation, the employer contributions were determined to be as follows:

<u>Contributions for</u>	<u>% of payroll</u>
Normal Cost	11.10 %
Accrued Liabilities	1.20 %
Total Employer DBP Contributions	12.30 %

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF FUNDING PROGRESS
(DOLLAR AMOUNTS IN MILLIONS)

Actuarial Valuation Date	Actuarial Value of Assets* (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered+ Payroll (c)	UAAL as a Percent of Covered Payroll [(b)-(a)]/(c)
11/30/1993#	\$749.5	\$777.5	\$28.0	96.4 %	\$184.0	15.2 %
11/30/1994	766.1	783.5	17.4	97.8 %	182.7	9.5 %
11/30/1995#	781.4	829.2	47.8	94.2 %	192.9	24.8 %
11/30/1996#@	866.9	866.9	0.0	100.0 %	208.6	--
11/30/1997#	877.9	870.1	(7.8)	100.9 %	224.1	--
9/30/1998#	933.0	906.6	(26.4)	102.9 %	231.0	--
9/30/1999	965.8	915.3	(50.5)	105.5 %	256.4	--
9/30/2000&	1,028.6	947.6	(81.0)	108.5 %	275.6	--
9/30/2001#	1,041.6	979.2	(62.4)	106.4 %	294.1	--
9/30/2002**	1,043.3	1,010.7	(32.6)	103.2 %	309.0	--
9/30/2003**	996.6	1,007.7	11.1	98.9 %	289.3	3.8 %

After changes in benefit provisions or revised actuarial assumptions.

* Excludes reserve for inflation equity.

+ Includes defined contribution plan payroll.

@ After one-time adjustment equal to UAAL.

& Change in Inflation Equity calculation.

** Includes Hybrid Plan 5.

**SCHEDULE OF EMPLOYER CONTRIBUTIONS
DEFINED BENEFIT PLANS ONLY
(\$ IN THOUSANDS)**

Fiscal Year Ended September 30#	Annual Recommended Contributions	Actual Contributions	Percent Contributed
1995	\$14,180	\$12,147	88%
1996	12,250	12,103	99%
1997	14,470*	12,746	88%
1998	8,751	7,095	81%
1999	7,632	7,642	100%
2000	5,446	3,805	70%
2001	2,670	39	1%
2002	0	45	100%
2003&	1,328	3,002	100%
2004@	6,326	N/A	N/A
2005@	10,647	N/A	N/A

* *Restated from prior report.*

Valuations before 1998 were based on a fiscal year ending November 30.

@ *Includes Hybrid Plan 5.*

& *Actual contributions are based on a percent of current payroll. Transfers from DC Plan 4 to DB Plan 5 in 2003 resulted in larger contributions than anticipated. The amount of transfer activity, if any, could not have been known in advance.*

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	September 30, 2003
Actuarial cost method	Projected unit credit actuarial cost method
Amortization method	Level percent-of-payroll
Remaining amortization period	N/A
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return*	8.0%
Projected salary increases*	4.0% - 7.0%
Cost-of-living adjustments	N/A
<hr/>	
* Includes inflation at	4.0%