

**The Report of the
Forty-Ninth
Annual Actuarial Valuation
as of December 31, 1998**

**Covering the Participation of
Ingham County**

(3303)

in the

**MUNICIPAL EMPLOYEES'
RETIREMENT SYSTEM
OF MICHIGAN**

RECEIVED

OCT 18 1999

MERS

**The Report of the
Forty-Ninth
ANNUAL ACTUARIAL VALUATION
as of December 31, 1998**

**Covering the Participation of
Ingham County**

in the

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

Submitted to

**The Board of Commissioners
Ingham County, Michigan**

and

**The Retirement Board
Municipal Employees' Retirement System of Michigan**

October, 1999

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. SUMMARY OF PLAN PROVISIONS	3
III. MEMBERSHIP CHARACTERISTICS	9
IV. ACTUARIAL ASSUMPTIONS AND FUNDING METHOD	10
V. RESULTS OF ACTUARIAL VALUATION	21
VI. GASB 25 and GASB 27 INFORMATION	24

APPENDIX: TABULAR VALUATION RESULTS

Table 1 -	Benefit Provisions Evaluated and/or Considered
Table 2 -	Membership Characteristics
Table 3 -	Active and Vested Former Members in the Valuation
Table 4 -	Historical Growth of Retiree and Beneficiary Rolls
Table 5 -	Retirants and Beneficiaries on Rolls as of December 31, 1998
Table 6-A-	Value of Accrued Benefits as of December 31, 1998
Table 6-B -	Present Value of Accrued Benefits Funding Percentage
Table 7 -	Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1998
Table 8 -	Computed Employer Contributions to the Retirement System
Table 9 -	Computed Employer Contributions and Funding Credits
Table 10 -	Computed Employer Contributions - Comparative Statement
Table 11 -	Aggregate Accrued Liabilities - Comparative Schedule

I. INTRODUCTION

An actuarial valuation is the mathematical process by which a level contribution rate is determined for purposes of financing a retirement system. The flow of activity constituting the valuation may be summarized as follows:

- A. Plan provisions of MERS, including specific benefit levels and options adopted by the municipality

- B. + Covered person data, furnished by the MERS administrative staff

- C. + Asset data (cash and investments), furnished by the MERS administrative staff

- D. + Assumptions concerning future financial and demographic experience in various risk areas, which assumptions are established by the Retirement Board after consulting with the actuary

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

- F. + Mathematically combining the assumptions, the funding method, the plan provisions and the data

- G. = Determination of:

Municipality's financial position in MERS and the employer contribution rate.

Actuarial valuations of each participating municipality in the Municipal Employees' Retirement System are prepared annually to determine the actuarial condition of the Retirement System and the employer contribution rates required to fund MERS on an actuarial reserve basis. The calculated employer contribution rates derived from this actuarial valuation as of December 31, 1998 are based on the present provisions of the Municipal Employees' Retirement Act of 1984, as amended by 1996 Public Act 220, as embodied in the MERS Plan Document (as revised). The specific benefit provisions in effect for Ingham County are listed in Table 1.

A total of 1841 MERS members for Ingham County are included in this 1998 actuarial valuation. The total membership is comprised of 1161 active members, 218 inactive vested members, and 462 retirants and beneficiaries. As of December 31, 1998, the assets of MERS allocated to Ingham County amounted to \$107,387,080 at market value and \$95,427,168 at actuarial value.

In addition to utilizing current membership and financial data, an actuarial valuation requires the use of a series of assumptions regarding uncertain future events. The assumptions used in the 1998 actuarial valuation of MERS are those adopted in April 1994 by the Board of Trustees, which were revised to reflect the results of the 1983-1992 experience investigation. For the December 31, 1997 and later valuations, the base inflation assumption used to project member salaries was reduced from 5.0% to 4.5%.

II. SUMMARY OF PLAN PROVISIONS

The benefits summarized in this section are intended only as general information regarding the Municipal Employees' Retirement System of Michigan. They are not a substitute for Act No. 220 of the Public Acts of 1996, and the MERS Plan Document as revised. If any conflict occurs between the information in this summary and Act No. 220 of the Public Acts of 1996, as amended or the MERS Plan Document as revised, the provisions of Act No. 220 and the MERS Plan Document govern.

Eligibility for Retirement

Age 60 and 10 or more years of credited service (reduced to 8 or 6 years if either Benefit V-8 or V-6, respectively, is adopted).

Age 55 and 15 or more years of credited service (reduced benefit unless Benefit F55 is adopted).

Age 50 and 25 or more years of credited service (reduced benefit unless Benefit F50 is adopted).

Optional Retirement Programs (Unreduced Benefits)

F50 - Age 50 with a required period of credited service of either 25 or 30 years

F55 - Age 55 with a required period of credited service of 15, 20, 25 or 30 years

F(N) - Any age with a required period of credited service of either 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 or 30 years

Mandatory Retirement

None.

Deferred Retirement

Termination of membership before age 60 other than by retirement or death, after 10 years of credited service (8 or 6 years if Benefit V-8 or V-6 is adopted). Retirement allowance begins upon application and satisfaction of the eligibility requirements for retirement. The deferred retirement allowance is computed in the same manner as a service retirement allowance, based on the benefit program in effect as of the date of termination of membership.

Rights to an allowance are forfeited if the member's accumulated contributions are withdrawn.

Service Retirement Allowance

Credited service at time of termination of membership is multiplied by:

- Benefit A - 1.0% of a member's 5-year final average compensation (FAC). Benefit A may not be adopted after January 2, 1986.
- Benefit B - Contact MERS office for details. Benefit B may not be adopted after January 2, 1986.
- Benefit C New - 1.3% of FAC.
- Benefit C Old - Sum of 1.0% times the first \$4,200 of FAC, plus 1.5% times the portion of FAC over \$4,200. Benefit C Old may not be adopted after January 2, 1986.
- Benefit C-1 New - 1.5% of FAC.
- Benefit C-1 Old - Sum of 1.2% times the first \$4,200 of FAC, plus 1.7% times the portion of FAC over \$4,200. Benefit C-1 Old may not be adopted after January 2, 1986.
- Benefit B-1 - 1.7% of FAC.
- Benefit C-2 - 2.0% of FAC, payable until attainment of the age at which unreduced Social Security benefits are available (currently age 65 for normal retirement, gradually increasing to age 67). Upon attainment of this age, the benefit reverts to the basic Benefit A, C New, C Old, C-1 New, C-1 Old or B-1.
- Benefit B-2 - 2.0% of FAC.
- Benefit B-3 - 2.25% of FAC, with a maximum benefit of 80% of FAC.
- Benefit B-4 - 2.5% of FAC, with a maximum benefit of 80% of FAC.

Final Average Compensation

MERS plan benefits are based on a member's final average compensation (FAC). For this purpose, final average compensation means one-fifth of the aggregate amount of compensation paid a member during the period of 5 consecutive years of the member's credited service in which the aggregate compensation paid is highest, known as FAC-5. Adoption of Benefit FAC-3 results in final average compensation being averaged over 3 years, instead of 5 years.

The retirement allowance is reduced 1/2 of 1% for each complete month that retirement precedes the age at which full normal retirement benefits are available. The reduction may be partially or fully waived by adopting Benefit F55 and/or F50 and/or F(N).

Disability Retirement Allowance

Total and permanent disability while employed by a participating municipality and after meeting the vesting requirement of the benefit program. The service requirement is waived if the disability is due to service-connected causes.

The allowance is computed in the same manner as a service retirement allowance, except that the reduction for retirement before age 60 is not applied.

If disability is due to service-connected causes, the amount of the retirement allowance shall not be less than 25% of the member's final average compensation.

Adoption of optional Benefit Program D-2 will provide a retirement allowance for a service-connected disability that is the greater of:

- (i) 25% of the member's final average compensation; or
- (ii) 10 years of credited service in addition to the member's actual period of service provided the total years of service do not exceed the greater of 30 years or the member's actual period of service.

Non-Duty Death Allowance

If a member or vested former member with the minimum years of service required to be vested dies before retirement, a monthly survivor allowance may be payable.

If a member is married, the spouse is the automatic beneficiary unless the spouse, in writing, declines a benefit in favor of another named beneficiary.

A contingent survivor beneficiary (named in an Option II Contingent Beneficiary Designation form filed with MERS) will receive a retirement allowance computed in the same manner as a service retirement allowance, but reduced to reflect an Option II (100% joint and survivor) election. The reduction for retirement before age 60 is not applied.

If there is no named beneficiary and the member leaves a spouse, the spouse will receive a survivor allowance. Payment of a retirement allowance to the surviving spouse of a deceased member commences immediately. Payment of a retirement allowance to the surviving spouse of a deceased vested former member commences on the date the member would have first satisfied eligibility for retirement for an unreduced service retirement allowance. The amount of a surviving spouse's retirement allowance shall be 85% of the deceased member's or deceased vested former member's accrued retirement allowance computed in the same manner as a service retirement allowance, based on service and final average compensation at time of death.

If there is no named beneficiary and no retirement allowance being paid to a surviving spouse, unmarried children under age 21 will be paid an equal share of 50% of the deceased member's or deceased vested former member's accrued retirement allowance. The reduction for retirement before age 60 is not applied.

If no retirement allowance becomes payable at death, the member's accumulated contributions are paid to the beneficiary.

Duty-Connected Death

A duty death allowance computed in the same manner as a non-duty death allowance may be payable to a spouse or children if death occurs as a result of performance of duty with a participating municipality. The vesting requirement is waived, and the minimum benefit is 25% of the deceased member's final average compensation.

Adoption of optional Benefit Program D-2 will provide a retirement allowance for a service-connected death that is the greater of:

- (i) 25% of the member's final average compensation; or
- (ii) 10 years of credited service in addition to the member's actual period of service provided the total years of service do not exceed the greater of 30 years or the member's actual period of service.

Member Contributions

Each member contributes a percent of annual compensation, as selected by the municipality. Any percentage from 0% to 10% (in 0.1% increments) may be selected. A 3%/5% contribution program was available prior to 1985 and may be continued, but not adopted, after 1984. Under this program the member contributes 3% of the first \$4,200 of annual compensation and 5% of portions over \$4,200.

If a member leaves the employ of the municipality, or dies, without a retirement allowance or other benefit payable on his account, the member's accumulated contributions plus interest (at a rate determined by MERS) are refunded with spousal consent, to the member, if living, or to the member's surviving spouse, if any, or to a named beneficiary (after spousal consent, if applicable).

Post-Retirement Adjustments

Benefit E - provides a one-time benefit increase to present retirants and beneficiaries. The amount of the increase is equal to a fixed percentage of the present benefit or a fixed dollar amount times the number of years since the later of retirement or the date specified in the resolution. Benefit E may be readopted from time to time.

Benefit E-1 - provides automatic 2.5% annual non-compounded benefit increases to persons (and their beneficiaries) retired before the effective date of Benefit E-1. Increases are limited to increases in the consumer price index.

Benefit E-2 - provides automatic 2.5% annual non-compounded benefit increases to persons (and their beneficiaries) retired on or after the effective date of Benefit E-2. Increases are limited to increases in the consumer price index.

Death-After-Retirement Surviving Spouse Benefit

A retiring member electing form of payment SL (straight life retirement allowance) is normally paid a lifetime retirement allowance, with payments terminating at death. The retiring member could provide benefits to a surviving spouse by electing Option II (100% continuation to beneficiary) or Option II-A (75% continuation to beneficiary) or Option III (50% continuation to beneficiary). A surviving spouse is automatically the beneficiary to an Option II, IIA or III allowance unless the spouse, in writing, relinquishes the benefit to the member electing a straight life allowance or to another named beneficiary. Electing these alternate forms of payment would lower the retiring member's retirement allowance.

If Benefit Program RS50% is adopted, a member retiring on or after the effective date of Benefit RS50% may elect form of payment SL and still provide a 50% survivor benefit to the member's spouse. To be eligible for a surviving spouse benefit the retiring member and spouse must have been married to each other both at the time of death and during the full one year period just before retirement.

III. MEMBERSHIP CHARACTERISTICS

Computer files containing membership data as of December 31, 1998 were provided to us by the MERS staff. For purposes of the actuarial valuation, we prepared various tabulations of the membership data that was provided. Summaries of these tabulations are presented in the tables that begin on page 25.

The number of active participants and the annual payroll included in the December 31, 1998 valuation, along with a comparison to the prior year, are shown in Table 2. Individual information is shown for each valuation division in the municipality.

Table 3 provides a historical comparison of the number and characteristics of active and inactive vested former members included in recent actuarial valuations. This information is presented in the aggregate for all valuation divisions in the municipality.

Table 4 shows a history of the number of retirees and beneficiaries and the annual amount of benefits paid to retirees and beneficiaries, and Table 5 presents a distribution of pensioners on the rolls by type of benefit being paid. Information in these two tables is presented in the aggregate for all valuation divisions in the municipality.

IV. ACTUARIAL ASSUMPTIONS AND FUNDING METHOD

Actuarial Assumptions

To calculate MERS contribution requirements, assumptions are made about future events that could affect the amount and timing of benefits to be paid and the assets to be accumulated. The economic and demographic assumptions include:

- o An assumed rate of investment return which is used to discount liabilities and project what plan assets will earn.
- o A mortality table projecting the number of employees who will die before retirement and the duration of benefit payments after retirement.
- o Assumed retirement rates projecting when employees will retire and commence receiving retirement benefits.
- o A set of withdrawal and disability rates to estimate the number of employees who will leave the work force before retirement.
- o Assumed rates of salary increases to project employees' compensation in future years.

The actuarial assumptions used in connection with this December 31, 1998 actuarial valuation are the same as the assumptions used in the prior year. The actuarial assumptions currently utilized are summarized below and on the following pages.

Investment Yield

Funding MERS on an actuarial reserve basis involves the accumulation of reserves to pay benefits in the future. These reserves are invested and the net rate of investment earnings is a major factor in determining the contributions required to support the ultimate cost of benefits.

The net rate of investment yield is comprised of imputed income at the valuation interest rate, plus a write-up (down). This write-up (down) reflects 20% of the actual investment return (including interest, dividends, and both realized and unrealized gains or losses, less administrative expenses) in excess of (less than) this assumption, over each year during the current year and the subsequent four-year period.

For the 1998 actuarial valuation of MERS, the long-term net investment yield rate is assumed to be 8%. During 1998, the approximate net investment yield rate on average total assets at actuarial value (determined as (i) investment income net of expenses, divided by (ii) the average actuarial value of assets during the year) was 12.93%. The corresponding amounts for 1997 and 1996 were 12.02% and 10.23%, respectively.

Salary Increases

Because MERS benefits are based on a member's final average compensation, it is necessary to make an assumption with respect to the salary progression of employees in the future. The salary increase assumption used in this 1998 actuarial valuation projects annual salary increases of 4.5% plus a percentage based on an age-related scale to reflect merit, longevity and promotional salary increases.

The salary increase assumption used for the December 31, 1998 valuation projects the following salary increases for selected ages:

Age	Base (inflation)	Merit and Longevity	Total percentage increase in salary
20	4.5%	4.16%	8.66%
25	4.5	2.88	7.38
30	4.5	1.98	6.48
35	4.5	1.52	6.02
40	4.5	1.10	5.60
45	4.5	0.66	5.16
50	4.5	0.32	4.82
55	4.5	0.14	4.64
60	4.5	0.00	4.50

Withdrawal Rates

The withdrawal rates used in an actuarial valuation project the percentage of employees at each age who are assumed to terminate employment before qualifying for retirement benefits. The withdrawal rates do not apply to members eligible to retire, and do not include separation on account of death or disability.

The assumed rates of withdrawal applied in the current valuation are based on years of service for members with less than 5 years service, and based on age for members with over 5 years. There are three categories of rates, applying to municipalities with lower than average, average, and above average levels of turnover, respectively.

Sample rates of withdrawal from active employment are below:

Sample Ages	Years of Service	% of Active Members Withdrawing Within Next Year		
		Low	Medium	High
All	0	4.00%	18.00%	31.00%
	1	4.00	16.00	28.00
	2	3.00	14.00	23.00
	3	3.00	11.00	17.00
	4	3.00	9.00	14.00
25	5 and over	2.65	8.10	13.15
30		1.95	5.85	11.25
35		1.10	4.70	9.85
40		.90	4.00	8.35
45		.80	3.40	7.20
50		.55	2.80	6.40
55		.30	2.30	5.50
60		.00	1.60	4.30

The withdrawal rates used for this municipality are shown on page 14.

Retirement Rates

A schedule of retirement rates is used to measure the probability of eligible members retiring during the next year. Separate rates are utilized for municipalities without Benefits F50, F55 or F(N) and those that have adopted F55, F50 or F(N). Retirement rates for ages below age 50 are the same as those shown at age 50. In addition, low, medium and high scales reflect each municipality's expected level of retirement.

The current retirement rates in use for each category are shown below:

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year								
	Without F50 or F55			With F55			With F50 or F(N)		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
50	1%	2%	10%	1%	3%	20%	15%	22%	40%
51	1	2	10	1	3	20	15	22	40
52	1	2	10	1	3	20	15	22	40
53	1	2	10	1	3	20	15	22	40
54	1	2	10	1	11	20	15	22	40
55	2	8	20	11	16	42	11	16	42
56	2	8	10	6	12	28	6	12	28
57	2	8	10	6	11	27	6	11	27
58	2	8	10	6	12	25	6	12	25
59	5	8	15	6	14	27	6	14	27
60	10	17	25	10	17	25	10	17	25
61	12	20	30	12	20	30	12	20	30
62	29	42	52	29	42	52	29	42	52
63	13	28	49	13	28	49	13	28	49
64	14	31	52	14	31	52	14	31	52
65	30	51	60	30	51	60	30	51	60
66	22	33	52	22	33	52	22	33	52
67	19	31	52	19	31	52	19	31	52
68	21	31	49	21	31	49	21	31	49
69	25	45	52	25	45	52	25	45	52
70	100	100	100	100	100	100	100	100	100

Municipalities that have adopted a non-standard benefit multiplier after December 31, 1996 that is in excess of the B-4, 2.5%, multiplier will have a retirement rate equal to 75% for the first age at which unreduced plan benefits are available.

The retirement rates used for this municipality are shown on page 14.

Specific Withdrawal and Retirement Rates Used for Municipality

The withdrawal and retirement rates by valuation division are as follows:

Valuation Division	Withdrawal Assumption	Retirement Assumption
(01) Confidentials	Medium	Medium
(02) Sheriff FOP Spvs	Medium	High
(04) MCF	High	Medium
(09) Judges	Medium	Medium
(10) Gnrl Mgmt	Medium	Medium
(11) Gnrl Library	Medium	Low
(12) Gnrl ICEA Profs	Medium	Low
(13) Gnrl OPEIU Prob	Medium	High
(14) Gnrl TOPS UAW	Medium	Medium
(15) Animal Cntrl FOP	Medium	Medium
(16) Gnrl Commsnrs	High	Medium
(17) ICEA Nurses	Medium	Medium
(18) ICEA Crt Profs	Medium	Medium
(19) Cnstatnl Offcls	Medium	Medium
(20) Sheriff/Sheriff	Low	Medium
(21) FOP Shrf Deputies	Medium	Medium
(40) ICEA Unit 111	High	High
(41) MCF Management	Medium	Medium

Specific Withdrawal and Retirement Rates Used for Municipality (Continued)

The withdrawal and retirement rates by valuation division are as follows:

Valuation Division	Withdrawal Assumption	Retirement Assumption
(42)ICEA Unit 11	High	High
(43)ICEA Unit 1	High	High
(90)Asst Pros Attnys	Medium	Medium
(91)Parks Union Empl	Medium	Medium
(92)Parks Non Union	Medium	Medium
(93)Lgl Rsrch Clerks	Medium	Medium

Disability Rates

The assumed rates of disablement at various ages are shown below:

Sample Ages	Percent Becoming Disabled within Next Year
20	.02%
25	.02
30	.02
35	.02
40	.05
45	.12
50	.25
55	.40
60	.45
65	.50

Mortality Table

In estimating the amount of the reserves required at the time of retirement to pay an employee's benefit for the remainder of his or her lifetime, it is necessary to make an assumption with respect to expected mortality after retirement. In addition, the same assumption is used to measure the probability of members dying before retirement.

The mortality table used to project the mortality experience of MERS members is the 1971 Group Annuity Mortality Table, for males, projected with Projection Scale D to 1984. Females use the same male table, with a 6-year setback. For disabled retirees, the regular mortality tables are used with an 11-year set forward. These tables were first used for the December 31, 1993 valuation.

The life expectancies and mortality rates projected by the assumed mortality table for non-disabled male and female MERS members are shown below for selected ages:

Age	Expected Years Of Life Remaining		Mortality Rates	
	Men	Women	Men	Women
20	55.99	61.82	.05%	.05%
25	51.12	56.96	.06	.05
30	46.27	52.09	.07	.05
35	41.46	47.24	.10	.07
40	36.69	42.42	.15	.10
45	32.01	37.64	.27	.14
50	27.53	32.94	.49	.24
55	23.29	28.41	.78	.44
60	19.27	24.11	1.21	.72
65	15.55	20.06	1.96	1.10
70	12.26	16.27	3.36	1.76
75	9.50	12.87	5.21	3.01
80	7.18	10.02	8.34	4.81

Funding Method

Funding the Retirement System on an actuarial reserve basis seeks to achieve the following major objectives:

- o Level required contribution rates as a percentage of payroll;
- o Finance benefits earned by present employees on a current basis;
- o Accumulate assets to enhance members' benefit security;
- o Produce investment earnings on accumulated assets to help meet future benefit costs;
- o Make it possible to estimate the long-term actuarial cost of proposed amendments to System provisions; and
- o Assist in maintaining the Retirement System's long-term financial viability.

The basic funding objective is a level pattern of cost as a percentage of salary throughout an employee's working lifetime. The funding method used in this actuarial valuation - the entry age normal cost method - is intended to meet this objective and result in a relatively level long-term contribution requirement as a percentage of salary. Note that this funding method has been used since the December 31, 1993 valuation. Prior to then, the attained age normal cost method had been in effect.

Under the entry age normal cost method, the total actuarially-determined contribution requirement is the sum of the normal cost and the payment required to amortize the unfunded accrued liability over the amortization period of 30 years (up to 38 years for municipalities that have participated in MERS for less than 10 years), less the accelerated funding credit, if available.

Normal Cost

In general terms, the normal cost is the cost of benefit rights accruing on the basis of current service. Technically, the normal cost rate is the level percentage-of-salary contribution required each year, with respect to each employee, to accumulate over his or her projected working lifetime the reserves needed to meet the cost of earned benefits. The normal cost represents the ultimate cost of the Retirement System if the unfunded liability is paid up and the actual experience of the System conforms to the assumptions.

Actuarial Accrued Liabilities

The total actuarial present value of future benefits is computed using the valuation's actuarial assumptions. Subtracting the present value of future normal costs results in the actuarial accrued liability.

The total actuarial accrued liability essentially represents the amount that would have been accumulated as of December 31, 1998 if contributions sufficient to meet the normal costs of the Retirement System had been made each year in the past. If assets equaled the total accrued liability, there would be no unfunded liability and future contribution requirements would consist solely of the calculated normal cost rates.

Amortization of Unfunded Actuarial Accrued Liabilities

Unfunded actuarial accrued liabilities are amortized by level percent of payroll contributions over a period ranging from 30 to 38 years. For municipalities that began participating in MERS before 1997, the amortization period began at 40 years and reduces by one each year until it reaches 30. For new municipalities that first joined MERS in 1998, the amortization period begins at 38 years, and will decline by one each year until 30 is reached. Active member payroll is assumed to increase 4.5% a year for the purpose of determining the level percent contributions.

Accelerated Funding Credits Program

A Program of Recognition of Accelerated and Delayed Funding, commonly referred to as the Accelerated Funding Credits Program, was first established by the Retirement Board in 1984, and modified several times since then.

The AFC program was developed to (i) reduce the funding levels of municipalities that were over 100% funded, and (ii) reduce the rate of increase in the funding levels of municipalities that were not yet 100% funded. In the aggregate, the program has had the desired effect, and the current overall funding level is well below 100%.

The following presents details concerning the revised accelerated funding credits program, as effective December 31, 1994:

1. Funded percentages as of each valuation date will be determined based on the ratio of assets (at actuarial value) to the actuarial accrued liabilities under the entry age actuarial cost method.
2. Municipalities with funded percentages of 110% or greater shall have no contribution requirements.
3. Municipalities with funded percentages below 100% will have a contribution requirement equal to the normal cost plus amortization of unfunded actuarial accrued liability, without any credits toward this requirement.
4. Municipalities with funded percentages between 100% and 110% will have a contribution requirement equal to the normal cost multiplied by $10 \times [110\% \text{ minus the funded percentage}]$.
5. Notwithstanding the above, municipalities that had a reduction percentage (i.e., the accelerated funding credit expressed as a percentage of the regular contribution requirement) greater than zero in the December 31, 1993 valuation, shall not be required to contribute more than their regular contribution requirement less their reduction percentage in subsequent valuations. The reduction percentage shall decline in each valuation after December 31, 1993 by 20%. As of December 31, 1998, this percentage has reached zero for all municipalities.

Asset Valuation Method

For actuarial valuation purposes, the actuarial value of assets is determined on the basis of a valuation method that assumes the fund earns the expected rate of return (8%), and includes an adjustment to reflect market value. This procedure was instituted for the December 31, 1993 valuation, and is applied as follows:

- (i) Preliminary value is determined by taking the sum of actuarial value at the beginning of the year and the excess of income over expenses during the year, assuming that the fund earns the assumed rate (8%) during the year.
- (ii) This value is written-up or written-down by taking 20% of each year's difference between actual and expected return for the next five years. Actual return for the year includes net interest, dividends, realized and unrealized gains or losses.
- (iii) In addition, the write-ups or write-downs which arose from each of the four years prior to 1998 continue to be applied until each five-year period expires.

For the December 31, 1998 valuation, this procedure produced an actuarial asset value which is equal to 88.86% of market value (compared to 89.63% and 92.72% in 1997 and 1996, respectively).

V. RESULTS OF ACTUARIAL VALUATION

Our actuarial valuation of the liabilities and contribution rates resulting from the participation of Ingham County in the Municipal Employees' Retirement System as of December 31, 1998 is based on four major elements:

1. The present benefit provisions of MERS, as governed by Act No. 220 of the Public Acts of 1996, as amended and the MERS Plan Document as revised (see Section II and Table 1).
2. The characteristics of active and inactive MERS members as of December 31, 1998 (see Tables 2, 3, 4, and 5).
3. The assets attributable to MERS members of Ingham County, amounted to a total of \$95,427,168 at actuarial value as of December 31, 1998.
4. The actuarial assumptions and funding method, which include an investment yield rate of 8% and the entry age normal actuarial cost method (see Section IV).

Table 7 presents the actuarial accrued liabilities, compared to valuation assets, for each valuation division in Ingham County. Note that valuation assets are maintained by valuation division. As such, the funded status of individual divisions may vary.

The employer contribution rate has been determined based on the entry age normal funding method. Under the entry age normal cost funding method, the total employer contribution is comprised of the normal cost plus the level annual percentage of payroll payment required to amortize the unfunded actuarial accrued liability over 30 years. The employer normal cost is, for each employee, the level percentage of payroll contribution (from entry age to retirement) required to accumulate sufficient assets at the member's retirement to pay for his or her projected benefit.

The actuarial accrued liability represents the difference between the present value of all future benefits and the present value of future normal costs. The unfunded actuarial accrued liability (i.e., the actuarial accrued liability less assets accumulated as of the valuation date), is then amortized as noted above. Each of these components of the employer contribution rate (i.e., normal cost and amortization payment) are shown separately in Table 8, together with the estimated dollar contribution for the fiscal year beginning January 1, 2000. Note that these amounts are prior to application of the accelerated funding credits program.

During the 1980's, the Retirement Board had implemented a program of contribution credits which give recognition of accelerated funding levels. The accelerated funding credit allows, in certain situations, for contributions to temporarily be reduced from the regular contribution shown in Table 8. Table 9 presents the accelerated funding credit and final contribution requirement for each valuation division in Ingham County.

It is important to realize that the favorable economic experience of recent years will probably not continue indefinitely. The municipality's long range contribution rate, after accrued liabilities are fully funded, will be close to the normal cost shown in Table 8.

Table 10 shows, for each valuation division, the current computed employer contribution rates, along with a comparison to the comparable figures for the past several years.

There is no single all-encompassing test for measuring a Retirement System's funding progress and current funded status. However, some common indicators of the progress that a Retirement System has achieved in funding their obligations include observing the changes over time in the following items:

1. The ratio of valuation assets to actuarial accrued liabilities.
2. The pattern of the unfunded actuarial accrued liability as a percentage of active payroll.

3. The ratio of valuation assets to the actuarial present value of vested benefits (computed as if the Retirement System were terminated on the valuation date).

Table 11 presents the historical changes in the first two funding measures over the past several years. Table 6 shows the present value of vested benefits on December 31, 1998.

VI. GASB 25 AND GASB 27 INFORMATION

Ingham County (3303)

The following information has been prepared to provide the information necessary to comply with GASB Statements Number 25 and 27. Statement 25 is effective for fiscal years beginning after June 15, 1996 and Statement 27 is effective for fiscal years beginning after June 15, 1998.

All entries are based on the actuarial methods and assumptions that were used in the December 31, 1998 actuarial valuation to determine the annual employer contribution amounts. The entry age normal actuarial method was used to determine the entries at disclosure.

GASB 25 INFORMATION (as of 12/31/98)

Actuarial Accrued Liability

Retirees and beneficiaries currently receiving benefits	\$43,017,300
Terminated employees not yet receiving benefits	7,463,695
Current employees -	
Accumulated employee contributions including allocated investment income	9,803,017
Employer Financed	<u>69,413,740</u>
Total Actuarial Accrued Liability	\$129,697,752
Net Assets Available for Benefits at Actuarial Value	<u>95,427,168</u>
(Market Value is \$107,387,080)	
Unfunded (Overfunded) Actuarial Accrued Liability	\$34,270,588

GASB 27 INFORMATION (as of 12/31/98)

Fiscal Year Beginning	January 1, 2000
Annual Required Contribution (ARC)	\$3,915,088
Amortization Factor Used	0.057935

Table 1

Ingham County (3303)

Benefit Provisions Evaluated and/or Considered

Division Code	Valuation Division	Benefit Provisions	Member Contributions
01	Confidentials	B-3 F55 (15 Years) V-6	4.50%
02	Sheriff FOP Spvs	3.20% (to a max of 80%) 25 and Out F55 (15 Years) FAC-3	19.61%
04	MCF	C-1 Old	0.00%
09	Judges	B-3 F55 (15 Years) V-6	0.00%
10	General Mgmt	B-3 F55 (15 Years) V-6	5.00%
11	General Library	C-1 Old	0.00%
12	General ICEA Profs	B-3 F55 (15 Years)	6.08%
13	General OPEIU Prob	B-3 F55 (15 Years)	7.13%
14	General TOPS UAW	B-3 F55 (15 Years)	4.85%
15	Animal Cntrl FOP	B-4	8.90%

Table 1

Ingham County (3303)

Benefit Provisions Evaluated and/or Considered

Division Code	Valuation Division	Benefit Provisions	Member Contributions
15 (Continued)	Animal Cntrl FOP	F50 (25 Years) F55 (15 Years) FAC-3	
16	General Commsnrs	C-2(B-1) F55 (15 Years) V-6	3.56%
17	ICEA Nurses	B-3 F55 (15 Years) V-6 FAC-3 E-2(7/01/1995) (2.50%)	11.87%
18	ICEA Crt Profs	B-3 20 and Out F55 (15 Years)	9.84%
19	Cnstutal Offcls	B-3 F55 (15 Years)	5.00%
20	Sheriff/Sheriff	B-3 F55 (15 Years)	5.00%
21	FOP Shrf Deputies	3.20% (to a max of 80%) F50 (25 Years) F55 (15 Years)	10.43%
40	ICEA Unit 111	C-2(B-1) F55 (15 Years)	3.00%

Table 1

Ingham County (3303)

Benefit Provisions Evaluated and/or Considered

Division Code	Valuation Division	Benefit Provisions	Member Contributions
41	MCF Management	C-2(B-1) F55 (15 Years) V-6	0.00%
42	ICEA Unit 11	C-2(B-1) F55 (15 Years) V-6 FAC-3	3.95%
43	ICEA Unit 1	C-2(B-1) F55 (15 Years) V-6	3.50%
90	Asst Pros Attnys	B-4 F55 (15 Years) V-6	1.40%
91	Parks Union Empl	B-3	0.00%
92	Parks Non Union	B-4 F55 (25 Years)	0.00%
93	Lgl Rsrch Clerks	C-1 Old	0.00%

Table 2

Ingham County (3303)

Membership Characteristics

Valuation Division	1998 Valuation		1997 Valuation	
	Number	Annual Payroll	Number	Annual Payroll
01 - Confidential	30	\$1,002,675	29	\$895,532
02 - Sheriff FOP Spvs	30	1,699,826	30	1,609,357
04 - MCF	128	2,542,201	153	2,185,568
09 - Judges	13	351,771	10	266,864
10 - Gnl Mgmt	67	4,047,946	68	3,972,349
11 - Gnl Library	25	738,984	35	717,473
12 - Gnl ICEA Profs	111	4,375,372	107	3,696,908
13 - Gnl OPEIU Prob	38	1,635,036	38	1,586,848
14 - Gnl TOPS UAW	350	9,430,825	346	8,814,495
15 - Animal Cntrl FOP	10	317,713	10	325,176
16 - Gnl Commsrs	8	101,460	9	103,415
17 - ICEA Nurses	63	2,321,552	60	2,062,206
18 - ICEA Crt Profs	33	1,413,047	32	1,244,090
19 - Cnstutnl Offcls	5	315,294	5	297,992
20 - Sheriff/Sheriff	1	77,307	1	71,933
21 - FOP Shrf Deputies	144	6,128,303	143	4,952,121
40 - ICEA Unit 111	35	997,054	35	920,331
41 - MCF Management	13	545,506	15	512,335
42 - ICEA Unit 11	8	264,468	16	376,839
43 - ICEA Unit 1	6	253,946	9	323,039
90 - Asst Pros Attnys	28	1,719,998	29	1,596,005
91 - Parks Union Empl	5	160,579	5	144,342
92 - Parks Non Union	5	214,974	5	178,782
93 - Lgl Rsrch Clerks	5	175,963	8	250,777
Total	1161	\$40,831,800	1198	\$37,104,777

Table 3

Ingham County (3303)

Active and Vested Former Members in the Valuation

Comparative Schedule

Valuation Date December 31,	-- -- -- -- Active Members -- -- -- --					Inactive Vested Former Members
	Number	Annual Payroll	Average Annual Pay	Average Age	Average Service	
1984	2,319	\$39,824,787	\$17,173	37.1	5.8	44
1985	2,356	43,215,019	18,343	37.4	6.3	55
1986	2,392	46,337,219	19,372	37.6	6.5	64
1987	2,478	49,357,171	19,918	38.0	6.5	74
1988	2,512	52,375,747	20,850	38.4	6.9	90
1989	2,494	55,222,198	22,142	38.7	7.3	104
1990	2,659	62,448,733	23,486	38.9	7.2	147
1991	2,781	68,316,570	24,565	39.1	7.4	152
1992	1,197	31,954,624	26,696	41.0	9.0	151
1993	1,191	32,835,580	27,569	41.8	9.4	159
1994	1,214	34,660,368	28,550	42.1	9.5	164
1995	1,210	35,260,750	29,141	41.9	9.7	169
1996	1,222	36,804,795	30,118	42.1	9.7	193
1997	1,198	37,104,777	30,972	42.3	9.9	221
1998	1,161	40,831,800	35,169	42.5	10.0	218

Table 4

Ingham County (3303)

Historical Growth of Retiree and Beneficiary Rolls

Valuation Date December 31,	Added to Rolls		Removed From Rolls		Year End	
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits
1984	24	\$112,136.04	9	\$16,854.24	300	\$792,086.04
1985	32	141,219.24	6	14,377.68	326	918,927.60
1986	31	124,797.48	8	20,191.08	349	1,023,534.00
1987	35	309,522.84	11	16,143.84	373	1,316,913.00
1988	29	171,844.08	9	38,178.84	393	1,450,578.24
1989	30	231,715.08	15	52,076.40	408	1,630,216.92
1990	42	308,112.96	9	18,819.72	441	1,919,510.16
1991	35	248,018.76	8	47,293.32	468	2,120,235.60
1992	20	200,120.04	198	846,074.76	290	1,474,280.88
1993	35	422,896.60	13	75,064.56	312	1,822,112.92
1994	27	439,064.22	12	38,387.88	327	2,222,789.26
1995	47	544,633.32	7	40,287.11	367	2,727,135.47
1996	33	440,912.04	8	49,108.26	392	3,118,939.25
1997	45	656,394.84	8	63,388.54	429	3,711,945.55
1998	44	921,125.04	11	69,017.15	462	4,564,053.44

Table 5

Ingham County (3303)

Retirants and Beneficiaries on Rolls as of December 31, 1998

Distribution by Type of Benefit Being Paid

Benefits Being Paid to:	Annual Benefits	
	Number	Amount
Age and service retirants	395	\$4,160,292.50
Non-duty disability retirants	17	130,343.04
Duty disability retirants	2	2,266.20
Beneficiaries of deceased retirants	25	143,340.23
Beneficiaries of deceased members		
Non-duty death	22	108,656.88
Duty death	<u>1</u>	<u>19,154.52</u>
Total Benefits Being Paid	462	\$4,564,053.50

Table 6-A

Ingham County (3303)

Value of Accrued Benefits as of December 31, 1998

Type of Member	Present Value of Vested Benefits	Present Value of Accrued Benefits
Active Members		
01 - Confidential	\$931,065	\$1,077,189
02 - Sheriff FOP Spvs	4,528,503	6,194,207
04 - MCF	974,272	1,207,991
09 - Judges	623,465	661,470
10 - Gnrl Mgmt	5,440,737	6,142,597
11 - Gnrl Library	437,512	517,799
12 - Gnrl ICEA Profs	2,968,292	3,663,303
13 - Gnrl OPEIU Prob	3,063,480	3,391,511
14 - Gnrl TOPS UAW	8,153,766	9,547,384
15 - Animal Cntrl FOP	273,715	423,132
16 - Gnrl Commsnrs	73,989	89,691
17 - ICEA Nurses	2,205,547	2,689,322
18 - ICEA Crt Profs	2,236,011	2,799,588
19 - Cnstutnl Offcls	401,005	421,802
20 - Sheriff/Sheriff	77,014	81,120
21 - FOP Shrf Deputies	5,112,142	6,947,578
40 - ICEA Unit 111	658,133	843,909
41 - MCF Management	78,023	127,935
42 - ICEA Unit 11	65,225	103,827
43 - ICEA Unit 1	75,396	122,489
90 - Asst Pros Attnys	1,928,814	2,271,640
91 - Parks Union Empl	17,804	53,520
92 - Parks Non Union	281,008	376,723
93 - Lgl Rsrch Clerks	<u>36,128</u>	<u>39,824</u>
Totals	\$40,641,046	\$49,795,551
Vested Former Members	7,463,695	7,463,695
Retired Members and Beneficiaries	<u>43,017,300</u>	<u>43,017,300</u>
Total Present Value of Benefits	\$91,122,041	\$100,276,546
Total Valuation Assets	<u>95,427,165</u>	<u>95,427,165</u>
Unfunded(Overfunded) Value of Accrued Benefits	(\$4,305,124)	\$4,849,381

Table 6-B

Ingham County (3303)

Present Value of Accrued Benefits Funding Percentage

Total Members	Present Value of Accrued Benefits	Valuation Assets	Percent Funded
01 - Confidential	\$3,437,194	\$3,379,544	98.3 %
02 - Sheriff FOP Spvs	15,615,485	10,545,481	67.5
04 - MCF	3,333,141	3,339,138	100.2
09 - Judges	795,971	673,900	84.7
10 - Gnrl Mgmt	12,785,684	13,180,847	103.1
11 - Gnrl Library	1,719,639	1,620,781	94.3
12 - Gnrl ICEA Profs	5,500,740	6,362,555	115.7
13 - Gnrl OPEIU Prob	3,974,147	3,805,546	95.8
14 - Gnrl TOPS UAW	18,030,707	20,902,766	115.9
15 - Animal Cntrl FOP	484,938	445,713	91.9
16 - Gnrl Commsnrs	230,131	238,483	103.6
17 - ICEA Nurses	4,826,292	4,432,303	91.8
18 - ICEA Crt Profs	5,561,827	4,094,467	73.6
19 - Cnstutnl Offcls	810,853	840,657	103.7
20 - Sheriff/Sheriff	207,124	245,100	118.3
21 - FOP Shrf Deputies	15,288,085	13,844,157	90.6
40 - ICEA Unit 111	2,561,835	2,681,670	104.7
41 - MCF Management	749,467	717,741	95.8
42 - ICEA Unit 11	264,731	186,171	70.3
43 - ICEA Unit 1	795,755	499,625	62.8
90 - Asst Pros Attnys	2,832,733	2,865,203	101.1
91 - Parks Union Empl	53,520	73,778	137.9
92 - Parks Non Union	376,723	428,973	113.9
93 - Lgl Rsrch Clerks	<u>39,824</u>	<u>22,565</u>	<u>56.7</u>
Municipality Totals	\$100,276,546	\$95,427,165	95.2 %

Comment: Total Members includes active members, vested former members, retired members and beneficiaries for each division.

Table 7

Ingham County (3303)

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1998

	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
Reserve for Employer Contributions :				
01 - Confidentials	\$2,573,814	\$1,672,268		\$901,546
02 - Sheriff FOP Spvs	6,856,782	160,614		6,696,168
04 - MCF	2,526,844	1,436,603		1,090,241
09 - Judges	892,614	562,148		330,466
10 - Gnrl Mgmt	9,218,148	6,083,261		3,134,887
11 - Gnrl Library	1,304,220	698,548		605,672
12 - Gnrl ICEA Profs	6,136,773	3,928,219		2,208,554
13 - Gnrl OPEIU Prob	4,763,958	2,920,920		1,843,038
14 - Gnrl TOPS UAW	15,367,302	11,334,833		4,032,469
15 - Animal Cntrl FOP	757,225	369,050		388,175
16 - Gnrl Commsnrs	180,272	131,947		48,325
17 - ICEA Nurses	4,406,271	2,621,354		1,784,917
18 - ICEA Crt Profs	3,634,891	1,279,698		2,355,193
19 - Cnstatnl Offcls	684,686	592,164		92,522
20 - Sheriff/Sheriff	87,730	84,035		3,695
21 - FOP Shrf Deputies	9,402,988	3,747,705		5,655,283
40 - ICEA Unit 111	1,424,173	1,093,582		330,591
41 - MCF Management	466,502	213,906		252,596
42 - ICEA Unit 11	335,469	144,591		190,878
43 - ICEA Unit 1	219,631	0		219,631
90 - Asst Pros Attnys	4,095,376	2,508,415		1,586,961
91 - Parks Union Empl	143,254	72,151		71,103
92 - Parks Non Union	567,897	384,254		183,643
93 - Lgl Rsrch Clerks	71,851	22,565		49,286
Totals	\$76,118,671	\$42,062,832	55.3%	\$34,055,839
Reserve for Employees Contributions :				
01 - Confidentials	\$318,965	\$318,965		
02 - Sheriff FOP Spvs	1,284,058	1,284,058		
04 - MCF	50,944	50,944		
09 - Judges	32,081	32,081		
10 - Gnrl Mgmt	1,294,758	1,294,758		
11 - Gnrl Library	133,037	133,037		
12 - Gnrl ICEA Profs	1,011,488	1,011,488		
13 - Gnrl OPEIU Prob	458,338	458,338		
14 - Gnrl TOPS UAW	2,140,948	2,140,948		

The above valuation assets reflect year end reserve transfers required to make the reserve for retired benefit payments exactly 100% funded. For 1998, valuation assets are equal to .888628 times market value.

Table 7

Ingham County (3303)

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1998

	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
15 - Animal Cntrl FOP	\$64,332	\$64,332		
16 - Gnrل Commsnrs	41,526	41,526		
17 - ICEA Nurses	441,026	441,026		
18 - ICEA Crt Profs	635,524	635,524		
19 - Cnstutnl Offcls	139,796	139,796		
20 - Sheriff/Sheriff	35,061	35,061		
21 - FOP Shrf Deputies	1,962,055	1,962,055		
40 - ICEA Unit 111	205,913	205,913		
41 - MCF Management	23,639	23,639		
42 - ICEA Unit 11	41,580	41,580		
43 - ICEA Unit 1	61,085	61,085		
90 - Asst Pros Attnys	139,281	139,281		
91 - Parks Union Empl	1,627	1,627		
92 - Parks Non Union	44,719	44,719		
93 - Lgl Rsrch Clerks	0	0		
Totals	\$10,561,781	\$10,561,781	100.0%	\$0
Reserve for Retired Benefit Payments :				
01 - Confidentials	\$1,388,311	\$1,388,311		\$0
02 - Sheriff FOP Spvs	9,100,809	9,100,809		0
04 - MCF	1,851,591	1,851,591		0
09 - Judges	79,671	79,671		0
10 - Gnrل Mgmt	5,802,828	5,802,828		0
11 - Gnrل Library	789,196	789,196		0
12 - Gnrل ICEA Profs	1,422,848	1,422,848		0
13 - Gnrل OPEIU Prob	426,288	426,288		0
14 - Gnrل TOPS UAW	7,426,985	7,426,985		0
15 - Animal Cntrl FOP	12,331	12,331		0
16 - Gnrل Commsnrs	65,010	65,010		0
17 - ICEA Nurses	1,369,923	1,369,923		0
18 - ICEA Crt Profs	2,179,245	2,179,245		0
19 - Cnstutnl Offcls	108,697	108,697		0
20 - Sheriff/Sheriff	126,004	126,004		0
21 - FOP Shrf Deputies	8,134,397	8,134,397		0
40 - ICEA Unit 111	1,382,175	1,382,175		0
41 - MCF Management	480,196	480,196		0
42 - ICEA Unit 11	0	0		0

The above valuation assets reflect year end reserve transfers required to make the reserve for retired benefit payments exactly 100% funded. For 1998, valuation assets are equal to .888628 times market value.

Table 7

Ingham County (3303)

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1998

	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
Reserve for Retired (Continued)				
43 - ICEA Unit 1	\$653,288	\$438,540		\$214,748
91 - Parks Union Empl	0	0		0
92 - Parks Non Union	0	0		0
93 - Lgl Rsrch Clerks	0	0		0
Totals	\$43,017,300	\$42,802,552	99.5%	\$214,748
Total Reserve:				
01 - Confidential	\$4,281,090	\$3,379,544	78.9%	\$901,546
02 - Sheriff FOP Spvs	17,241,649	10,545,481	61.2	6,696,168
04 - MCF	4,429,379	3,339,138	75.4	1,090,241
09 - Judges	1,004,366	673,900	67.1	330,466
10 - Gnrl Mgmt	16,315,734	13,180,847	80.8	3,134,887
11 - Gnrl Library	2,226,453	1,620,781	72.8	605,672
12 - Gnrl ICEA Profs	8,571,109	6,362,555	74.2	2,208,554
13 - Gnrl OPEIU Prob	5,648,584	3,805,546	67.4	1,843,038
14 - Gnrl TOPS UAW	24,935,235	20,902,766	83.8	4,032,469
15 - Animal Cntrl FOP	833,888	445,713	53.4	388,175
16 - Gnrl Commsnrs	286,808	238,483	83.2	48,325
17 - ICEA Nurses	6,217,220	4,432,303	71.3	1,784,917
18 - ICEA Crt Profs	6,449,660	4,094,467	63.5	2,355,193
19 - Cnstutnl Offcls	933,179	840,657	90.1	92,522
20 - Sheriff/Sheriff	248,795	245,100	98.5	3,695
21 - FOP Shrf Deputies	19,499,440	13,844,157	71.0	5,655,283
40 - ICEA Unit 111	3,012,261	2,681,670	89.0	330,591
41 - MCF Management	970,337	717,741	74.0	252,596
42 - ICEA Unit 11	377,049	186,171	49.4	190,878
43 - ICEA Unit 1	934,004	499,625	53.5	434,379
90 - Asst Pros Attnys	4,452,164	2,865,203	64.4	1,586,961
91 - Parks Union Empl	144,881	73,778	50.9	71,103
92 - Parks Non Union	612,616	428,973	70.0	183,643
93 - Lgl Rsrch Clerks	71,851	22,565	31.4	49,286
Totals	\$129,697,752	\$95,427,165	73.6%	\$34,270,587

The above valuation assets reflect year end reserve transfers required to make the reserve for retired benefit payments exactly 100% funded. For 1998, valuation assets are equal to .888628 times market value.

Table 8

Ingham County (3303)

Computed Employer Contributions to the Retirement System
For the Fiscal Year Beginning January 1, 2000

Valuation Division	Employer Contributions As Percentages of Payroll and Dollars		
	Normal Cost	Unfunded Accrued Liability	Totals
<u>Cost as percentage of payroll</u>			
01 - Confidential	5.42 %	4.88 %	10.29 %
02 - Sheriff FOP Spvs	-1.49	21.36	19.86
04 - MCF	3.41	2.33	5.73
09 - Judges	9.97	5.09	15.07
10 - Gnrl Mgmt	5.14	4.20	9.34
11 - Gnrl Library	6.54	4.44	10.99
12 - Gnrl ICEA Profs	3.58	2.74	6.32
13 - Gnrl OPEIU Prob	2.96	6.11	9.07
14 - Gnrl TOPS UAW	5.03	2.32	7.35
15 - Animal Cntrl FOP	2.48	6.63	9.11
16 - Gnrl Commsnrs	2.79	2.58	5.38
17 - ICEA Nurses	3.51	4.17	7.68
18 - ICEA Crt Profs	2.45	9.04	11.49
19 - Cnstutnl Offcls	6.61	1.59	8.20
20 - Sheriff/Sheriff	7.53	0.26	7.79
21 - FOP Shrf Deputies	4.37	5.00	9.38
40 - ICEA Unit 111	3.32	1.80	5.12
41 - MCF Management	8.51	2.51	11.03
42 - ICEA Unit 11	3.21	3.91	7.13
43 - ICEA Unit 1	2.72	9.28	11.99
90 - Asst Pros Attnys	9.40	5.00	14.40
91 - Parks Union Empl	8.30	2.40	10.70
92 - Parks Non Union	8.70	4.63	13.33
93 - Lgl Rsrch Clerks	5.69	1.52	7.21
<u>Annual Dollar Contributions*</u>			
01 - Confidential	\$58,008	\$52,231	\$110,239
02 - Sheriff FOP Spvs	(27,237)	387,940	360,704
04 - MCF	92,562	63,163	155,725
09 - Judges	37,473	19,145	56,618
10 - Gnrl Mgmt	222,202	181,618	403,820
11 - Gnrl Library	51,637	35,089	86,726
12 - Gnrl ICEA Profs	167,562	127,952	295,514
13 - Gnrl OPEIU Prob	51,721	106,776	158,497
14 - Gnrl TOPS UAW	506,392	233,620	740,012
15 - Animal Cntrl FOP	8,422	22,489	30,911
16 - Gnrl Commsnrs	3,028	2,800	5,828
17 - ICEA Nurses	86,972	103,408	190,380
18 - ICEA Crt Profs	37,046	136,447	173,493

*Based on valuation payroll, projected to the middle of the ensuing fiscal year. The projection factor is equal to 1.06825. Unfunded accrued liabilities, if any, are financed over a period of 30 years.

Table 8

Ingham County (3303)

Computed Employer Contributions to the Retirement System
For the Fiscal Year Beginning January 1, 2000

Valuation Division	Employer Contributions As Percentages of Payroll and Dollars		
	Normal Cost	Unfunded Accrued Liability	Totals
<u>Annual Dollar Contribution</u>			
19 - Cnstutnl Offcls	22,260	5,360	27,620
20 - Sheriff/Sheriff	6,218	214	6,432
21 - FOP Shrf Deputies	286,326	327,637	613,963
40 - ICEA Unit 111	35,365	19,153	54,518
41 - MCF Management	49,620	14,634	64,254
42 - ICEA Unit 11	9,072	11,058	20,130
43 - ICEA Unit 1	7,373	25,166	32,539
90 - Asst Pros Attnys	172,713	91,940	264,653
91 - Parks Union Empl	14,231	4,119	18,350
92 - Parks Non Union	19,974	10,639	30,613
93 - Lgl Rsrch Clerks	10,697	2,855	13,552
Totals	\$1,929,636	\$1,985,453	\$3,915,091

*Based on valuation payroll, projected to the middle of the ensuing fiscal year. The projection factor is equal to 1.06825. Unfunded accrued liabilities, if any, are financed over a period of 30 years.

Table 9

Ingham County (3303)

Computed Employer Contributions and Funding CreditsFor the Fiscal Year Beginning January 1, 2000

Valuation Division	Estimated Monthly Employer Contributions		
	Total Regular Contribution	Accelerated Funding Credit	Required Contribution
01 - Confidential	\$9,187	\$0	\$9,187
02 - Sheriff FOP Spvs	30,059	0	30,059
04 - MCF	12,977	0	12,977
09 - Judges	4,718	0	4,718
10 - Gnrl Mgmt	33,652	0	33,652
11 - Gnrl Library	7,227	0	7,227
12 - Gnrl ICEA Profs	24,626	0	24,626
13 - Gnrl OPEIU Prob	13,208	0	13,208
14 - Gnrl TOPS UAW	61,668	0	61,668
15 - Animal Cntrl FOP	2,576	0	2,576
16 - Gnrl Commsnrs	486	0	486
17 - ICEA Nurses	15,865	0	15,865
18 - ICEA Crt Profs	14,458	0	14,458
19 - Cnstutnl Offcls	2,302	0	2,302
20 - Sheriff/Sheriff	536	0	536
21 - FOP Shrf Deputies	51,164	0	51,164
40 - ICEA Unit 111	4,543	0	4,543
41 - MCF Management	5,355	0	5,355
42 - ICEA Unit 11	1,678	0	1,678
43 - ICEA Unit 1	2,711	0	2,712
90 - Asst Pros Attnys	22,054	0	22,054
91 - Parks Union Empl	1,529	0	1,529
92 - Parks Non Union	2,551	0	2,551
93 - Lgl Rsrch Clerks	<u>1,129</u>	<u>0</u>	<u>1,129</u>
Totals	\$326,259	\$0	\$326,258

Table 10-A

Ingham County (3303)

01 - Confidentials

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1984	673	\$12,581,856	9.18 %	3.62 %
1985	662	12,267,725	9.32	0.00
1986	664	12,895,305	9.38	0.00
1987	613	12,746,102	8.85	0.00
1988	459	9,072,947	9.00	0.00
1989	142	3,433,518	9.10	0.00
1990	87	2,401,545	8.60	0.00
1991	72	2,255,242	10.50	0.00
1992	71	2,356,550	10.10	2.20
1993	29	826,648	10.95	4.62
1994	25	782,010	12.74	6.65
1995	25	747,190	17.53	12.66
1996	27	868,169	12.91	11.91
1997	29	895,532	11.16	11.16
1998	30	1,002,675	10.29	10.29

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

0% member contributions for most members reflected in 1976 valuation.

Adoption of Benefit E reflected in 1987 and 1993 valuations.

Adoption of Benefits C-2 and F55 (15 years) reflected in 1991.

Adoption 1% member contributions reflected in 1991 valuation.

Adoption of Benefit V-6 reflected in 1992 valuation.

Adoption of Benefit B-3 and 4.5% member contributions reflected in 1994.

Table 10-B

Ingham County (3303)

02 - Sheriff FOP Spvs

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1984	140	\$3,680,530	9.21 %	3.64 %
1985	136	3,579,009	11.16	0.00
1986	131	3,850,294	11.29	0.00
1987	137	3,883,225	10.47	0.00
1988	144	4,124,681	10.40	0.00
1989	149	4,442,989	10.30	0.00
1990	161	4,918,912	10.30	0.00
1991	172	5,840,591	9.50	0.00
1992	28	1,371,663	13.80	3.10
1993	28	1,343,669	9.71	4.10
1994	34	1,665,399	8.76	4.58
1995	28	1,421,507	13.89	10.03
1996	28	1,446,119	14.07	12.98
1997	30	1,609,357	17.78	17.78
1998	30	1,699,826	19.86	19.86

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit F55 (15 years) reflected in 1984 valuation.

Adoption of 1% member contributions reflected in 1984 valuation.

Adoption of Benefit C-2 and 0% member contributions reflected in 1985.

Adoption of Benefit E reflected in 1987 and 1993 valuations.

Adoption of Benefit F50 (25 years) reflected in 1989 valuation.

Adoption of 1% member contributions reflected in 1989 valuation.

Adoption of 1.85% member contributions reflected in 1992 valuation.

Adoption of Benefit B-3 reflected in 1992 valuation.

Adoption of 6.45% member contributions reflected in 1993 valuation.

Adoption of Benefits B-4, FAC-3 and 25 years and Out reflected in 1994.

Adoption of 10.45% member contributions reflected in 1994 valuation.

Adoption of Benefit 3.2% multiplier and 19.61% member contributions reflected in 1997 valuation.

Table 10-C

Ingham County (3303)

04 - MCF

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1984	227	\$2,411,919	8.13 %	3.21 %
1985	223	2,723,028	8.11	0.00
1986	217	2,584,959	8.34	0.00
1987	226	2,809,972	7.82	0.00
1988	175	1,881,671	7.30	0.00
1989	167	1,599,788	7.20	0.00
1990	180	1,895,478	6.80	0.00
1991	176	1,966,913	6.80	0.00
1992	190	2,192,337	6.80	1.50
1993	176	2,221,453	4.87	2.06
1994	173	2,282,795	5.85	3.05
1995	178	2,362,440	5.95	4.30
1996	165	2,376,442	5.91	5.45
1997	153	2,185,568	6.04	6.04
1998	128	2,542,201	5.73	5.73

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of 0% member contributions reflected in 1976 valuation.

Adoption of Benefit E reflected in 1987 valuation.

Adoption of Benefit E reflected in 1994 valuation.

Table 10-D

Ingham County (3303)

09 - Judges

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1993	17	\$391,399	8.36 %	3.53 %
1994	16	323,312	10.09	5.27
1995	16	362,941	9.38	6.78
1996	19	463,138	9.21	8.50
1997	10	266,864	17.37	17.37
1998	13	351,771	15.07	15.07

**Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.
Adoption of Benefits B-3, V-6 and F55 (15 years) reflected in 1997 valuation.**

Table 10-E

Ingham County (3303)

10 - Gnrl Mgmt

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1985	55	\$1,989,286	10.04 %	0.00 %
1986	54	2,090,451	10.35	0.00
1987	61	2,277,063	9.74	0.00
1988	68	2,673,546	8.80	0.00
1989	73	3,043,824	8.80	0.00
1990	72	3,199,113	10.70	0.00
1991	69	3,160,627	10.90	0.00
1992	68	3,274,274	11.00	2.40
1993	70	3,428,088	9.31	3.93
1994	74	3,747,657	10.18	5.31
1995	71	3,782,835	10.30	7.44
1996	70	3,881,443	10.92	10.07
1997	68	3,972,349	9.47	9.47
1998	67	4,047,946	9.34	9.34

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit F55 (15 years) reflected in 1985 valuation.

Adoption of 1% member contributions reflected in 1985 valuation.

Adoption of Benefit E reflected in 1987 and 1993 valuations.

Adoption of Benefit C-2 and 3% member contributions reflected in 1988.

Adoption of 1% member contributions reflected in 1990 valuation.

Adoption of Benefit V-6 reflected in 1992 valuation.

Adoption of Benefit B-3 and 5% member contributions reflected in 1994.

Table 10-F

Ingham County (3303)

11 - GnrI Library

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1987	56	\$668,423	9.99 %	0.00 %
1988	53	693,147	9.10	0.00
1989	47	690,914	9.50	0.00
1990	44	726,866	9.60	0.00
1991	84	2,332,009	9.20	0.00
1992	84	2,540,610	9.40	2.10
1993	39	778,240	8.53	3.60
1994	38	787,259	9.55	4.99
1995	36	783,940	10.06	7.26
1996	41	811,292	9.94	9.16
1997	35	717,473	8.81	8.81
1998	25	738,984	10.99	10.99

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.
Adoption of Benefit E reflected in 1987 valuation.

Table 10-G

Ingham County (3303)

12 - Gnrl ICEA Profs

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1988	128	\$3,254,486	8.10 %	0.00 %
1989	130	3,588,309	8.30	0.00
1990	183	5,066,968	8.90	0.00
1991	147	4,189,841	9.90	0.00
1992	155	4,724,713	9.50	2.10
1993	93	3,044,030	7.04	2.97
1994	99	3,259,462	7.54	3.94
1995	92	3,079,949	7.88	5.69
1996	104	3,723,923	8.14	7.51
1997	107	3,696,908	6.39	6.39
1998	111	4,375,372	6.32	6.32

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit E reflected in 1987 and 1993 valuations.

Adoption of Benefit C-2 and 1% member contributions reflected in 1988.

Adoption of 0.9% (0.7% for some) member contributions reflected in 1990.

Adoption of Benefit C-2 (B-1 base) for some members reflected in 1991.

Adoption of 1.1% member contributions for some members reflected in 1991.

Adoption of Benefit B-3 reflected in 1994 valuation.

Adoption of Benefit F55 (15 years) and 6.08% member contributions reflected in 1996 valuation.

Table 10-H

Ingham County (3303)

13 - Gnr1 OPEIU Prob

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1988	41	\$1,091,980	8.90 %	0.00 %
1989	39	1,108,087	9.20	0.00
1990	37	1,120,341	8.70	0.00
1991	47	1,376,534	8.50	0.00
1992	46	1,481,775	8.70	1.90
1993	36	1,224,600	7.93	3.35
1994	37	1,324,328	10.29	5.37
1995	37	1,421,577	10.34	7.47
1996	38	1,517,127	10.17	9.38
1997	38	1,586,848	9.21	9.21
1998	38	1,635,036	9.07	9.07

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit E reflected in 1987 and 1993 valuations.

Adoption of Benefit F55 (15 years) reflected in 1988 valuation.

Adoption of 1% member contributions reflected in 1988 valuation.

Adoption of 1.88% member contributions reflected in 1990 valuation.

Adoption of Benefit C-2 (B-1 Base) reflected in 1994 valuation.

Adoption of Benefit B-3 and 7.13% member contribuitons reflected in 1997 valuation.

Table 10-I

Ingham County (3303)

14 - GnrI TOPS UAW

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1989	318	\$6,076,867	8.20 %	0.00 %
1990	314	6,544,556	10.10	0.00
1991	330	6,997,120	10.20	0.00
1992	336	7,457,762	10.40	2.30
1993	333	7,477,050	8.05	3.40
1994	348	7,838,512	9.60	5.01
1995	351	8,343,933	9.62	6.95
1996	343	8,364,912	9.81	9.05
1997	346	8,814,495	8.08	8.08
1998	350	9,430,825	7.35	7.35

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefits C-2 and F55 (15 years) reflected in 1989.

Adoption of 3% member contributions reflected in 1989 valuation.

Adoption of 1% member contributions reflected in 1990 valuation.

Adoption of Benefit E reflected in 1987 and 1993 valuations.

Adoption of Benefit B-3 and 4.85 member contributions reflected in 1994.

Table 10-J

Ingham County (3303)

15 - Animal Cntrl FOP

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1993	9	\$248,830	7.13 %	3.01 %
1994	9	260,831	8.19	4.28
1995	9	269,541	8.24	5.95
1996	9	264,182	8.91	8.21
1997	10	325,176	9.82	9.82
1998	10	317,713	9.11	9.11

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997. Adoption of Benefits B-4, FAC-3, F50 (25 years) and 8.9% member contributions reflected in 1997 valuation.

Table 10-K

Ingham County (3303)

16 - Gnrl Commsnrs

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1988	10	\$93,654	9.50 %	0.00 %
1989	19	185,480	6.30	0.00
1990	17	166,560	6.80	0.00
1991	19	185,713	7.10	0.00
1992	9	84,900	8.10	1.80
1993	10	100,880	4.04	1.71
1994	7	70,954	6.75	3.53
1995	8	95,310	6.91	4.99
1996	7	84,500	5.19	4.79
1997	9	103,415	4.56	4.56
1998	8	101,460	5.38	5.38

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefits C-2 and F55 (15 years) reflected in 1988.

Adoption of 4% member contributions reflected in 1989 valuation.

Adoption of 3.56% member contributions reflected in 1991 valuation.

Adoption of Benefit E reflected in 1987 and 1993 valuations.

Adoption of benefit V- 6 reflected in 1998 valuation.

Table 10-L

Ingham County (3303)

17 - ICEA Nurses

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1993	60	\$1,702,354	8.74 %	3.69 %
1994	59	1,853,322	9.79	5.11
1995	61	2,003,757	9.86	7.12
1996	64	2,067,117	9.54	8.80
1997	60	2,062,206	8.13	8.13
1998	63	2,321,552	7.68	7.68

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit E-2 reflected in 1994 valuation.

Adoption of Benefit F55 (15 years) reflected in 1994 valuation.

Adoption of 5.07% member contributions reflected in 1994 valuation.

Adoption of benefit B-3 reflected in 1998 valuation.

Adoption of benefit V- 6 reflected in 1998 valuation.

Adoption of benefit FAC-3 reflected in 1998 valuation.

Adoption of 11.87% member contribution rate reflected in 1998 valuation.

Table 10-M

Ingham County (3303)

18 - ICEA Crt Profs

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1993	36	\$1,245,240	7.84 %	3.31 %
1994	42	1,375,365	8.54	4.46
1995	38	1,375,764	9.41	6.80
1996	37	1,442,687	10.09	9.30
1997	32	1,244,090	9.57	9.57
1998	33	1,413,047	11.49	11.49

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefits B-3 and F55 (15 years) reflected in 1994 valuation.

Adoption of 7.5% member contributions reflected in 1994 valuation.

Adoption of Benefit 20 and Out retirement reflected in 1996 valuation.

Adoption of 9.84% member contributions reflected in 1996 valuation.

Table 10-N

Ingham County (3303)

19 - Cnstitutnl Offcls

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1993	5	\$254,947	7.58 %	3.20 %
1994	5	264,660	10.11	5.28
1995	5	274,083	7.49	5.41
1996	4	206,565	7.36	6.79
1997	5	297,992	7.48	7.48
1998	5	315,294	8.20	8.20

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefits B-3 and F55 (15 years) reflected in 1994 valuation.

Adoption of 7.0% member contributions reflected in 1994 valuation.

Adoption of 5.00% member contribution rate reflected in 1998 valuation.

Table 10-O

Ingham County (3303)

20 - Sheriff/Sheriff

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1989	1	\$54,607	6.20 %	0.00 %
1990	1	57,010	6.90	0.00
1991	1	57,504	7.40	0.00
1992	1	57,504	7.80	1.70
1993	1	59,229	7.20	3.04
1994	1	64,000	7.73	4.04
1995	1	66,560	6.75	4.87
1996	1	69,750	7.42	6.84
1997	1	71,933	6.20	6.20
1998	1	77,307	7.79	7.79

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit E reflected in 1987 and 1993 valuations.

Adoption of 3% member contributions reflected in 1989 valuation.

Adoption of Benefit B-3 and 7% member contributions reflected in 1994 valuation.

Adoption of 5.00% member contribution rate reflected in 1998 valuation.

Table 10-P

Ingham County (3303)

21 - FOP Shrf Deputies

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1992	141	\$4,625,892	9.40 %	2.10 %
1993	147	5,058,670	7.40	3.12
1994	138	4,908,359	8.69	4.54
1995	146	5,180,610	8.56	6.19
1996	153	5,176,592	8.10	7.47
1997	143	4,952,121	8.84	8.84
1998	144	6,128,303	9.38	9.38

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.
 Adoption of Benefits B-4, E and 6.55% member contributions reflected in 1993 valuation.
 Adoption of Benefit 3.2% multiplier and 10.43% member contributions reflected in 1997 valuation
 Adoption of 10.43% member contribution rate reflected in 1998 valuation.

Table 10-Q
Ingham County (3303)
40 - ICEA Unit 111

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1988	50	\$951,173	8.40 %	0.00 %
1989	60	1,383,191	9.10	0.00
1990	63	1,445,248	9.00	0.00
1991	67	1,491,640	8.90	0.00
1992	68	1,786,644	8.60	1.90
1993	64	1,545,125	4.94	2.08
1994	59	1,491,914	6.62	3.46
1995	38	901,078	6.60	4.77
1996	41	979,006	5.74	5.29
1997	35	920,331	5.56	5.56
1998	35	997,054	5.12	5.12

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit E reflected in 1987 valuation.

Adoption of Benefits C-2 and F55 (15 years) reflected in 1988.

Adoption of 3% member contributions reflected in 1988 valuation.

Adoption of 0% member contributions for some members reflected in 1989.

Adoption of Benefit E reflected in 1994 valuation.

Table 10-R

Ingham County (3303)

41 - MCF Management

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1993	11	\$471,750	9.43 %	3.98 %
1994	13	541,500	10.95	5.72
1995	11	293,628	11.28	8.14
1996	12	487,427	11.75	10.84
1997	15	512,335	11.64	11.64
1998	13	545,506	11.03	11.03

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit E reflected in 1994 valuation.

Table 10-S

Ingham County (3303)

42 - ICEA Unit 11

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1995	14	\$427,567	5.59 %	4.03 %
1996	11	285,375	6.08	5.60
1997	16	376,839	5.52	5.52
1998	8	264,468	7.13	7.13

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit FAC-3 reflected in 1996 valuation.

Adoption of 3.95% member contributions reflected in 1996 valuation.

Table 10-T

Ingham County (3303)

42 - ICEA Unit 11

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1995	8	\$313,942	7.53 %	5.44 %
1996	12	432,683	8.84	8.15
1997	9	323,039	10.39	10.39
1998	6	253,946	11.99	11.99

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.
Adoption of 3.50% member contribution rate reflected in 1998 valuation.

Table 10-U

Ingham County (3303)

90 - Asst Pros Attnys

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1993	27	\$1,413,378	9.75 %	4.12 %
1994	29	1,531,585	10.93	5.71
1995	29	1,479,614	10.54	7.61
1996	29	1,607,654	10.68	9.85
1997	29	1,596,005	8.88	8.88
1998	28	1,719,998	14.40	14.40

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Adoption of Benefit B-3 reflected in 1994 valuation.

Adoption of 1.4% member contributions reflected in 1994 valuation.

Adoption of benefit B-4 reflected in 1998 valuation.

Adoption of benefit F55 (15 years) reflected in 1998 valuation.

Adoption of benefit V- 6 reflected in 1998 valuation.

Table 10-V

Ingham County (3303)

91 - Parks Union Empl

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1994	3	\$76,666	10.51 %	5.48 %
1995	3	82,837	11.15	8.06
1996	3	80,234	11.50	10.61
1997	5	144,342	12.37	12.37
1998	5	160,579	10.70	10.70

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Table 10-W

Ingham County (3303)

92 - Parks Non Union

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1994	5	\$210,478	12.50 %	6.53 %
1995	5	190,147	14.25	10.29
1996	4	168,458	15.00	13.84
1997	5	178,782	13.26	13.26
1998	5	214,974	13.33	13.33

**Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.
Adoption of Benefit F55 (25 years) reflected in 1995 valuation.**

Table 10-X

Ingham County (3303)

93 - Lgl Rsrch Clerks

Computed Employer Contributions - Comparative Statement

Valuation Date December 31,	Active Members		Employer Contribution as Percent of Payroll	
	Number	Annual Payroll	Regular Contribution	After Accelerated Funding Credit
1997	8	\$250,777	6.84 %	6.84 %
1998	5	175,963	7.21	7.21

Notes: Actuarial assumptions were revised for MERS valuations in 1981, 1984, 1987, 1993, and 1997.

Ingham County (3303)

Aggregate Accrued Liabilities - Comparative Schedule

Valuation Date December 31,	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Actuarial Liability	UAL as Percent of Annual Payroll
1984	\$27,649,249	\$34,364,451	124 %	(\$6,715,202)	0 %
1985	32,967,270	40,361,322	122	(7,394,052)	0
1986	37,730,844	47,355,057	126	(9,624,213)	0
1987	39,645,235	54,072,938	136	(14,427,703)	0
1988	44,776,267	57,889,961	129	(13,113,694)	0
1989	52,525,297	64,949,909	124	(12,424,612)	0
1990	61,520,840	71,084,865	116	(9,564,025)	0
1991	69,567,734	79,736,359	115	(10,168,625)	0
1992	47,237,433	50,968,120	108	(3,730,687)	0
1993	66,392,574	52,687,283	79	13,705,291	42
1994	82,445,154	56,238,777	68	26,206,377	76
1995	91,267,612	62,529,929	69	28,737,683	82
1996	100,596,375	70,095,587	70	30,500,788	83
1997	113,279,199	83,334,248	74	29,944,951	81
1998	129,697,752	95,427,165	74	34,270,587	84

Notes: Total retired life assets and liabilities are reflected in this schedule beginning in 1984. Actuarial assumptions were revised for the 1981, 1984, 1987, 1993 and 1997 actuarial valuations. The funding method was changed to entry age normal for the 1993 valuation.