

**The Report of the  
Forty-Eighth  
Annual Actuarial Valuation  
as of December 31, 1997**

**Covering the Participation of  
Ingham County**

**in the**

**MUNICIPAL EMPLOYEES  
RETIREMENT SYSTEM  
OF MICHIGAN**

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as of December 31, 1997**

**Covering the Participation of**

**Ingham County**

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**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**

**February, 1999**

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February, 1999

The Board of Commissioners  
Ingham County, Michigan  
and  
The Retirement Board  
Municipal Employees Retirement System of Michigan

Ladies and Gentlemen:

This report presents the results of the Forty-Eighth Annual Actuarial Valuation, prepared as of December 31, 1997, for Ingham County. The report includes the determination of liabilities and contribution rates resulting from the participation of Ingham County in the Municipal Employees Retirement System of Michigan ("MERS").

Changes to the actuarial valuation and MERS procedures include the following:


1. Monthly contribution requirements for fiscal years commencing in 1999 will be based upon a percentage of the reported compensation rather than on a fixed dollar amount based upon the compensation level that had been projected to the middle of the fiscal year. The estimated monthly dollar amount of employer contribution is shown in Table 9.
2. The actuarial assumptions and funding methods were adopted by the Retirement Board in April, 1994, as summarized in Section IV. Please note that for this valuation, the base inflation rate used to project member salaries has been reduced from 5.0% to 4.5% as adopted by the Board in June, 1998.

The valuation utilized information, furnished by the MERS administrative staff, concerning Retirement System benefits, financial transactions, and individual members, vested former members, retirants and beneficiaries. Data was checked for consistency with the prior year but was not otherwise audited by us.

To the best of our knowledge, this report is complete and accurate and was made in accordance with generally recognized actuarial methods in compliance with Act No. 220 of the Public Acts of 1996, as amended, and the MERS Plan Document as revised. The actuarial assumptions used for the valuation produce results which we believe are reasonable.

Sincerely

THE SEGAL COMPANY

  
Thomas P. Dawidowicz, F.S.A., M.A.A.A.  
Vice President and Actuary

## 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, 1997 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 1848 MERS members for Ingham County are included in this 1997 actuarial valuation. The total membership is comprised of 1198 active members, 221 inactive vested members, and 429 retirants and beneficiaries. As of December 31, 1997, the assets of MERS allocated to Ingham County amounted to about \$92,972,424 at market value and \$83,334,248 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 1997 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 valuation, 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, 1997 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 which begin on page 25.

The number of active participants and the annual payroll included in the December 31, 1997 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, 1997 actuarial valuation are the same as the assumptions used in the prior year except for a modification in the salary increase assumptions. The base inflation assumption was reduced from 5.0% to 4.5%. All other assumptions were most recently revised as of the December 31, 1993 valuation, in order to reflect an experience investigation covering the 10-year period ending December 31, 1992. 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 1997 actuarial valuation of MERS, the long-term net investment yield rate is assumed to be 8%. During 1997, 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 12.02%. The corresponding amounts for 1996 and 1995 were 10.23% and 11.62%, 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 1997 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, 1997 valuation projects the following salary increases for selected ages:

<b>Age</b>	<b>Base (inflation)</b>	<b>Merit and Longevity</b>	<b>Total percentage increase in salary</b>
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:

<b>Valuation Division</b>	<b>Withdrawal Assumption</b>	<b>Retirement Assumption</b>
General - Confidential (01)	Medium	Medium
Sheriff - FOP Super. (02)	Medium	High
M.C.F. (04)	High	Medium
Judges (09)	Medium	Medium
General - Management (10)	Medium	Medium
General - Library (11)	Medium	Low
Gen-ICEA/CO Professional (12)	Medium	Low
General - OPEIU, Prob. (13)	Medium	High
General - TOPS, UAW (14)	Medium	Medium
Animal Control FOP (15)	Medium	Medium
General - Commissioners (16)	High	Medium
ICEA PHN CN Nurses (17)	Medium	Medium
Court Profess'l ICEA (18)	Medium	Medium
Constitutional Officials (19)	Medium	Medium
Sheriff - Sheriff (20)	Low	Medium
Sheriff - FOP Non-Cmd (21)	Medium	Medium
M.C.F. - ICEA III (40)	High	High
MCF Management (41)	Medium	Medium
M.C.F. - ICEA II (42)	High	High

**Specific Withdrawal and Retirement Rates Used for Municipality (Continued)**

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

<b>Valuation Division</b>	<b>Withdrawal Assumption</b>	<b>Retirement Assumption</b>
M.C.F. - ICEA I (43)	High	High
Asst. Pros. Attorney (90)	Medium	Medium
Parks Union (91)	Medium	Medium
Parks Non-Union (92)	Medium	Medium
Legal Research Clerks (93)	Medium	Medium

**Disability Rates**

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

<b>Sample Ages</b>	<b>Percent Becoming Disabled within Next Year</b>
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 retirees are shown below for selected ages:

Age	Expected Years Of Life Remaining		Mortality Rates	
	Men	Women	Men	Women
50	27.53	32.94	.49%	.24%
55	23.29	28.41	.78	.44
60	19.27	24.12	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 39 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, 1997 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 39 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 1997, the amortization period begins at 39 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%. Once this reduction percentage falls to zero, it shall not be reinstated.



### 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 1997 continue to be applied until each five-year period expires. (The previous actuarial value was determined by using book value plus a five-year write-up or down for unrealized gains or losses occurring in that year.)

For the December 31, 1997 valuation, this procedure produced an actuarial asset value which is equal to 89.63% of market value (compared to 92.72% and 92.69% in 1996 and 1995, 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, 1997 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, 1997 (see Tables 2, 3, 4, and 5).
3. The assets attributable to MERS members of Ingham County, which amounted to a total of approximately \$83,334,248 at actuarial valuation as of December 31, 1997.
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 reflect the year end reserve transfer required to make the reserve for retired benefit payments exactly 100% funded.

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, 1999. 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, 1997.

## VI. GASB 25 AND GASB 27 INFORMATION

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, 1997.

All entries are based on the actuarial methods and assumptions that were used in the December 31, 1997 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 12/31/97)

#### Actuarial Accrued Liability

Retirees and beneficiaries currently receiving benefits	\$34,184,712
Terminated employees not yet receiving benefits	6,011,539
Current employees –	
Accumulated employee contributions including allocated investment income	8,004,589
Employer Financed	<u>65,078,360</u>
Total Actuarial Accrued Liability	\$113,279,200
Net Assets Available for Benefits at Actuarial Value	<u>83,334,248</u>
(Market Value is \$92,972,424)	
Unfunded (Overfunded) Actuarial Accrued Liability	\$29,944,952

### GASB 27 INFORMATION (as of 12/31/97)

Fiscal Year Beginning	January 1, 1999
Annual Required Contribution (ARC)	\$3,474,154
Amortization Factor Used	0.062169

Table 1

Ingham County ( 3303 )

Benefit Provisions Evaluated and/or Considered

<b>Division Code</b>	<b>Valuation Division</b>	<b>Benefit Provisions</b>	<b>Member Contributions</b>
01	General - Confidential	B-3 F55 (15 Years) V-6 E (1/1/94)	4.5%
02	Sheriff - FOP Super.	3.2% to max of 80% FAC-3 F55 (15 Years) 25 and Out E (1/1/94)	19.61%
04	M.C.F.	C-1 Old E (1/1/95)	0.0%
09	Judges	B-3 V-6 F55 (15 Years) E (1/1/94)	0.0%
10	General - Management	B-3 F55 (15 Years) V-6 E (1/1/94)	5.0%
11	General - Library	C-1 Old E (1/1/88)	0.0%
12	Gen-ICEA/CO Profession	B-3 F55 (15 Years) E (1/1/94)	6.08%

**Table 1**

**Ingham County ( 3303 )**

**Benefit Provisions Evaluated and/or Considered**

<b>Division Code</b>	<b>Valuation Division</b>	<b>Benefit Provisions</b>	<b>Member Contributions</b>
12(continued)	Gen-ICEA/CO Profession	B-3 F55 (15 Years) E (1/1/94)	7.13%
14	General - TOPS,UAW	B-3 F55 (15 Years) E (1/1/94)	4.85%
15	Animal Control FOP	B-4 F50 (25 Years) FAC-3 F55 (15 Years) E (1/1/94)	8.9%
16	General -Commissioners	C-2 (Base B-1) F55 (15 Years) E (1/1/94)	3.56%
17	ICEA PHN CN Nurses	C-2 (Base C-1 Old) E (1/1/94) F55 (15 Years) E-2 (07/01/95)	5.07%
18	Court Profess'l ICEA	B-3 20 and Out F55 (15 Years) E (1/1/94)	9.84%
19	Constitutional Officia	B-3 F55 (15 Years) E (1/1/94)	7.0%

**Table 1**

**Ingham County ( 3303 )**

**Benefit Provisions Evaluated and/or Considered**

<b>Division Code</b>	<b>Valuation Division</b>	<b>Benefit Provisions</b>	<b>Member Contributions</b>
20	Sheriff - Sheriff	B-3 F55 (15 Years) E (1/1/94)	7.0%
21	Sheriff - FOP Non-Cmd	3.2% to max of 80% F55 (15 Years) F50 (25 Years) E (1/1/94)	10.45%
40	M.C.F. - ICEA III	C-2 (Base B-1) F55 (15 Years) E (1/1/95)	3.0%
41	MCF Management	C-2 (Base B-1) F55 (15 Years) V-6 E (1/1/95)	0.0%
42	M.C.F. - ICEA II	C-2 (Base B-1) FAC-3 F55 (15 Years) V-6	3.95%
43	M.C.F. - ICEA I	C-2 (Base B-1) F55 (15 Years) V-6	3.51%
90	Asst. Pros. Attorney	B-3 E (1/1/94)	1.4%



**Table 1**

**Ingham County (3303)**

**Benefit Provisions Evaluated and/or Considered**

<b>Division Code</b>	<b>Valuation Division</b>	<b>Benefit Provisions</b>	<b>Member Contributions</b>
91	Parks Union	B-3	0.0%
92	Parks Non-Union	B-4 F55 (25 Years)	0.0%
93	Legal Research Clerks	C-1 Old	0.0%

Table 2

## Ingham County

Membership Characteristics

Valuation Division	1997 Valuation		1996 Valuation	
	Number	Annual Payroll	Number	Annual Payroll
General - Confidential	29	\$895,532	27	\$868,169
Sheriff - FOP Super.	30	1,609,357	28	1,446,119
M.C.F.	153	2,185,568	165	2,376,442
Judges	10	266,864	19	463,138
General - Management	68	3,972,349	70	3,881,443
General - Library	35	717,473	41	811,292
Gen-ICEA/CO Profession	107	3,696,908	104	3,723,923
General - OPEIU, Prob.	38	1,586,848	38	1,517,127
General - TOPS, UAW	346	8,814,495	343	8,364,912
Animal Control FOP	10	325,176	9	264,182
General - Commissioners	9	103,415	7	84,500
ICEA PHN CN Nurses	60	2,062,206	64	2,067,117
Court Profess'l ICEA	32	1,244,090	37	1,442,687
Constitutional Officia	5	297,992	4	206,565
Sheriff - Sheriff	1	71,933	1	69,750
Sheriff - FOP Non-Cmd	143	4,952,121	153	5,176,592
M.C.F. - ICEA III	35	920,331	41	979,006
MCF Management	15	512,335	12	487,427
M.C.F. - ICEA II	16	376,839	11	285,375
M.C.F. - ICEA I	9	323,039	12	432,683
Asst. Pros. Attorney	29	1,596,005	29	1,607,654
Parks Union	5	144,342	3	80,234
Parks Non-Union	5	178,782	4	168,458
Legal Research Clerks	8	250,777	0	0
<b>Total</b>	<b>1198</b>	<b>\$37,104,777</b>	<b>1222</b>	<b>\$36,804,795</b>

**Table 3**

**Ingham County**

**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	
1983	2,366	\$37,837,789	\$15,992	36.4	5.5	38
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

**Table 4**

**Ingham County**

**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
1983	29	\$95,536.92	13	\$24,191.64	285	\$696,804.24
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

**Table 5**

**Ingham County**

**Retirants and Beneficiaries on Rolls as of December 31, 1997**

**Distribution by Type of Benefit Being Paid**

<b>Benefits Being Paid to:</b>	<b>Annual Benefits</b>	
	<b>Number</b>	<b>Amount</b>
<b>Age and service retirants</b>	<b>365</b>	<b>\$3,352,207.75</b>
<b>Non-duty disability retirants</b>	<b>17</b>	<b>130,343.04</b>
<b>Duty disability retirants</b>	<b>2</b>	<b>2,266.20</b>
<b>Beneficiaries of deceased retirants</b>	<b>24</b>	<b>116,766.60</b>
<b>Beneficiaries of deceased members</b>		
<b>Non-duty death</b>	<b>20</b>	<b>91,207.44</b>
<b>Duty death</b>	<b>1</b>	<b>19,154.52</b>
<b>Total Benefits Being Paid</b>	<b>429</b>	<b>\$3,711,945.50</b>

Table 6

## Ingham County

Value of Accrued Benefits as of December 31, 1997

Type of Member	Present Value of Vested Benefits	Present Value of Accrued Benefits
<b>Active Members</b>		
General - Confidential	\$777,493	\$917,170
Sheriff - FOP Super.	4,248,446	6,720,260
M.C.F.	836,877	1,077,279
Judges	564,975	596,328
General - Management	5,173,699	5,912,952
General - Library	407,441	472,679
Gen-ICEA/CO Profession	2,358,264	3,002,591
General - OPEIU, Prob.	2,777,998	3,102,358
General - TOPS, UAW	7,632,938	9,055,715
Animal Control FOP	232,837	382,693
General - Commissioners	59,881	78,505
ICEA PHN CN Nurses	1,394,791	1,713,575
Court Profess'l ICEA	2,000,846	2,428,976
Constitutional Officia	355,036	370,217
Sheriff - Sheriff	28,509	62,550
Sheriff - FOP Non-Cmd	5,406,324	7,144,729
M.C.F. - ICEA III	618,204	789,561
MCF Management	61,884	141,328
M.C.F. - ICEA II	137,392	153,314
M.C.F. - ICEA I	300,261	380,724
Asst. Pros. Attorney	1,058,393	1,310,062
Parks Union	61,177	89,648
Parks Non-Union	231,666	305,295
Legal Research Clerks	0	32,629
<b>Totals</b>	<b>\$36,725,332</b>	<b>\$46,241,138</b>
<b>Vested Former Members</b>	<b>6,011,539</b>	<b>6,011,539</b>
<b>Retired Members and Beneficiaries</b>	<b><u>34,184,713</u></b>	<b><u>34,184,713</u></b>
<b>Total Present Value of Benefits</b>	<b>\$76,921,584</b>	<b>\$86,437,390</b>
<b>Total Valuation Assets</b>	<b>\$83,334,248</b>	<b>\$83,334,248</b>
<b>Excess Value of Benefits Over Valuation Assets</b>	<b>\$0</b>	<b>\$3,103,142</b>

Table 7

## Ingham County

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1997

	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
<b>Reserve for Employer Contributions :</b>				
General - Confidential	\$2,361,652	\$1,395,215		\$966,437
Sheriff - FOP Super.	7,500,646	1,713,485		5,787,161
M.C.F.	2,235,472	1,173,796		1,061,676
Judges	812,245	452,318		359,927
General - Management	8,892,427	5,645,992		3,246,435
General - Library	966,147	659,132		307,015
Gen-ICEA/CO Profession	5,298,443	3,355,125		1,943,318
General - OPEIU, Prob.	4,507,679	2,685,751		1,821,928
General - TOPS, UAW	14,847,749	9,881,573		4,966,176
Animal Control FOP	742,388	303,479		438,909
General - Commissioners	155,036	114,927		40,109
ICEA PHN CN Nurses	3,142,260	2,223,881		918,379
Court Profess'l ICEA	2,995,861	1,317,342		1,678,519
Constitutional Officia	616,182	502,983		113,199
Sheriff - Sheriff	72,064	64,194		7,870
Sheriff - FOP Non-Cmd	9,295,806	5,125,895		4,169,912
M.C.F. - ICEA III	1,426,133	1,050,878		375,255
MCF Management	456,009	167,113		288,896
M.C.F. - ICEA II	194,639	75,641		118,998
M.C.F. - ICEA I	544,562	84,440		460,122
Asst. Pros. Attorney	2,584,235	2,059,534		524,701
Parks Union	203,364	56,575		146,789
Parks Non-Union	479,291	317,527		161,764
Legal Research Clerks	73,098	31,641		41,457
<b>Totals</b>	<b>\$70,403,388</b>	<b>\$40,458,437</b>	<b>57.5%</b>	<b>\$29,944,951</b>
<b>Reserve for Employees Contributions :</b>				
General - Confidential	\$276,966	\$276,966		
Sheriff - FOP Super.	987,258	987,258		
M.C.F.	45,752	45,752		
Judges	30,848	30,848		
General - Management	1,134,198	1,134,198		
General - Library	130,971	130,971		
Gen-ICEA/CO Profession	740,419	740,419		
General - OPEIU, Prob.	339,161	339,161		
General - TOPS, UAW	1,742,928	1,742,928		

The above valuation assets reflect year end reserve transfers required to make the reserve for retired benefit payments exactly 100% funded. For 1997, valuation assets are equal to .896333 times market value.

Table 7

## Ingham County

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1997

	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
<b>Reserve for Employees Contributions : (Continued)</b>				
Animal Control FOP	\$36,836	\$36,836		
General -Commissioners	31,702	31,702		
ICEA PHN CN Nurses	326,956	326,956		
Court Profess'l ICEA	515,252	515,252		
Constitutional Officia	113,197	113,197		
Sheriff - Sheriff	28,509	28,509		
Sheriff - FOP Non-Cmd	1,712,201	1,712,201		
M.C.F. - ICEA III	198,048	198,048		
MCF Management	12,686	12,686		
M.C.F. - ICEA II	42,711	42,711		
M.C.F. - ICEA I	92,885	92,885		
Asst. Pros. Attorney	107,050	107,050		
Parks Union	1,565	1,565		
Parks Non-Union	42,999	42,999		
Legal Research Clerks	0	0		
<b>Totals</b>	<b>\$8,691,098</b>	<b>\$8,691,098</b>	<b>100.0%</b>	<b>\$0</b>
<b>Reserve for Retired Benefit Payments :</b>				
General - Confidential	\$1,403,976	\$1,403,976		\$0
Sheriff - FOP Super.	6,265,399	6,265,399		0
M.C.F.	1,745,522	1,745,522		0
Judges	81,745	81,745		0
General - Management	4,933,237	4,933,237		0
General - Library	659,753	659,753		0
Gen-ICEA/CO Profession	1,203,903	1,203,903		0
General - OPEIU, Prob.	165,500	165,500		0
General - TOPS, UAW	6,629,616	6,629,616		0
Animal Control FOP	12,857	12,857		0
General -Commissioners	66,823	66,823		0
ICEA PHN CN Nurses	1,202,726	1,202,726		0
Court Profess'l ICEA	1,647,111	1,647,111		0
Constitutional Officia	111,513	111,513		0
Sheriff - Sheriff	129,146	129,146		0
Sheriff - FOP Non-Cmd	5,598,157	5,598,157		0
M.C.F. - ICEA III	1,334,030	1,334,030		0
MCF Management	443,949	443,949		0
M.C.F. - ICEA II	0	0		0
M.C.F. - ICEA I	327,843	327,843		0
Asst. Pros. Attorney	221,907	221,907		0



Table 7

Ingham County

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1997

	Actuarial Accrued Liabilities	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
<b>Reserve for Retired (Continued)</b>				
Parks Union	\$0	\$0		\$0
Parks Non-Union	0	0		0
Legal Research Clerks	0	0		0
<b>Totals</b>	<b>\$34,184,713</b>	<b>\$34,184,713</b>	<b>100.0%</b>	<b>\$0</b>
<b>Municipality Totals</b>	<b>\$113,279,199</b>	<b>\$83,334,248</b>	<b>73.6%</b>	<b>\$29,944,951</b>

The above valuation assets reflect year end reserve transfers required to make the reserve for retired benefit payments exactly 100% funded. For 1997, valuation assets are equal to .896333 times market value.

Table 8

## Ingham County

**Computed Employer Contributions to the Retirement System  
For the Fiscal Year Beginning January 1, 1999**

Valuation Division	Employer Contributions As Percentages of Payroll and Dollars		
	Normal Cost	Unfunded Accrued Liability	Totals
<b><u>Cost as percentage of payroll</u></b>			
General - Confidential	5.30 %	5.85 %	11.16 %
Sheriff - FOP Super.	-1.72	19.50	17.78
M.C.F.	3.41	2.63	6.04
Judges	10.06	7.31	17.37
General - Management	5.04	4.43	9.47
General - Library	6.49	2.32	8.81
Gen-ICEA/CO Profession	3.54	2.85	6.39
General - OPEIU, Prob.	2.99	6.23	9.21
General - TOPS, UAW	5.02	3.06	8.08
Animal Control FOP	2.50	7.32	9.82
General - Commissioners	2.46	2.10	4.56
ICEA PHN CN Nurses	5.72	2.42	8.13
Court Profess'l ICEA	2.25	7.32	9.57
Constitutional Official	5.42	2.06	7.48
Sheriff - Sheriff	5.60	0.59	6.20
Sheriff - FOP Non-Cmd	4.28	4.57	8.84
M.C.F. - ICEA III	3.35	2.21	5.56
MCF Management	8.58	3.06	11.64
M.C.F. - ICEA II	3.81	1.71	5.52
M.C.F. - ICEA I	2.67	7.72	10.39
Asst. Pros. Attorney	7.10	1.78	8.88
Parks Union	6.85	5.52	12.37
Parks Non-Union	8.35	4.91	13.26
Legal Research Clerks	5.94	0.90	6.84
<b><u>Annual Dollar Contributions*</u></b>			
General - Confidential	\$50,748	\$55,990	\$106,738
Sheriff - FOP Super.	(29,667)	335,277	305,611
M.C.F.	79,612	61,508	141,120
Judges	28,667	20,852	49,519
General - Management	213,780	188,081	401,861
General - Library	49,753	17,787	67,540
Gen-ICEA/CO Profession	139,732	112,585	252,317
General - OPEIU, Prob.	50,634	105,553	156,187
General - TOPS, UAW	473,067	287,713	760,780
Animal Control FOP	8,668	25,428	34,096
General - Commissioners	2,715	2,324	5,039
ICEA PHN CN Nurses	126,000	53,206	179,206
Court Profess'l ICEA	29,876	97,244	127,120

\*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

**Computed Employer Contributions to the Retirement System**  
**For the Fiscal Year Beginning January 1, 1999**

Valuation Division	Employer Contributions As Percentages of Payroll and Dollars		
	Normal Cost	Unfunded Accrued Liability	Totals
<b><u>Cost as percentage of payroll</u></b>			
Constitutional Officia	17,245	6,558	23,803
Sheriff - Sheriff	4,307	456	4,763
Sheriff - FOP Non-Cmd	226,269	241,582	467,851
M.C.F. - ICEA III	32,926	21,740	54,666
MCF Management	46,952	16,737	63,689
M.C.F. - ICEA II	15,335	6,894	22,229
M.C.F. - ICEA I	9,209	26,657	35,866
Asst. Pros. Attorney	121,048	30,398	151,446
Parks Union	10,566	8,504	19,070
Parks Non-Union	15,952	9,372	25,324
Legal Research Clerks	15,911	2,402	18,313
<b>Totals</b>	<b>\$1,739,305</b>	<b>\$1,734,848</b>	<b>\$3,474,154</b>

\*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

Computed Employer Contributions and Funding Credits

For the Fiscal Year Beginning January 1, 1999

Valuation Division	Estimated Monthly Employer Contributions		
	Total Regular Contribution	Accelerated Funding Credit	Required Contribution
General - Confidential	\$8,895	\$0	\$8,895
Sheriff - FOP Super.	25,468	0	25,467
M.C.F.	11,760	0	11,760
Judges	4,127	0	4,127
General - Management	33,488	0	33,488
General - Library	5,628	0	5,628
Gen-ICEA/CO Profession	21,026	0	21,026
General - OPEIU, Prob.	13,016	0	13,016
General - TOPS, UAW	63,398	0	63,398
Animal Control FOP	2,841	0	2,841
General - Commissioners	420	0	420
ICEA PHN CN Nurses	14,934	0	14,934
Court Profess'l ICEA	10,593	0	10,593
Constitutional Officia	1,984	0	1,984
Sheriff - Sheriff	397	0	397
Sheriff - FOP Non-Cmd	38,988	0	38,988
M.C.F. - ICEA III	4,556	0	4,556
MCF Management	5,307	0	5,307
M.C.F. - ICEA II	1,853	0	1,852
M.C.F. - ICEA I	2,989	0	2,989
Asst. Pros. Attorney	12,621	0	12,621
Parks Union	1,589	0	1,589
Parks Non-Union	2,110	0	2,110
Legal Research Clerks	<u>1,526</u>	<u>0</u>	<u>1,526</u>
Totals	\$289,514	\$0	\$289,513

**Table 10-A**

**Ingham County**

**General - Confidential**

**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
1983	845	\$15,858,037	10.04 %	7.05 %
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

**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**

**Sheriff - FOP Super.**

**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

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

M.C.F.

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
1983	211	\$2,156,736	8.93 %	6.27 %
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

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**  
**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

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**

**General - 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
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

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**  
**General - 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

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**

**Gen-ICEA/CO Profession**

**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

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**

**General - 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

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**

**General - 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

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**

**Animal Control 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

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**

**General -Commissioners**

**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

**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.

**Table 10-L**  
**Ingham County**  
**ICEA PHN CN 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

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.



**Table 10-M**  
**Ingham County**  
**Court Profess'l ICEA**

**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

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**

**Constitutional Officia**

**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

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.

**Table 10-O**  
**Ingham County**  
**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

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.

**Table 10-P**

**Ingham County**

**Sheriff - FOP Non-Cmd**

**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

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.

**Table 10-Q**  
**Ingham County**  
**M.C.F. - ICEA III**

**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

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

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

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**

**M.C.F. - ICEA II**

**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

**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**  
**M.C.F. - ICEA II**

**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

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



**Table 10-U**

**Ingham County**

**Asst. Pros. Attorney**

**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

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.

**Table 10-V**  
**Ingham County**  
**Parks 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	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

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

**Table 10-W**  
**Ingham County**  
**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

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**  
**Legal Research 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 %

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

Table 11

## Ingham County

Aggregate Accrued Liabilities - Comparative Schedule

Valuation Date December 31,	Accrued Liabilities	Valuation Assets	Funded Percent	Unfunded Actuarial Liability	UAL as Percent of Annual Payroll
1983	\$20,625,247	\$23,258,134	113 %	(\$2,632,887)	0 %
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

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.