

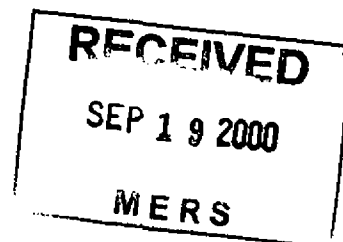
**The Report of the  
Fiftieth  
Annual Actuarial Valuation  
as of December 31, 1999**

**Covering the Participation of  
Ingham County**

**(3303)**

**in the**

**MUNICIPAL EMPLOYEES'  
RETIREMENT SYSTEM  
OF MICHIGAN**



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**Submitted to**

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

**and**

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

**September, 2000**

September, 2000

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 Fiftieth Annual Actuarial Valuation, prepared as of December 31, 1999, 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").

There have been no changes to the actuarial valuation assumptions or MERS procedures for this valuation. Current procedures and assumptions include:

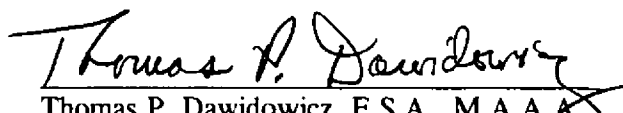
1. Employer monthly contribution requirements for the fiscal year commencing in 2001 will be based upon a percentage of the actual compensation reported to MERS during that year. The employer contribution rate is shown in Table 8. The estimated monthly dollar amount of contribution is shown in Table 9.
2. The actuarial assumptions and funding methods adopted by the Retirement Board are summarized in Section IV.

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 that we believe are reasonable.

Sincerely

THE SEGAL COMPANY

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

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## 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, 1999 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 1904 MERS members for Ingham County are included in this 1999 actuarial valuation. The total membership is comprised of 1183 active members, 227 inactive vested members, and 494 retirants and beneficiaries. As of December 31, 1999, the assets of MERS allocated to Ingham County amounted to \$126,469,232 at market value and \$111,156,336 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 1999 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 to 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, 1999 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, 1999 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, 1999 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 1999 actuarial valuation of MERS, the long-term net investment yield rate is assumed to be 8%. During 1999, 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 15.38%. The corresponding amounts for 1998 and 1997 were 12.93% and 12.02%, 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 1999 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, 1999 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<br>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> |
|---------------------------|------------------------------|------------------------------|
| (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 Ct. Prof        | Medium                       | Medium                       |
| (19) Cnstatnl Offcls      | Medium                       | Medium                       |
| (21) FOP Shrf Deputies    | Medium                       | Medium                       |
| (40) ICEA Unit 111        | High                         | High                         |
| (41) MCF Management       | Medium                       | Medium                       |
| (42) ICEA Unit 11         | 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> |
|---------------------------|------------------------------|------------------------------|
| (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:

| <b>Sample<br/>Ages</b> | <b>Percent Becoming Disabled<br/>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 members are shown below for selected ages:

| Age | Expected Years<br>Of Life Remaining |        | Mortality Rates |        |
|-----|-------------------------------------|--------|-----------------|--------|
|     | Male                                | Female | Male            | Female |
| 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.

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 37 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, 1999 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 37 years. For new municipalities that first joined MERS in 1999, the amortization period began at 37 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 original 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. The current program only applies to municipalities with funded percentages in excess of 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 x [110% minus the funded percentage].



## 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 recognizing 20% of the current year's difference between actual and expected return and 20% of that difference for the 4 prior years. Actual return for the year includes net interest, dividends, realized and unrealized gains or losses.

For the December 31, 1999 valuation, this procedure produced an actuarial asset value that is equal to 87.89% of market value (compared to 88.86% and 89.63% in 1998 and 1997, 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, 1999 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, 1999 (see Tables 2, 3, 4, and 5).
3. The assets attributable to MERS members of Ingham County, amounted to a total of \$111,156,336 at actuarial value as of December 31, 1999.
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, 2001. 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 that 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 and the accelerated funding credits that result from that experience will probably not continue indefinitely. Therefore, the municipality's long range contribution rate is equal to normal cost plus amortization of unfunded liabilities.

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, 1999.

## 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, 1999 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 12/31/1999)

##### Actuarial Accrued Liability

|   |                    |
|---|--------------------|
| Retirees and beneficiaries currently receiving benefits                     | \$49,108,448       |
| Terminated employees not yet receiving benefits                             | 8,081,948          |
| Current employees -   |                    |
| Accumulated employee contributions including<br>allocated investment income | 11,704,662         |
| Employer Financed   | <u>68,617,038</u>  |
| Total Actuarial Accrued Liability   | \$137,512,096      |
| Net Assets Available for Benefits at Actuarial Value                        | <u>111,156,336</u> |
| (Market Value is \$126,469,232)   |                    |
| Unfunded (Overfunded) Actuarial Accrued Liability                           | \$26,355,760       |

#### GASB 27 INFORMATION (as of 12/31/1999)

|                                    |                 |
|------------------------------------|-----------------|
| Fiscal Year Beginning              | January 1, 2001 |
| Annual Required Contribution (ARC) | \$3,506,054     |
| 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<br>F55 (15 Years)<br>V-6<br>E( 1/01/1988)                                     | 4.50%                |
| 02            | Sheriff FOP Spvs   | 3.20% (to a max of 80%)<br>25 and Out<br>F55 (15 Years)<br>FAC-3<br>E( 1/01/1988) | 19.61%               |
| 04            | MCF                | C-1(OLD)<br>E( 1/01/1995)   | 0.00%                |
| 09            | Judges             | B-3<br>F55 (15 Years)<br>V-6  | 0.00%                |
| 10            | Gnrl Mgmt          | B-3<br>F55 (15 Years)<br>V-6<br>E( 1/01/1988)                                     | 5.00%                |
| 11            | Gnrl Library       | C-1(OLD)<br>E( 1/01/1994)   | 0.00%                |
| 12            | Gnrl ICEA Profs    | B-3<br>F55 (15 Years)<br>E( 1/01/1988)  | 6.08%                |
| 13            | Gnrl OPEIU Prob    | B-3   | 7.13%                |

Table 1

Ingham County ( 3303 )

Benefit Provisions Evaluated and/or Considered

| Division Code  | Valuation Division | Benefit Provisions  | Member Contributions |
|----------------|--------------------|---|----------------------|
| 13 (Continued) | Gnrl OPEIU Prob    | F55 (15 Years)<br>E( 1/01/1988)                                   |                      |
| 14             | Gnrl TOPS UAW      | B-3<br>F55 (15 Years)<br>E( 1/01/1988)                            | 4.85%                |
| 15             | Animal Cntrl FOP   | B-4<br>F50 (25 Years)<br>F55 (15 Years)<br>FAC-3                  | 8.90%                |
| 16             | Gnrl Commsnrs      | C-2/B-1<br>F55 (15 Years)<br>V-6<br>E( 1/01/1988)                 | 3.56%                |
| 17             | ICEA Nurses        | B-3<br>F55 (15 Years)<br>V-6<br>FAC-3<br>E-2( 7/01/1995) ( 2.50%) | 11.87%               |
| 18             | ICEA Ct. Prof      | B-3<br>20 and Out<br>F55 (15 Years)                               | 9.84%                |
| 19             | Cnstitutnl Offcls  | B-3<br>F55 (15 Years)   | 6.00%                |
| 21             | FOP Shrf Deputies  | 3.20% (to a max of 80%)   | 10.43%               |

Table 1

Ingham County ( 3303 )

Benefit Provisions Evaluated and/or Considered

| Division Code | Valuation Division | Benefit Provisions   | Member Contributions |
|---------------|--------------------|--|----------------------|
| 40            | ICEA Unit 111      | F50 (25 Years)<br>F55 (15 Years)<br><br>C-2/B-1<br>F55 (15 Years)<br>E( 1/01/1995) | 3.00%                |
| 41            | MCF Management     | C-2/B-1<br>F55 (15 Years)<br>V-6<br>E( 1/01/1995)                                  | 0.00%                |
| 42            | ICEA Unit 11       | C-2/B-1<br>F55 (15 Years)<br>V-6<br>FAC-3  | 3.95%                |
| 43            | ICEA Unit 1        | C-2/B-1<br>F55 (15 Years)<br>V-6   | 3.50%                |
| 90            | Asst Pros Attnys   | B-4<br>F55 (15 Years)<br>V-6   | 1.40%                |
| 91            | Parks Union Empl   | B-3  | 0.00%                |
| 92            | Parks Non Union    | B-4<br>F55 (25 Years)  | 0.00%                |
| 93            | Lgl Rsrch Clerks   | C-1(OLD)   | 0.00%                |



Table 2

## Ingham County ( 3303 )

Membership Characteristics

| Valuation<br>Division  | 1999 Valuation |                     | 1998 Valuation |                     |
|------------------------|----------------|---------------------|----------------|---------------------|
|                        | Number         | Annual<br>Payroll   | Number         | Annual<br>Payroll   |
| 01 - Confidential      | 31             | \$1,068,662         | 30             | \$1,002,675         |
| 02 - Sheriff FOP Spvs  | 30             | 1,703,939           | 30             | 1,699,826           |
| 04 - MCF               | 116            | 2,227,648           | 128            | 2,542,201           |
| 09 - Judges            | 10             | 282,700             | 13             | 351,771             |
| 10 - Gnrl Mgmt         | 76             | 4,643,352           | 67             | 4,047,946           |
| 11 - Gnrl Library      | 24             | 733,396             | 25             | 738,984             |
| 12 - Gnrl ICEA Profs   | 107            | 4,249,788           | 111            | 4,375,372           |
| 13 - Gnrl OPEIU Prob   | 38             | 1,582,996           | 38             | 1,635,036           |
| 14 - Gnrl TOPS UAW     | 364            | 9,944,587           | 350            | 9,430,825           |
| 15 - Animal Cntrl FOP  | 9              | 306,275             | 10             | 317,713             |
| 16 - Gnrl Commsnrs     | 8              | 103,005             | 8              | 101,460             |
| 17 - ICEA Nurses       | 66             | 2,449,404           | 63             | 2,321,552           |
| 18 - ICEA Ct. Prof     | 37             | 1,559,574           | 33             | 1,413,047           |
| 19 - Cnstutnl Offcls   | 6              | 404,043             | 5              | 315,294             |
| 21 - FOP Shrf Deputies | 152            | 5,940,955           | 144            | 6,128,303           |
| 40 - ICEA Unit 111     | 28             | 755,810             | 35             | 997,054             |
| 41 - MCF Management    | 22             | 845,543             | 13             | 545,506             |
| 42 - ICEA Unit 11      | 9              | 318,233             | 8              | 264,468             |
| 43 - ICEA Unit 1       | 5              | 211,746             | 6              | 253,946             |
| 90 - Asst Pros Attnys  | 29             | 1,534,889           | 28             | 1,719,998           |
| 91 - Parks Union Empl  | 6              | 195,920             | 5              | 160,579             |
| 92 - Parks Non Union   | 4              | 196,079             | 5              | 214,974             |
| 93 - Lgl Rsrch Clerks  | 6              | 163,718             | 5              | 175,963             |
| <b>Total</b>           | <b>1183</b>    | <b>\$41,422,262</b> | <b>1160</b>    | <b>\$40,754,493</b> |

Table 3

Ingham County ( 3303 )

Active and Vested Former Members in the Valuation

Comparative Schedule

| Valuation<br>Date<br>December 31, | -- -- -- -- Active Members -- -- -- -- |                   |                          |                |                    | Inactive<br>Vested<br>Former<br>Members |
|-----------------------------------|--|-------------------|--------------------------|----------------|--------------------|---|
|                                   | Number                                 | Annual<br>Payroll | Average<br>Annual<br>Pay | Average<br>Age | Average<br>Service |   |
| 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                                     |
| 1999                              | 1,183                                  | 41,422,262        | 35,014                   | 42.7           | 9.8                | 227                                     |

Table 4

Ingham County ( 3303 )

Historical Growth of Retiree and Beneficiary Rolls

| Valuation<br>Date<br>December 31, | Added to Rolls |                    | Removed From Rolls |                    | Year End |                    |
|-----------------------------------|----------------|--------------------|--------------------|--------------------|----------|--------------------|
|                                   | Number         | Annual<br>Benefits | Number             | Annual<br>Benefits | Number   | Annual<br>Benefits |
| 1985                              | 32             | \$141,219          | 6                  | \$14,378           | 326      | \$918,928          |
| 1986                              | 31             | 124,797            | 8                  | 20,191             | 349      | 1,023,534          |
| 1987                              | 35             | 309,523            | 11                 | 16,144             | 373      | 1,316,913          |
| 1988                              | 29             | 171,844            | 9                  | 38,179             | 393      | 1,450,578          |
| 1989                              | 30             | 231,715            | 15                 | 52,076             | 408      | 1,630,217          |
| 1990                              | 42             | 308,113            | 9                  | 18,820             | 441      | 1,919,510          |
| 1991                              | 35             | 248,019            | 8                  | 47,293             | 468      | 2,120,236          |
| 1992                              | 20             | 200,120            | 198                | 846,075            | 290      | 1,474,281          |
| 1993                              | 35             | 422,897            | 13                 | 75,065             | 312      | 1,822,113          |
| 1994                              | 27             | 439,064            | 12                 | 38,388             | 327      | 2,222,789          |
| 1995                              | 47             | 544,633            | 7                  | 40,287             | 367      | 2,727,135          |
| 1996                              | 33             | 440,912            | 8                  | 49,108             | 392      | 3,118,939          |
| 1997                              | 45             | 656,395            | 8                  | 63,389             | 429      | 3,711,946          |
| 1998                              | 44             | 921,125            | 11                 | 69,017             | 462      | 4,564,053          |
| 1999                              | 47             | 709,648            | 15                 | 121,047            | 494      | 5,152,654          |

Table 5

Ingham County ( 3303 )

Retirants and Beneficiaries on Rolls as of December 31, 1999

Distribution by Type of Benefit Being Paid

| Benefits Being Paid to:             | Annual Benefits |               |
|-------------------------------------|-----------------|---------------|
|                                     | Number          | Amount        |
| Age and service retirants           | 420             | \$4,715,092   |
| Non-duty disability retirants       | 18              | 137,304       |
| Duty disability retirants           | 2               | 2,266         |
| Beneficiaries of deceased retirants | 30              | 162,329       |
| Beneficiaries of deceased members   |                 |               |
| Non-duty death                      | 23              | 116,508       |
| Duty death                          | <u>1</u>        | <u>19,155</u> |
| Total Benefits Being Paid           | 494             | \$5,152,654   |

Table 6-A

Ingham County ( 3303 )

Value of Accrued Benefits as of December 31, 1999

| Type of Member  | Present Value of Vested Benefits | Present Value of Accrued Benefits |
|---|----------------------------------|-----------------------------------|
| <b>Active Members</b>                                 |                                  |                                   |
| 01 - Confidentials                                    | \$1,105,967                      | \$1,281,241                       |
| 02 - Sheriff FOP Spvs                                 | 4,250,227                        | 5,706,227                         |
| 04 - MCF  | 970,001                          | 1,177,568                         |
| 09 - Judges   | 704,578                          | 740,584                           |
| 10 - Gnrl Mgmt  | 6,586,712                        | 7,383,405                         |
| 11 - Gnrl Library                                     | 492,143                          | 601,641                           |
| 12 - Gnrl ICEA Profs                                  | 3,123,459                        | 3,754,907                         |
| 13 - Gnrl OPEIU Prob                                  | 3,030,747                        | 3,302,729                         |
| 14 - Gnrl TOPS UAW                                    | 8,609,015                        | 10,023,746                        |
| 15 - Animal Cntrl FOP                                 | 353,586                          | 518,936                           |
| 16 - Gnrl Commsnrs                                    | 67,836                           | 81,377                            |
| 17 - ICEA Nurses                                      | 2,399,176                        | 2,795,364                         |
| 18 - ICEA Ct. Prof                                    | 2,653,705                        | 3,060,917                         |
| 19 - Cnstutnl Offcls                                  | 538,594                          | 573,831                           |
| 21 - FOP Shrf Deputies                                | 5,025,078                        | 6,638,593                         |
| 40 - ICEA Unit 111                                    | 452,038                          | 572,426                           |
| 41 - MCF Management                                   | 88,223                           | 165,957                           |
| 42 - ICEA Unit 11                                     | 74,505                           | 121,755                           |
| 43 - ICEA Unit 1                                      | 81,318                           | 122,154                           |
| 90 - Asst Pros Attnys                                 | 1,561,333                        | 1,900,337                         |
| 91 - Parks Union Empl                                 | 41,532                           | 67,271                            |
| 92 - Parks Non Union                                  | 367,655                          | 439,276                           |
| 93 - Lgl Rsrch Clerks                                 | 45,899                           | 46,832                            |
| <b>Totals</b>   | <b>\$42,623,327</b>              | <b>\$51,077,074</b>               |
| <b>Vested Former Members</b>                          | <b>8,081,948</b>                 | <b>8,081,948</b>                  |
| <b>Retired Members and Beneficiaries</b>              | <b><u>49,108,447</u></b>         | <b><u>49,108,447</u></b>          |
| <b>Total Present Value of Benefits</b>                | <b>\$99,813,722</b>              | <b>\$108,267,469</b>              |
| <b>Total Valuation Assets</b>                         | <b><u>111,156,340</u></b>        | <b><u>111,156,340</u></b>         |
| <b>Unfunded(Overfunded) Value of Accrued Benefits</b> | <b>(\$11,342,618)</b>            | <b>(\$2,888,871)</b>              |

Table 6-B

## Ingham County ( 3303 )

Present Value of Accrued Benefits Funding Percentage

| Total Members              | Present Value of<br>Accrued Benefits | Valuation<br>Assets  | Percent<br>Funded |
|----------------------------|--------------------------------------|----------------------|-------------------|
| 01 - Confidential          | \$3,825,644                          | \$3,971,683          | 103.8 %           |
| 02 - Sheriff FOP Spvs      | 16,445,973                           | 12,017,979           | 73.1              |
| 04 - MCF                   | 3,399,517                            | 3,744,589            | 110.2             |
| 09 - Judges                | 877,417                              | 812,377              | 92.6              |
| 10 - Gnrl Mgmt             | 14,646,321                           | 15,825,135           | 108.0             |
| 11 - Gnrl Library          | 1,814,574                            | 1,853,981            | 102.2             |
| 12 - Gnrl ICEA Profs       | 5,804,929                            | 7,430,788            | 128.0             |
| 13 - Gnrl OPEIU Prob       | 4,407,653                            | 4,457,822            | 101.1             |
| 14 - Gnrl TOPS UAW         | 19,488,447                           | 23,991,250           | 123.1             |
| 15 - Animal Cntrl FOP      | 584,209                              | 563,123              | 96.4              |
| 16 - Gnrl Commsnrs         | 213,816                              | 270,777              | 126.6             |
| 17 - ICEA Nurses           | 5,644,372                            | 5,313,618            | 94.1              |
| 18 - ICEA Ct. Prof         | 6,089,490                            | 4,836,511            | 79.4              |
| 19 - Cnstutnl Offcls       | 1,104,745                            | 1,274,544            | 115.4             |
| 21 - FOP Shrf Deputies     | 15,796,275                           | 16,088,925           | 101.9             |
| 40 - ICEA Unit 111         | 2,503,737                            | 2,977,885            | 118.9             |
| 41 - MCF Management        | 744,299                              | 871,396              | 117.1             |
| 42 - ICEA Unit 11          | 283,322                              | 222,980              | 78.7              |
| 43 - ICEA Unit 1           | 783,604                              | 551,551              | 70.4              |
| 90 - Asst Pros Attnys      | 3,255,746                            | 3,413,491            | 104.8             |
| 91 - Parks Union Empl      | 67,271                               | 106,652              | 158.5             |
| 92 - Parks Non Union       | 439,276                              | 520,599              | 118.5             |
| 93 - Lgl Rsrch Clerks      | <u>46,832</u>                        | <u>38,685</u>        | <u>82.6</u>       |
| <b>Municipality Totals</b> | <b>\$108,267,469</b>                 | <b>\$111,156,340</b> | <b>102.7 %</b>    |

**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, 1999

|  | Actuarial<br>Accrued<br>Liabilities | Valuation<br>Assets | Percent<br>Funded | Unfunded<br>(Overfunded)<br>Accrued<br>Liabilities |
|--|-------------------------------------|---------------------|-------------------|--|
| <b>Reserve for Employer<br/>Contributions :</b>  |                                     |                     |                   |  |
| 01 - Confidential                                | \$2,935,094                         | \$2,147,016         |                   | \$788,078  |
| 02 - Sheriff FOP Spvs                            | 6,149,115                           | 0                   |                   | 6,149,115  |
| 04 - MCF   | 2,470,535                           | 1,795,843           |                   | 674,692  |
| 09 - Judges                                      | 952,586                             | 701,436             |                   | 251,150  |
| 10 - Gnrl Mgmt                                   | 10,618,867                          | 7,935,728           |                   | 2,683,139  |
| 11 - Gnrl Library                                | 1,412,694                           | 919,810             |                   | 492,884  |
| 12 - Gnrl ICEA Profs                             | 6,163,659                           | 4,769,906           |                   | 1,393,753  |
| 13 - Gnrl OPEIU Prob                             | 4,578,973                           | 3,050,273           |                   | 1,528,700  |
| 14 - Gnrl TOPS UAW                               | 15,894,585                          | 13,347,649          |                   | 2,546,936  |
| 15 - Animal Cntrl FOP                            | 856,360                             | 461,900             |                   | 394,460  |
| 16 - Gnrl Commsnrs                               | 163,551                             | 170,635             |                   | (7,084)  |
| 17 - ICEA Nurses                                 | 4,369,957                           | 2,619,321           |                   | 1,750,636  |
| 18 - ICEA Ct. Prof                               | 3,742,281                           | 1,643,258           |                   | 2,099,023  |
| 19 - Cnstutnl Offcls                             | 715,828                             | 705,462             |                   | 10,366   |
| 21 - FOP Shrf Deputies                           | 8,392,908                           | 4,757,337           |                   | 3,635,571  |
| 40 - ICEA Unit 111                               | 919,319                             | 1,093,459           |                   | (174,140)  |
| 41 - MCF Management                              | 521,907                             | 371,031             |                   | 150,876  |
| 42 - ICEA Unit 11                                | 334,652                             | 179,265             |                   | 155,387  |
| 43 - ICEA Unit 1                                 | 198,867                             | 0                   |                   | 198,867  |
| 90 - Asst Pros Attyns                            | 3,556,230                           | 2,323,128           |                   | 1,233,102  |
| 91 - Parks Union Empl                            | 169,971                             | 104,960             |                   | 65,011   |
| 92 - Parks Non Union                             | 626,672                             | 474,091             |                   | 152,581  |
| 93 - Lgl Rsrch Clerks                            | 59,202                              | 38,685              |                   | 20,517   |
| <b>Totals</b>                                    | <b>\$75,803,813</b>                 | <b>\$49,610,192</b> | <b>65.5%</b>      | <b>\$26,193,621</b>                                |
| <b>Reserve for Employees<br/>Contributions :</b> |                                     |                     |                   |  |
| 01 - Confidential                                | \$365,484                           | \$365,484           |                   |  |
| 02 - Sheriff FOP Spvs                            | 1,498,411                           | 1,498,411           |                   |  |
| 04 - MCF   | 53,083                              | 53,083              |                   |  |
| 09 - Judges                                      | 33,365                              | 33,365              |                   |  |
| 10 - Gnrl Mgmt                                   | 1,611,569                           | 1,611,569           |                   |  |
| 11 - Gnrl Library                                | 127,870                             | 127,870             |                   |  |
| 12 - Gnrl ICEA Profs                             | 1,188,311                           | 1,188,311           |                   |  |
| 13 - Gnrl OPEIU Prob                             | 553,782                             | 553,782             |                   |  |
| 14 - Gnrl TOPS UAW                               | 2,548,941                           | 2,548,941           |                   |  |
| 15 - Animal Cntrl FOP                            | 89,403                              | 89,403              |                   |  |

For 1999, valuation assets are equal to .878920 times market value.

Table 7

## Ingham County ( 3303 )

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1999

|   | Actuarial<br>Accrued<br>Liabilities | Valuation<br>Assets | Percent<br>Funded | Unfunded<br>(Overfunded)<br>Accrued<br>Liabilities |
|---|-------------------------------------|---------------------|-------------------|--|
| <b>Reserve for Employees:<br/>Contributions:</b>  |                                     |                     |                   |  |
| 16 - Gnrl Commsnrs                                | \$36,965                            | \$36,965            |                   |  |
| 17 - ICEA Nurses                                  | 604,165                             | 604,165             |                   |  |
| 18 - ICEA Ct. Prof                                | 757,932                             | 757,932             |                   |  |
| 19 - Cnstutnl Offcls                              | 195,845                             | 195,845             |                   |  |
| 21 - FOP Shrf Deputies                            | 2,442,244                           | 2,442,244           |                   |  |
| 40 - ICEA Unit 111                                | 158,393                             | 158,393             |                   |  |
| 41 - MCF Management                               | 32,557                              | 32,557              |                   |  |
| 42 - ICEA Unit 11                                 | 43,715                              | 43,715              |                   |  |
| 43 - ICEA Unit 1                                  | 56,995                              | 56,995              |                   |  |
| 90 - Asst Pros Attnys                             | 152,599                             | 152,599             |                   |  |
| 91 - Parks Union Empl                             | 1,692                               | 1,692               |                   |  |
| 92 - Parks Non Union                              | 46,508                              | 46,508              |                   |  |
| 93 - Lgl Rsrch Clerks                             | 0                                   | 0                   |                   |  |
| <b>Totals</b>                                     | <b>\$12,599,829</b>                 | <b>\$12,599,829</b> | <b>100.0%</b>     | <b>\$0</b>   |
| <b>Reserve for Retired<br/>Benefit Payments :</b> |                                     |                     |                   |  |
| 01 - Confidentials                                | \$1,459,183                         | \$1,459,183         |                   | \$0  |
| 02 - Sheriff FOP Spvs                             | 10,536,402                          | 10,519,568          |                   | 16,834   |
| 04 - MCF  | 1,895,663                           | 1,895,663           |                   | 0  |
| 09 - Judges                                       | 77,576                              | 77,576              |                   | 0  |
| 10 - Gnrl Mgmt                                    | 6,277,838                           | 6,277,838           |                   | 0  |
| 11 - Gnrl Library                                 | 806,301                             | 806,301             |                   | 0  |
| 12 - Gnrl ICEA Profs                              | 1,472,571                           | 1,472,571           |                   | 0  |
| 13 - Gnrl OPEIU Prob                              | 853,767                             | 853,767             |                   | 0  |
| 14 - Gnrl TOPS UAW                                | 8,094,660                           | 8,094,660           |                   | 0  |
| 15 - Animal Cntrl FOP                             | 11,820                              | 11,820              |                   | 0  |
| 16 - Gnrl Commsnrs                                | 63,177                              | 63,177              |                   | 0  |
| 17 - ICEA Nurses                                  | 2,090,132                           | 2,090,132           |                   | 0  |
| 18 - ICEA Ct. Prof                                | 2,435,321                           | 2,435,321           |                   | 0  |
| 19 - Cnstutnl Offcls                              | 373,237                             | 373,237             |                   | 0  |
| 21 - FOP Shrf Deputies                            | 8,889,344                           | 8,889,344           |                   | 0  |
| 40 - ICEA Unit 111                                | 1,726,033                           | 1,726,033           |                   | 0  |
| 41 - MCF Management                               | 467,808                             | 467,808             |                   | 0  |
| 42 - ICEA Unit 11                                 | 0                                   | 0                   |                   | 0  |
| 43 - ICEA Unit 1                                  | 639,850                             | 494,556             |                   | 145,294  |
| 90 - Asst Pros Attnys                             | 937,764                             | 937,764             |                   | 0  |
| 91 - Parks Union Empl                             | 0                                   | 0                   |                   | 0  |

For 1999, valuation assets are equal to .878920 times market value.



Table 7

## Ingham County ( 3303 )

Actuarial Accrued Liabilities and Valuation Assets as of December 31, 1999

|                                       | Actuarial<br>Accrued<br>Liabilities | Valuation<br>Assets  | Percent<br>Funded | Unfunded<br>(Overfunded)<br>Accrued<br>Liabilities |
|---------------------------------------|-------------------------------------|----------------------|-------------------|--|
| <b>Reserve for Retired(Continued)</b> |                                     |                      |                   |  |
| 92 - Parks Non Union                  | \$0                                 | \$0                  |                   | \$0  |
| 93 - Lgl Rsrch Clerks                 | 0                                   | 0                    |                   | 0  |
| <b>Totals</b>                         | <b>\$49,108,447</b>                 | <b>\$48,946,319</b>  | <b>99.7%</b>      | <b>\$162,128</b>                                   |
| <b>Total Reserve:</b>                 |                                     |                      |                   |  |
| 01 - Confidentials                    | \$4,759,761                         | \$3,971,683          | 83.4%             | \$788,078  |
| 02 - Sheriff FOP Spvs                 | 18,183,928                          | 12,017,979           | 66.1              | 6,165,949  |
| 04 - MCF                              | 4,419,281                           | 3,744,589            | 84.7              | 674,692  |
| 09 - Judges                           | 1,063,527                           | 812,377              | 76.4              | 251,150  |
| 10 - Gnrl Mgmt                        | 18,508,274                          | 15,825,135           | 85.5              | 2,683,139  |
| 11 - Gnrl Library                     | 2,346,865                           | 1,853,981            | 79.0              | 492,884  |
| 12 - Gnrl ICEA Profs                  | 8,824,541                           | 7,430,788            | 84.2              | 1,393,753  |
| 13 - Gnrl OPEIU Prob                  | 5,986,522                           | 4,457,822            | 74.5              | 1,528,700  |
| 14 - Gnrl TOPS UAW                    | 26,538,186                          | 23,991,250           | 90.4              | 2,546,936  |
| 15 - Animal Cntrl FOP                 | 957,583                             | 563,123              | 58.8              | 394,460  |
| 16 - Gnrl Commsnrs                    | 263,693                             | 270,777              | 102.7             | (7,084)  |
| 17 - ICEA Nurses                      | 7,064,254                           | 5,313,618            | 75.2              | 1,750,636  |
| 18 - ICEA Ct. Prof                    | 6,935,534                           | 4,836,511            | 69.7              | 2,099,023  |
| 19 - Cnstutnl Offcls                  | 1,284,910                           | 1,274,544            | 99.2              | 10,366   |
| 21 - FOP Shrf Deputies                | 19,724,496                          | 16,088,925           | 81.6              | → 3,635,571  |
| 40 - ICEA Unit 111                    | 2,803,745                           | 2,977,885            | 106.2             | (174,140)  |
| 41 - MCF Management                   | 1,022,272                           | 871,396              | 85.2              | 150,876  |
| 42 - ICEA Unit 11                     | 378,367                             | 222,980              | 58.9              | 155,387  |
| 43 - ICEA Unit 1                      | 895,712                             | 551,551              | 61.6              | 344,161  |
| 90 - Asst Pros Attnys                 | 4,646,593                           | 3,413,491            | 73.5              | 1,233,102  |
| 91 - Parks Union Empl                 | 171,663                             | 106,652              | 62.1              | 65,011   |
| 92 - Parks Non Union                  | 673,180                             | 520,599              | 77.3              | 152,581  |
| 93 - Lgl Rsrch Clerks                 | 59,202                              | 38,685               | 65.3              | 20,517   |
| <b>Totals</b>                         | <b>\$137,512,089</b>                | <b>\$111,156,340</b> | <b>80.8%</b>      | <b>\$26,355,749</b>                                |

For 1999, valuation assets are equal to .878920 times market value.

Table 8

## Ingham County ( 3303 )

Computed Employer Contributions to the Retirement System  
For the Fiscal Year Beginning January 1, 2001

| Valuation Division                   | Employer Contributions<br>As Percentages of Payroll and Dollars |                               |           |
|--------------------------------------|---|-------------------------------|-----------|
|                                      | Normal<br>Cost  | Unfunded<br>Accrued Liability | Totals    |
| <u>Cost as percentage of payroll</u> |   |                               |           |
| 01 - Confidentials                   | 5.46 %  | 4.00 %                        | 9.46 %    |
| 02 - Sheriff FOP Spvs                | -1.59   | 19.62                         | 18.03     |
| 04 - MCF                             | 3.43  | 1.64                          | 5.07      |
| 09 - Judges                          | 10.07   | 4.82                          | 14.89     |
| 10 - Gnrl Mgmt                       | 5.17  | 3.13                          | 8.30      |
| 11 - Gnrl Library                    | 6.56  | 3.64                          | 10.20     |
| 12 - Gnrl ICEA Profs                 | 3.64  | 1.78                          | 5.42      |
| 13 - Gnrl OPEIU Prob                 | 2.95  | 5.24                          | 8.19      |
| 14 - Gnrl TOPS UAW                   | 5.09  | 1.39                          | 6.48      |
| 15 - Animal Cntrl FOP                | 2.51  | 6.98                          | 9.49      |
| 16 - Gnrl Commsnrs                   | 2.69  | -0.36                         | 2.33      |
| 17 - ICEA Nurses                     | 3.38  | 3.88                          | 7.26      |
| 18 - ICEA Ct. Prof                   | 2.36  | 7.30                          | 9.66      |
| 19 - Cnstutnl Offcls                 | 5.74  | 0.14                          | 5.88      |
| 21 - FOP Shrf Deputies               | 4.41  | 3.32                          | 7.73      |
| 40 - ICEA Unit 111                   | 3.21  | -1.24                         | 1.97      |
| 41 - MCF Management                  | 8.51  | 0.97                          | 9.48      |
| 42 - ICEA Unit 11                    | 4.47  | 2.65                          | 7.12      |
| 43 - ICEA Unit 1                     | 3.37  | 8.81                          | 12.18     |
| 90 - Asst Pros Attnys                | 9.41  | 4.36                          | 13.77     |
| 91 - Parks Union Empl                | 8.62  | 1.80                          | 10.42     |
| 92 - Parks Non Union                 | 8.27  | 4.22                          | 12.49     |
| 93 - Lgl Rsrch Clerks                | 6.27  | 0.68                          | 6.95      |
| <u>Annual Dollar Contributions*</u>  |   |                               |           |
| 01 - Confidentials                   | \$62,312  | \$45,657                      | \$107,969 |
| 02 - Sheriff FOP Spvs                | (29,142)  | 357,222                       | 328,080   |
| 04 - MCF                             | 81,683  | 39,088                        | 120,771   |
| 09 - Judges                          | 30,408  | 14,550                        | 44,958    |
| 10 - Gnrl Mgmt                       | 256,340   | 155,447                       | 411,787   |
| 11 - Gnrl Library                    | 51,378  | 28,555                        | 79,933    |
| 12 - Gnrl ICEA Profs                 | 165,295   | 80,747                        | 246,042   |
| 13 - Gnrl OPEIU Prob                 | 49,831  | 88,565                        | 138,396   |
| 14 - Gnrl TOPS UAW                   | 541,165   | 147,556                       | 688,721   |
| 15 - Animal Cntrl FOP                | 8,224   | 22,853                        | 31,077    |
| 16 - Gnrl Commsnrs                   | 2,959   | (409)                         | 2,550     |
| 17 - ICEA Nurses                     | 88,562  | 101,422                       | 189,984   |
| 18 - ICEA Ct. Prof                   | 39,318  | 121,606                       | 160,924   |
| 19 - Cnstutnl Offcls                 | 24,767  | 601                           | 25,368    |

\*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, 2001

| Valuation Division                | Employer Contributions<br>As Percentages of Payroll and Dollars |                               |               |
|-----------------------------------|---|-------------------------------|---------------|
|                                   | Normal<br>Cost  | Unfunded<br>Accrued Liability | Totals        |
| <u>Annual Dollar Contribution</u> |   |                               |               |
| 21 - FOP Shrf Deputies            | 279,753   | 210,625                       | 490,378       |
| 40 - ICEA Unit 111                | 25,933  | (10,088)                      | 15,845        |
| 41 - MCF Management               | 76,882  | 8,741                         | 85,623        |
| 42 - ICEA Unit 11                 | 15,206  | 9,002                         | 24,208        |
| 43 - ICEA Unit 1                  | 7,628   | 19,939                        | 27,567        |
| 90 - Asst Pros Attnys             | 154,318   | 71,439                        | 225,757       |
| 91 - Parks Union Empl             | 18,047  | 3,766                         | 21,813        |
| 92 - Parks Non Union              | 17,320  | 8,840                         | 26,160        |
| 93 - Lgl Rsrch Clerks             | <u>10,962</u>   | <u>1,189</u>                  | <u>12,151</u> |
| Totals                            | \$1,979,149   | \$1,526,913                   | \$3,506,062   |

\*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, 2001

| Valuation Division     | Estimated Monthly Employer Contributions |                            |                       |
|------------------------|--|----------------------------|-----------------------|
|                        | Total Regular Contribution               | Accelerated Funding Credit | Required Contribution |
| 01 - Confidential      | \$8,997                                  | \$0                        | \$8,997               |
| 02 - Sheriff FOP Spvs  | 27,340                                   | 0                          | 27,340                |
| 04 - MCF               | 10,064                                   | 0                          | 10,064                |
| 09 - Judges            | 3,747                                    | 0                          | 3,747                 |
| 10 - GnrI Mgmt         | 34,316                                   | 0                          | 34,316                |
| 11 - GnrI Library      | 6,661                                    | 0                          | 6,661                 |
| 12 - GnrI ICEA Profs   | 20,504                                   | 0                          | 20,503                |
| 13 - GnrI OPEIU Prob   | 11,533                                   | 0                          | 11,533                |
| 14 - GnrI TOPS UAW     | 57,393                                   | 0                          | 57,393                |
| 15 - Animal Cntrl FOP  | 2,590                                    | 0                          | 2,590                 |
| 16 - GnrI Commsnrs     | 213                                      | 0                          | 212                   |
| 17 - ICEA Nurses       | 15,832                                   | 0                          | 15,832                |
| 18 - ICEA Ct. Prof     | 13,411                                   | 0                          | 13,410                |
| 19 - Cnstutnl Offcls   | 2,114                                    | 0                          | 2,114                 |
| 21 - FOP Shrf Deputies | 40,865                                   | 0                          | 40,865                |
| 40 - ICEA Unit 111     | 1,321                                    | 0                          | 1,320                 |
| 41 - MCF Management    | 7,135                                    | 0                          | 7,135                 |
| 42 - ICEA Unit 11      | 2,018                                    | 0                          | 2,017                 |
| 43 - ICEA Unit 1       | 2,297                                    | 0                          | 2,297                 |
| 90 - Asst Pros Attnys  | 18,813                                   | 0                          | 18,813                |
| 91 - Parks Union Empl  | 1,818                                    | 0                          | 1,818                 |
| 92 - Parks Non Union   | 2,180                                    | 0                          | 2,180                 |
| 93 - Lgl Rsrch Clerks  | <u>1,013</u>                             | <u>0</u>                   | <u>1,013</u>          |
| Totals                 | \$292,174                                | \$0                        | \$292,172             |

Table 10-A

Ingham County ( 3303 )

01 - Confidentials

Computed Employer Contributions - Comparative Statement

| Valuation<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>Credit |
| 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                                     |
| 1999                              | 31             | 1,068,662         | 9.46   | 9.46                                      |

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<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>Credit |
| 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                                     |
| 1999                              | 30             | 1,703,939         | 18.03  | 18.02                                     |

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<br>December 31, | Active Members |                | Employer Contribution as<br>Percent of Payroll |                                  |
|--------------------------------|----------------|----------------|--|----------------------------------|
|                                | Number         | Annual Payroll | Regular Contribution                           | After Accelerated Funding Credit |
| 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                             |
| 1999                           | 116            | 2,227,648      | 5.07   | 5.07                             |

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<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                     |
| 1999                              | 10             | 282,700           | 14.89  | 14.89                                     |

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<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                      |
| 1999                              | 76             | 4,643,352         | 8.30   | 8.30                                      |

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 - Gnrl Library

Computed Employer Contributions - Comparative Statement

| Valuation Date<br>December 31, | Active Members |                | Employer Contribution as<br>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                            |
| 1999                           | 24             | 733,396        | 10.20  | 10.20                            |

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<br>December 31, | Active Members |                | Employer Contribution as<br>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                             |
| 1999                           | 107            | 4,249,788      | 5.42   | 5.42                             |

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 - Gnrl OPEIU Prob**

**Computed Employer Contributions - Comparative Statement**

| Valuation<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                      |
| 1999                              | 38             | 1,582,996         | 8.19   | 8.18                                      |

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 contributons reflected in 1997 valuation.

**Table 10-I**

**Ingham County ( 3303 )**

**14 - Grnl TOPS UAW**

**Computed Employer Contributions - Comparative Statement**

| Valuation<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                      |
| 1999                              | 364            | 9,944,587         | 6.48   | 6.48                                      |

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<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                      |
| 1999                              | 9              | 306,275           | 9.49   | 9.49                                      |

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<br>December 31, | Active Members |                | Employer Contribution as<br>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                             |
| 1999                           | 8              | 103,005        | 2.33   | 2.32                             |

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<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                      |
| 1999                              | 66             | 2,449,404         | 7.26   | 7.26                                      |

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 Ct. Prof**

**Computed Employer Contributions - Comparative Statement**

| Valuation<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                     |
| 1999                              | 37             | 1,559,574         | 9.66   | 9.66                                      |

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 - Cnstutnl Offcls

Computed Employer Contributions - Comparative Statement

| Valuation<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                      |
| 1999                              | 6              | 404,043           | 5.88   | 5.88                                      |

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.

Adoption of 6.00% member contribution rate reflected in 1999 valuation.

Table 10-O

Ingham County ( 3303 )

21 - FOP Shrf Deputies

Computed Employer Contributions - Comparative Statement

| Valuation Date<br>December 31, | Active Members |                | Employer Contribution as<br>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                             |
| 1999                           | 152            | 5,940,955      | 7.73   | 7.73                             |

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-P**

**Ingham County ( 3303 )**

**40 - ICEA Unit 111**

**Computed Employer Contributions - Comparative Statement**

| Valuation Date<br>December 31, | Active Members |                | Employer Contribution as<br>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                             |
| 1999                           | 28             | 755,810        | 1.97   | 1.96                             |

**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-Q

Ingham County ( 3303 )

41 - MCF Management

Computed Employer Contributions - Comparative Statement

| Valuation Date<br>December 31, | Active Members |                | Employer Contribution as<br>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                            |
| 1999                           | 22             | 845,543        | 9.48   | 9.48                             |

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-R**

**Ingham County ( 3303 )**

**42 - ICEA Unit 11**

**Computed Employer Contributions - Comparative Statement**

| Valuation Date<br>December 31, | Active Members |                | Employer Contribution as<br>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                             |
| 1999                           | 9              | 318,233        | 7.12   | 7.12                             |

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-S**

**Ingham County ( 3303 )**

**43 - ICEA Unit 1**

**Computed Employer Contributions - Comparative Statement**

| Valuation Date<br>December 31, | Active Members |                | Employer Contribution as<br>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                            |
| 1999                           | 5              | 211,746        | 12.18  | 12.18                            |

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-T**  
**Ingham County ( 3303 )**  
**90 - Asst Pros Attyns**

**Computed Employer Contributions - Comparative Statement**

| Valuation<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                     |
| 1999                              | 29             | 1,534,889         | 13.77  | 13.77                                     |

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-U**

**Ingham County ( 3303 )**

**91 - Parks Union Empl**

**Computed Employer Contributions - Comparative Statement**

| Valuation<br>Date<br>December 31, | Active Members |                   | Employer Contribution as<br>Percent of Payroll |   |
|-----------------------------------|----------------|-------------------|--|---|
|                                   | Number         | Annual<br>Payroll | Regular<br>Contribution                        | After<br>Accelerated<br>Funding<br>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                                     |
| 1999                              | 6              | 195,920           | 10.42  | 10.42                                     |

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

Table 10-V

Ingham County ( 3303 )

92 - Parks Non Union

Computed Employer Contributions - Comparative Statement

| Valuation Date<br>December 31, | Active Members |                | Employer Contribution as<br>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                            |
| 1999                           | 4              | 196,079        | 12.49  | 12.49                            |

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-W**

**Ingham County ( 3303 )**

**93 - Lgl Rsrch Clerks**

**Computed Employer Contributions - Comparative Statement**

| <b>Valuation<br/>Date<br/>December 31,</b> | <b>Active Members</b> |                           | <b>Employer Contribution as<br/>Percent of Payroll</b> |   |
|--|-----------------------|---------------------------|--|---|
|  | <b>Number</b>         | <b>Annual<br/>Payroll</b> | <b>Regular<br/>Contribution</b>                        | <b>After<br/>Accelerated<br/>Funding<br/>Credit</b> |
| <b>1997</b>                                | <b>8</b>              | <b>\$250,777</b>          | <b>6.84 %</b>  | <b>6.84 %</b>                                       |
| <b>1998</b>                                | <b>5</b>              | <b>175,963</b>            | <b>7.21</b>  | <b>7.21</b>   |
| <b>1999</b>                                | <b>6</b>              | <b>163,718</b>            | <b>6.95</b>  | <b>6.95</b>   |

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

Table 11

## Ingham County ( 3303 )

Aggregate Accrued Liabilities - Comparative Schedule

| Valuation<br>Date<br>December 31, | Accrued<br>Liabilities | Valuation<br>Assets | Funded<br>Percent | Unfunded<br>Actuarial<br>Liability | UAL as<br>Percent of<br>Annual<br>Payroll |
|-----------------------------------|------------------------|---------------------|-------------------|------------------------------------|---|
| 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  |
| 1999                              | 137,512,089            | 111,156,340         | 81                | 26,355,749                         | 64  |

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.