

NOTES TO THE BASIC FINANCIAL STATEMENTS

December 31, 2018

NOTE 12 – EMPLOYEES’ RETIREMENT SYSTEM

Pension Plan Description

Plan Administration

The county sponsors the Macomb County Employees’ Retirement System (the “System”), a single employer defined benefit plan covering substantially all of the county’s employees. The System was established in accordance with state statutes to provide retirement benefits for the employees of the county and its several offices, boards and departments, including the Department of Roads. The system is administered by a seven member Board of Trustees (the “Pension Board”) consisting of the County Executive or his/her designee, the Chair of the Board of Commissioners or his/her designee, the County Treasurer or his/her designee, the Director of the Department of Roads and three (3) active employees elected by the active members of the System on three year staggered terms.

Plan Membership

At December 31, 2017 (date of the most recent actuarial valuation), the System’s membership consisted of:

	<u>Primary Government</u>	<u>Component Unit</u>	<u>Total</u>
Retirees and beneficiaries currently receiving benefits	2,752	200	2,952
Deferred members entitled to benefits but not yet receiving them	543	125	668
Active employees covered by the plan	<u>1,742</u>	<u>100</u>	<u>1,842</u>
	<u>5,037</u>	<u>425</u>	<u>5,462</u>

The plan is closed to new entrants effective January 1, 2016.

Benefits Provided

The System provides retirement, disability and death benefits. Benefit levels and employee contribution rates for union employees are granted through collective bargaining agreements and benefit levels for non-union employees are awarded by the County Executive in accordance with county charter. The Board of Trustees does not have the authority to determine benefit levels. However, the Board of Trustees does have the authority to grant disability retirements. Members become vested in the System after 8 or 15 years of service, depending on their date of hire. The System does not provide for automatic postemployment benefit changes such as cost-of-living adjustments. The following is a summary of the normal retirement benefits provided to the members of the system.

General County – Virtually all employees hired on or before December 21, 2001 may retire if their age plus years of service equals or exceeds 70 and they have attained a minimum age of 50. The annual retirement benefit, payable monthly for life, is computed at 2.4% of final average compensation for the first 26 years of service and 1% for every year thereafter, with a maximum employer pension of 65%. Employees hired on or after January 1, 2002 and certain employees hired before that

NOTES TO THE BASIC FINANCIAL STATEMENTS

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NOTE 12 – EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)

Benefits Provided (continued)

date not covered by the provisions described above may retire at age 55 with 25 or more years of service or age 60 with 8 years of service. The annual retirement benefit, payable monthly for life, for these employees is computed at 2.2% of final average compensation for each year of service, with a maximum employer pension of 66% of final average compensation.

Sheriff Department – Employees may retire at any age with 25 or more years of service or age 60 with 8 years of service. The annual retirement benefit for the Sheriff and deputies, payable monthly for life, is computed at 2.64% of final average compensation multiplied by credited years of service with a maximum employer pension of 66%. The factor for the undersheriff, captains, jail administrator, command officers, corrections officers and dispatchers is 2.4% for the first 26 years of service and 1% for every year thereafter, with a maximum employer pension of 66% of final average compensation.

Department of Roads – Employees may retire at age 55 with 25 or more years of service, at age 60 with 8 years of service or at age 55 if their age plus years of service equals or exceeds 70. The annual retirement benefit, payable monthly for life, is computed at 2.4% of final average compensation for the first 26 years of service and 1% for every year thereafter, with a maximum employer pension of 65% of final average compensation.

The System also provides death and disability benefits. If an employee leaves covered employment or dies before they are vested, accumulated employee contributions plus interest at the rate of 3.5% per year is refunded to the employee or designated beneficiary.

Contributions

Article 9, Section 24 of the State of Michigan constitution requires that financial benefits arising on account of employee service rendered in each year be funded during that year. Accordingly, the Pension Board retains an independent actuary to determine the annual contribution. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. Contribution requirements of plan members are established by collective bargaining agreement for union members. Contribution rates for nonunion members mirror those of union members with the same benefit levels. The county is required to contribute the difference between the actuarially determined rate and the contribution rate for employees. General county employees contribute 2.5% or 3.5% of their annual salary to the System depending upon classification. Department of Roads employees contribute 3.5% of their annual salary. Sheriff employees contribute 4.0% of their annual salary. The county's required contribution for 2018 was \$22,169,777. The county contributed \$23,747,047 for the year ended December 31, 2018, which represents an excess contribution of \$1,577,270.

Deferred Retirement Option Program (DROP)

The county offers employees the ability to continue employment and be paid a salary after they are fully vested and also receive credits for the retirement benefit payments that would have been paid to them had they left county employment. Employees may receive up to 60 months of DROP credits. The accumulated credits are paid out, including interest at 3.5%, after the employee has fully retired (discontinued providing employee services to the county). The Plan had \$23,481,272 accumulated in DROP accounts at December 31, 2018.

Pension Plan Investments – Policy and Rate of Return

Investment Policy

The pension plan's policy in regard to the allocation of invested assets is established and may be amended by the Pension Board by a majority vote of its members. It is the policy of the Pension Board to pursue an investment strategy that manages risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes.

The pension plan's investment policy discourages the use of cash equivalents, except for liquidity purposes, and aims to refrain from dramatically shifting asset class allocations over short time spans.

Macomb County, Michigan
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NOTE 12 – EMPLOYEES’ RETIREMENT SYSTEM (CONTINUED)

Pension Plan Investments – Policy and Rate of Return (continued)

Investment Policy (concluded)

The Board’s adopted asset allocation policy as of December 31, 2018 is presented below.

	Target Allocation
Cash and cash equivalents	2%
Domestic equity	37%
Hedge funds	5%
High yield fixed income	4%
Infrastructure	5%
International equity	15%
International fixed income	4%
Investment grade US fixed income	8%
Private equity	10%
Real estate	10%
	100%

Rate of Return

The annual money-weighted rate of return on pension plan investments for the year ended December 31, 2018 was -5.01%. The money-weighted rate of return expressed investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Pension Plan Reserves

In accordance with the provisions of the Plan document, the following reserves are required to be set aside within the pension plan:

The **retiree reserve** account is to be computed annually by the actuary as the present value of estimated benefit payments for all current retirees. The amounts reserved may be used solely to pay monthly retiree benefit payments.

The **employee reserve** account is credited as employee contributions are received throughout the year; the Plan maintains a record of the amount contributed by each employee, and credits interest annually at a rate of 3.5%. For any employee who terminates before vesting in the pension plan, their balance is returned to them; for those who stay until retirement, the balance is transferred into the retiree reserve.

The **employer reserve** account is used to account for the residual net position balance in the pension plan after funding the above two reserves.

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

December 31, 2018

NOTE 12 – EMPLOYEES’ RETIREMENT SYSTEM (CONTINUED)

Pension Plan Investments – Policy and Rate of Return (concluded)

Pension Plan Reserves (concluded)

The balances of the reserve accounts at December 31, 2018 are as follows:

Primary Government Reserves

	<u>Required</u>	<u>Actual</u>	<u>Over (Under) Funded</u>
Retiree reserve	\$ 673,466,088	\$ 673,466,088	\$ -
Employee reserve	46,834,982	46,834,982	-
Employer reserve	N/A	179,283,283	N/A

Component Unit Reserves

	<u>Required</u>	<u>Actual</u>	<u>Over (Under) Funded</u>
Retiree reserve	\$ 28,150,899	\$ 28,150,899	\$ -
Employee reserve	1,882,543	1,882,543	-
Employer reserve	N/A	7,470,137	N/A

Total Reserves, Employees' Retirement System

	<u>Required</u>	<u>Actual</u>	<u>Over (Under) Funded</u>
Retiree reserve	\$ 701,616,987	\$ 701,616,987	\$ -
Employee reserve	48,717,525	48,717,525	-
Employer reserve	N/A	186,753,420	N/A

Net Pension Liability of the County

The December 31, 2018 total pension liability was determined by an actuarial valuation dated December 31, 2017 and rolled forward to the measurement date. Changes in the net pension liability during the year are presented on the following page:

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

December 31, 2018

NOTE 12 – EMPLOYEES’ RETIREMENT SYSTEM (CONTINUED)

Net Pension Liability of the County (concluded)

	<u>Primary Government</u>	<u>Component Unit</u>	<u>Total</u>
Total Pension Liability			
Service cost	\$ 16,747,246	\$ 204,843	\$ 16,952,089
Interest	73,394,794	1,187,857	74,582,651
Change in benefit terms	4,350,654	53,215	4,403,869
Difference between expected and actual experience of the total pension liability	(33,332,894)	(407,710)	(33,740,604)
Changes of assumptions	647,150	7,916	655,066
Benefit payments, including refunds of member contributions	<u>(63,964,080)</u>	<u>(2,795,463)</u>	<u>(66,759,543)</u>
Net change in total pension liability	(2,157,130)	(1,749,342)	(3,906,472)
Total pension liability - beginning of year	<u>1,023,600,051</u>	<u>20,969,835</u>	<u>1,044,569,886</u>
Total pension liability - end of year (a)	<u>\$ 1,021,442,921</u>	<u>\$ 19,220,493</u>	<u>\$ 1,040,663,414</u>
Plan Fiduciary Net Position			
Contributions - employer	\$ 23,143,088	\$ 603,959	\$ 23,747,047
Contributions - employee	3,134,653	118,020	3,252,673
Net investment income	(59,091,267)	(722,773)	(59,814,040)
Benefit payments, including refunds of member contributions	(63,964,080)	(2,795,463)	(66,759,543)
Administrative expense	<u>(702,478)</u>	<u>(8,592)</u>	<u>(711,070)</u>
Net change in plan fiduciary net position	(97,480,084)	(2,804,849)	(100,284,933)
Plan fiduciary net position - beginning of year	<u>1,016,599,094</u>	<u>20,773,771</u>	<u>1,037,372,865</u>
Plan fiduciary net position - end of year (b)	<u>\$ 919,119,010</u>	<u>\$ 17,968,922</u>	<u>\$ 937,087,932</u>
County's net pension liability - end of year (a) - (b)	<u>\$ 102,323,911</u>	<u>\$ 1,251,571</u>	<u>\$ 103,575,482</u>
Plan fiduciary net position as a percent of total pension liability	89.98%	93.49%	90.05%
Covered payroll	\$ 110,599,464	\$ 5,974,925	\$ 116,574,389
County's net pension liability as a percent of covered payroll	92.52%	20.95%	88.85%

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

December 31, 2018

NOTE 12 – EMPLOYEES’ RETIREMENT SYSTEM (CONTINUED)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended December 31, 2018, the county recognized pension expense of \$49,568,931 and reported deferred outflows and inflows of resources related to pensions from the following sources:

Primary Government	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual liability experience	\$ 17,814,560	\$ 22,221,929
Differences between projected and actual earnings on pension plan investments	64,262,134	-
Changes in assumptions	<u>9,478,172</u>	<u>-</u>
Totals, Primary Government	<u>\$ 91,554,866</u>	<u>\$ 22,221,929</u>
Component Unit	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual liability experience	\$ 218,175	\$ 271,807
Differences between projected and actual earnings on pension plan investments	785,779	-
Changes in assumptions	<u>115,896</u>	<u>-</u>
Totals, Component Unit	<u>\$ 1,119,850</u>	<u>\$ 271,807</u>
Totals, Employees' Retirement System	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual liability experience	\$ 18,032,735	\$ 22,493,736
Differences between projected and actual earnings on pension plan investments	65,047,913	-
Changes in assumptions	<u>9,594,068</u>	<u>-</u>
Totals	<u>\$ 92,674,716</u>	<u>\$ 22,493,736</u>

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

December 31, 2018

NOTE 12 – EMPLOYEES’ RETIREMENT SYSTEM (CONTINUED)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions (concluded)

Amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ending December 31,	Primary Government	Component Unit	Total Pension Expense
2019	\$ 31,106,761	\$ 380,625	\$ 31,487,386
2020	2,133,524	26,088	2,159,612
2021	9,698,955	118,596	9,817,551
2022	26,393,697	322,734	26,716,431
Totals	<u>\$ 69,332,937</u>	<u>\$ 848,043</u>	<u>\$ 70,180,980</u>

Actuarial Assumptions

The December 31, 2018 total pension liability was determined by an actuarial valuation as of December 31, 2017, which was then rolled forward to December 31, 2018. The actuarial valuation used the following assumptions, applied to all periods included in the measurement: (a) inflation of 3.0%, (b) salary increases of 4.0% to 10.0% including inflation and (c) investment rate of return of 7.00%, net of pension plan investment expense and adjusted for inflation. Mortality rates were based on the RP-2014 (Base 2006) for all divisions. All divisions used the MP-2018 mortality improvement scale. The actuarial assumptions in the roll forward of the December 31, 2017 valuation were based on the results of an actuarial experience study for the period from December 31, 2012 to December 31, 2017.

Discount Rate

A single discount rate of 7.00% was used to measure the total pension liability. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and employer contributions will be made at rates equal to the difference between the actuarially determined contribution rates and the employee rates.

Projected Cash Flows

Based on those assumptions, the System’s fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Had there been a point where assets were projected to be depleted, a municipal bond rate of 3.57% would have been used in the development of the blended GASB discount rate after that point. The 3.57% is based on the S&P Municipal Bond 20 Year High Grade Rate Index.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of real rates of return as of December 31, 2018 for each major asset class included in the System’s target asset allocation, are summarized in the table on the following page and are presented as geometric means.

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

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NOTE 12 – EMPLOYEES' RETIREMENT SYSTEM (CONTINUED)

Projected Cash Flows (concluded)

	<u>Long-Term Expected Real Rate of Return</u>
Cash and cash equivalents	0.00%
US large cap	7.00%
International equities	8.00%
Aggregate bonds	2.00%
Global debt excluding US	3.00%
Real estate investment trusts	4.00%

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the county, calculated using the discount rate of 7.00% percent, as well as what that same liability would be if it were calculated using a discount rate that is one percentage-point lower (6.00%) or one percentage-point higher (8.00%) than the current rate:

	<u>1% Decrease (6.00%)</u>	<u>Current Rate (7.00%)</u>	<u>1% Increase (8.00%)</u>
Primary Government Net Pension Liability	\$ 217,564,670	\$ 102,323,911	\$ 5,731,307
Component Unit Net Pension Liability	<u>2,660,318</u>	<u>1,251,571</u>	<u>70,081</u>
Total Net Pension Liability	\$ 220,224,988	\$ 103,575,482	\$ 5,801,388

Accounting Principles and Financial Reporting

The System follows accounting principles generally accepted in the United States of America (GAAP) as applicable to governmental units. Accounting and financial reporting pronouncements are promulgated by the Governmental Accounting Standards Board (GASB). The financial statements of the System are included in these financial statements as Employee Retirement and Other Postemployment Benefits Trust funds.

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

December 31, 2018

NOTE 12 – EMPLOYEES’ RETIREMENT SYSTEM (CONCLUDED)

Accounting Principles and Financial Reporting (concluded)

The System does not issue separate independently audited financial statements; therefore, financial statements as of and for the year ended December 31, 2018 are presented below.

Statement of Fiduciary Net Position		Statement of Changes in Fiduciary Net Position	
ASSETS		ADDITIONS	
Cash and pooled investments	\$ 77,592,945	Investment income (loss):	
Investments, at fair value		Interest and dividends	\$ 8,397,859
Corporate bonds	13,260,484	Net change in fair value of investments	(61,642,515)
Common stock	331,605,877	Less investment expenses	(6,569,384)
Foreign stock	69,935,791		
Limited partnership	186,418,220	Net investment income (loss)	(59,814,040)
Fixed income common collective trusts	48,744,246		
Equity common collective trusts	215,655,253	Contributions	
		Employer	23,747,047
Total investments	865,619,871	Employee	3,252,673
Receivables		Total contributions	26,999,720
Accrued interest	514,914		
Other	845,939	TOTAL ADDITIONS	(32,814,320)
Other assets	1,750		
		DEDUCTIONS	
TOTAL ASSETS	944,575,419	Benefit payments	66,297,751
		Withdrawals and refunds of contributions	461,792
LIABILITIES		Administrative expenses	711,070
Accounts payable	2,017,942		
Accrued compensation and benefits	5,469,545	TOTAL DEDUCTIONS	67,470,613
TOTAL LIABILITIES	7,487,487	CHANGE IN NET POSITION	(100,284,933)
		Net position - beginning of year	1,037,372,865
NET POSITION RESTRICTED FOR PENSION BENEFITS	\$ 937,087,932	Net position - end of year	\$ 937,087,932

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

December 31, 2018

NOTE 14 – POST EMPLOYMENT BENEFITS OTHER THAN PENSIONS – DEPARTMENT OF ROADS

Plan Description

The county's Department of Roads sponsors a defined benefit postretirement healthcare plan (the "Plan") that provides certain health care benefits for department of roads retirees and their spouses so long as the retiree is currently receiving a pension from the Macomb County Employees' Retirement System. The Plan is a single employer defined benefit plan administered by the Municipal Employees' Retirement System (MERS). Assets of the Plan are held by MERS. The Plan does not issue a separate stand-alone financial statement.

Benefit provisions are established by the County Board of Commissioners and may be amended in accordance with county policy. Hospitalization insurance is provided through insurance companies, whose premiums are based on the benefits paid during the year.

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

December 31, 2018

NOTE 14 – POST EMPLOYMENT BENEFITS OTHER THAN PENSIONS – DEPARTMENT OF ROADS (CONTINUED)

Plan Description (concluded)

The county Department of Roads finances these expenditures through the Department of Roads Special Revenue Fund. At December 31, 2016 (date of the most recent actuarial valuation), membership consisted of:

Retirees and beneficiaries currently receiving benefits	316
Deferred members entitled to benefits but not yet receiving them	17
Active employees covered by the plan	191
	<u>524</u>

Funding Policy

It is the policy of the Department of Roads to fund the annual required contribution (ARC) to the Plan each year. There are no employee contributions to the Plan. The Department of Roads contributed \$6,118,373 to the Plan for the year ended September 30, 2018. Of this amount, \$3,118,373 was for payment of current healthcare invoices, while \$3,000,000 was a contribution to MERS. The total cost of retiree health care benefits, administrative expenses of the plan and investment management fees for the year ended September 30, 2018 was \$3,266,706.

Net OPEB Liability

The September 30, 2018 fiscal year end reported net OPEB liability was determined using a measure of the total OPEB liability and the OPEB net position as of the September 30, 2018 measurement date. The September 30, 2018 measurement date total OPEB liability was determined by an actuarial valuation performed as of December 31, 2016.

Changes in the net OPEB liability during the measurement year were as presented below:

<u>Changes in Net OPEB Liability</u>	<u>Increase (Decrease)</u>		
	<u>Total OPEB Liability</u>	<u>Plan Net Position</u>	<u>Net OPEB Liability</u>
Balance, beginning of year	\$ 80,429,290	\$ 56,922,855	\$ 23,506,435
Changes for the year:			
Service cost	1,214,302	-	1,214,302
Interest	5,960,794	-	5,960,794
Difference between expected and actual experience of the total OPEB liability	(1,390,288)	-	(1,390,288)
Contributions - employer	-	6,118,373	(6,118,373)
Net investment income	-	3,145,994	(3,145,994)
Employer paid benefits	-	(3,118,373)	3,118,373
Administrative expense	-	(148,333)	148,333
Changes of assumptions	7,268,838	-	7,268,838
Benefit payments	(3,118,373)	-	(3,118,373)
Net changes	<u>9,935,273</u>	<u>5,997,661</u>	<u>3,937,612</u>
Balance, end of year	<u>\$ 90,364,563</u>	<u>\$ 62,920,516</u>	<u>\$ 27,444,047</u>

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended December 31, 2018, the Department of Roads recognized OPEB expense of \$4,739,442 and reported deferred outflows and inflows of resources related to OPEB from the sources on the following page:

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

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NOTE 14 – POST EMPLOYMENT BENEFITS OTHER THAN PENSIONS – DEPARTMENT OF ROADS (CONTINUED)

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB (concluded)

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual liability experience	\$ -	\$ 1,024,625
Differences between projected and actual earnings on OPEB plan investments	984,126	-
Changes in assumptions	<u>5,357,041</u>	<u>-</u>
 Totals	 <u>\$ 6,341,167</u>	 <u>\$ 1,024,625</u>

Amounts reported as deferred outflows and inflows of resources related to OPEB will be recognized in OPEB expense as follows:

<u>Year Ending September 30,</u>	<u>Total OPEB Expense</u>
2019	\$ 1,792,165
2020	1,792,165
2021	1,486,183
2022	<u>246,029</u>
Total	<u>\$ 5,316,542</u>

Actuarial Assumptions for Determining the Total OPEB Liability

The total OPEB liability was calculated as of September 30, 2018 using the Department of Roads Retiree Health Care Plan valuation as of December 31, 2016. Key actuarial assumptions are as follows:

Expected Point in Time at Which Benefit Payments will Begin to be Made	Age-based table of rates specific to the type of eligibility condition.
Marital Status and Dependency Status	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Mortality	RP-2000 Mortality Table, adjusted for projected mortality improvements to 2015.
Turnover	Experienced-based table of rates. Assumed turnover rates are based on years of service for members with less than 5 years' service and are based on age for members with more than 5 years' service.
Healthcare Cost Trend Rate	Medical and Prescription Drug – 9% trend, gradually decreasing in 0.75% increments to 4% in year 10.
Coverage Options	Determined by union membership and original date of hire at the date of retirement. 80% of retirees were assumed to elect two-person health care coverage at retirement.
Inflation Rate	3.00%

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

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NOTE 14 – POST EMPLOYMENT BENEFITS OTHER THAN PENSIONS – DEPARTMENT OF ROADS (CONTINUED)

Actuarial Assumptions for Determining the Total OPEB Liability (concluded)

Payroll Growth Rate	5% - 10%
	Percentages include inflation
Investment Rate of Return	6.75%, net of OPEB plan expenses

Inactive plan members do not share in the cost of OPEB. The actuarial assumptions in the December 31, 2016 valuation were based on the results of an actuarial experience study for the period from December 31, 2001 to December 31, 2004.

Discount Rate

A single discount rate of 6.75% was used to measure the total OPEB liability. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and employer contributions will be made at rates equal to the actuarially determined contribution rates.

Based on these assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Investment Rate of Return and Investment Policy

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates or return (expected returns, net of plan investment expense, and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The Plan's investment policy in regard to the allocation of invested assets is established and may be amended by amending the agreement with MERS, which requires approval by the County Executive and a majority vote of the Board of Commissioners. For the year ended September 30, 2018, there were no changes to the Plan's investment policy.

Best estimates of arithmetic real rates of return for each major asset class as well as the board's adopted asset allocation policy as of September 30, 2018 are summarized in the following table.

	Long-Term Expected Real Rate of Return	Targeted Asset Allocation Policy
International fixed income	0.76%	18.50%
Diversifying strategies	4.50%	12.50%
International equities	5.65%	55.50%
Real assets	6.72%	13.50%

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the county related to the Department of Roads OPEB plan, calculated using the discount rate of 6.75% percent, as well as what that same liability would be if it were calculated using a discount rate that is one percentage-point lower (5.75%) or one percentage-point higher (7.75%) than the current rate:

	1% Decrease (5.75%)	Current Rate (6.75%)	1% Increase (7.75%)
Net OPEB liability	\$ 38,837,900	\$ 27,444,047	\$ 17,960,416

Macomb County, Michigan

NOTES TO THE BASIC FINANCIAL STATEMENTS

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NOTE 14 – POST EMPLOYMENT BENEFITS OTHER THAN PENSIONS – DEPARTMENT OF ROADS (CONCLUDED)

Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend

The table on the following page presents the net OPEB liability of the county related to the Department of Roads OPEB plan, calculated using the healthcare cost trend rate of 9% percent, as well as what that same liability would be if it were calculated using a healthcare trend rate that is one percentage-point lower (8%) or one percentage-point higher (10%) than the current rate.

	<u>1% Decrease (8.00%)</u>	<u>Current Rate (9.00%)</u>	<u>1% Increase (10.00%)</u>
Net OPEB liability	\$ 16,133,345	\$ 27,444,047	\$ 41,291,606

Rate of Return

The annual money-weighted rate of return on Plan investments for the year ended September 30, 2018 was 1.27%. The money-weighted rate of return expressed investment performance, net of investment expense, adjusted for the changing amounts actually invested.