



GASB 45 ACTUARIAL VALUATION

As of December 31, 2015

St. Clair County

Nyhart Actuary & Employee Benefits

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October 31, 2016

**Tami Rumsey
St. Clair County
200 Grand River Avenue, Ste. 206
Port Huron, MI 48060**

This report summarizes the GASB actuarial valuation for St. Clair County as of December 31, 2015. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statement No. 45 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions).

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate and other economic assumptions have been selected by the Plan Sponsor. Demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.

Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact us.



Randy Gomez, FSA, MAAA
Consulting Actuary



Evi Laksana, ASA, MAAA
Valuation Actuary

Summary of Results

Presented below is the summary of GASB 45 results as of December 31, 2015 compared to the prior year as shown in the County's Notes to Financial Statement.

	<i>As of December 31, 2014</i>		<i>As of December 31, 2015</i>	
Actuarial Accrued Liability	\$	125,951,254	\$	145,936,590
Actuarial Value of Assets	\$	37,543,635	\$	40,218,063
Unfunded Actuarial Accrued Liability	\$	88,407,619	\$	105,718,527
Funded Ratio		29.8%		27.6%

	<i>FY 2015</i>		<i>FY 2016</i>	
Annual Required Contribution	\$	10,682,722	\$	12,980,909
Annual OPEB Cost	\$	8,083,364	\$	9,843,142
Annual Employer Contribution	\$	3,591,579 ¹	\$	2,188,634 ²

	<i>As of December 31, 2015</i>		<i>As of December 31, 2016</i>	
Net OPEB Obligation	\$	68,974,968	\$	76,629,476

	<i>As of December 31, 2015</i>		<i>As of December 31, 2016</i>	
Active Participants		693		691
Total Retiree Participants		576		572

The active participants' number above may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

¹ Based on the County's financial disclosures for fiscal year ending December 31, 2015.

² Based on the County's estimated annual employer contributions for FY 2016.

Below is a breakdown of total GASB 45 liabilities allocated to past, current, and future service as of December 31, 2015 compared to the prior year.

	<i>As of December 31, 2014</i>		<i>As of December 31, 2015</i>	
Present Value of Future Benefits	\$	155,145,293	\$	176,329,832
Active Employees		84,258,544		91,330,590
Retired Employees		70,886,749		84,999,242
Actuarial Accrued Liability	\$	125,951,255	\$	145,936,590
Active Employees		55,064,506		60,937,348
Retired Employees		70,886,749		84,999,242
Normal Cost	\$	2,999,097	\$	3,184,703
Future Normal Cost	\$	26,194,941	\$	27,208,539

Present Value of Future Benefits is the amount needed as of December 31 to fully fund the County's retiree health care subsidies for existing and future retirees and their dependents assuming all actuarial assumptions are met.

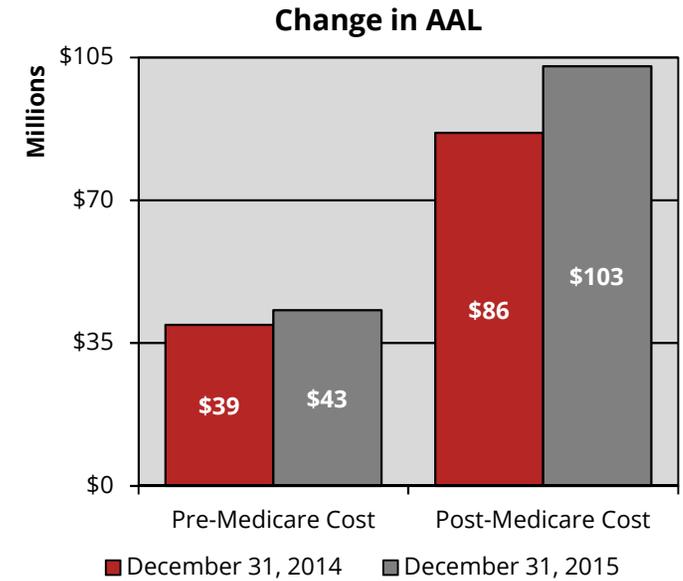
Actuarial Accrued Liability is the portion of PVFB considered to be accrued or earned as of December 31. This amount is a required disclosure in the Required Supplementary Information section.

Normal Cost is the portion of the total liability amount that is attributed and accrued for current year's active employee service by the actuarial cost method.

Future Normal Cost is the portion of the total liability amount that is attributed to the future employee service by the current year's valuation by the actuarial cost method.

Below is a breakdown of total GASB 45 Actuarial Accrued Liability (AAL) allocated to pre and post Medicare eligibility. The liability shown below includes explicit (if any) and implicit subsidies. Refer to the Substantive Plan Provisions section for complete information on the Plan Sponsor’s GASB subsidies.

Actuarial Accrued Liability (AAL)	As of December 31, 2014	As of December 31, 2015
Active Pre-Medicare	\$ 23,333,289	\$ 24,805,840
Active Post-Medicare	31,731,217	36,131,508
Total Active AAL	\$ 55,064,506	\$ 60,937,348
Retirees Pre-Medicare	\$ 16,118,766	\$ 18,285,335
Retirees Post-Medicare	54,767,983	66,713,907
Total Retirees AAL	\$ 70,886,749	\$ 84,999,242
Total AAL	\$ 125,951,255	\$ 145,936,590



Development of Annual Required Contribution (ARC) For Fiscal Year 2016

Required Supplementary Information	Total	St. Clair County	Mental Health	Road Commission
Expected AAL as of December 31, 2015	\$ 145,936,590	\$ 95,180,770	\$ 23,794,416	\$ 26,961,404
Expected AVA as of December 31, 2015	(40,218,063)	(23,975,737)	(15,039,695)	(1,202,631)
Expected Unfunded AAL (UAAL)	\$ 105,718,527	\$ 71,205,033	\$ 8,754,721	\$ 25,758,773
Funded Ratio	27.6%	25.2%	63.2%	4.5%
Covered payroll	\$ 37,205,389	\$ 22,081,884	\$ 11,497,448	\$ 3,626,057
UAAL as a % of covered payroll	284.1%	322.5%	76.1%	710.4%

Annual Required Contribution	Total	St. Clair County	Mental Health	Road Commission
Normal cost as of beginning of year	\$ 3,184,703	\$ 1,921,307	\$ 828,388	\$ 435,008
Reduction for employee contributions	(375,200)	(375,200)	0	0
Net normal cost	\$ 2,809,503	\$ 1,546,107	\$ 828,388	\$ 435,008
Amortization of the UAAL	9,553,267	6,850,872	685,492	2,016,903
Total normal cost and amortization payment	\$ 12,362,770	\$ 8,396,979	\$ 1,513,880	\$ 2,451,911
Interest to end of year	618,139	419,849	75,694	122,596
Total Annual Required Contribution (ARC)	\$ 12,980,909	\$ 8,816,828	\$ 1,589,574	\$ 2,574,507

Annual Required Contribution (ARC) is the annual expense recorded in the income statement under GASB 45 accrual accounting. It replaces the cash basis method of accounting recognition with an accrual method. The GASB 45 ARC is higher than the pay-as-you-go cost because it includes recognition of employer costs expected to be paid in future accounting periods.

Development of Annual OPEB Cost and Net OPEB Obligation For Fiscal Year 2016

Annual employer contribution for pre-funding is estimated for 2016.

Net OPEB Obligation (NOO)	Total		St. Clair County		Mental Health		Road Commission	
ARC as of end of year	\$	12,980,909	\$	8,816,828	\$	1,589,574	\$	2,574,507
Interest on NOO to end of year		3,448,748		2,434,329		304,776		709,643
NOO amortization adjustment to the ARC		(6,586,515)		(4,918,513)		(501,141)		(1,166,861)
Annual OPEB Cost	\$	9,843,142	\$	6,332,644	\$	1,393,209	\$	2,117,289
Annual employer contribution for pay-go cost		0		0		0		0
Annual employer contribution for pre-funding		(2,188,634)		(932,634)		(487,000)		(769,000)
Change in NOO	\$	7,654,508	\$	5,400,010	\$	906,209	\$	1,348,289
NOO as of beginning of year		68,974,968		48,686,593		6,095,519		14,192,856
NOO as of end of year	\$	76,629,476	\$	54,086,603	\$	7,001,728	\$	15,541,145

Pay-as-you-go Cost is the expected total employer cash cost for the coming period based on all explicit and implicit subsidies. It is also the amount recognized as expense on the Income Statement under pay-as-you-go accounting.

Net OPEB Obligation is the cumulative difference between the annual OPB cost and employer contributions. This obligation will be created if cash contributions are less than the current year expense under GASB 45 accrual rules.

The net obligation is recorded as a liability on the employer's balance sheet which will reduce the net fund balance.

The value of implicit subsidies is considered as part of cash contributions for the current period. Other cash expenditures that meet certain conditions are also considered as contributions for GASB 45 purposes.

Development of Annual Required Contribution (ARC) For Fiscal Year 2017

FY 2017 projected Annual Required Contribution was calculated using estimated employee contributions based on December 31, 2015 active data, salary, and Health Care Trust contribution policy by Union group effective on January 1, 2015 as described in the Substantive Plan Provisions section.

Required Supplementary Information	Total	St. Clair County	Mental Health	Road Commission
Expected AAL as of December 31, 2016	\$ 151,805,990	\$ 98,901,375	\$ 25,199,954	\$ 27,704,661
Expected AVA as of December 31, 2016	(40,483,964)	(23,694,531)	(15,789,419)	(1,000,014)
Expected Unfunded AAL (UAAL)	\$ 111,322,026	\$ 75,206,844	\$ 9,410,535	\$ 26,704,647
Funded Ratio	26.7%	24.0%	62.7%	3.6%
Expected covered payroll ³	\$ 35,988,589	\$ 21,356,698	\$ 11,154,491	\$ 3,477,400
UAAL as a % of covered payroll	309.3%	352.1%	84.4%	767.9%

Annual Required Contribution	Total	St. Clair County	Mental Health	Road Commission
Normal cost as of beginning of year	\$ 3,296,168	\$ 1,988,553	\$ 857,382	\$ 450,233
Reduction for employee contributions	(378,956)	(378,956)	0	0
Net normal cost	\$ 2,917,212	\$ 1,609,597	\$ 857,382	\$ 450,233
Amortization of the UAAL	11,286,544	7,624,954	954,101	2,707,489
Total normal cost and amortization payment	\$ 14,203,756	\$ 9,234,551	\$ 1,811,483	\$ 3,157,722
Interest to end of year	710,188	461,728	90,574	157,886
Total Annual Required Contribution (ARC)	\$ 14,913,944	\$ 9,696,279	\$ 1,902,057	\$ 3,315,608

Annual Required Contribution (ARC) is the annual expense recorded in the income statement under GASB 45 accrual accounting. It replaces the cash basis method of accounting recognition with an accrual method. The GASB 45 ARC is higher than the pay-as-you-go cost because it includes recognition of employer costs expected to be paid in future accounting periods.

³ FY 2017 covered payroll is projected from FY 2016 and takes into account anticipated terminations and retirements.

**Development of Annual OPEB Cost and Net OPEB Obligation
For Fiscal Year 2017**

Net OPEB Obligation (NOO)	Total		St. Clair County		Mental Health		Road Commission	
ARC as of end of year	\$	14,913,944	\$	9,696,279	\$	1,902,057	\$	3,315,608
Interest on NOO to end of year		3,831,474		2,704,330		350,087		777,057
NOO amortization adjustment to the ARC		(8,157,648)		(5,757,830)		(745,374)		(1,654,444)
Annual OPEB Cost	\$	10,587,770	\$	6,642,779	\$	1,506,770	\$	2,438,221
Annual employer contribution for pay-go cost		0		0		0		0
Annual employer contribution for pre-funding		TBD		TBD		TBD		TBD
Change in NOO	\$	TBD	\$	TBD	\$	TBD	\$	TBD
NOO as of beginning of year		76,629,476		54,086,603		7,001,728		15,541,145
NOO as of end of year	\$	TBD	\$	TBD	\$	TBD	\$	TBD

Pay-as-you-go Cost is the expected total employer cash cost for the coming period based on all explicit and implicit subsidies. It is also the amount recognized as expense on the Income Statement under pay-as-you-go accounting.

Net OPEB Obligation is the cumulative difference between the annual OPB cost and employer contributions. This obligation will be created if cash contributions are less than the current year expense under GASB 45 accrual rules.

The net obligation is recorded as a liability on the employer's balance sheet which will reduce the net fund balance.

The value of implicit subsidies is considered as part of cash contributions for the current period. Other cash expenditures that meet certain conditions are also considered as contributions for GASB 45 purposes.

Summary of GASB 45 Financial Results

Presented below is the summary of GASB 45 results for the fiscal year ending December 31, 2015 and prior fiscal years as shown in the County's Notes to Financial Statements.

Schedule of Funding Progress

<i>As of</i>	<i>Actuarial Accrued Liability (AAL)</i>	<i>Actuarial Value of Assets (AVA)</i>	<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	<i>Funded Ratio</i>	<i>Covered Payroll</i>	<i>UAAL as % of Covered Payroll</i>
<i>A</i>	<i>B</i>	<i>C = A - B</i>	<i>D = B / A</i>	<i>E</i>	<i>F = C / E</i>	
December 31, 2015						
St. Clair County	\$ 95,180,770	\$ 23,975,737	\$ 71,205,033	25.2%	\$ 22,081,884	322.5%
Mental Health	\$ 23,794,416	\$ 15,039,695	\$ 8,754,721	63.2%	\$ 11,497,448	76.1%
Road Commission	\$ 26,961,404	\$ 1,202,631	\$ 25,758,773	4.5%	\$ 3,626,057	710.4%
Total	\$ 145,936,590	\$ 40,218,063	\$ 105,718,527	27.6%	\$ 37,205,389	284.1%
December 31, 2014						
St. Clair County	\$ 82,431,355	\$ 24,027,124	\$ 58,404,231	29.1%	\$ 22,286,492	262.1%
Mental Health	\$ 18,695,889	\$ 12,285,111	\$ 6,410,778	65.7%	\$ 10,389,722	61.7%
Road Commission	\$ 24,824,010	\$ 1,231,400	\$ 23,592,610	5.0%	\$ 3,897,048	605.4%
Total	\$ 125,951,254	\$ 37,543,635	\$ 88,407,619	29.8%	\$ 36,573,262	241.7%
December 31, 2013						
St. Clair County	\$ 82,056,384	\$ 23,583,083	\$ 58,473,301	28.7%	\$ 23,506,075	248.8%
Mental Health	\$ 19,739,896	\$ 9,621,833	\$ 10,118,063	48.7%	\$ 9,920,486	102.0%
Road Commission	\$ 23,742,069	\$ 1,954,497	\$ 21,787,572	8.2%	\$ 3,795,636	574.0%
Total	\$ 125,538,349	\$ 35,159,413	\$ 90,378,936	28.0%	\$ 37,222,197	242.8%

Summary of GASB 45 Financial Results (Continued)

Schedule of Employer Contributions

<i>FYE</i>	<i>Employer Contributions</i>		<i>Annual Required Contribution (ARC)</i>		<i>% of ARC Contributed</i>
	<i>A</i>		<i>B</i>		<i>C = A / B</i>
December 31, 2016					
St. Clair County	\$	932,634	\$	8,816,828	10.6%
Mental Health	\$	487,000	\$	1,589,574	30.6%
Road Commission	\$	769,000	\$	2,574,507	29.9%
Total	\$	2,188,634	\$	12,980,909	16.9%
December 31, 2015					
St. Clair County	\$	544,601	\$	7,182,525	7.6%
Mental Health	\$	2,313,287	\$	1,237,131	187.0%
Road Commission	\$	733,691	\$	2,263,066	32.4%
Total	\$	3,591,579	\$	10,682,722	33.6%
December 31, 2014					
St. Clair County	\$	564,196	\$	7,017,174	8.0%
Mental Health	\$	2,179,520	\$	1,375,499	158.5%
Road Commission	\$	156,676	\$	2,027,960	7.7%
Total	\$	2,900,392	\$	10,420,633	27.8%

Summary of GASB 45 Financial Results (Continued)**Historical Annual OPEB Cost**

<i>As of</i>	<i>Annual OPEB Cost</i>	<i>% of Annual OPEB Cost Contributed</i>	<i>Net OPEB Obligation</i>
December 31, 2016			
St. Clair County	\$ 6,332,644	14.7%	\$ 54,086,603
Mental Health	\$ 1,393,209	35.0%	\$ 7,001,728
Road Commission	\$ 2,117,289	36.3%	\$ 15,541,145
Total	\$ 9,843,142	22.2%	\$ 76,629,476
December 31, 2015			
St. Clair County	\$ 5,139,202	10.6%	\$ 48,686,593
Mental Health	\$ 1,036,089	223.3%	\$ 6,095,519
Road Commission	\$ 1,908,073	38.5%	\$ 14,192,856
Total	\$ 8,083,364	44.4%	\$ 68,974,968
December 31, 2014			
St. Clair County	\$ 5,355,957	10.5%	\$ 44,091,992
Mental Health	\$ 1,183,498	184.2%	\$ 7,372,717
Road Commission	\$ 1,535,973	10.2%	\$ 13,018,474
Total	\$ 8,075,428	35.9%	\$ 64,483,183

The Actuarial Accrued Liability (AAL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the AAL and whether they increase or decrease the liability.

Expected Events

- Increases in AAL due to additional benefit accruals as employees continue to earn service each year
- Increases in AAL due to interest as the employees and retirees age
- Decreases in AAL due to benefit payments

Unexpected Events

- Increases in AAL when actual premium rates increase more than expected. A liability decrease occurs when premium rates increase less than expected.
- Increases in AAL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in AAL depending on whether benefit provisions are improved or reduced.

	<i>2015</i>	<i>2016</i>
Actuarial Accrued Liability as of beginning of year	\$ 125,951,254	\$ 145,936,590
Normal cost as of beginning of year	2,999,097	3,184,703
Expected benefit payments during the year	(4,311,144)	(4,656,378)
Interest adjustment to end of year	6,341,053	7,341,075
Expected Actuarial Accrued Liability as of end of year	\$ 130,980,260	\$ 151,805,990
Actuarial loss due to normal activity	14,956,330	TBD
Actual Actuarial Accrued Liability as of end of year	\$ 145,936,590	\$ TBD

Reconciliation of AAL shows what the actuary expects the actuarial accrued liability to be at the beginning of the following fiscal year based on current assumptions and plan provisions. The expected end of year AAL will change as actual plan experience varies from assumptions. Generally, the AAL is expected to have a net increase each year.

Asset Information

Summary of Assets	Market Value as of December 31, 2014	Market Value as of December 31, 2015
Cash / money market	\$ 4,044,970	\$ 5,080,591
Fixed income	4,448,922	4,598,663
Equities	21,711,871	24,741,024
Other assets	9,555,948	6,115,763
Total market value of assets	\$ 39,761,711	\$ 40,536,041
Less: Accounts Payable, Accrued Liabilities	(206,526)	(207,224)
Net market value of assets	\$ 39,555,185	\$ 40,328,817

Reconciliation of Market Value of Assets	2014	2015
Market value of assets as of January 1	\$ 37,834,875	\$ 39,555,185

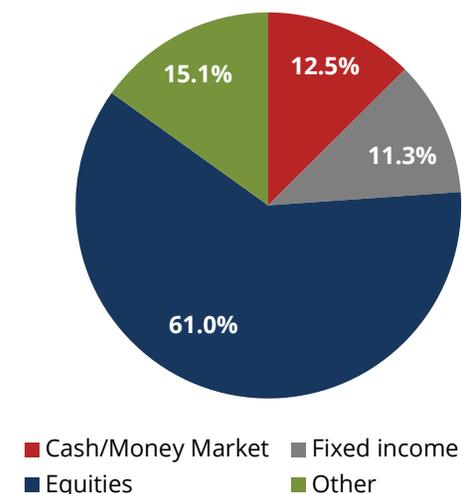
Revenues		
Member contributions	\$ 469,641	\$ 491,767
Employer contributions	2,919,088	3,630,467
Recognized investment income	2,194,805	312,707
Medicare Part D reimbursements	44,178	13,982
Total	\$ 5,627,712	\$ 4,448,923

Expenditures		
Benefit payments	\$ (3,822,733)	\$ (3,581,771)
Investment expenses and professional fees	(84,669)	(93,520)
Total	\$ (3,907,402)	\$ (3,675,291)

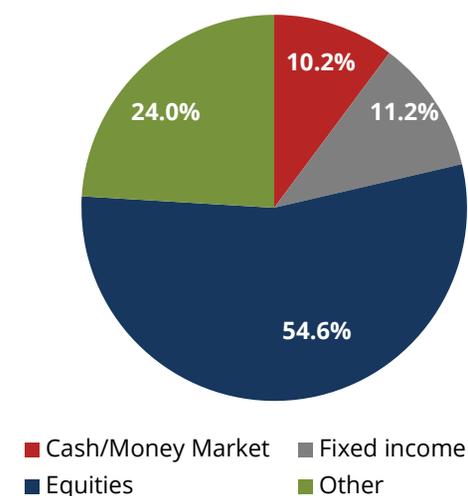
Miscellaneous adjustment	\$ 0	\$ 0
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Market value of assets as of December 31	\$ 39,555,185	\$ 40,328,817
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Asset Allocation as of 12/31/2015



Asset Allocation as of 12/31/2014



Funding Value of Trust Assets

The Trust assets are actuarially adjusted to reduce the impact of market-based fluctuations when determining future funding requirements. The adjusted assets are referred to as the “funding value of assets”. The actuarial smoothing method essentially spreads investment gains and losses over a five-year period. Below is a schedule with the calculation details for this adjustment.

<i>Year Ended December 31,</i>	<i>2014</i>	<i>2015</i>	<i>2016⁴</i>
A. Funding value as of beginning of year	\$ 35,159,413	\$ 37,543,635	\$ 40,218,063
B. Market value as of end of year	\$ 39,555,185	\$ 40,328,817	\$ 38,629,125
C. Market value as of beginning of year	\$ 37,834,875	\$ 39,555,185	\$ 40,328,817
D. Non-investment net cash flow	\$ (518,673)	\$ 446,943	\$ (2,092,543)
E. Investment income:			
E1. Reflecting actual market conditions (B – C – D)	\$ 2,238,983	\$ 326,689	\$ 392,851
E2. Amount for immediate recognition (7.5%)	\$ 2,617,506	\$ 2,832,533	\$ 2,937,884
E3. Amount for phased-in recognition (E1 – E2)	\$ (378,523)	\$ (2,505,844)	\$ (2,545,033)
F. Phased-in recognition of investment income			
F1. Current year (E3 / 5)	\$ (75,705)	\$ (501,169)	\$ (509,007)
F2. First prior year	302,317	(75,705)	(501,169)
F3. Second prior year	204,125	302,317	(75,705)
F4. Third prior year	(534,616)	204,125	302,317
F5. Fourth prior year	389,268	(534,616)	204,125
F6. Total recognized gain recognized in current period	\$ 285,389	\$ (605,048)	\$ (579,439)
G. Funding value as of end of year (A + D + E2 + F6)	\$ 37,543,635	\$ 40,218,063	\$ 40,483,965
I. Recognized rate of return using funding value	8.1%	5.7%	6.0%
J. Rate of return using market value of assets (net of expenses)	5.5%	0.4%	1.0%
K. Ratio funding value to market value (G / B)	94.9%	99.7%	104.8%

⁴ CY 2016 non-investment net cash flow is based on expected contributions and benefit payments. The end of year fair market value is projected from the beginning of year fair market value assuming a 1.0% asset rate of return.

Asset Allocations

2014		Total	St. Clair County	Mental Health	Road Commission
A.	Actuarial Value of Assets as of BOY	\$ 35,159,413	\$ 23,583,083	\$ 9,621,833	\$ 1,954,497
B.	Member contributions	469,641	398,833	70,808	0
C.	Employer contributions	2,919,088	564,196	2,198,164	156,728
D.	Benefit payments	(3,822,733)	(2,363,182)	(457,226)	(1,002,325)
E.	Professional expenses	(84,669)	(56,791)	(23,171)	(4,707)
F.	Investment Income Allocation ⁵	2,902,895	1,900,985	874,703	127,207
G.	Actuarial Value of Assets as of EOY	\$ 37,543,635	\$ 24,027,124	\$ 12,285,111	\$ 1,231,400

2015		Total	St. Clair County	Mental Health	Road Commission
A.	Actuarial Value of Assets as of BOY	\$ 37,543,635	\$ 24,027,124	\$ 12,285,111	\$ 1,231,400
B.	Member contributions	491,767	398,954	92,813	0
C.	Employer contributions	3,630,467	544,600	2,352,176	733,691
D.	Benefit payments	(3,581,771)	(2,310,133)	(442,522)	(829,116)
E.	Professional expenses	(93,520)	(59,851)	(30,602)	(3,067)
F.	Investment Income Allocation	2,227,485	1,375,043	782,719	69,723
G.	Actuarial Value of Assets as of EOY	\$ 40,218,063	\$ 23,975,737	\$ 15,039,695	\$ 1,202,631

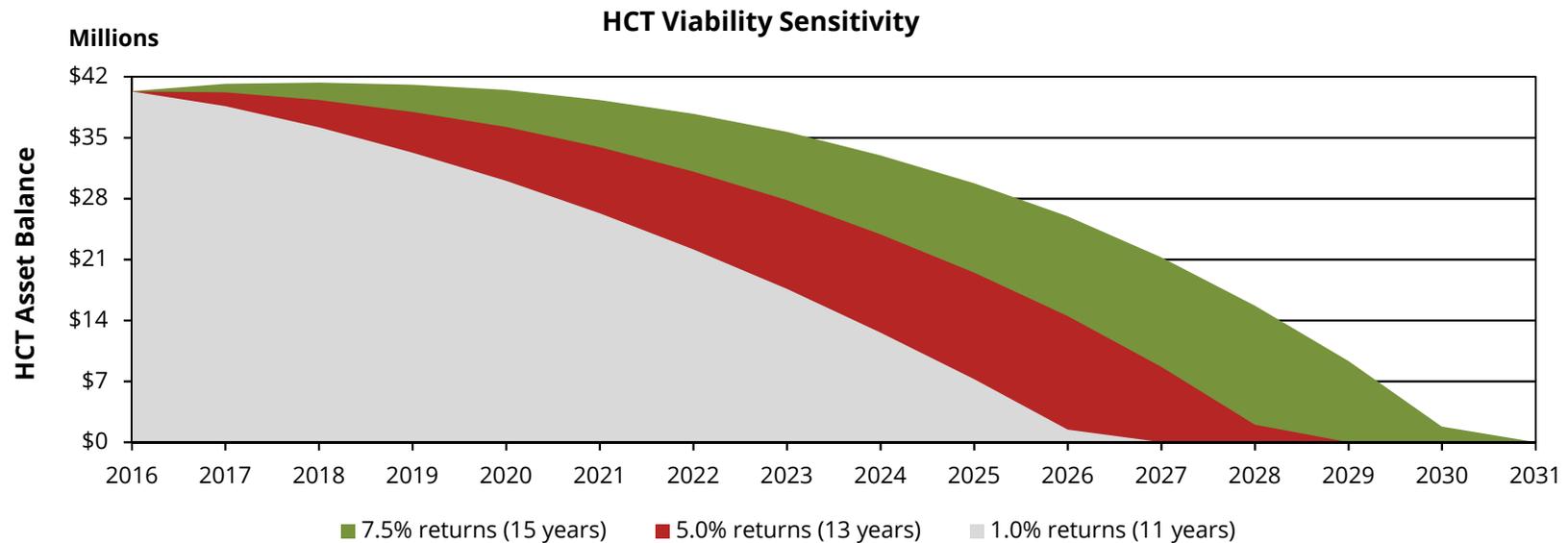
2016 (Projected)		Total	St. Clair County	Mental Health	Road Commission
A.	Actuarial Value of Assets as of BOY	\$ 40,218,063	\$ 23,975,737	\$ 15,039,695	\$ 1,202,631
B.	Member contributions (expected)	474,200	375,200	99,000	0
C.	Employer contributions (expected)	2,089,634	932,634	388,000	769,000
D.	Benefit payments (expected)	(4,656,377)	(2,982,161)	(638,229)	(1,035,987)
E.	Professional expenses	0	0	0	0
F.	Investment Income Allocation	2,358,445	1,393,122	900,953	64,370
G.	Actuarial Value of Assets as of EOY	\$ 40,483,965	\$ 23,694,532	\$ 15,789,419	\$ 1,000,014

⁵ Investment income is allocated among the different groups in the same proportion as each group's Average Valuation Assets to the total. The Average Valuation Assets is calculated as follows: (A) + 0.5 * (B + C + D + E).

St. Clair County established a Health Care Trust (HCT) for the purpose of funding future retiree health benefits. Currently both the County and its employees (except for Road Commission) contribute a percentage of salary to this Trust, and payments for retirees' premiums are made from this Trust annually.

The viability of this Trust is highly sensitive to the investment return earned and future Trust contribution. Below is a comparison of the viability of the Trust under three different investment return scenario:

1. Low return (1.0%) – the HCT will be depleted in 11 years.
2. Medium return (5.0%) – the HCT will be depleted in 13 years.
3. High return (7.5%) – the HCT will be depleted in 15 years.



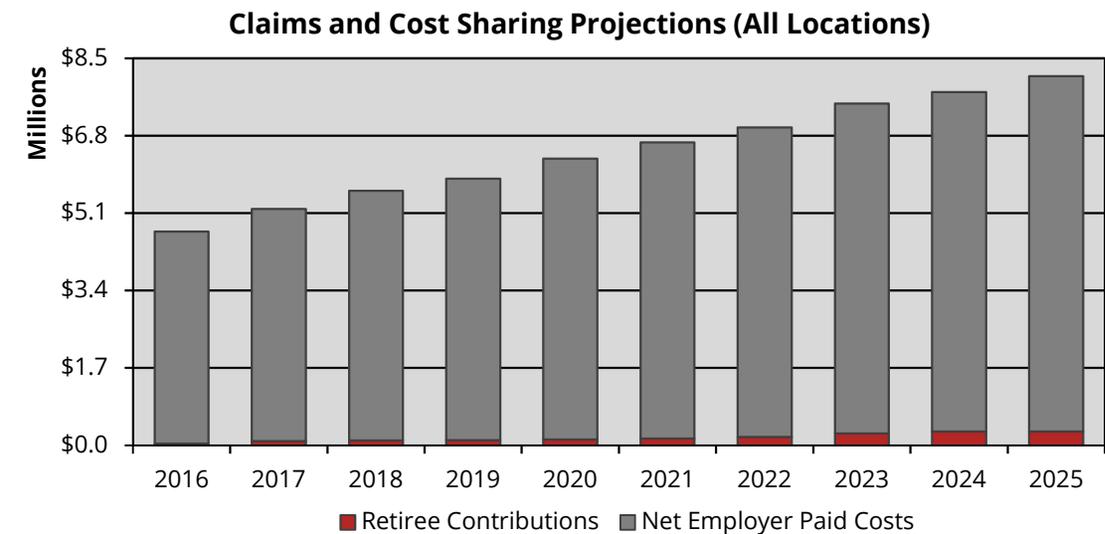
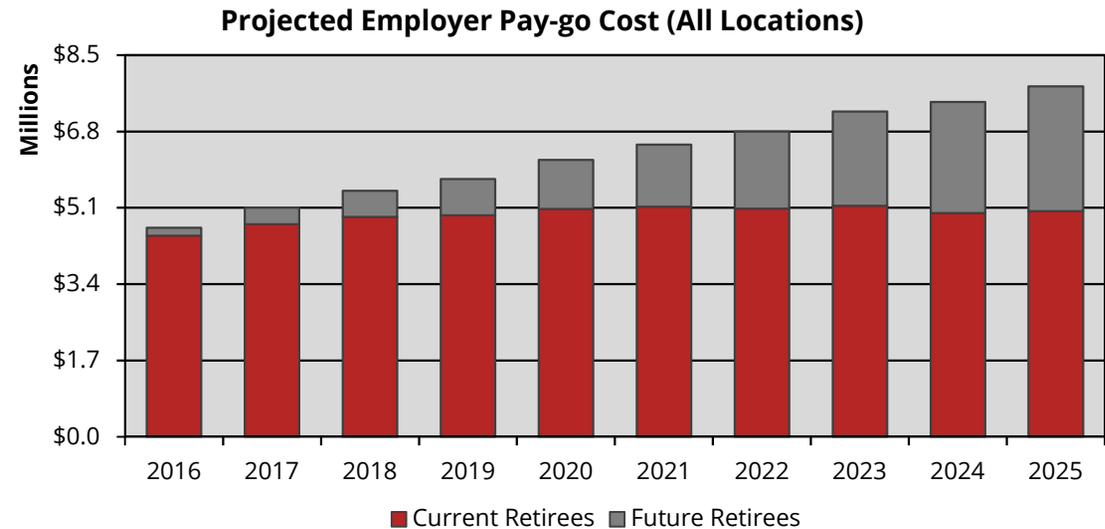
Additional assumptions made in our analysis:

1. Market value of assets of \$40,328,817 as of January 1.
2. Active employee contributions to HCT effective on 1/1/2016 as shown on page 22 of this report.
3. Flat dollar employer contributions determined based on the average contribution in the past five fiscal years: \$738,000 for the County (including Sheriff), \$396,000 for Mental Health Authority, and \$405,000 for Road Commission.
4. Projected future retiree health costs using current retirement and health care trend assumptions.

The below projections show the actuarially estimated pay-go expenses of retiree health benefits for the next ten years. Results are shown separately for current /future retirees and gross claim costs/retiree contributions for all locations combined. These projections include explicit and implicit subsidies.

FYE	Current Retirees	Future Retirees ⁶	Total
2016	\$ 4,478,842	\$ 177,536	\$ 4,656,378
2017	\$ 4,733,810	\$ 368,142	\$ 5,101,952
2018	\$ 4,900,577	\$ 579,964	\$ 5,480,541
2019	\$ 4,934,106	\$ 809,566	\$ 5,743,672
2020	\$ 5,074,187	\$ 1,092,450	\$ 6,166,637
2021	\$ 5,124,035	\$ 1,379,427	\$ 6,503,462
2022	\$ 5,081,412	\$ 1,716,984	\$ 6,798,396
2023	\$ 5,146,488	\$ 2,101,321	\$ 7,247,809
2024	\$ 4,985,231	\$ 2,468,481	\$ 7,453,712
2025	\$ 5,025,973	\$ 2,781,391	\$ 7,807,364

FYE	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs
2016	\$ 4,694,665	\$ 38,287	\$ 4,656,378
2017	\$ 5,194,411	\$ 92,459	\$ 5,101,952
2018	\$ 5,588,952	\$ 108,411	\$ 5,480,541
2019	\$ 5,853,979	\$ 110,307	\$ 5,743,672
2020	\$ 6,297,058	\$ 130,421	\$ 6,166,637
2021	\$ 6,650,950	\$ 147,488	\$ 6,503,462
2022	\$ 6,981,427	\$ 183,031	\$ 6,798,396
2023	\$ 7,508,505	\$ 260,696	\$ 7,247,809
2024	\$ 7,758,406	\$ 304,694	\$ 7,453,712
2025	\$ 8,111,011	\$ 303,647	\$ 7,807,364



⁶ Projections for future retirees do not take into account future new hires.

Employer Contribution Cash Flow Projections

Projection of the actuarially estimated pay-go expenses of retiree health benefits for the next ten years by location are as shown below.

FYE	St. Clair County			Mental Health Authority			Road Commission		
	Current Retirees	Future Retirees ⁷	Total	Current Retirees	Future Retirees	Total	Current Retirees	Future Retirees	Total
2016	\$ 2,866,902	\$ 115,259	\$ 2,982,161	\$ 606,978	\$ 31,251	\$ 638,229	\$ 1,004,962	\$ 31,026	\$ 1,035,988
2017	\$ 3,103,512	\$ 236,538	\$ 3,340,050	\$ 622,240	\$ 63,278	\$ 685,518	\$ 1,008,058	\$ 68,326	\$ 1,076,384
2018	\$ 3,197,013	\$ 366,413	\$ 3,563,426	\$ 648,790	\$ 103,310	\$ 752,100	\$ 1,054,774	\$ 110,241	\$ 1,165,015
2019	\$ 3,226,898	\$ 515,316	\$ 3,742,214	\$ 643,405	\$ 140,094	\$ 783,499	\$ 1,063,803	\$ 154,156	\$ 1,217,959
2020	\$ 3,330,050	\$ 683,982	\$ 4,014,032	\$ 638,021	\$ 189,653	\$ 827,674	\$ 1,106,116	\$ 218,815	\$ 1,324,931
2021	\$ 3,351,612	\$ 839,611	\$ 4,191,223	\$ 672,734	\$ 231,148	\$ 903,882	\$ 1,099,689	\$ 308,668	\$ 1,408,357
2022	\$ 3,273,258	\$ 1,047,674	\$ 4,320,932	\$ 751,961	\$ 273,919	\$ 1,025,880	\$ 1,056,193	\$ 395,391	\$ 1,451,584
2023	\$ 3,352,965	\$ 1,293,449	\$ 4,646,414	\$ 785,021	\$ 324,133	\$ 1,109,154	\$ 1,008,502	\$ 483,739	\$ 1,492,241
2024	\$ 3,272,786	\$ 1,523,400	\$ 4,796,186	\$ 775,672	\$ 393,105	\$ 1,168,777	\$ 936,773	\$ 551,976	\$ 1,488,749
2025	\$ 3,302,414	\$ 1,725,055	\$ 5,027,469	\$ 783,440	\$ 432,228	\$ 1,215,668	\$ 940,119	\$ 624,108	\$ 1,564,227

FYE	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs
2016	\$ 3,000,611	\$ 18,450	\$ 2,982,161	\$ 646,993	\$ 8,764	\$ 638,229	\$ 1,047,061	\$ 11,073	\$ 1,035,988
2017	\$ 3,414,633	\$ 74,583	\$ 3,340,050	\$ 691,272	\$ 5,754	\$ 685,518	\$ 1,088,506	\$ 12,122	\$ 1,076,384
2018	\$ 3,652,445	\$ 89,019	\$ 3,563,426	\$ 758,337	\$ 6,237	\$ 752,100	\$ 1,178,170	\$ 13,155	\$ 1,165,015
2019	\$ 3,838,153	\$ 95,939	\$ 3,742,214	\$ 790,864	\$ 7,365	\$ 783,499	\$ 1,224,962	\$ 7,003	\$ 1,217,959
2020	\$ 4,128,983	\$ 114,951	\$ 4,014,032	\$ 835,570	\$ 7,896	\$ 827,674	\$ 1,332,505	\$ 7,574	\$ 1,324,931
2021	\$ 4,321,465	\$ 130,242	\$ 4,191,223	\$ 912,304	\$ 8,422	\$ 903,882	\$ 1,417,181	\$ 8,824	\$ 1,408,357
2022	\$ 4,460,072	\$ 139,140	\$ 4,320,932	\$ 1,056,588	\$ 30,708	\$ 1,025,880	\$ 1,464,767	\$ 13,183	\$ 1,451,584
2023	\$ 4,861,136	\$ 214,722	\$ 4,646,414	\$ 1,141,397	\$ 32,243	\$ 1,109,154	\$ 1,505,972	\$ 13,731	\$ 1,492,241
2024	\$ 5,037,327	\$ 241,141	\$ 4,796,186	\$ 1,193,661	\$ 24,884	\$ 1,168,777	\$ 1,527,418	\$ 38,669	\$ 1,488,749
2025	\$ 5,260,754	\$ 233,285	\$ 5,027,469	\$ 1,245,802	\$ 30,134	\$ 1,215,668	\$ 1,604,455	\$ 40,228	\$ 1,564,227

⁷ Projections for future retirees do not take into account future new hires.

Eligibility

Retiree health benefits eligibility requirements:

1. Original Plan members – earlier of:
 - a. Age 55 (or age 50 for Sheriff) with 25 years of service
 - b. Age 60 with 8 years of service
 - c. 25 years of service and 80 points
2. Modified Plan members – earlier of:
 - a. Age 55 (or age 50 for Sheriff) with 25 years of service
 - b. Age 60 with 20 years of service
 - c. 25 years of service and 80 points

Employees hired after the eligibility cut-off date shown below are not eligible for retiree health benefits. There’s no cut-off date for Mental Health employees.

Union Code	Union Name	Retiree Health Eligibility Cut-Off Date
CBSO	Bailiff and Court Security Officers Association	Hired after 7/1/2012
	Road Commission	
RC	Production and Op Eng	Hired after 9/14/2011
	Clerical and TPOAM	Hired after 8/23/2011
CDCO	Communication Officers POAM	
FOCP	Friend of the Court Supervisors	Hired after 7/1/2011
PCCL	Probate Clerical	
SDEI	Correction Officers and Support Staff	Hired after 10/21/2009
PSE	Public Service Employees	Hired after 6/29/2011
FOCE	Friend of the Court	Hired after 5/11/2011
PCJC	Probate Court Juvenile Counselors	Hired after 12/16/2009
DCE	District Court AFSCME	Hired after 8/19/2009
CMH	Mental Health	Hired after 1/1/2016

Eligibility (continued)

Employees hired after the eligibility cut-off date shown below are not eligible for retiree health benefits.

Union Code	Union Name	Retiree Health Eligibility Cut-Off Date
BDMB	Board Member	
CANUE	CANUE Non-Affiliated	
COMM	Commissioners	
SDCO	Correction Officers Supervisors	
ELEC	Elected Officials	
HRE	Human Resources Clerks and Specialists	Hired after 1/1/2009
JDGS	Judges	
PCSP	Probate Court Supervisors	
PAPE	Prosecuting Attorneys	
PHNS	Public Health Nurse Supervisors	
PHNA	Public Health Nurses	
CPEA	Circuit Court Probate Court Employee Associates	
SDSP	Sheriff Deputies Supervisors	Based on lower unit cut-off date

Terminated Vested Employees

Employees who terminated employment with vested pension benefits are eligible for retiree health benefits commencing at age 55 if they have at least 25 years of service at termination or at age 60 if they have fewer than 25 years of service at termination. Upon benefits commencement, contribution requirements follow regular retirees.

Disability Retirement

Employees disabled in the line of duty are eligible for retiree health benefits without any age or service requirement. Employees disabled under any other circumstances are eligible for retiree health benefits if they have at least ten years of service at time of disability. Retiree contribution requirements follow regular retirees.

Spouse Benefit

Surviving spouse can continue coverage upon death of the retiree or active employees who have at least ten years of service at time of death. Surviving spouse contribution requirement follows member's contribution requirements prior to their death.

Health Care Trust Contributions

Health Care Trust contribution requirements as a % of salary while actively employed are as shown below:

Union Code	Union Name	Eff. 1/1/2016
CBSO	Bailiff and Court Security Officers Association	
COMM	Commissioners	
ELEC	Elected Officials	
JDGS	Judges	
CDCO	Communication Officers POAM	
SDEI	Correction Officers and Support Staff	
SDCO	Correction Officers Supervisors	
FOCE	Friend of the Court	
FOCP	Friend of the Court Supervisors	
PCCL	Probate Clerical	
PCJC	Probate Court Juvenile Counselors	2.50%*
PCSP	Probate Court Supervisors	
PAPE	Prosecuting Attorneys	
SDEE	Sheriff Deputies	
SDSP	Sheriff Deputies Supervisors	
CPEA	Circuit Court Probate Court Employee Associates	
PSE	Public Service Employees	
BDMB	Board Member	
CANUE	CANUE Non-Affiliated	
DCE	District Court AFSCME	
HRE	Human Resources Clerks and Specialists	
CMH	Mental Health	2.00%
PHNS	Public Health Nurse Supervisors	2.50%
PHNA	Public Health Nurses	

* Limited to the first \$50,000 of salary.

Road Commission employees are not required to contribute to the Health Care Trust.

Retiree Contributions

Employees are eligible for retiree health benefits if they meet all of the following requirements:

1. Original Plan members – have at least 8 years of service at retirement and contribute to Health Care Trust (HCT) while actively employed if it’s required in their Collective Bargaining Unit (CBA).
2. Modified Plan members – have at least 20 years of service at retirement and contribute to HCT while actively employed if it’s required in their CBA.

Any employees may purchase retiree health benefits at retirement if they have at least 11 years of service at retirement regardless of whether they contribute to HCT while actively employed.

Medical Benefit

All health plans are self-insured except for the Medicare Advantage plan. The monthly retiree illustrative rates for medical and prescription drug benefits (excluding dental) by suffix are as shown below. These illustrative rates are calculated based on the blended claims experience for active employees and retirees.

Pre-65		Eff. 1/1/2016	
Suffix	Group	Single	2-person
900/40/54/60	St. Clair County Non-Hardship Retirees	\$ 480.82	\$ 1,153.98
901/41/57/60	St. Clair County Hardship Retirees ⁸	\$ 523.37	\$ 1,256.10
920/44/56/62	Mental Health Non-Hardship Retirees	\$ 480.82	\$ 1,153.98
921/45/59/62	Mental Health Hardship Retirees ⁸	\$ 523.37	\$ 1,256.10
910/42/55/61	Road Commission Non-Hardship Retirees ⁹	\$ 480.82	\$ 1,153.98
911/43/58/61	Road Commission Hardship Retirees ^{8, 9}	\$ 523.37	\$ 1,256.10

Post-65 (Medicare Advantage Plan)		Rates Per Person	
Suffix	Group	Eff. 1/1/2016	Eff. 1/1/2017
600/601/602	Non-Hardship Retirees	\$ 245.02	\$ 269.26
603/604/605	Hardship Retirees	\$ 285.13	\$ 313.35

Dental Benefit

Dental monthly illustrative rates effective on January 1, 2016 for all locations are as shown below.

	Single	2-person
All ages	\$ 21.95	\$ 41.76

⁸ Hardship retirees are those with annual household incomes of \$24,999 or less and have at least 20 years of service at retirement. Annual household income means any and all income (taxable or not) received by a retired member and/or their spouse residing in the same household.

⁹ Road Commission employees and retirees moved to the County’s group health plans effective on March 1, 2015.

The actuarial assumptions used in this report represent a reasonable long-term expectation of future OPEB outcomes. As national economic and County experience change over time, the assumptions will be tested for ongoing reasonableness and, if necessary, updated.

There are no significant changes to the actuarial methods and assumptions since the last GASB valuation, which was as of December 31, 2014. For the current year GASB valuation, we have updated the mortality table, health care trend rates and per capita costs. We expect to update health care trend rates and per capita costs again in the next full GASB valuation, which will be as of December 31, 2016.

Measurement Date December 31, 2015

Discount Rate 5.0%

Payroll Growth 3.5% for general inflation plus merit increases as follows:

YOS	Rates
0 – 1	4.5%
2	3.5%
3	3.0%
4	2.5%
5	2.0%
6 – 19	0.5%
20+	0.0%

Inflation Rate 3.0% per year

Cost Method Entry Age Normal Level % of Salary

Census Data Census information was provided by the County as of December 31, 2015. We have reviewed it for reasonableness and no material modifications were made.

Employer Funding Policy Partial pre-funding at the County’s discretion

Asset Valuation Method Actuarial value of assets with a five-year smoothing

Amortization Mental Health and Road Commission: Level % of pay over a closed period
St. Clair County: Level dollar over a closed period
The remaining amortization period for all locations is 14 years as of December 31, 2015.

Mortality

RP-2014 Mortality Table with generational improvements from 2006 based on the Social Security mortality improvement assumptions from the 2015 Trustees' Report (prior valuation used RP-2000 Combined Mortality Table fully generational using Scale AA)

Disability

Annual sample rates are as shown below. Disability benefit is only valued for the Sheriff group (CDCO, SDEI, SDCO, SDEE, and SDSP unions) and 25% of disability is assumed to be duty-related.

Age	Rates	Age	Rates
20	0.08%	45	0.27%
25	0.08%	50	0.49%
30	0.08%	55	0.89%
35	0.08%	60	1.41%
40	0.20%		

Turnover Rate

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health coverage. The rates represent the probability of termination in the next 12 months.

YOS	General / Mental Health	Sheriff / Road Commission
0 – 2	11.0%	4.0%
3 – 4	10.0%	4.0%
5	6.0%	4.0%
6+	4.0% ¹⁰	4.0%

¹⁰ Annual turnover rate before age 35 for employees with at least 6 years of service is 6.0%.

Retirement Rate

Annual rates of retirement by group are as shown below:

Age	General / Mental Health	Road Commission	Sheriff ¹¹				
			Age	<25 YOS	25 - 29 YOS	30 - 34 YOS	35+ YOS
50 - 59	15%	25%	40 - 59	0%	25%	100%	100%
60	15%	15%	60 - 61	15%	15%	15%	100%
61	20%	15%	62	40%	40%	40%	100%
62	40%	40%	63 - 64	20%	20%	20%	100%
63 - 64	20%	20%	65+	100%	100%	100%	100%
65	40%	100%					
66 - 69	25%	100%					
70+	100%	100%					

Health Care Trend Rates

FYE	Rates	FYE	Rates
2017	8.5%*	2021	6.5%
2018	8.0%	2022	6.0%
2019	7.5%	2023	5.5%
2020	7.0%	2024+	5.0%

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

* Annual health care trend rate for Medicare Advantage plan in FYE 2017 is based on the actual premium increase from 2016 to 2017, which is 9.9% for all three entities.

Retiree Contributions

Retiree contributions are assumed to increase according to health care trend rates.

¹¹ Applies to CDCO, SDEI, SDCO, SDEE, and SDSP unions.

Health Care Coverage Election Rate

Active employees eligible for retiree health benefits are assumed to elect coverage according to the table below:

Group	Rates
County General	85%
County Police	100%
Mental Health	80%
Road Commission	95%

All retirees that currently have coverage are assumed to continue coverage in the future. All retirees that currently have no coverage are assumed never to elect coverage in the future.

Spousal Coverage

Spousal coverage and age for current retirees is based on actual data. 80% of male and 50% of female employees is assumed to be married at retirement. Husbands are assumed to be three years older than wives.

Per Capita Costs¹²

Annual per capita costs were calculated based on the County’s illustrative rates effective on January 1, 2016 actuarially increased using health index factors and current enrollment. The costs are assumed to increase with health care trend rates. Annual per capita costs applicable to all groups are as shown below:

Age	Male	Female
< 55	\$ 6,600	\$ 7,200
55 – 59	\$ 8,300	\$ 8,000
60 – 64	\$ 10,600	\$ 9,500
65 – 69	\$ 2,300	\$ 2,300
70 – 74	\$ 2,800	\$ 2,800
75 – 79	\$ 3,200	\$ 3,200
80+	\$ 3,700	\$ 3,700

The per capita costs represent the cost of coverage for a retiree-only population.

Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

Annual dental per capita costs are \$263 and they are assumed to increase with dental trend rates.

¹² Nyhart used the 2016 County’s illustrative rates without adjustment in our calculations. The rates were provided by BCBS and were assumed to represent the expected cost of claims and administrative expenses under the self-insured health plan. To the extent the rates do not reflect the full cost of coverage, our actuarial results will need to be revised. Common reasons for rates not reflecting the full cost are (1) use of asset reserves to pay a portion of the expected costs which leads to lower rates than required based on claims experience and (2) use of maximum claim exposure under the plan’s aggregate stop-loss policy to set rates which overstate the expected costs for GASB 45 purposes.

Explicit Subsidy

The difference between (a) the illustrative rate and (b) the retiree contribution. Below is an example of the monthly explicit subsidies for a County retiree age 60 in the Modified plan enrolled in the non-hardship plan with 20 years of service at retirement.

	Illustrative Rate	Retiree Contribution	Explicit Subsidy
	A	B	C = A - B
Retiree	\$ 480.82	\$ 0.00	\$ 480.82
Spouse	\$ 673.16	\$ 0.00	\$ 673.16

Implicit Subsidy

The difference between (a) the per capita cost and (b) the illustrative rate. Below is an example of the monthly implicit subsidies for a male County retiree age 60 in the Modified plan enrolled in the non-hardship plan with a spouse of the same age.

	Per Capita Cost	Premium Rate	Implicit Subsidy
	A	B	C = A - B
Retiree	\$ 883.33	\$ 480.82	\$ 402.51
Spouse	\$ 791.67	\$ 673.16	\$ 118.51

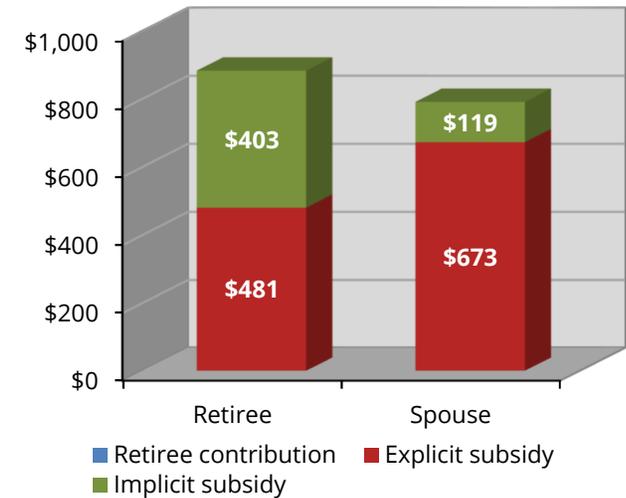
All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

GASB Subsidy Breakdown

Below is a breakdown of the GASB 45 monthly total cost for a male County retiree age 60 in the Modified plan and his / her spouse of the same age enrolled in the non-hardship plan.

	Retiree	Spouse
Retiree contribution	\$ 0.00	\$ 0.00
Explicit subsidy	\$ 480.82	\$ 673.16
Implicit subsidy	\$ 402.51	\$ 118.51
Total monthly cost	\$ 883.33	\$ 791.67

GASB Subsidy Breakdown



<i>Actives</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
St. Clair County	410	48.1	14.6	\$ 22,081,884
Mental Health Authority	216	45.6	9.7	\$ 11,497,448
Road Commission	65	50.7	17.9	\$ 3,626,057
Total actives	691	47.5	13.4	\$ 37,205,389

Active enrollment above includes employees that are eligible for retiree health benefits only. Employees hired after the cut-off date as noted on pages 20 and 21 of this report are not eligible for retiree health benefits.

	<i>Retirees¹³</i>		<i>Terminated Vested¹⁴</i>	
	<i>Total</i>	<i>Avg. Age</i>	<i>Total</i>	<i>Avg. Age</i>
St. Clair County	371	70.0	46	53.2
Mental Health Authority	68	68.5	24	52.9
Road Commission	133	74.1	8	54.3
Total	572	70.8	78	53.2

¹³ Includes disabled retirees and beneficiaries but excludes all those without coverage.

¹⁴ Includes all terminated vested employees, including those that are not eligible for retiree health benefits. Out of 78 terminated vested employees, 11 of them are not eligible for retiree health benefits.

Active Age-Service Distribution

All Groups (including those eligible for retiree health benefits only)

Age	Years of Service										Total	
	< 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	3											3
25 to 29	5	7	2									14
30 to 34	3	16	24	22								65
35 to 39	4	10	20	42	7							83
40 to 44	4	10	21	39	25	7						106
45 to 49	2	10	24	45	30	18	6					135
50 to 54	3	6	11	24	31	14	14	6				109
55 to 59	3	5	15	24	26	13	12	5	2			105
60 to 64	1	1	9	12	15	7	5	2	2	1		55
65 to 69	1		1	5	2		1	1			1	12
70 & up				2	1	1						4
Total	29	65	127	215	137	60	38	14	4	2		691

Active Age-Service Distribution (Continued)

St. Clair County (including those eligible for retiree health benefits only)

Age	Years of Service										Total	
	< 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25												
25 to 29			1									1
30 to 34		5	16	17								38
35 to 39		3	15	31	6							55
40 to 44	1	3	14	23	18	3						62
45 to 49		2	11	31	21	10	5					80
50 to 54		2	8	15	18	7	9	4				63
55 to 59		1	9	20	16	7	8	2	1			64
60 to 64			5	10	13	4	3		1	1		37
65 to 69			1	2	1		1	1		1		7
70 & up				2		1						3
Total	1	16	80	151	93	32	26	7	2	2		410

Active Age-Service Distribution (Continued)

Mental Health Authority (including those eligible for retiree health benefits only)

Age	Years of Service										Total
	< 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25	3										3
25 to 29	5	7									12
30 to 34	3	11	8	3							25
35 to 39	4	7	4	9							24
40 to 44	3	7	7	12	5	2					36
45 to 49	2	8	13	10	6	4					43
50 to 54	3	4	3	5	6	2	3	1			27
55 to 59	3	4	5	4	6	2	1	3	1		29
60 to 64	1	1	3	1	2	1	1	2	1		13
65 to 69	1			2	1						4
70 & up											0
Total	28	49	43	46	26	11	5	6	2	0	216

Active Age-Service Distribution (Continued)

Road Commission (including those eligible for retiree health benefits only)

Age	Years of Service										Total
	< 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25											0
25 to 29			1								1
30 to 34				2							2
35 to 39			1	2	1						4
40 to 44				4	2	2					8
45 to 49				4	3	4	1				12
50 to 54				4	7	5	2	1			19
55 to 59			1		4	4	3				12
60 to 64			1	1		2	1				5
65 to 69				1							1
70 & up					1						1
Total	0	0	4	18	18	17	7	1	0	0	65

APPENDIX

Comparison of Participant Demographic Information

The active participants' number below may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

	<i>As of December 31, 2014</i>	<i>As of December 31, 2015</i>
Active Participants	693	691
Retired Participants ¹⁵	576	572
Averages for Active		
Age	47.3	47.5
Service	13.2	13.4
Salary	\$ 52,775	\$ 53,843
Averages for Inactive		
Age	70.6	70.8

¹⁵ Retired participants' enrollment includes only those who have medical coverage.

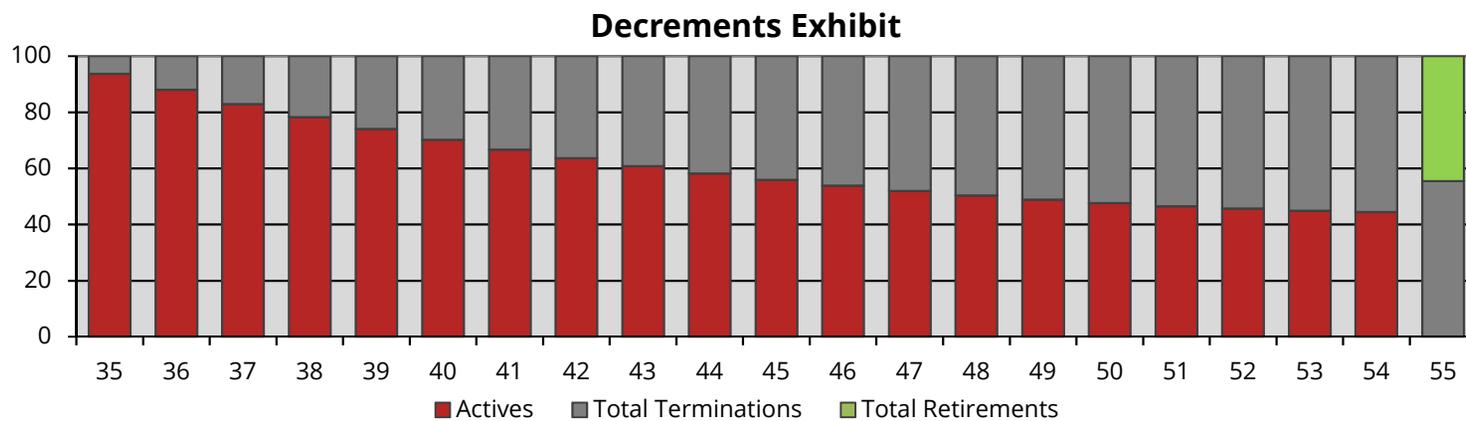
GLOSSARY

Decrements Exhibit

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. Starting with 100 employees at age 35, the illustrated actuarial assumptions show that 44.430 employees out of the original 100 are expected to retire and could elect retiree health benefits at age 55.

Age	# Remaining Employees	# of Terminations per Year*	# of Retirements per Year*	Total Decrements
35	100.000	6.276	0.000	6.276
36	93.724	5.677	0.000	5.677
37	88.047	5.136	0.000	5.136
38	82.911	4.648	0.000	4.648
39	78.262	4.209	0.000	4.209
40	74.053	3.814	0.000	3.814
41	70.239	3.456	0.000	3.456
42	66.783	3.131	0.000	3.131
43	63.652	2.835	0.000	2.835
44	60.817	2.564	0.000	2.564
45	58.253	2.316	0.000	2.316

Age	# Remaining Employees	# of Terminations per Year*	# of Retirements per Year*	Total Decrements
46	55.938	2.085	0.000	2.085
47	53.853	1.866	0.000	1.866
48	51.987	1.656	0.000	1.656
49	50.331	1.452	0.000	1.452
50	48.880	1.253	0.000	1.253
51	47.627	1.060	0.000	1.060
52	46.567	0.877	0.000	0.877
53	45.690	0.707	0.000	0.707
54	44.983	0.553	0.000	0.553
55	44.430	0.000	44.430	44.430



* The above rates are illustrative rates and are not used in our GASB calculations.

Retirement Rates Exhibit

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. The illustrated retirement rates show the number of employees who are assumed to retire annually based on 100 employees age 55 who are eligible for retiree health care coverage. The average age at retirement is 62.0.

Age	Active Employees BOY	Annual Retirement Rates*	# Retirements per Year	Active Employees EOY
55	100.000	5.0%	5.000	95.000
56	95.000	5.0%	4.750	90.250
57	90.250	5.0%	4.513	85.738
58	85.738	5.0%	4.287	81.451
59	81.451	5.0%	4.073	77.378
60	77.378	5.0%	3.869	73.509
61	73.509	5.0%	3.675	69.834
62	69.834	30.0%	20.950	48.884
63	48.884	15.0%	7.333	41.551
64	41.551	15.0%	6.233	35.318
65	35.318	100.0%	35.318	0.000



* The above rates are illustrative rates and are not used in our GASB calculations.

Illustration of GASB Calculations

The purpose of the illustration is to familiarize non-actuaries with the GASB 45 actuarial calculation process.

I. Facts

1. The employer provides subsidized retiree health coverage worth \$100,000 to employees retiring at age 55 with 25 years of service. The employer funds for retiree health coverage on a pay-as-you-go basis.
2. Employee X is age 50 and has worked 20 years with the employer.
3. Retiree health subsidies are paid from the general fund assets which are expected to earn 4.5% per year on a long-term basis.
4. Based on Employee X's age and sex he has a 98.0% probability of living to age 55 and a 95.0% probability of continuing to work to age 55.

II. Calculation of Present Value of Future Benefits

Present Value of Future Benefits represents the cost to finance benefits payable in the future to current and future retirees and beneficiaries, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.

	Value	Description
A.	\$100,000	Projected benefit at retirement
B.	80.2%	Interest discount for five years = $(1 / 1.045)^5$
C.	98.0%	Probability of living to retirement age
D.	95.0%	Probability of continuing to work to retirement age
E.	\$74,666	Present value of projected retirement benefit measured at employee's current age = $A \times B \times C \times D$

Illustration of GASB Calculations (continued)

III. Calculation of Actuarial Accrued Liability

Actuarial Accrued Liability represents the portion of the Present Value of Future Benefits which has been accrued recognizing the employee's past service with the employer. The Actuarial Accrued Liability is a required disclosure in the Required Supplementary Information section of the employer's financial statement.

	Value	Description
A.	\$74,666	Present value of projected retirement benefit measured at employee's current age
B.	20	Current years of service with employer
C.	25	Projected years of service with employer at retirement
D.	\$59,733	Actuarial accrued liability measured at employee's current age = $A \times B / C$

IV. Calculation of Normal Cost

Normal Cost represents the portion of the Present Value of Future Benefits allocated to the current year.

	Value	Description
A.	\$74,666	Present value of projected retirement benefit measured at employee's current age
B.	25	Projected years of service with employer at retirement
C.	\$2,987	Normal cost measured at employee's current age = A / B

V. Calculation of Annual Required Contribution

Annual Required Contribution is the total expense for the current year to be shown in the employer's income statement.

	Value	Description
A.	\$2,987	Normal Cost for the current year
B.	\$3,509	30-year amortization (level dollar method) of Unfunded Actuarial Accrued Liability using a 4.5% interest rate discount factor
C.	\$292	Interest adjustment = $4.5\% \times (A + B)$
D.	\$6,788	Annual Required Contribution = $A + B + C$

Definitions

GASB 45 defines several unique terms not commonly employed in the funding of pension and retiree health plans. The definitions of the terms used in the GASB actuarial valuations are noted below.

1. **Actuarial Accrued Liability** – That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of plan benefits and expenses which is not provided for by the future Normal Costs.
2. **Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting health care costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided health care benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
3. **Actuarial Cost Method** – A procedure for determining the Actuarial Present Value of future benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.
4. **Actuarial Present Value** – The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
 - a) adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.);
 - b) multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned; and
 - c) discounted according to an assumed rate (or rates) of return to reflect the time value of money.
5. **Annual OPEB Cost** – An accrual-basis measure of the periodic cost of an employer’s participation in a defined benefit OPEB plan.
6. **Annual Required Contribution (ARC)** – The employer’s periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the parameters.
7. **Explicit Subsidy** – The difference between (a) the amounts required to be contributed by the retirees based on the premium rates and (b) actual cash contribution made by the employer.
8. **Funded Ratio** – The actuarial value of assets expressed as a percentage of the actuarial accrued liability.
9. **Healthcare Cost Trend Rate** – The rate of change in the per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

Definitions (continued)

10. **Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group (which, because of the effect of age on claim costs, generally will be higher than the blended premium rates for all group members) and (b) the amounts required to be contributed by the retirees.
11. **Net OPEB Obligation** – The cumulative difference since the effective date of this Statement between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.
12. **Normal Cost** – The portion of the Actuarial Present Value of plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.
13. **Pay-as-you-go** – A method of financing a benefit plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.
14. **Per Capita Costs** – The current cost of providing postretirement health care benefits for one year at each age from the youngest age to the oldest age at which plan participants are expected to receive benefits under the plan.
15. **Present Value of Future Benefits** – Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.
16. **Select and Ultimate Rates** – Actuarial assumptions that contemplate different rates for successive years. Instead of a single assumed rate with respect to, for example, the investment return assumption, the actuary may apply different rates for the early years of a projection and a single rate for all subsequent years. For example, if an actuary applies an assumed investment return of 8% for year 20W0, then 7.5% for 20W1, and 7% for 20W2 and thereafter, then 8% and 7.5% select rates, and 7% is the ultimate rate.
17. **Substantive Plan** – The terms of an OPEB plan as understood by the employer(s) and plan members.