

# Warren County School District

## *Financing Discussion*

**September 11, 2017**

**Prepared by:**  
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&  
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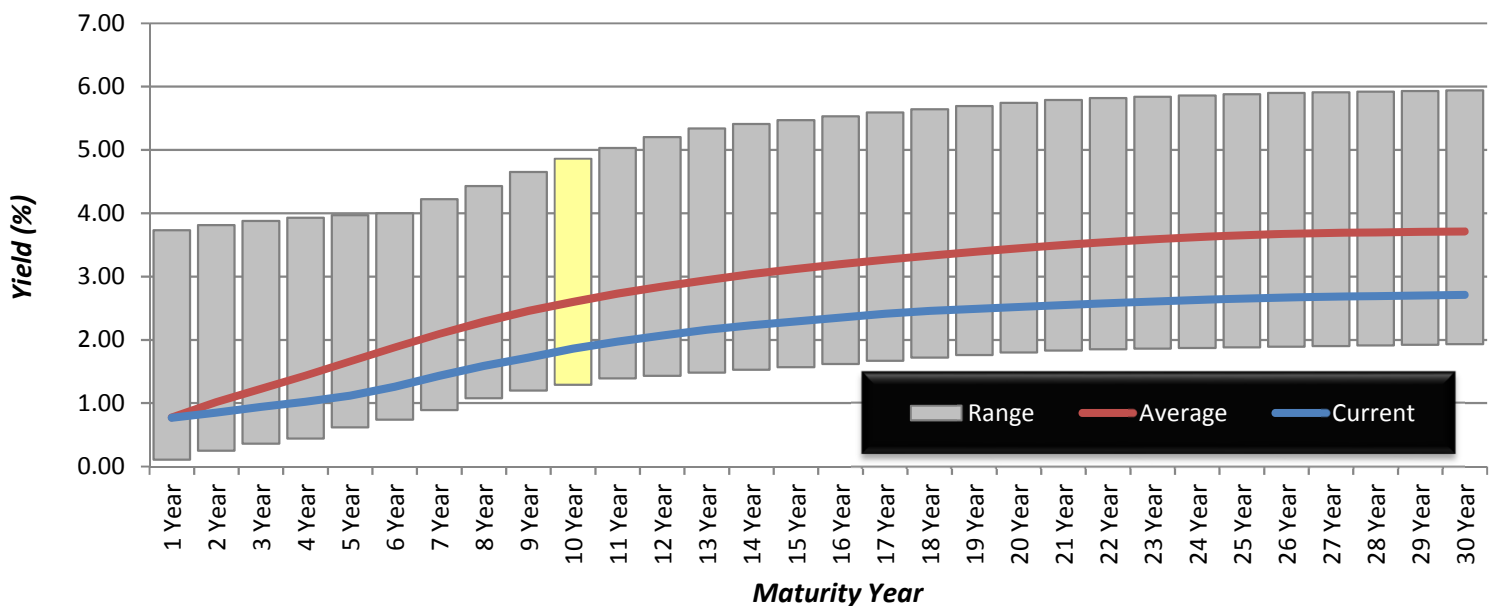
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## MMD YIELD CURVE

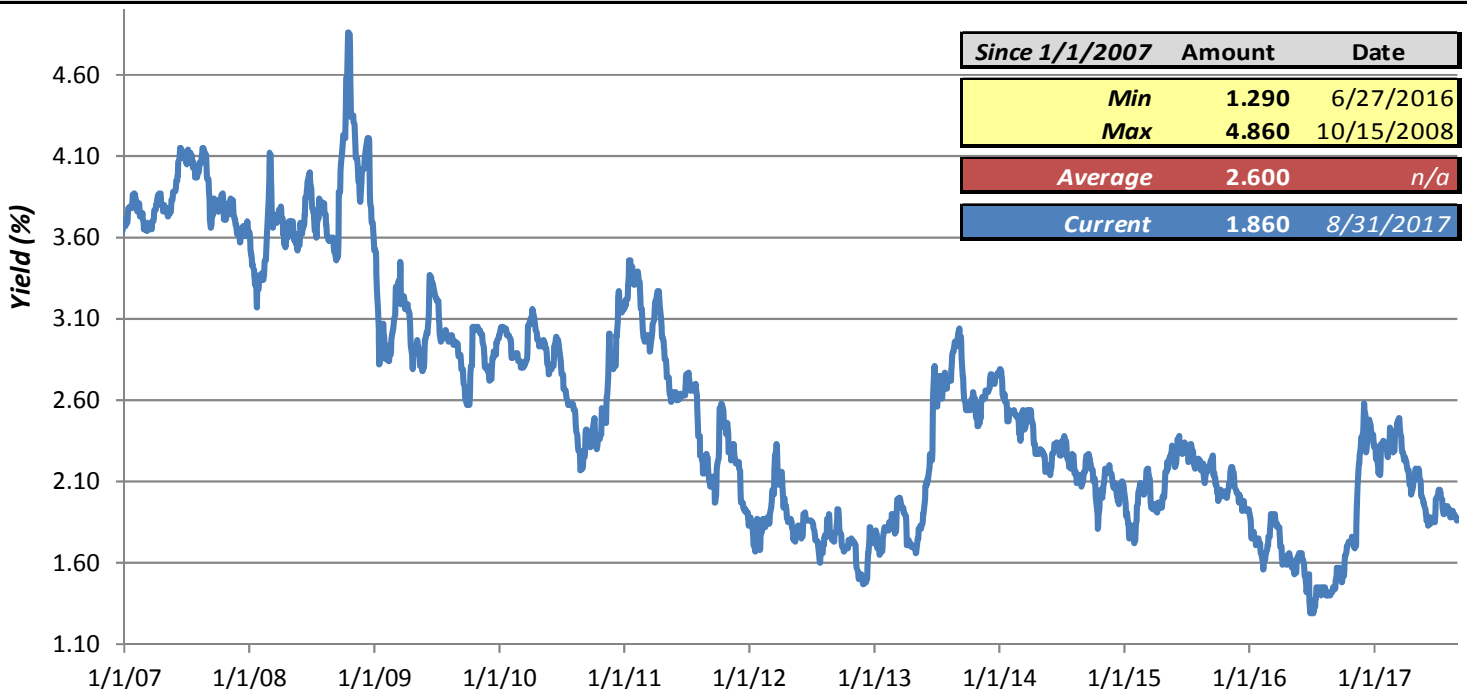
The MMD Yield Curve is a high grade municipal yield curve published daily by Municipal Market Data. It is one of the most commonly used benchmarks in municipal finance. The yields within the curve reflect the current yields for each maturity year at which bondholders would be likely to sell high quality (AAA rated) general obligation backed bonds. The yield curve is typically influenced by new issuances in the primary market as well as post-issuance trading in the secondary market.

Municipal bonds typically trade at a "spread to MMD", meaning the difference between the yield in a specific year of a bond issue and the respective yield in the MMD Yield Curve. While these spreads vary over time, they can be a meaningful and powerful tool in trying to compare relative yield levels in a volatile interest rate environment.

## HISTORICAL MMD CURVE ILLUSTRATION - SINCE JANUARY 1, 2007



## SPOT ANALYSIS - 10 YEAR MMD - SINCE JANUARY 1, 2007



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## **Warren County School District**

### **2017 Financing Plan Step 2**

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#### **Projects to be Financed**

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- Warren Area High School project
  - Remaining \$2,478,000 QZAB allocation which expires December 31, 2017
- Warren County Career Center submitted PlanCon A & B in 2015 (bids must be awarded by July 1, 2019 per Act 25 of 2016)
  - \$5,000,000 QZAB allocation which expires December 31, 2017
- District may utilize a parallel track process between a bank loan and a bond issue
  - Previous bank loan options had term limit of 15 years
    - Low to no supplemental coupon=> lower interest costs over the life of the issue
    - Higher millage equivalent
  - Bond issue allows for longer term
    - Slightly higher supplemental coupon=> higher interest costs over the life of the issue
    - Lower millage equivalent

#### **SAMPLE MOTION -1 (High School Allocation)**

Resolved: The Board of School Directors of the Warren County School District does hereby authorize the Administration to work with PFM Financial Advisors LLC as Independent Financial Advisor, Knox, McLaughlin Gornall & Sennett, P.C. as Bond Counsel and the local Solicitor to issue G.O. Bonds, Series A of 2017 for the purpose of financing the District's remaining 2016 QZAB allocation in the amount of \$2,478,000.

#### **SAMPLE MOTION -2 (Career Center Allocation)**

Resolved: The Board of School Directors of the Warren County School District, acting in its capacity as Directors of the Warren County Career & Technical Center, does hereby authorize the Administration to work with PFM Financial Advisors LLC as Independent Financial Advisor, Knox, McLaughlin Gornall & Sennett, P.C. as Bond Counsel and the local Solicitor to issue G.O. Bonds, Series B of 2017 for the purpose of financing the District's 2016 QZAB allocation in the amount of \$5,000,000.

#### **ESTIMATED TIMELINE**

##### **Taxable QZAB Financing**

- |  |                             |
|--|-----------------------------|
| ➤ Authorize Finance Team to Proceed    | September 11, 2017 or later |
| ➤ Sale (Lock in Rates)                 | November 13, 2017 or later  |
| ➤ Settlement (District Receives Funds) | December 18, 2017 or later  |

**WARREN COUNTY SCHOOL DISTRICT**  
**SUMMARY OF OUTSTANDING INDEBTEDNESS**

Debt Service Requirements										
Fiscal Year Ended	QZAB Series of 2011 (1)	QZAB Series of 2012(2)	G.O. Bonds Series of 2013	G.O. Bonds Series A of 2013	G.O. Bonds Series of 2014	QZAB Series of 2015	G.O. Notes Series of 2015	QZAB Series of 2016	G.O. Bonds Series of 2017	Total Debt Service
6/30/2018	1,044,884	104,025	295,755	862,750	406,760	125,721	1,215,890	149,000	203,016	4,407,801
6/30/2019	1,777,800	180,000	295,680		406,670	125,621	1,216,100	164,000	351,334	4,517,204
6/30/2020	1,315,700	1,215,000	295,583		406,580	125,521	710,807	159,000	351,246	4,579,437
6/30/2021	762,100	1,825,000	295,463		406,460	125,421	704,166	159,000	351,159	4,628,768
6/30/2022	789,000	1,764,254	295,343		406,310	125,321	706,321	168,000	351,071	4,605,619
6/30/2023	720,000	1,802,781	295,223		406,160	125,221	711,159	172,000	350,984	4,583,526
6/30/2024	702,000	1,797,494	295,103		425,710	125,121	705,745	172,000	350,878	4,574,050
6/30/2025	684,000	2,559,846	294,983		449,535	125,021		172,000	350,753	4,636,136
6/30/2026	666,000	2,016,867	792,273		487,273	124,921		172,000	350,628	4,609,960
6/30/2027	648,000	639,871	1,397,523		1,062,210	124,821		172,000	350,503	4,394,927
6/30/2028	630,000	599,733	1,363,323		1,133,010	124,721		172,000	350,378	4,373,164
6/30/2029	612,000	559,595	1,329,123		1,194,910	124,621		172,000	350,239	4,342,487
6/30/2030	594,000	514,639	1,294,923		1,267,710	124,521		173,000	350,086	4,318,878
6/30/2031		479,501	1,260,723		1,777,110	124,421		173,000	349,934	4,164,688
6/30/2032		439,363	1,231,448		1,827,595	124,321		173,000	349,781	4,145,507
6/30/2033		399,225	1,197,098		1,887,285	124,221			349,629	3,957,457
6/30/2034		359,087	1,162,461		1,490,295	284,121			349,476	3,645,440
6/30/2035						2,775,821			845,475	3,621,296
6/30/2036						2,777,621			847,275	3,624,896
6/30/2037						2,771,910			853,288	3,625,198
6/30/2038									2,892,200	2,892,200
6/30/2039									2,897,700	2,897,700
6/30/2040									2,894,788	2,894,788
6/30/2041										
6/30/2042										
6/30/2043										
<b>TOTAL</b>	10,945,484	17,256,279	13,392,021	862,750	15,441,583	10,609,004	5,970,188	2,522,000	17,041,817	94,041,125

Local Effort Requirements										
Fiscal Year Ended	QZAB Series of 2011 (1)	QZAB Series of 2012(2)	G.O. Bonds Series of 2013	G.O. Bonds Series A of 2013	G.O. Bonds Series of 2014	QZAB Series of 2015	G.O. Notes Series of 2015	QZAB Series of 2016	G.O. Bonds Series of 2017	Total Local Effort
6/30/2018	778,815	83,603	244,114	651,691	358,478	105,820	914,558	125,415	189,462	3,451,955
6/30/2019	1,325,102	144,663	244,052		358,399	105,736	914,716	138,041	327,877	3,558,585
6/30/2020	980,671	976,473	243,971		358,319	105,652	534,649	133,832	327,796	3,661,363
6/30/2021	568,039	1,466,718	243,872		358,213	105,568	529,653	133,832	327,714	3,733,611
6/30/2022	588,089	1,417,898	243,773		358,081	105,484	531,275	141,407	327,632	3,713,640
6/30/2023	536,660	1,448,861	243,674		357,949	105,400	534,914	144,774	327,551	3,699,782
6/30/2024	523,243	1,444,612	243,575		375,178	105,315	530,842	144,774	327,452	3,694,992
6/30/2025	509,827	2,057,300	243,476		396,175	105,231		144,774	327,335	3,784,119
6/30/2026	496,410	1,620,919	653,935		429,434	105,147		144,774	327,218	3,777,837
6/30/2027	482,994	514,253	1,153,504		936,126	105,063		144,774	327,102	3,663,815
6/30/2028	469,577	481,994	1,125,276		998,522	104,979		144,774	326,985	3,652,107
6/30/2029	456,161	449,736	1,097,047		1,053,075	104,895		144,774	326,855	3,632,543
6/30/2030	442,744	413,606	1,068,819		1,117,234	104,810		145,616	326,713	3,619,541
6/30/2031		385,366	1,040,590		1,566,168	104,726		145,616	326,571	3,569,037
6/30/2032		353,108	1,016,427		1,610,661	104,642		145,616	326,428	3,556,882
6/30/2033		320,849	988,075		1,663,265	104,558			326,286	3,403,034
6/30/2034		288,591	959,486		1,313,398	239,147			326,144	3,126,767
6/30/2035						2,336,438			789,028	3,125,465
6/30/2036						2,337,953			790,708	3,128,660
6/30/2037						2,333,146			796,319	3,129,465
6/30/2038									2,699,105	2,699,105
6/30/2039									2,704,238	2,704,238
6/30/2040									2,701,520	2,701,520
6/30/2041										
6/30/2042										
6/30/2043										
<b>TOTAL</b>	8,158,331	13,868,550	11,053,668	651,691	13,608,677	8,929,710	4,490,606	2,122,794	15,904,038	78,788,064

<b>Principal *:</b>	16,200,000	23,180,000	9,685,000	850,000	9,970,000	8,449,000	5,631,000	2,522,000	9,920,000	86,407,000
<b>PE%:</b>	35.89%	27.67%	24.61%	34.48%	16.73%	22.31%	34.93%	22.31%	9.41%	
<b>PE% Status:</b>	Temporary	Permanent	Temporary	Temporary	Temporary	Temporary	Permanent	Temporary	Estimated	
<b>AR%:</b>	70.95%	70.95%	70.95%	70.95%	70.95%	70.95%	70.95%	70.95%	70.95%	
<b>Call Date:</b>	Non-Callable	Non-Callable	5/15/2018	Non-Callable	5/15/2019	9/1/2025	Anytime	Anytime	9/1/2022	
<b>Purpose:</b>	New Money	New Money	New Money	Cur Ref 08	New Money	New Money	Cur Ref 2010	New Money	New Money	

\* Outstanding as of August 31, 2017

(1) QZAB debt service is net of Fed. Reimbursement Subsidy 5.138% & est. sinking fund earnings of 2.00%

- (1A) Assumes Fed. Reimbursement Subsidy for 9/1/13 payments reduced by 8.70% (\$36,207.49 per payment)
- (1B) Assumes Fed. Reimbursement Subsidy for 3/1/14 & 9/1/14 payments reduced by 7.20% (\$29,964.82 per payment)
- (1C) Assumes Fed. Reimbursement Subsidy for 3/1/15 & 9/1/15 payments reduced by 7.30% (\$30,380.99 per payment)
- (1D) Assumes Fed. Reimbursement Subsidy for 3/1/16 & 9/1/2016 payment reduced by 6.80% (\$28,300.10 per payment)
- (1E) Assumes Fed. Reimbursement Subsidy for 3/1/17 & 9/1/2017 payment reduced by 6.90% (\$28,716.28 per payment)
- (1F) Assumes Fed. Reimbursement Subsidy for 3/1/18 payment reduced by 6.60% (\$27,467.75 per payment)

(2) QZAB debt service is net of Fed. Reimbursement Subsidy 4.185% & sinking fund earnings of 3.14%

- (2A) Assumes Fed. Reimbursement Subsidy for 11/1/13 & 5/1/14 payments reduced by 7.20% (\$34,922.99 per payment)
- (2B) Assumes Fed. Reimbursement Subsidy for 11/1/214 & 5/1/2015 payments reduced by 7.30% (\$35,408.03 per payment)
- (2C) Assumes Fed. Reimbursement Subsidy for 11/1/2015 & 5/1/2016 payments reduced by 6.80% (\$32,982.82 per payment)
- (2D) Assumes Fed. Reimbursement Subsidy for 11/1/2016 & 5/1/2017 payments reduced by 6.90% (\$33,467.86 per payment)
- (2E) Assumes Fed. Reimbursement Subsidy for 11/1/2017 & 5/1/2018 payments reduced by 6.60% (\$32,012.74 per payment)

**WARREN COUNTY SCHOOL DISTRICT  
SUMMARY OF NEW MONEY**

**High School + Career Center 15 Year Term QZAB**

	1	2	3
	<b>STEP 2</b>	<b>STEP 2</b>	
	<i>High School Portion</i>	<i>Career Center Portion</i>	<b>Total</b>
<i>Principal</i>	\$2,478,000	\$5,000,000	\$7,478,000
<i>Type</i>	QZAB	QZAB	
<i>Millage Equivalent [1]</i>	0.35	0.82	1.17

4	5	6	7	8	9	10	11	12
<b>Fiscal Year Ending</b>	<b>Existing Local Effort</b>	<b>Proposed Local Effort [2]</b>	<b>Total Local Effort</b>	<b>Millage Equivalent [1]</b>	<b>Proposed Local Effort [2]</b>	<b>Total Local Effort</b>	<b>Millage Equivalent [1]</b>	<b>Total Millage Equivalent</b>
6/30/2018	3,451,955	60,310	3,512,266	0.14	156,000	3,668,266	0.37	0.51
6/30/2019	3,558,585	148,191	3,706,776	0.21	346,000	4,052,776	0.45	0.66
6/30/2020	3,661,363	148,191	3,809,554		346,000	4,155,554		
6/30/2021	3,733,611	148,191	3,881,802		346,000	4,227,802		
6/30/2022	3,713,640	148,191	3,861,831		346,000	4,207,831		
6/30/2023	3,699,782	148,191	3,847,973		346,000	4,193,973		
6/30/2024	3,694,992	148,191	3,843,183		346,000	4,189,183		
6/30/2025	3,784,119	148,191	3,932,310		346,000	4,278,310		
6/30/2026	3,777,837	148,191	3,926,028		346,000	4,272,028		
6/30/2027	3,663,815	148,191	3,812,006		346,000	4,158,006		
6/30/2028	3,652,107	148,191	3,800,298		346,000	4,146,298		
6/30/2029	3,632,543	148,191	3,780,734		346,000	4,126,734		
6/30/2030	3,619,541	148,191	3,767,733		346,000	4,113,733		
6/30/2031	3,569,037	148,191	3,717,228		346,000	4,063,228		
6/30/2032	3,556,882	148,191	3,705,073		346,000	4,051,073		
6/30/2033	3,403,034		3,403,034			3,403,034		
6/30/2034	3,126,767		3,126,767			3,126,767		
6/30/2035	3,125,465		3,125,465			3,125,465		
6/30/2036	3,128,660		3,128,660			3,128,660		
6/30/2037	3,129,465		3,129,465			3,129,465		
6/30/2038	2,699,105		2,699,105			2,699,105		
6/30/2039	2,704,238		2,704,238			2,704,238		
6/30/2040	2,701,520		2,701,520			2,701,520		
6/30/2041								
6/30/2042								
6/30/2043								
6/30/2044								
6/30/2045								
6/30/2046								
6/30/2047								
6/30/2048								
6/30/2049								
6/30/2050								
<b>TOTAL</b>	<b>78,788,064</b>	<b>2,134,987</b>	<b>80,923,051</b>	<b>0.35</b>	<b>5,000,000</b>	<b>85,923,051</b>	<b>0.82</b>	<b>1.17</b>

[1] 1 Mill = 420,000

[2] Assumes District receives a bank loan proposal with a 0.0% supplemental coupon.

Assumes PE% of 19.51% on High School series, 0.00% on Career Center series

Actual rate to be determined at the time of pricing.

**WARREN COUNTY SCHOOL DISTRICT  
QUALIFIED ZONE ACADEMY BOND PROGRAM  
SERIES A OF 2017 (High School)**

**Estimated:**

Dated: 12/11/2017  
Settlement: 12/11/2017  
Maximum Maturity: 31 years  
Actual Final Maturity: 3/1/2032  
Par Amount: \$2,478,000  
Bid Price: 100.0000%  
Proceeds: \$2,478,000  
First Interest Payment: 3/1/2018  
Principal Due: September 1  
Est. Taxable Coupon: 0.000%  
Est. Tax Credit Rate: 4.120%

AR% 70.95% (2017-18)  
PE% 19.51% Estimated  
1 Mill = \$420,000 Estimated

**ESTIMATED**

1	2	3	4	5	6	7	8	9
	<b>BANK TAX CREDIT</b>		<b>ISSUER NET PAYMENT STRUCTURE</b>				<b>TOTAL LOCAL EFFORT</b>	
Loan Payment Date	Bondholder Tax Credit Rate	Principal	Semi-Annual Net Payments	Annual Net Payments	Less: State Aid	Annual Estimated Local Effort	Existing Local Effort	Total Local Effort
3/1/2018	4.120	70,000	70,000.00	70,000.00	(9,689.64)	60,310.36	3,451,955.45	3,512,265.81
9/1/2018								
3/1/2019	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,558,584.90	3,706,776.06
9/1/2019								
3/1/2020	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,661,362.94	3,809,554.10
9/1/2020								
3/1/2021	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,733,610.83	3,881,802.00
9/1/2021								
3/1/2022	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,713,640.14	3,861,831.31
9/1/2022								
3/1/2023	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,699,782.09	3,847,973.26
9/1/2023								
3/1/2024	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,694,991.76	3,843,182.93
9/1/2024								
3/1/2025	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,784,118.83	3,932,309.99
9/1/2025								
3/1/2026	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,777,837.08	3,926,028.25
9/1/2026								
3/1/2027	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,663,815.11	3,812,006.28
9/1/2027								
3/1/2028	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,652,107.30	3,800,298.47
9/1/2028								
3/1/2029	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,632,543.08	3,780,734.24
9/1/2029								
3/1/2030	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,619,541.47	3,767,732.64
9/1/2030								
3/1/2031	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,569,037.24	3,717,228.41
9/1/2031								
3/1/2032	4.120	172,000	172,000.00	172,000.00	(23,808.83)	148,191.17	3,556,881.69	3,705,072.85
9/1/2032								
3/1/2033							3,403,033.71	3,403,033.71
9/1/2033								
3/1/2034							3,126,766.70	3,126,766.70
9/1/2034								
3/1/2035							3,125,465.32	3,125,465.32
9/1/2035								
3/1/2036							3,128,660.22	3,128,660.22
9/1/2036								
3/1/2037							3,129,464.84	3,129,464.84
9/1/2037								
3/1/2038							2,699,105.30	2,699,105.30
9/1/2038								
3/1/2039							2,704,238.10	2,704,238.10
9/1/2039								
3/1/2040							2,701,520.05	2,701,520.05
TOTALS		<b>2,478,000</b>	2,478,000.00	2,478,000.00	(343,013.31)	2,134,986.69	78,788,064.17	80,923,050.86

**WARREN COUNTY SCHOOL DISTRICT  
QUALIFIED ZONE ACADEMY BOND PROGRAM  
SERIES B OF 2017 (Career Center)**

**Estimated:**

Dated: 12/1/2017  
Settlement: 12/1/2017  
Maximum Maturity: 31 years  
Actual Final Maturity: 3/1/2032  
Par Amount: \$5,000,000  
Bid Price: 100.0000%  
Proceeds: \$5,000,000  
First Interest Payment: 3/1/2018  
Principal Due: September 1  
Est. Taxable Coupon: 0.000%  
Est. Tax Credit Rate: 4.120%

AR% 70.95% (2017-18)  
PE% 0.00% Estimated  
1 Mill = \$420,000 Estimated

**ESTIMATED**

1	2	3	4	5	6	7	8	9
	<b>BANK TAX CREDIT</b>		<b>ISSUER NET PAYMENT STRUCTURE</b>				<b>TOTAL LOCAL EFFORT</b>	
Loan Payment Date	Bondholder Tax Credit Rate	Principal	Semi-Annual Net Payments	Annual Net Payments	Less: State Aid	Annual Estimated Local Effort	Existing Local Effort	Total Local Effort
3/1/2018	4.120	156,000	156,000.00	156,000.00		156,000.00	3,512,265.81	3,668,265.81
9/1/2018								
3/1/2019	4.120	346,000	346,000.00	346,000.00		346,000.00	3,706,776.06	4,052,776.06
9/1/2019								
3/1/2020	4.120	346,000	346,000.00	346,000.00		346,000.00	3,809,554.10	4,155,554.10
9/1/2020								
3/1/2021	4.120	346,000	346,000.00	346,000.00		346,000.00	3,881,802.00	4,227,802.00
9/1/2021								
3/1/2022	4.120	346,000	346,000.00	346,000.00		346,000.00	3,861,831.31	4,207,831.31
9/1/2022								
3/1/2023	4.120	346,000	346,000.00	346,000.00		346,000.00	3,847,973.26	4,193,973.26
9/1/2023								
3/1/2024	4.120	346,000	346,000.00	346,000.00		346,000.00	3,843,182.93	4,189,182.93
9/1/2024								
3/1/2025	4.120	346,000	346,000.00	346,000.00		346,000.00	3,932,309.99	4,278,309.99
9/1/2025								
3/1/2026	4.120	346,000	346,000.00	346,000.00		346,000.00	3,926,028.25	4,272,028.25
9/1/2026								
3/1/2027	4.120	346,000	346,000.00	346,000.00		346,000.00	3,812,006.28	4,158,006.28
9/1/2027								
3/1/2028	4.120	346,000	346,000.00	346,000.00		346,000.00	3,800,298.47	4,146,298.47
9/1/2028								
3/1/2029	4.120	346,000	346,000.00	346,000.00		346,000.00	3,780,734.24	4,126,734.24
9/1/2029								
3/1/2030	4.120	346,000	346,000.00	346,000.00		346,000.00	3,767,732.64	4,113,732.64
9/1/2030								
3/1/2031	4.120	346,000	346,000.00	346,000.00		346,000.00	3,717,228.41	4,063,228.41
9/1/2031								
3/1/2032	4.120	346,000	346,000.00	346,000.00		346,000.00	3,705,072.85	4,051,072.85
9/1/2032								
3/1/2033							3,403,033.71	3,403,033.71
9/1/2033								
3/1/2034							3,126,766.70	3,126,766.70
9/1/2034								
3/1/2035							3,125,465.32	3,125,465.32
9/1/2035								
3/1/2036							3,128,660.22	3,128,660.22
9/1/2036								
3/1/2037							3,129,464.84	3,129,464.84
9/1/2037								
3/1/2038							2,699,105.30	2,699,105.30
9/1/2038								
3/1/2039							2,704,238.10	2,704,238.10
9/1/2039								
3/1/2040							2,701,520.05	2,701,520.05
TOTALS		5,000,000	5,000,000.00	5,000,000.00		5,000,000.00	80,923,050.86	85,923,050.86

**WARREN COUNTY SCHOOL DISTRICT**  
**Series A & B of 2017**  
**Comparison of QZAB**

	Base Case	Bank Loan	Net Benefit
	Est. Tax Exempt Bond Issue	Est. Taxable QZAB- BANK	
Estimated Project Proceeds Available to District:	7,211,599	7,362,840	
<b>Borrowing Amount:</b>	7,480,000	7,478,000	
<b>PLUS:</b> Estimated Interest:	5,388,818	0	
<b>LESS:</b> Estimated Sinking Fund Earnings:	0	0	
<b>Total Local Effort (Principal + Interest):</b>	<b>12,868,818</b>	<b>7,478,000</b>	<b>5,390,818</b>
<b>Assumptions</b>			
Est. Final Maturity:	9/1/2040	3/1/2032	
Est. Interest Rate:	3.52%	0.00%	
Est. Subsidy:	0.00%	0.00%	
Est. Sinking Fund Investment Rate:	0.00%	0.00%	
Est. Millage Equivalent:	0.61	1.17	

Estimated rates. Actual rates to be determined at the time of pricing.