



Carl Vinson Institute of Government

The University of Georgia

October 14, 2011

Mr. Charles Whatley
Director
DeKalb County Office of Economic Development
330 West Ponce de Leon Avenue, 6th Floor
Decatur, GA. 30030

RE: Economic Impact of DeKalb DWM Bond Issue

Dear Mr. Whatley,

The capital projects and improvements planned by the DeKalb Department of Watershed Management (DWM) and funded with bond issues totaling \$1.3 billion over the period 2012 to 2015 will have a significant impact on DeKalb County. We modeled the impact of the DWM projects using IMPLAN, a standard input/output model. After building a baseline model, we added spending in DeKalb County in the water, sewage, and other treatment and delivery systems industry sector using data provided by the DeKalb County Office of Economic Development. Those inputs are shown in Table 1. The initial bond sale of \$400 million in 2012 is to be spent over the three years 2013 through 2015. Bond sales of \$300 million in three successive years will also fund projects over a three-year period each, resulting in the yearly spending totals contained in the shaded row of Table 1. The table also contains amounts for labor, engineering, materials, and equipment within each year as estimated by the Office of Economic Development. These figures represent direct impacts of the projects. IMPLAN will estimate the indirect and induced effects. All dollar amounts in this analysis, including those in Table 1, are in 2011 dollars.

Table 2 presents the estimated impacts generated by IMPLAN. Because spending ramps up and peaks in 2015, and then decreases through 2018, the number of jobs each year varies. Over the period of spending (2013 through 2018), the projects funded by the bond issue will support between 1,036 and 3,670 direct employment jobs, with another 191 to 709 supported indirectly. These are jobs with transportation companies, suppliers providing materials, and subcontractors who perform work on or off the jobsite. An additional 75 to 277 jobs are induced by the economic activity, the so-called multiplier effect. These jobs include restaurant workers, dry cleaners, and other service industry jobs as well as grocers, retailers, and persons in professional occupations. The annual average number of jobs supported by the projects is right at 3,000 with a peak of about 4,650 in 2015. The personal income from

these jobs will total just over \$780 million for the entire six-year period, and the total economic impact to DeKalb County will be \$1.77 billion.

The total state and local fiscal impact from the projects are presented in Table 3. Total state and local revenues for DeKalb County and Georgia are estimated to be about \$19.8 million over the entire period. To the extent that these projects enhance property values, that revenue source will see an increase. However, the estimate produced by IMPLAN, which is more than one-half of the total state and local revenue increase, depends on both increases to property values as a result of the improvements and a reassessment of parcels that takes those improvements into consideration. Officials should use any additional information they have on the benefits to properties in DeKalb County in considering the estimate.

Thank you for allowing us to assist DeKalb County with the economic modeling of the Department of Watershed Management's planned capital projects and improvements. If I can provide additional information, or answer any questions about the analysis, please contact me at wclarke@cviog.uga.edu, or by phone at (706) 542-6202.

Sincerely,

A handwritten signature in black ink, appearing to read "Wes Clarke". The signature is fluid and cursive, with a large initial "W" and a long, sweeping underline.

Wes Clarke, Ph.D.

Table 1. Bond Sale and Project Spending Amounts, 2012 – 2018 (000s of 2011 Dollars)

Year	Bond Sale (000s)	Project Spending							Total
		2012	2013	2014	2015	2016	2017	2018	
2012	\$400,000		133,333	133,333	133,333				400,000
2013	\$300,000			100,000	100,000	100,000			300,000
2014	\$300,000				100,000	100,000	100,000		300,000
2015	\$300,000					100,000	100,000	100,000	300,000
			133,333	133,333	133,333	300,000	200,000	100,000	1,000,000
Labor			51,282	89,744	128,205	115,385	76,923	38,462	500,000
Engineering			10,256	17,949	25,641	23,077	15,385	7,692	100,000
Materials			35,897	62,821	89,744	80,769	53,846	26,923	350,000
Equipment			35,897	62,821	89,744	80,769	53,846	26,923	350,000

Source: IMPLAN, Minnesota IMPLAN Group, Inc.

Table 2. DeKalb County Project Impacts, 2013 through 2018

Impact Type	Employment (Number of Jobs)	Labor Income (2011 Dollars)	Economic Output (2011 Dollars)
2013			
Direct Effect	1,528	61,538,000	133,333,333
Indirect Effect	305	15,594,356	38,826,483
Induced Effect	119	4,782,550	13,804,595
Total Effect	1,952	81,914,906	185,964,411
2014			
Direct Effect	2,622	107,693,000	233,333,333
Indirect Effect	514	26,320,523	65,657,902
Induced Effect	201	8,072,207	23,300,026
Total Effect	3,338	142,085,730	322,291,262
2015			
Direct Effect	3,670	153,846,000	333,333,333
Indirect Effect	709	36,276,844	90,668,458
Induced Effect	277	11,125,840	32,114,185
Total Effect	4,656	201,248,684	456,115,976
2016			
Direct Effect	3,238	138,462,000	300,000,000
Indirect Effect	616	31,510,566	78,907,640
Induced Effect	241	9,664,177	27,895,164
Total Effect	4,094	179,636,743	406,802,804
2017			
Direct Effect	2,115	92,308,000	200,000,000
Indirect Effect	396	20,281,897	50,887,238
Induced Effect	155	6,220,458	17,955,040
Total Effect	2,666	118,810,354	268,842,278
2018			
Direct Effect	1,036	46,154,000	100,000,000
Indirect Effect	191	9,794,690	24,622,332
Induced Effect	75	3,004,065	8,671,084
Total Effect	1,302	58,952,756	133,293,416
Source: IMPLAN, Minnesota IMPLAN Group, Inc.			

Table 3. Average Annual State and Local Tax Impacts (2011 Dollars)

Tax/Revenue Source	Employee Compensation	Proprietor Income	Indirect Business Tax	Households	Corporations	Total
Dividends					120,683	120,683
Social Insurance Tax- Employee Contribution	11,871					11,871
Social Insurance Tax- Employer Contribution	29,485					29,485
Indirect Business Tax: Sales Tax			4,041,929			4,041,929
Indirect Business Tax: Property Tax			10,344,371			10,344,371
Indirect Business Tax: Motor Vehicle Licenses						0
Indirect Business Tax: Severance Tax						0
Indirect Business Tax: Other Taxes			420,724			420,724
Indirect Business Tax: S/L NonTaxes			190,208			190,208
Corporate Profits Tax						0
Personal Tax: Income Tax				3,500,585		3,500,585
Personal Tax: NonTaxes (Fines- Fees)				1,129,532		1,129,532
Personal Tax: Motor Vehicle License						0
Personal Tax: Property Taxes				85,290		85,290
Personal Tax: Other Tax (Fish/Hunt)						0
Total State and Local Tax	41,356		14,997,231	4,715,407	120,683	19,874,677

Source: IMPLAN, Minnesota IMPLAN Group, Inc.



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RE: Economic Impact of DeKalb DWM Bond Issue

Dear Mr. Whatley,

The three tables included below present the impacts of the \$1.3 billion dollar DWM improvement projects estimated by the Georgia Economic Modeling System (GEMS). The estimates are for total jobs, the wage bill related to those jobs, and total economic activity for DeKalb County and the surrounding counties, the remainder of the State of Georgia, and the remainder of the United States.

The inputs used in GEMS were identical to those used with IMPLAN that produced the analysis I sent to you earlier. However, trade flow estimates in GEMS and IMPLAN are slightly different. GEMS assumes that a smaller proportion of the purchases of goods and materials associated with these improvements will be from firms located in DeKalb County. IMPLAN uses trade flows based on industry averages for in-county and out-of-county purchases. GEMS produces trade flows based on the presence of industries in the county. Neither method is necessarily better. It is simply two ways to produce an estimate. Thus, GEMS shows slightly more of the economic impact of the project to be outside of DeKalb County. We can be fairly sure that the impact in DeKalb County is somewhere between the two estimates and the actual impact will be determined by the amount of materials purchased from firms in the county. The strength of GEMS is in multi-regional modeling, enabling estimates of the impacts these projects will have on surrounding counties and the state as a whole.

GEMS estimates 1,664 jobs in DeKalb County in 2013, a peak of 4,170 jobs in 2015, and 1,249 jobs in 2018 (see Table 1). The average number of jobs over the entire period for DeKalb County estimated by GEMS is 2,709, compared to 3,000 estimated by IMPLAN. This estimate includes direct, indirect, and induced employment. Table 1 also includes estimated impacts in the surrounding counties, the rest of the state, and the rest of the United States.

Table 5 contains the estimated increase to personal income for the jobs shown in Table 1. In DeKalb County, the impact of the additional employment is nearly \$126 million in personal income in 2013 and increases to more than \$300 million at the peak period of activity.

Table 3 contains an estimate of the total economic impact of the projects. These figures represent the total value of all goods and services produced as a result of the project and are extremely close to the impacts estimated by IMPLAN. The impact on DeKalb County's economy is about \$178 million in 2013 and increases to \$450 million at the peak in 2015. The impact on the entire state is nearly \$500 million at the outset and more than \$1.2 billion in 2015. Again, these estimates represent the total value of goods and services in each region.

I hope this additional analysis using GEMS is helpful. As before, please call if you have any questions about the analysis or about GEMS. I can be reached at wclarke@cviog.uga.edu, or by phone at (706) 542-6202.

Sincerely,

A handwritten signature in black ink that reads "Wes Clarke". The signature is written in a cursive, flowing style.

Wes Clarke, Ph.D.

Table 1. Employment impact of the DeKalb County DWM Bond Issue

	2013	2014	2015	2016	2017	2018
County/Region	Number of Jobs					
DeKalb County	1,664	2,917	4,170	3,753	2,501	1,249
Clayton County	67	118	168	151	100	50
Cobb County	339	593	846	761	506	253
Fulton County	943	1,648	2,349	2,109	1,402	699
Gwinnett County	258	450	641	575	382	190
Henry County	31	54	78	70	47	23
Rockdale County	36	62	89	80	53	26
Remainder of Georgia	569	994	1,418	1,273	846	422
Total for State of Georgia	5,919	8,850	11,774	10,788	7,855	4,931
Remainder of United States	1,970	3,443	4,909	4,408	2,930	1,460
Total	7,890	12,293	16,683	15,196	10,785	6,391

Source: GEMS, Carl Vinson Institute of Government

Table 2. Personal income impact of the DeKalb County DWM Bond Issue

	2013	2014	2015	2016	2017	2018
County/Region	000s of 2011 Dollars					
DeKalb County	125,908	225,138	328,246	301,169	204,471	104,012
Clayton County	2,975	5,292	7,678	7,012	4,740	2,401
Cobb County	17,037	30,292	43,930	40,105	27,101	13,725
Fulton County	63,790	113,168	163,777	149,222	100,647	50,882
Gwinnett County	12,875	22,829	33,020	30,071	20,272	10,244
Henry County	1,069	1,899	2,753	2,513	1,697	859
Rockdale County	1,436	2,544	3,678	3,348	2,256	1,140
Remainder of Georgia	20,203	35,904	52,045	47,494	32,081	16,241
Total for State of Georgia	245,294	437,065	635,128	580,933	393,265	199,503
Remainder of United States	95,528	169,629	245,687	224,010	151,184	76,463
Total	340,822	606,695	880,815	804,943	544,449	275,966

Source: GEMS, Carl Vinson Institute of Government

Table 3. Total economic output impact of the DeKalb County DWM Bond Issue

	2013	2014	2015	2016	2017	2018
County/Region	000s of 2011 Dollars					
DeKalb County	178,846	314,188	450,511	406,916	272,217	136,562
Clayton County	6,900	12,264	17,784	16,234	10,970	5,556
Cobb County	39,311	69,795	101,095	92,194	62,241	31,497
Fulton County	158,784	281,388	406,854	370,414	249,680	126,162
Gwinnett County	43,339	76,837	111,145	101,230	68,261	34,504
Henry County	2,918	5,184	7,515	6,858	4,633	2,346
Rockdale County	3,428	6,077	8,790	8,005	5,397	2,728
Remainder of Georgia	50,258	89,364	129,620	118,362	80,006	40,533
Total for State of Georgia	483,783	855,098	1,233,313	1,120,214	753,406	379,886
Remainder of United States	280,864	499,136	723,548	660,288	446,025	225,789
Total	764,647	1,354,234	1,956,861	1,780,502	1,199,431	605,675

Source: GEMS, Carl Vinson Institute of Government