



To: Deb Janik, SVP Greater Cleveland Partnership
Mitchell Schneider, First Interstate

From: Rick Seifritz

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Re: Economic estimates of impacts 325,000 square feet of retail, with and without a supermarket

Team NEO has been asked by The Greater Cleveland Partnership to estimate the operations of 325,000 square feet of retail operations complex with including 30,000 square feet of outlying retail and food services. To create an estimate, the following assumptions and procedures were utilized:

- First, and at least for discussion purposes, it was assumed that the development would be in Cuyahoga County, but outside of the Cleveland municipal boundaries
- Next, Westgate Shopping Center was used as a model of potential retail and food services establishment
 - Each reported tenant from Westgate was recorded and assigned an activity identifier
 - Using Urban Land Institute's "Dollars and Cents of Shopping Centers/The Score 2006", values were assigned by activity type for both average square foot for each establishment as well as median sales per square foot; the client advised as to specific changes to that mix of uses to more accurately represent the project
 - Estimates for total sales per establishment were created by multiplying sales by square feet, and then adding by the following types:
 - Retail
 - Food Services
 - Two sets of estimates were created using a "best guess" of the shopping center portfolio of stores:
 - Scenario A that does not include a supermarket
 - Scenario B that includes a supermarket
 - All estimates are for a full year of operations in 2012 (reported in 2010\$) and are created for Cuyahoga County

Impact Results With and Without Supermarket:

	A. Without Supermarket	B. With Supermarket
Employment	714	788
Gross Regional Product (2010\$)	\$36,126,013	\$40,581,106
Wages by Place of Work	\$23,483,000	\$26,184,000
Local Wage Tax (@2%)	\$469,660	\$523,680
State Income Tax (2.88% ATR)	\$676,310	\$754,099
CAT: Self Supply	\$49,354	\$55,519
CAT: Imports	\$0	\$0
Sales: B2B	\$218,339	\$233,017
Sales: Consumer	\$237,189	\$266,268
Total State Revenue Estimates	\$1,211,647	\$1,339,595
Total Public Revenue Estimates	\$1,681,307	\$1,863,275
Output (2010\$)	\$57,541,549	\$64,482,766

Project Summaries and Caveats

A note of caution in interpreting these results: The REMI model estimates economic impacts on an annualized basis. This underlies an assumption that the event shock of stimulus lasts all year, and so the benefits are *distributed* across a year's time frame.

Estimated Uses and Sales for Model Inputs – Scenario A, without Supermarket:

Category	Potential Use	Sq. Ft.	Sales/Foot ²	Total Sales	Adjusted Sales less Margin for Retail
Fast Food	Hamburgers	2,300	492.73	1,133,279	1,133,279
Fast Food	Health Food	1,300	274.15	356,395	356,395
Fast Food	Coffee / Tea	1,700	353.78	601,426	601,426
Restaurant	Restaurant w/o Liquor	2,400	364.79	875,496	875,496
Restaurant	Restaurant w/ Liquor	5,100	370.39	1,888,989	1,888,989
Restaurant	Restaurant w/ Liquor	5,100	370.39	1,888,989	1,888,989
Restaurant	Restaurant w/ Liquor	6,000	370.39	2,222,340	2,222,340
Restaurant	Restaurant w/o Liquor	4,000	364.79	1,459,160	1,459,160
Retail A	Category Store (Junior Anchor Tenant)	35,000	317.16	11,100,600	3,885,210
Retail A	Discount Dept Store (Large Tenant)	88,000	156.03	13,730,640	4,805,724
Retail A	Discount Dept Store (Large Tenant)	127,000	223.54	28,389,580	9,936,353
Retail A	Other Retail (Junior Anchor Tenant)	25,000	177.21	4,430,250	1,550,588
Retail B	Women's Specialty	4,200	353.82	1,486,044	520,115
Retail B	Children's Wear	4,400	300.94	1,324,136	463,448
Retail B	Family Shoes	6,000	823.39	4,940,340	1,729,119
Retail B	Jewelry	2,000	2,679.38	5,358,760	1,875,566
Retail B	Electronics	2,000	363.69	727,380	254,583
Retail B	Athletic Wear	3,500	238.88	836,080	292,628
	Total GLA	325,000			

Estimated Uses and Sales for Model Inputs – Scenario B, with Supermarket:

Potential Use	Sq. Ft.	Sales/Foot ²	Total Sales	Adjusted Sales less Margin for Retail
Hamburgers	2,300	492.73	1,133,279	1,133,279
Health Food	1,300	274.15	356,395	356,395
Coffee / Tea	1,700	353.78	601,426	601,426
Restaurant w/o Liquor	2,400	364.79	875,496	875,496
Restaurant w/ Liquor	5,100	370.39	1,888,989	1,888,989
Restaurant w/ Liquor	5,100	370.39	1,888,989	1,888,989
Restaurant w/ Liquor	6,000	370.39	2,222,340	2,222,340
Restaurant w/o Liquor	4,000	364.79	1,459,160	1,459,160
				10,426,074
Supermarket (Large Tenant)	70,000	391.90	27,433,000	9,601,550
Category Store (Junior Anchor Tenant)	53,000	156.03	8,269,590	2,894,357
Discount Dept Store (Large Tenant)	127,000	223.54	28,389,580	9,936,353
Other Retail (Junior Anchor Tenant)	25,000	177.21	4,430,250	1,550,588
Women's Specialty	4,200	353.82	1,486,044	520,115
Children's Wear	4,400	300.94	1,324,136	463,448
Family Shoes	6,000	823.39	4,940,340	1,729,119
Jewelry	2,000	2,679.38	5,358,760	1,875,566
Electronics	2,000	363.69	727,380	254,583
Athletic Wear	3,500	238.88	836,080	292,628
Total GLA	325,000			29,118,306

Methodology Note and Assumptions

Team NEO uses a model developed by Regional Economic Models, Inc. (REMI), *Policy Insight*, to estimate economic impacts. The NEO REMI model is custom designed and tailored to the region based on NEO specifications. The REMI model is the preeminent model of its type and is widely recognized to be at the forefront of modeling with clients not only in North America but also in the European Union.

REMI is a dynamic model that creates estimates using equations rather than a simple input/output (I/O) table. This allows a sensitivity in the analysis for both timing and scale/scope issues that are not found in other models. The principal investigator for this study has more than 10 years of applied modeling experience with REMI (and other impact models). Features that are unique to REMI include:

- It is calibrated to local conditions using a relatively large amount of local data, which is likely to improve its performance, especially under conditions of structural economic change.
- It has an exceptionally strong theoretical foundation.
- It actually combines several different kinds of analytical tools (including economic-base, input-output, and econometric models), allowing it to take advantage of each specific method's strengths and compensate for its weaknesses.
- It allows users to manipulate an unusually large number of input variables and gives forecasts for an unusually large number of output variables.
- It allows the user to generate forecasts for any combination of future years, allowing the user special flexibility in analyzing the timing of economic impacts.
- It accounts for business cycles.

- It has been used by a large number of users under diverse conditions and has proven to perform acceptably.

Source: REMI.com

For additional information on REMI, please see their website at www.remi.com.

Measuring Economic Impacts

The following section defines the variables that are cited earlier in the study that are used to estimate “impacts” Depending on the user, different impact measures will be found to be useful. Most economic impact studies and consumers of these studies focus on five main elements of impacts:

1. Job creation
2. Change in gross regional product (GRP)
3. Changes to income
4. Output
5. Tax impacts

In this impact study, the number of jobs to be created by the investments is estimated. It is important to note that these jobs are simply “jobs” as they are counted by the Bureau of Economic Analysis (BEA) and are not necessarily full- or part- time positions. These jobs are likely distributed across a number of industries and so, in any given industry, a “job” may represent a summation of positions across a number of industries in which each industry has less than one complete position. In this example, the impact study may report one “job,” but the spending patterns in the study may actually generate positions in three industries. However, each industry may require only one-third of a person. In this case, the three industries that employ one-third of a person each to meet demand would sum to one “job” in REMI.

Employment is comprised of three elements:

- Direct: The employment created by the actual investment, growth or change.
- Indirect: Employment created by the need of the new firm to purchase goods and services, essentially the local supply chain.
- Induced: The household that supply good and services to the workers in the prior two categories. Examples of these include education, dry cleaners, accountants, gas stations, lawyers, and grocers.

Gross Regional Product (GRP) is an economic measure of the additional value that labor contributes to the final product or service. This measure is more useful in looking at events that change the economic curve of a region than total sales. GRP does not include the value of “intermediate goods” or inputs into estimating the economic impact. As an example, if a \$25,000 auto is produced in a region, it may be comprised of \$15,000 in parts (intermediate goods) and \$10,000 in labor to assemble the parts into a complete car, then the \$10,000 in GRP is the amount the region uses to measure its input into the vehicle. If output (or sales) were used, the same \$25,000 auto may only generate \$500 to the seller. In the former example, the GRP for the region from making the auto would be \$10,000, while the GRP from selling the auto in the region would be only \$500. Clearly, the GRP from making the auto is greater, and is more likely to change the wealth curve of

the region. If output is used, both would have the same value and appear (incorrectly) to have similar economic impacts.

We also measure the impact of the event on the regional pool of income. This can be measured as the impact to total income from both residents and commuters generated from the event. The income statistic is likely to be over estimated as it includes wages by place of residence as well as by place of work. In Ohio, wages taxes may be collected by place of residence and place of work, although most communities offer a credit to residents for taxes paid at the municipal-based place of work. This study does not attempt to estimate or control for these credits, but merely combines total earnings for residents and commuters. For purposes in this study and ease of use, two percent is used as the rate for all local taxes. Across the state, the average wage rate is slightly below \$40,000, which creates an average tax rate (ATR) of about 2.88 percent. The average is used to create efficiencies in estimating potential state income tax impacts. It is acknowledged that some workers (such as those in the construction and professional services industries) will earn more than the average annual salary and so pay a higher ATR, while others impacted by the projects will earn less than the average salary (such as service workers) and so pay a lower ATR.

Using the REMI methodology from the Ohio Department of Development study, Team NEO took output (or sales) by industry, discounted it by the exempted amount of sales and then multiplied the residual by full Commercial Activity Tax (CAT) rate of .0026 effective in 2010. The second application of the CAT tax is based in the imports of goods and services from the rest of the United States. These imports are also taxable under the CAT tax.

REMI, in its study, also offers a methodology to estimate sales taxes for both business-to-business (B2B) transactions and from consumer transactions. For B2B transactions, REMI identified¹ sales tax exempt buying and selling industries. These industries are excluded from total B2B output (sales), with the residual or taxable amount of output taxed at the current state sales tax rate of .055².

REMI also provides a way to estimate consumption from consumers, and so estimate sales tax from households. The REMI model estimates output impacts from 13 areas of consumption.³ In its 2005 study, REMI identifies the “percent taxable” (77) of each consumption category. To estimate taxable sales, taxable share by output is multiplied by consumption. Taxable sales are then multiplied by .055 to estimate state revenues from the personal consumption-based sales tax. Neither of the estimates to calculate sales taxes includes any local rate for collections.

Finally, output is estimated for the study region. This measure is essentially the same as sales in the study region and includes both the value of GRP and the value of intermediate goods—the goods or materials needed to make the product or service. It is useful as a measure of economic activity and some of the output is responsible for driving sales taxes at both the state and county level.

¹ REMI study, 2005, pp 75-76

² This was done using the national input-output table to estimate taxable share of industry output. The share of applicable industry output was multiplied by dollar output for those industries. A rate of 5.5 percent was then applied to share of output to estimate total B2B sales tax.

³ These include vehicles & parts, computers & furniture, other durables, food & beverages, clothing & shoes, gasoline and oil, fuel oil & coal, other non-durables, housing, household operation, transportation, medical care, and other services.

If you have any questions or I can provide clarifications, please do not hesitate to call me at 216-363-5433 (office).