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Economic Impact Analysis

Kerem Lake Mixed-Use Development
Proposed in Solon, OH

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Executive Summary

The purpose of this study is to examine the economic impacts and other benefits generated by the proposed Kerem Lake Mixed-Use Development on the city of Solon, Ohio, Cuyahoga County, and the Solon City School District. The impacts on the local economy were analyzed using the IMPLAN® (IMpact Analysis for PLANing) model.

KEREM LAKE is a 103-acre luxury residential, winery and boutique hotel development to be built around a spectacular 21-acre lake surrounded by a rolling forested setting.

Kerem Lake Development Components



Construction-period impacts – The total estimated construction costs of Kerem Lake are \$113,381,000 million, which includes 168 residential units, a boutique hotel, spa, winery/restaurants, and approximately 11,000 sq. ft. of retail space. Construction of the proposed development is estimated to generate \$26,853,000 of additional output in the city during the expected construction period of 4 – 5 years. Construction spending would create temporary economic impacts during construction.

Following is a summary of the expected temporary direct, indirect, and induced impacts associated with the construction:

Estimated Impacts During the Construction Period

One-time, Temporary Impacts	Direct	Indirect	Induced	Total
Jobs	780	123	67	970
Payroll	\$36,700,000	\$5,600,000	\$2,400,000	\$44,700,000
Output (Sales)	\$113,381,000	\$18,363,000	\$8,490,000	\$140,234,000

Permanent annual impacts – The proposed Kerem Lake Development would generate an estimated \$6,239,000 of incremental new taxes annually at build out. The hotel, shops, and restaurants would create up to 132 net new permanent, direct jobs within 4 years with an estimated annual direct payroll of \$2,698,000. These retail operations would generate approximately \$6.6 million of sales along with nearly \$3 million of additional retail/food & drink demand from the new households.

Estimated Permanent Annual Benefits

Taxes	\$6,239,000, total
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<ul style="list-style-type: none">• \$396,000, city• \$3,783,000, schools• \$1,870,000, county• \$190,000, library	
Jobs	145, total
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<ul style="list-style-type: none">• 132, direct jobs with associated annual payroll of \$2,698,000• 13 indirect/induced jobs with associated annual payroll of \$569,000	
Other	Retail Sales & Household Spending
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<ul style="list-style-type: none">• \$6,602,000 of new direct commercial output (retail sales)• \$2,950,000 of annual retail/food & drink spending from new households	

In summary, the proposed Kerem Lake Development would deliver substantial economic and fiscal benefits to the city of Solon and the other taxing jurisdictions in the form of increased tax revenues, employment, and the additional economic activity generated by new households. Kerem Lake is expected to be a net fiscal benefit to the city of Solon as tax revenues to the city are estimated to be greater than any incremental public service costs due to the development. The mix of uses proposed by Kerem Lake provides amenities proven to raise property values. The addition of retail, based on this analysis, will have no negative impact on property values, and most likely have some positive impacts.

Introduction

KEREM LAKE is a winery and waterfront community proposed for development on a beautiful 103-acre site in the city of Solon, Ohio that features a spectacular 21-acre lake surrounded by a rolling forested setting. MB3 Consulting – an economic development advisory firm based in Cleveland, Ohio – was engaged by the property owner and developer to estimate the economic and fiscal impacts that the proposed Kerem Lake Development would likely have on the city of Solon, Ohio. MB3 measured the benefits associated with the construction of the proposed development and the permanent annual benefits generated by the residents and businesses within the new Kerem Lake neighborhood.

When new residential or commercial development is proposed for an area, often the community and/or developer want to understand the development's potential effects on the local economy. These effects or *economic impacts* are typically enumerated by changes in (a) output (i.e., business sales), (b) jobs, (c) employee compensation, and/or (d) value added (i.e., gross regional product). Economic impacts can result in fiscal impacts – changes in government revenues (e.g., taxes, fees, fines, etc.) and expenditures for public services.

For this report, the economic impacts of the proposed Kerem Lake Development were viewed as the gross contribution to the Solon economy in terms of the output (construction and retail business sales), jobs/payroll, and income (households) that would be directly or indirectly created by the development. We then estimated the fiscal impacts generated by these new economic activities.

About City of Solon

The city of Solon is a suburban community of approximately 23,000 residents located in northeast Ohio. The city is situated in the southeast corner of Cuyahoga County, approximately 15 miles from downtown Cleveland. US 422, a regional, divided four lane highway, bisects the city providing quick and convenient access to several nearby interstate highways.

Solon enjoys a well-balanced mixture of residential and commercial development, as well as a solid tax base supported by more than 16 million square feet of office and industrial building space. The city focuses on providing high quality services to its residential and commercial stakeholders and is fortunate to have a public school system that is consistently ranked among the best in Ohio.

Project Parameters

Kerem Lake is a unique mixed-use real estate development project with planned integration of luxury residential, hotel, winery, retail/restaurants, and public recreation functions. The proposed development is pedestrian-oriented and contains exceptional elements of a live-work-play environment that preserves the site's natural amenities, providing public access to its spectacular physical characteristics.

The project location is a 103-acre site at 39350 Bainbridge Road, Solon, Ohio 44139 on permanent parcel #95518043. The property features a spectacular 21-acre lake ... the largest private lake in Cuyahoga County. Property is zoned R-1-D, single family. The new vision for the property is to develop a lakefront community which offers living, dining, shopping, and entertainment to a variety of ages and demographics.

Winery | Spa

The winery will provide a total winery experience, offering a memorable destination for local wine lovers, diners, families, businesses, and tourists. The two-story winery building will resemble an historical estate house with the lower level featuring a world class wine cellar (8,800 sq. ft.) and spa. The upper level will house two chef-run restaurants roughly 5,100 sq. ft. each with a rear balcony and courtyard for outdoor dining. The 6,000 sq. ft. European style luxury spa will be located on the lower

level, with interior pools and massage areas, and southern views to the lake, all surrounded by vineyards.

Hotel | Retail | Villas

A freestanding, two-story building with eight (8) boutique retail shops on the first floor connected by an internal streetscape of stone pavers which integrates with the existing topography. The upper floor of the retail shops will house a boutique hotel with twenty-eight (28) rooms overlooking the winery estate. There will be twelve (12) individual single-story hospitality villas with each having its own guest parking. The luxury villas will be 1,200 sq. ft. with a bedroom, bath, kitchenette, indoor pool and spa, southern views to the lake, and surrounded by vineyards and natural landscape. The villas are intended for guests looking for multi-night stays for rest and relaxation. Villa guests can access all the amenities within the winery estate complex.

Residential Housing

The residential area includes 168 total units that will be upscale housing designed for empty-nesters and young professionals. Several different styles of single-family houses will be available for purchase, each with its own 2-car garage. Some of the homes will be detached and some will be clustered. Twenty-five (25) single-story units will offer waterfront living with a walk-out lower level along the lake shore; thirty-six (36) units will be 2.5-story townhouse units located above the single-story units; and twenty-one (21) single-story units will be located at the perimeter, each includes an internal courtyard and landscape buffer separating it from the surrounding neighbors.

A single 3.5-story condominium building resembling an historical estate will offer individual condo units for purchase. The estate will be surrounded by existing full growth woods. The condominium building will be set back from the lake to preserve the woods along the lakeshore. Grounds may include tennis courts, walking paths, gazebo, front courtyard/visitor parking, etc., with underground parking for residents.

Thirty-seven (37) 3 to 4-story townhomes will be available for purchase, each with their own 2-car garage. There will be a single drive connecting the townhomes. It is the developer's intent to build the townhomes along the lakeshore to take advantage of lake views. Privacy for residents and surrounding neighbors will be enhanced by maintaining the woods in the center of this area.

Kerem Lake Site Plan



Total Capital Investment and Estimated Market Value

The projected construction costs and the estimated market value of the project site associated with the proposed project are outlined below.

Structure	Quantity	Square Feet	Total Const. Cost	Est Market Value*
Residential	168		\$87,400,875	\$185,532,000
Commercial		61,552	\$16,979,920	\$32,969,900
Infrastructure			\$9,000,000	
Total			\$113,380,795	\$218,501,900

* Estimated market values from the developer's financial projections of the project.

Outline of Economic and Fiscal Impacts

Kerem Lake would have economic and fiscal impacts on the city of Solon, Ohio and other local taxing jurisdictions. This analysis provides estimates of the total economic impacts (direct + indirect + induced)¹ on the local economy. To quantify the total economic impact of the proposed mixed-use development project, the following direct effects were modeled:

- Sales increases to construction firms to do the building construction.
- Gross retail sales for the hotel, villas, restaurants, and retail shops.
- Income and spending from the new households.

The above scenarios were analyzed using the IMPLAN input-output model (IMPLAN Group LLC, <http://implan.com/V4/Index.php>).

A standard forecast of the total effects associated with the construction of the development and the ongoing increase in retail sales and household income were demonstrated using the IMPLAN model. The developer provided projections of the proposed capital costs and real property market values. The economic impacts of the developer's proposed project were estimated by applying investment, sales, and income projections associated with the proposed project to a model of the Solon city economy.

There are two parts to this impact estimate. The **construction phase** is a one-time, temporary impact that creates economic activity during the building process, but then goes away once construction is complete. The **operations phase** generates an ongoing impact that creates economic activity each year of the commercial operations at the project site. If the business operations and households are maintained as projected, the operations phase has recurring impact. The proposed development project in Solon, Ohio is modeled as a direct positive stimulant that helps grow and develop the local economy.

Please refer to Appendix A for details about rates and assumptions used to calculate the economic and fiscal impacts for the report.

Construction-period Impacts

Construction-period impacts are the jobs and income created because of increased construction spending associated with the proposed project. They are temporary, non-recurring impacts that occur only during the term of construction (approximately 4 – 5 years). Total construction costs to complete the mixed-use development are estimated to be nearly \$113.4 million.

Economic Impacts (Construction)

¹ The total economic impact of the project is the sum of three effects: (1) the *direct effect* – the change in activity that stimulates other activity; in this case, construction and an increase in employment, (2) the *indirect effect* – resulting from businesses at the project site purchasing from other industries due to increased demand, and (3) *induced effects* – resulting from the expenditure of new household income generated by the direct and indirect effects. The indirect and induced effects, which are triggered by the direct effects, are often called the ripple or multiplier effect.

Using the estimated increase in construction spending (i.e., sales) as an input in the IMPLAN software model, the construction-related economic impacts on the City associated with the build out of the proposed new development were calculated to be:

Estimated Economic Impacts During the Construction Period

Impact Type	Output	Employment	Employee Compensation	Est Income Taxes
Direct Effect	\$113,381,000	780	\$36,711,000	\$734,200
Indirect Effect	\$18,363,000	120	\$5,615,000	\$112,300
Induced Effect	\$8,490,000	70	\$2,419,000	\$48,400
Total Effect	\$140,234,000	970	\$44,745,000	\$894,900

Direct spending by the developer for construction of the proposed project would ripple throughout the local economy like a stone cast in the water, generating business-to-business (indirect) and personal spending (induced) spending that benefits the City’s economy. The table below highlights some of the top industries that would be affected.

Top Ten Industries Affected by Construction Spending Based on Output (Sales)

Industry	Direct	Indirect	Induced	Total
Owner-occupied dwellings	\$ -	\$ -	\$1,528,321	\$1,528,321
Retail - Health and personal care stores	\$ -	\$1,244,274	\$121,654	\$1,365,928
Retail - Nonstore retailers	\$ -	\$925,059	\$293,605	\$1,218,664
Real estate	\$ -	\$645,396	\$378,201	\$1,023,597
Retail - Building material and garden equipment and supplies stores	\$ -	\$780,435	\$87,148	\$867,583
Retail - Furniture and home furnishings stores	\$ -	\$502,926	\$60,768	\$563,694
Monetary authorities and depository credit intermediation	\$ -	\$337,965	\$194,192	\$532,157
Commercial and industrial machinery and equipment rental and leasing	\$ -	\$514,856	\$6,215	\$521,071
Offices of physicians	\$ -	\$ -	\$514,466	\$514,466
Retail - Miscellaneous store retailers	\$ -	\$463,448	\$48,137	\$511,585

Permanent Annual Economic Impacts

Permanent impacts are a result of the ongoing economic activity (e.g., sales, employment, and household spending) generated during the occupancy phase of the Kerem Lake Development in Solon, OH.

The impacts on real property tax and income tax revenues were estimated by MB3 using 2017 property tax and income tax rates for the relevant taxing jurisdictions. Real estate property taxes on the proposed new development and income taxes from the businesses and employees in the commercial space as well as certain new households would be collected during the occupancy phase.

During the occupancy phase, the city benefits from the revenues generated by the new businesses at Kerem Lake and the expenditures of the 168 households that would occupy residential units in the new development – assuming that the households would not have existed in the city if not for the development being constructed. The median income of the households was estimated to be \$95,320 (US Census, QuickFacts, May 2017). Using data from IMPLAN (2016) for the city of Solon, households at this income level are estimated to spend nearly \$18,000 per year locally for retail, food, and drink purchases.

The proposed Kerem Lake Development is expected to result in net increases in employment and sales/output in the hotel, spa, retail, and restaurant sectors. Using the projected net increase in direct business output (annual sales) at Kerem Lake and new household spending as inputs in the IMPLAN impact model, the economic impacts to the City because of the proposed project were estimated.

Economic Impacts (Permanent Annual)

The new businesses at Kerem Lake (hotel/villas, spa, retail stores, and restaurants) are expected to generate approximately \$8.3 million annually of gross revenue (i.e., output). Using the estimated increase in business revenue (i.e., sales of businesses at Kerem Lake) as an input in the IMPLAN software model, the on-going annual economic impacts on the City associated with the occupancy of the commercial area of the proposed new development were calculated to be:

Estimated Permanent Annual Economic Impacts from New Businesses at Kerem Lake

Impact Type	Employment	Employee Compensation	Output
Direct Effect	130	\$2,698,000	\$6,602,000
Indirect Effect	8	\$378,000	\$1,248,000
Induced Effect	5	\$191,000	\$670,000
Total Effect	143	\$3,267,000	\$8,520,000

The 168 new households at Kerem Lake are estimated to create additional retail (excluding non-store purchases) and restaurant demand of approximately \$3 million each year. Within a 5-minute drive of the development site, there is currently \$10.6 million dollars of unmet retail and restaurant demand (esri, Retail MarketPlace Profile, Solon, Ohio, 2017). This total unmet demand within a 5-minute drive of the development site creates an opportunity for the city of Solon to potentially attract investment in the redevelopment of underutilized commercial/retail properties in the city. According to data from the commercial real estate data firm CoStar, average retail sales per square foot of space is \$325. Based on that sales average, approximately 42,000 square feet of commercial retail space could be absorbed to meet the unmet retail and restaurant demand within a 5-minute drive of Kerem Lake.

Household Spending Impacts



Fiscal Impacts (Permanent Annual)

The economic impacts (spending, jobs, and income) generated by the proposed mixed-use development create changes in government revenues (taxes, fees, fines, etc.) and expenditures for public services. These changes are known as fiscal impacts. Net fiscal impacts represent the sum of all incremental new government revenues minus incremental public service expenditures.

Estimating net fiscal impacts is difficult to do with any precision for a myriad of reasons. Tax revenues and service costs are impacted by not only household demographics of a community, but also by the type and number of businesses within a community. The type and amount of incremental government services consumed by any business, individual, or group vary greatly, therefore, making it hard to assign service expenditures to any one business, household, or group.

A reasonable approach to assessing net fiscal impacts is to compare the local property tax revenues estimated per household for the proposed development with the average property tax revenues collected from households currently in the city. If the average level of property tax revenues generated is greater than the current average of all households in the city, then the proposed development project is presumed to provide enough tax revenues to cover incremental service costs ... a positive net fiscal impact.² Another useful approach to assessing net fiscal impacts is to identify the number of fire and police personnel per 100 units currently in the city and calculate whether the proposed development could cover the costs of essential safety/security services. If the total amount of city property tax revenues generated is greater than the estimated incremental cost of fire and police services, then the proposed development project is presumed to have a positive net fiscal impact. These approaches assume that new households consume the same mix of local government services as existing households.

² G. Donald Jud, PH.D.; *Economic Impact of Single-Family Real Estate Development in Union County, NC*; May 2006, p. 7.

Net Fiscal Benefit Indicator (Prop. Tax Comparison Approach)

	Resid. Prop Tax Revenue	Households	Prop Tax Revenue / Hshld	Net Fiscal Benefit (Loss) / Hshld
City of Solon (2017)	\$3,030,751	8,950	\$339	
Kerem Lake*	\$237,096	168	\$1,411	\$1,072

* Excludes commercial property tax revenues.

The estimated real property tax revenues to be provided by the proposed development provide a net fiscal benefit to the city of \$1,072 per household (\$180,096 annually) compared to the average property tax revenue collected per household currently.

Net Fiscal Benefit Indicator (Safety Service Cost Approach)

	Safety Personnel / 100 units	Safety Expenditure / Staff Person	Safety Personnel Demand	Safety Services Cost	New Prop Tax Rev	Net Fiscal Benefit (Loss)
City, current	1.90	\$81,252		\$243,756		
Kerem Lake			3.00		\$281,124	\$37,368

The table above shows that, based on the city's current ratio of 1.90 safety service staff per 100 housing units, if the city had no existing fire and police services available, then they would need approximately three safety service personnel to serve the proposed development. To be clear, in no way does the table above indicate that the city of Solon will have to hire three new safety service personnel to serve the proposed Kerem Lake Development. In fact, it is likely that the city could serve the proposed development without the need for additional staff solely due to this project. However, if the city were required to add safety service personnel, the estimated property tax revenues to the city (excluding any income tax revenues) should be enough to cover the expenditures for the three personnel projected, resulting in a net fiscal benefit for the city of more than \$37,000 per year.

*Estimated New Annual Tax Revenues**

Type	County	Schools	Library	City	Total
Real Property Taxes	\$ 1,625,281	\$3,783,182	\$189,831	\$281,124	\$5,879,418
Income Taxes				\$114,983	\$114,983
Sales Taxes	\$244,845				\$244,845
TOTAL	\$1,870,126	\$3,783,182	\$189,831	\$396,106	\$6,239,246

* This analysis does not include revenues associated with permit fees and other charges paid by developers for zoning requests, inspections, utility hookups, etc.

Total estimated tax revenues associated with the proposed Kerem Lake Development are \$6,239,246 per year, of which, the city would receive approximately \$396,106 per year. If the project site were to be developed as a single-family residential neighborhood under current R-1 zoning, the estimated tax revenues to the city would only be \$141,019 per year, significantly less than under the proposed

development. The chart below highlights the significant disparity of tax revenues between the two development scenarios.

Comparison of Total Annual Tax Revenues Under Alternate Development Scenarios



Other Impacts - Existing Residential Impact

Property values are location-specific. In addition to the transaction prices, a factor in the calculation of property values is the external value of amenities located within certain boundaries. Empirical evidence over four decades has demonstrated the positive effect of amenities like schools, green belts, parks, trails and transit centers on surrounding residential property values. Of course, there are also negative externalities, such as proximity to incompatible uses, that impact property values. As an externality, commercial development can be positive, neutral or negative, depending upon a number of factors, including direct proximity.

The key consideration is whether the addition of externalities will positively or negatively impact residential property values adjacent to Kerem Lakes. The project proposes a number of amenities that have been shown to empirically raise property values: public access to green spaces (Kerem Lake), walking paths, and walkability to food, drink and shopping. The externality that could be contended as a potential neutral or negative is the planned commercial development.

Given the Kerem Lake project’s proposed unique mixed-uses, it is challenging to find a truly representative example of a development with similar geography, existing property values and a similar mix of externalities. For that reason, a conservative model was chosen, one that had both similar

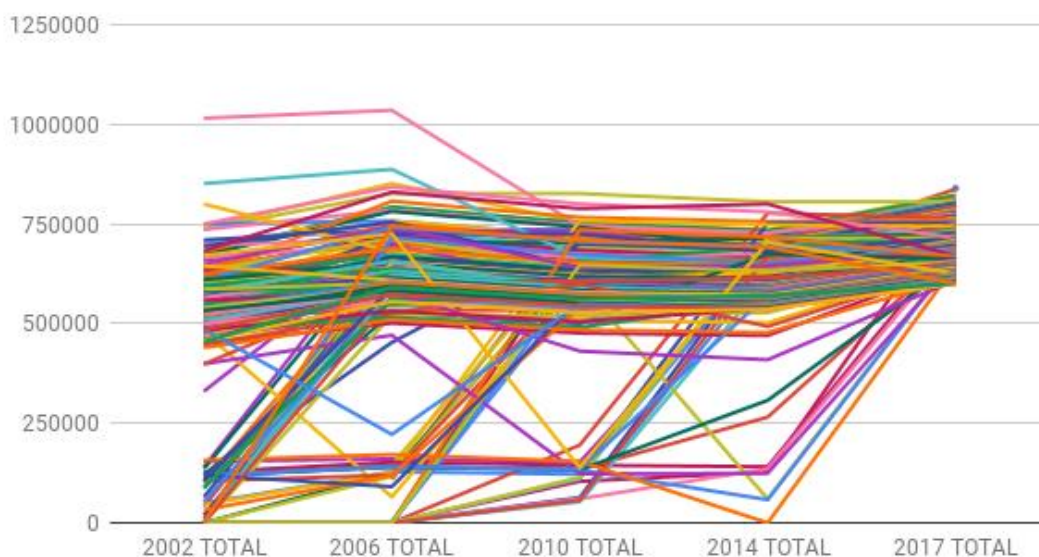
existing surrounding residential property values, but also a higher concentration of commercial development than Kerem Lake.

Crocker Park, a lifestyle center and mixed-use development in Westlake, OH, comprises 1.05 million sq. ft. of retail, 650 residential units and 100,000 sq. ft. of office space. Not only is Crocker Park much larger, but it has a disproportionate amount of retail in comparison to Kerem Lake. Lifestyle centers can be considered to have a negative impact on property values within a critical radius (1,500 ft.), because of externalities such as traffic and noise. However, outside that radius, convenient access to the lifestyle center and walkability outweighs potential negative impacts, and property values rise accordingly.

With such a small amount of planned retail, it is unlikely that Kerem Lake would ever create that critical radius that would negatively impact property values. An analysis of property tax valuations within the radius area of Crocker Park within what would be considered its critical radius offers additional evidence that this is so.

This analysis pinpoints the property values pre-opening, during opening and post-opening for Crocker Park on each of the 180 properties which was valued in 2016 at \$600,000 and upward of the thousand properties closest to Crocker Park. Below is an illustration which shows the property values at four points in time for each of the properties: pre-construction (2002), during construction (2004), just post-construction (2006) and fully post construction (2012 and 2017) as provided by the Cuyahoga County Auditor's site.

Property Values History for Homes Valued at >\$600000 in 2017



In the visualization above, each strand represents one residential property surrounding Crocker Park. As can be seen, surrounding property values increase from 2002 to 2016, despite the market uncertainties of 2009-2010. It is also significant that 23% of the houses in the \$600,000-\$840,000 range were built after 2002, suggesting that the Crocker Park Development continued to be viewed by developers as providing desirable amenities.

The average home in Westlake rose by 10.8% from 2012-2018. Of the 114 homes from our adjoining properties built previously to 2002, the average property valuation increased by 21% during 2002-2017, from \$566,994 to \$686,738.

Based on this analysis, property values increased at a considerably higher rate than the area's average. While a more detailed study would be needed to definitively show that this greater increase in property values was a direct corollary of the Crocker Park Development, it does demonstrate that the commercial development externality did not have a negative effect on residential development in the \$600,000 - \$800,000 range.

The mix of uses proposed by Kerem Lake provides amenities proven to raise property values. The addition of retail, based on this analysis, will have no negative impact on property values, and most likely have some positive impacts.

About MB3 Consulting

MB3 Consulting is an economic development advisory business specializing in developing and implementing comprehensive economic strategies for communities and other development-oriented organizations. In addition, MB3 specializes in location and impact analysis and incentives services for growing businesses. MB3 prides itself on high integrity and extensive practical economic development and site location experience.

For questions, please contact Greg Myers, Principal at (440) 220-6990.

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Glossary of Terms

Employee Compensation – Employee compensation is the total payroll cost of the employee paid by the employer. This includes, wage and salary, and all benefits (e.g., health, retirement, etc.). This is equivalent to taxable income.

Gross State Product (GSP) or Value-Added – refers to the additional value of a good or service over the cost of inputs used to produce it from the previous stage of production. GSP is equal to net output, or the difference between revenues and expenses on intermediate production inputs. GSP is the incremental value created through labor or mechanical processing.

Indirect business taxes – a term used for sales taxes. They are labeled indirect business taxes because the businesses are responsible for collecting and paying these taxes to the appropriate taxing authorities. Businesses collect the taxes from individuals or households at the point of sale typically; these taxes are paid to the taxing authorities indirectly from the individuals and households.

Indirect Impacts – these are the output, employment and income changes occurring in other businesses/industries in the community that supply goods and services to the project industry.

Induced Impacts – these are the effects of spending by households in the local economy as a result of the direct and indirect effects from an economic activity (i.e. project or event).

Intermediate Expenditures – these are goods and services (e.g., energy, raw materials, etc.) purchased by businesses in the study area that are used for the production of other goods and services (rather than for final consumption).

Output – this represents the value of industry production. For service sectors, production equals sales. For manufacturers, output would be sales plus/minus change in inventory. For retail and wholesale businesses, production would equal gross margin and not gross sales.

Appendix A – Inputs and Assumptions

Input	Unit	Value	Source/Comment
Residential eff tax rate (2017)	Rate/\$1000	74.663325	Cuyahoga Co. Auditor
County		21.202334	
Schools		47.334268	
Library		2.475508	
City		3.651215	
Commercial eff tax rate (2017)	Rate/\$1000	88.704519	Cuyahoga Co. Auditor
County		21.349578	
Schools		61.072443	
Library		2.498725	
City		3.783773	
Solon households (2016)	#	8,950	City of Solon
Solon safety staffing (2018)			
Fire	#	60	City of Solon
Police	#	110	City of Solon
Solon police expenditures (2017)	\$	\$7,323,388	City of Solon, Finance
Solon fire expenditures (2017)	\$	\$6,489,448	City of Solon, Finance
Solon assessed ag/res prop value (2017)	\$	\$830,066,510	Cuyahoga Co. Auditor
Municipal income tax rate	%	2.00%	City of Solon