ASSESSMENT OF THE ECONOMIC IMPACTS OF RECREATIONAL BOATING IN MIDDLESEX COUNTY, VIRGINIA

Report completed by:

Thomas J. Murray
Virginia Institute of Marine Science
Virginia Sea Grant Marine Extension Program
College of William & Mary
P.O. Box 1346
Gloucester Point, VA 23062
804-684-7190
tjm@vims.edu

VIMS Marine Resource Report No. 2011-3
VSG-11-02

March 30, 2011

ASSESSMENT OF THE ECONOMIC IMPACTS OF RECREATIONAL BOATING IN MIDDLESEX COUNTY, VIRGINIA

Thomas J. Murray

Executive Summary

The survey research completed and described in this report produces in-depth information regarding the economic activity and fiscal impacts of recreational boating to Middlesex County, Virginia. Surveys of non-resident boat owners were completed during 2008. The surveys provided details on the amount and types of spending associated with watercraft use in Middlesex County.

Major Findings

Boat Related Spending in Middlesex County:

- Resident boat owners spent over $35 million on boating in Middlesex County during 2007.
- Residents owning boats 25 to 39 feet in length accounted for over $10 million of the total spending.
- Fuel accounted for the largest "trip related" expenditure at almost $2.7 million. Resident spending on fishing supplies, restaurant meals, and groceries *each* exceeded $1 million.
- Over $10.3 million were for annual storage and maintenance of watercraft.
- A survey of 209 non-resident boat owners keeping their boats at local marinas indicated that as a group they spent over $3.0 million in Middlesex County during 2007.
- The average non-resident watercraft was 32 feet in length and typically spending $14,149 annually in Middlesex County.
- There are over 5,000 watercraft registered in Middlesex County. Additionally 30 marinas provide over 2,000 "wet slips" and 1,200 "dry slips" to primarily non-resident boat owners.

Economic Impact of Boating in Middlesex County

- Expenditures by out-of-region boating-visitors represent an inflow of "new" capital into the community. This spending initiates multiple rounds of economic impact among Middlesex County's businesses and households.
- The total economic impact of resident and non-resident boaters on Middlesex County was $53.9 million in 2007.
- The boating related business was responsible for generating 588 full time jobs in Middlesex County generating $14.8 million in labor income.

Total Economic Impact of Recreational Boating in Middlesex County – 2008

Impacts by Type	Direct	Total
Output Impacts ($M)	$36.3	$53.9
Employment Impacts (FTE)	385	588
Labor Income Impacts ($M)	$8.6	$14.8

ASSESSMENT OF THE ECONOMIC IMPACTS OF RECREATIONAL BOATING IN MIDDLESEX COUNTY, VIRGINIA

Background

Middlesex County is home to more than 5,000 recreational boats, and serves as a gateway to marine recreation in the Chesapeake Bay. Middlesex County's importance to boating access carries with it an expanding economy related to boating and boating related industries.

In addition to the large group of boater-citizens who reside in Middlesex County, local marine businesses such as marinas also provide access and berthing to many non-local watercraft. While watercraft registrations provide a partial and useful estimate of the stock of boats in a region, the true economic impact arising from recreational boating primarily depends upon the type of boats as well as the frequency and nature of use.

I. Objectives and Methods

The primary objective of this analysis was to estimate the level of economic activity arising from recreational boating and related marine industry in Middlesex County. The survey research completed and documented in this report was intended to characterize the direct expenditures related to non-resident recreational boat ownership and use in the County. Primary surveys were conducted to gather economic activity arising from non-resident "transient boat" owners who keep their boats at local marinas for extended periods ranging from 1-2 months to all year. The primary survey data from marinas was utilized to estimate expenditures for larger boats in excess of 26 feet in length.

To complete an overall picture of boating related economic activity, resident boating expenditure information was obtained from prior boater surveys conducted by the author as well as national boater survey data collections conducted annually by Michigan State University.

Based upon resident and non-resident recreational boat spending estimates of total economic impact were derived using standard regional industry input-output methods. The economic impacts of boater spending on Middlesex County's economy are defined in terms of income, employment, and total output.

II. Work Completed

Objective 1. Evaluation of Economic Activity

Boater Expenditure Estimates – Data Collection

Non-Resident Boater Survey

During 2007, Middlesex County's 30 marinas represented an estimated 4,000 in-water boat slips and 1,200 dry storage spaces including "dry stack." These slips were utilized both seasonally and year around by boats and vessels not registered to Middlesex County residents.

Detailed surveys were completed with a sample (six) of Middlesex County marinas to gather expenditure information for watercraft (boats and vessels) that likely were not reflected within the Virginia registered boat database for Middlesex County. These boats and vessels were those registered in Virginia from outside Middlesex County, out of state boats utilizing Middlesex County as a home port and Coast Guard documented vessels (over 5 net tons displacement) that may not be accounted for in other ways.[1]

Those boat owners were contacted using lists provided by six local marinas and provided a separate survey tailored to assessing their expenditures. Based upon the lists provided, 209 complete responses were received. Of the respondents 70% resided outside of Middlesex County and 30% were from other states or countries. A total of 72% of the respondents reporting stayed all year, 7% stayed 1-3 months, and 15% stayed 5-10 months. Average expenditures were $14,149 per year.

Spending by Type

Resident Boater

The Virginia Department of Game and Inland Fisheries (VDGIF) boater registration database served as the stratification (by boat length) frame for the Middlesex County resident boating expenditure estimates. The average resident boater expenditure information was obtained from

[1]Boats of 5 net tons or greater in displacement are documented via the U.S. Coast Guard Documentation System. Over 8,000 documented recreational vessels are reported as having Virginia home ports. This listing provides a supplementary database for conducting research such as this. The database from the Coast Guard Office of Information Services was obtained and evaluated in conjunction with the marina surveys. (3)

prior research completed by the author and by a national boater survey conducted annually by Michigan State University.[2]

Table 1 – Number of Registered Power and Sail Boats and Their Estimated Number of Boating Days

Boats Type and Size	Number of Boats (thousands)[3]	Average Days Per Boat[4]	Total Boat Days (thousands)[5]
Power <15'	1	16	16
Power 16'-24'	2	25	40
Power 25'-39'	1	31	23
Power 40'+	0	43	4
Sail <15'	0	19	5
Sail 16'-24'	0	19	5
Sail 25'-39'	1	31	31
Sail 40'+	0	46	2
Total	**5**	**25**	**127**

Table 2 – Average *Spending on Boat Trip* by Registered Power and Sail Boats in the Area ($ Per Boat Day) (5)

Category	Power <15'	Power 16'-24'	Power 25'-39'	Power 40'+	Sail <15'	Sail 16'-24'	Sail 25'-39'	Sail 40'+
Lodging	$ 2.2	$ 5.0	$ 2.1	$ 1.3	$ 3.0	$ 3.0	$ 1.4	$ 2.8
Marina Services	6.5	7.0	21.3	35.0	4.4	4.4	13.2	22.8
Restaurant	12.3	18.1	36.9	45.3	18.6	18.6	21.1	41.3
Groceries	11.5	19.7	26.1	38.4	12.3	12.3	18.2	31.3
Boat Fuel	10.4	19.6	56.0	62.1	3.3	3.3	3.9	7.9
Auto Fuel	12.6	16.9	10.0	8.0	10.2	10.2	6.2	7.0
Recreation & Entertainment	4.0	4.0	5.5	6.9	2.6	2.6	2.9	9.4
Shopping	3.1	2.8	4.4	8.6	3.1	3.1	3.5	7.3
Other Goods	1.8	2.7	3.5	2.3	2.6	2.6	2.7	4.0
Total	**$ 64**	**$ 96**	**$ 166**	**$ 208**	**$ 60**	**$ 60**	**$ 73**	**$ 134**

[2] Recreational Marine Research Center (RMRC). Michigan State University; 2007 and 2010. (5)
[3] Virginia Department of Game and Inland Fisheries Registered Watercraft Files. (2)
[4] Op. cit RMRC
[5] Op. cit RMRC

In addition to trip-related expenditures, annual expenditures independent of boating trips taken such as slip fees, repairs, insurance, and loan expenses were collected and averaged for the different boater types. Examples of these annual expenses are given in Table 3.

Table 3 – Average *Annual Craft Spending* by Registered Power and Sail Boats in the Area ($ Per Boat per Year) (5)

Category	Power <15'	Power 16'-24'	Power 25'-39'	Power 40'+	Sail <15'	Sail 16'-24'	Sail 25'-39'	Sail 40'+
Slip	$ 53.8	$242.4	$1,582.0	$4,962.0	$68.2	$655.5	$2,617.3	4,357.5
Loan Payments	83.5	554.1	2,714.1	9,457.3	60.3	187.6	1,549.9	4,790.6
Motors	14.5	31.2	49.3	50.0	2.9	14.1	14.6	26.2
Trailers	5.2	6.2	10.1	9.7	2.8	6.2	6.7	6.6
Insurance	52.6	154.7	572.8	2,203.3	69.1	137.3	464.5	1,581.8
Repairs	124.8	390.0	1,716.6	5,619.4	95.9	443.3	2,038.2	5,108.6
Accessories	160.1	380.7	1,359.3	4,284.1	206.6	611.2	1,652.6	4,096.1
Taxes	23.2	71.5	246.7	1,200.7	45.7	63.4	151.0	627.3
Total	**$ 518**	**$1,831**	**$ 8,251**	**$ 27,786**	**$ 551**	**$2,119**	**$ 8,495**	**20,595**

Table 4 – Craft and Trip Expenses Power and Sail Boats in the Area

Category	Boat Type and Size								
	Power <15'	**Power 16'-24'**	**Power 25'-39'**	**Power 40'+**	**Sail <15'**	**Sail 16'-24'**	**Sail 25'-39'**	**Sail 40'+**	Total
Number of boats (thousands)	1.0	1.6	0.8	0.1	0.3	0.3	1.0	0.1	5.0
Annual craft spending per boat	$518	$1,831	$8,251	$27,786	$551	$2,119	$8,495	$20,595	-
Total craft spending (millions $)	$0.5	$2.9	$6.3	$2.8	$0.1	$0.5	$8.5	$1.0	$22.7
Average days per boat	16	25	31	43	19	19	31	46	-
Total boat days (thousands)	16.3	40.1	23.4	4.3	4.8	4.8	31.4	2.3	127.5
Average trip spending per boat day	$64	$96	$166	$208	$60	$60	$73	$134	-
Total trip spending per boat per year	$1,048	$2,396	$5,084	$9,038	$1,160	$1,160	$2,293	$6,110	-
Total trip spending (millions $)	$1.0	$3.8	$3.9	$0.9	$0.3	$0.3	$2.3	$0.3	$12.8
Total craft & trip spending per boat per year	$1,566	$4,226	$13,335	$36,824	$1,711	$3,278	$10,788	$26,704	-
Total craft & trip spending (millions $)	**$1.6**	**$6.8**	**$10.2**	**$3.7**	**$0.4**	**$0.8**	**$10.8**	**$1.3**	**$35.6**

Non-Resident Boaters

The survey sample of 209 non-resident boat owners indicated that their spending on boating related activities exceeded $2.9 million during.[6] The average non-resident boat at a marina in Middlesex County is 32 feet long.

Table 5 – Average Annual Expenditures Boats 26' and Greater – 2007[7]

Spending Category	**Total**
Fuel	$1,843
Mooring/Slip Fees	$3,190
Food & Entertainment	$3,227
Lodging	$1,144
Maintenance & Repair	$2,262
Boat Supplies	$870
Other	$1,613
Total	**$14,149**

As shown in Table 5 and notable to the local economy are mooring and slip fees paid to local marinas, food and entertainment expenditures while staying in the County as well as boatyard services for maintenance and repair. In this sense the transient boaters are like other tourists visiting the region but typically their stays in the local area are for longer periods of time.

Objective 2. Economic Impact Modeling

Economic Impact Analysis

Economic impact analysis begins with introducing a change in the output of goods and services using the multiplier model to analyze the effects on a region's economic base. Most regional input-output studies attempt to characterize either, the economic impacts of specified changes in final demand for a given set of products, services, and industries, or the economic significance of specific industries in a regional and national economy. The research described herein accomplishes the latter task. It assesses the economic significance of recreational boating activity on the economy of Middlesex County.

[7] VIMS survey of Middlesex County Marinas 2008 based upon 2007 annual expenditures.

The standard input-output model estimates the direct, indirect, and induced economic implications of some basic economic activity. The secondary effects (the indirect and induced impacts), along with the basic economic activity estimates, provide an estimate of the "multiplier" effects from the basic activity (direct impact).[8]

In the standard input-output model, measures of aggregate economic activity are used as a basis for estimating the total economic impact of the subject activity. For example, measures of direct employment or total sales in an industry are obtained, and these are then used as a basis for evaluating the total impact. In this report, estimates of the primary sales by category were obtained from both primary and secondary sources and used as the base measure of the "direct impact" of the industry.

Given this measure of the direct purchases of the boat-related industry, an estimate is made of the indirect impacts using information on the interactions between these industry sectors and other economic sectors which, are to varying extent, dependent upon such boat-related industry.

For example, suppliers of materials in the boat-related products manufacturing, transportation, storage, marketing and distribution are also dependent upon the sales of boat-related goods and services. These added sales or impacts are referred to as the "indirect impacts." Such "indirectly" dependent sectors include hundreds of other types of manufacturing and trade, for which industrial classifications range from "Boat Building and Repairing" to "Veneer and Plywood."

Ultimately, the direct sales activity, and the resulting indirect activity, generates some increases in the general level of employment and income in the study area. The extra income generated from this way leads to a third "wave" of economic impact through greater household expenditures on goods and services. Much of this additional re-spending will also occur within the study area, further expanding economic activity. These effects are referred to as the "induced impacts" of the industry.

To summarize, because of the interrelationships among the many sectors of Middlesex County's economy, new sales of goods and services to non-resident boaters generates additional waves of economic impact. Expenditures by out-of-region boating visitors are in fact "exports" from Middlesex County's economic base and these transactions initiate multiple rounds of economic impact among Middlesex County's businesses and households.

[8] A Glossary of economic impact definitions is contained in Attachment 1.

Economic Input-Output Model Application – IMPLAN

Many economic impact studies use information from a regional inter-industry impact (input-output) model such as *Impact Planning for Analysis* (IMPLAN). IMPLAN is a nationally recognized economic model used for community/regional economic impact analysis across the country. The model uses input-output analysis in tandem with regional social accounting matrices and multipliers. IMPLAN divides the total national economy into 440 sectors corresponding to North American Industry Classification System (NAICS) codes related to agriculture, extraction, manufacturing, transportation, wholesale trade, retail trade, services and government. Data on these 440 industry sectors is based on national input/output or industry transaction tables (Minnesota IMPLAN Group, 2007). The IMPLAN model used herein was regionalized for this study to reflect Middlesex County. In addition to the modeling software, individual state data must be purchased from IMPLAN to use in the model. Running the basic IMPLAN model yields the necessary employment, income and output multipliers to apply to the expenditure data.

In order to estimate economic activity, each category of expenditure by the recreational boater was first matched to one or more of the IMPLAN sectors. In most instances, this matching is straightforward. For example, boater expenditures for lodging expenses can be matched to the IMPLAN Hotel and Lodging sector and boat repair and maintenance expenditures accrue to the Boat Building and Repair sector.

Boater retail expenditures must be allocated by the proportion of the expenditure attributed to the value added by the retail, wholesale, transportation and producing sectors before applying the IMPLAN multipliers. Each of those sectors will have their own set of impacts on the Middlesex County economy. Allocation of the expenses is done through national averages of the margins for these expenditure categories as supplied in the IMPLAN data. If the expenditures are for services such as at a marina, it is not necessary to calculate margins, as the full expenditure is applied to the service sector and matched to an IMPLAN multiplier.

After expenditures are broken down using margins into the various IMPLAN sectors, they are then multiplied by a regional purchase coefficient (RPC) before applying the economic activity multipliers. The RPC indicates the extent to which the demand for a good or service can be met by a Middlesex County-based industry. RPCs, expressed as percentages, are provided by IMPLAN for all sectors in Middlesex County, Virginia.

The final components of the economic impact analysis are the economic activity multipliers. The multipliers estimate the amount of employment, income or output that a given level of expenditure generates, after it has been adjusted by the RPC. Employment multipliers provide impacts in terms of jobs (full-time, part-time and seasonal). IMPLAN includes several income multipliers. For this project, personal or labor income is calculated. Personal income includes employee compensation (wages and salaries), while total income includes personal income plus proprietor (self-employment) income and other property income (e.g., rent). For output impacts, IMPLAN utilizes a Type I and modified Type III multiplier. The Type I output multiplier provides the relationship between the Middlesex County expenditures and the direct output or sales in the state. The Type III multiplier includes the additional indirect and induced effects created by the initial expenditure amount.

An ongoing issue in the professional literature on economic impact and input-output analysis is the true value of the costly "survey approach." It is reasonable to assume that without major structural shifts and technological change within the overall economy, multipliers do not change greatly from year-to-year.[9] Thus, in terms of simple analysis of the aggregate impacts of activity on the regional economy, for the purpose of this study, it is appropriate that estimates of the multiplier are used. Further, if spending by industry sector does not change greatly from year-to-year, then it is deemed sufficient for aggregate estimates such as these to update these expenditures on an annual basis − specific in this study, based on the change in the number and types of boats.

[9] In an update of an earlier recreational boating economic impact study (Milon and Adams, 1987), the authors concluded: "These results suggest that repeating detailed survey methods such as those employed in the original Milon et. al. (1983) study of the Florida recreational boating industry adds limited additional information in relation to the extra time and cost required (italics added)."(5)

Economic Impact Result/Tables

Table 6 – Economic Impacts of Trip Spending by Registered Power and Sail Boats Kept in the Area (MSU RMRC 2008)

Sector/Spending Category	Sales (millions $)	Jobs	Labor Income (millions $)	Value Added (millions $)
Direct Effects				
Lodging	0.37	8.8	0.16	0.26
Marina Services	1.54	33.7	0.56	0.94
Restaurant	2.92	75.5	1.13	1.27
Recreation & Entertainment	0.52	11.4	0.19	0.32
Grocery Stores (Margin & Sales)	0.64	14.2	0.25	0.34
Gas Service Stations (Margin & Sales)	0.93	11.8	0.35	0.45
Other Retail Trade (Margins & Sales)	0.28	7.2	0.13	0.18
Total Direct Effects	**7.20**	**162.7**	**2.77**	**3.75**
Secondary Effects	**2.54**	**32.9**	**0.75**	**1.34**
Total Effects	**9.74**	**195.61**	**3.52**	**5.10**

Table 7 – Economic Impacts of Craft Spending by Registered Power and Sail Boats Kept in the Area (MSU RMRC 2008)

Sector/Spending Category	Sales (millions $)	Jobs	Labor Income (millions $)	Value Added (millions $)
Direct Effects				
Slip	5.16	112.8	1.87	3.13
Repairs	5.05	36.3	0.97	2.22
Insurance	0.16	2.6	0.07	0.14
Credit Intermediaries	0.04	0.2	0.02	0.03
Retail Margins*	1.76	45.7	0.82	1.15
Total Direct Effects	**12.17**	**197.5**	**3.76**	**6.67**
Secondary Effects	**3.78**	**50.0**	**1.17**	**2.02**
Total Effects	**15.94**	**247.5**	**4.92**	**8.69**

Table 8 – Economic Impact of Both Craft and Trip Spending by Registered Power and Sail Boats in the Area (MSU RMRC 2008)

Sector/Spending Category	Sales (millions $)	Jobs	Labor Income (millions $)	Value Added (millions $)
Direct Effects				
Lodging	0.37	8.8	0.16	0.26
Marina Services	6.71	146.5	2.43	4.07
Restaurant	2.92	75.5	1.13	1.27
Recreation & Entertainment	0.52	11.4	0.19	0.32
Repair & Maintenance	5.05	36.3	0.97	2.22
Insurance & Credit	0.19	2.8	0.09	0.17
Gas Service	0.93	11.8	0.35	0.45
Other Retail Trade	2.67	67.1	1.20	1.66
Total Direct Effects	**19.37**	**360.2**	**6.52**	**10.42**
Secondary Effects	**6.32**	**82.9**	**1.92**	**3.37**
Total Effects	**$25.68**	**$443.1**	**$8.44**	**$13.79**

Table 9 - Impacts on Middlesex County from Transient & Local Boats > 26' – 2008 (VIMS 2008)

Impacts by Type	Direct	Indirect	Induced	Total
Output Impacts ($M)	$16.6	$7.9	$3.8	$28.3
Employment Impact (FTE)	25	77	43	145
Labor Income Impacts ($M)	$2.1	$3.1	$1.2	$6.4
Value Added Impacts ($M)	$4.0	$4.3	$2.2	$10.5

Table 10 - Impacts of Middlesex County, Virginia Boats Under 26' (MSU RMRC 2008)

Impacts by Type	Direct	Total
Output Impacts ($M)	$19.3	$25.6
Employment Impacts (FTE)	360	443
Labor Income Impacts ($M)	$6.5	$8.4

Table 11 - Total Economic Impact of Recreational Boating in Middlesex County – 2008

Impacts by Type	Direct	Total
Output Impacts ($M)	$36.3	$53.9
Employment Impacts (FTE)	385	588
Labor Income Impacts ($M)	$8.6	$14.8

References

1. Minnesota IMPLAN Group, Inc., 2007, "IMPLAN Professional 2.0, Economic Impact and Social Accounting Software and Data," for Middlesex County, Virginia. Stillwater, MN.

2. "Number of Active Watercraft Registrations by Locality by Year 1997-2007." Virginia Department of Game and Inland Fisheries.

3. "Merchant Vessels of the United States," U.S. Coast Guard Information Resources. Data through May 31, 2008.

4. "The Economic Impact of Florida's Recreational Boating Industry in 1985." J. Walter Milon and Chuck Adams. Florida Sea Grant Technical Paper 50. April 1987.

5. Mahoney, E. "On-line Boating Economic Impact Model." Recreation Marine Research Center, Michigan State University; 2007.

6. Murray, T., J. Kirkley and D. Lipton. "Assessment of the Economic Impacts of Recreational Boating in the City of Hampton." VIMS Marine Resource Report No. 2009-02. VSG-09-02. January 2009.

Literature Reviewed

Kirkley, J. and T. Murray. Economic Contributions of Virginia's Commercial and Recreational Fishing Industries: A User's Manual for Assessing Economic Impacts. VIMS Marine Resource Report No. 2005-9. December 2007.

Lipton, D.W. Boating 2000: A Survey of Boater Spending in Maryland. Maryland Sea Grant Extension Publication Number UM-SG-SGEP-2001-03. 2001.

Lipton, D.W. and R. Hicks. Boat Location Choice: The Role of Boating Quality and Excise Taxes. Coastal Management 27(1):81-90. 1999.

Lipton, D.W. and S. Miller. Recreational Boating in Maryland: An Economic Impact Study. Maryland Sea Grant College Program Publication Number UM-SG-MAP-95-02. 1995.

Murray, T. Economic Activity Associated With the Inaugural Virginia In-Water Boat Expo September 9-11, 2005. VIMS Marine Resource Report No. 2006-01. VSG-06-02. April 2006.

Murray, T. The Impacts of the Cruise Ship Industry on the Quality of Life in Key West. For City of Key West Naval Properties Local Redevelopment Authority. October 2005.

Attachment 1. Glossary of Input-Output Terms

Direct effects/impacts: Direct impacts represent the revenues, value-added, income, or jobs that result directly from an economic activity within the study area or a regional economy.

Employment or Jobs: Represents the total numbers of wage and salaried employees as well as self-employed jobs. This includes full-time, part-time and seasonal workers measured in annual average jobs.

Indirect Business Taxes: Include sales, excise, and property taxes as well as fees and licenses paid by businesses during normal operations. It does not include taxes on profits or income.

Indirect effects/impacts: Indirect effects occur when businesses use revenues originating from outside the region, or study area, to purchase inputs (goods and services) from local suppliers. This secondary, or indirect business, generates additional revenues, income, jobs and taxes for the area economy.

Induced effects/impacts: Induced effects or impacts occur when new dollars, originating from outside the study area, are introduced into the local economy. Induced economic impacts occur as the households of business owners and employees spend their earnings from these enterprises to purchase consumer goods and services from other businesses within the region. This induced effect generates additional revenues, income, jobs and taxes for the area economy.

Input-Output Analysis: The use of input-output models to estimate how revenues or employment for one or more particular industries, businesses or activities in a regional economy impact other businesses and institutions in that region, and the regional as a whole.

Input-Output Models: A mathematical representation of economic activity within a defined region using inter-industry transaction tables or matrices where the outputs of various industries are used as inputs by those same industries and other industries as well.

Labor Income: All forms of employment compensation, including employee wages and salaries, and proprietor income or profits.

Local/ Resident revenues/expenditures: Local revenues or spending represent simple transfers between individuals or businesses within a regional economy. These transactions do not generate economic spin-off or multiplier (indirect and induced) effects.

Margins: Represent the differences between retail, wholesale, distributor and producers prices.

Non-resident /Non-local revenues/expenditures: When outside or new revenues flow into a local economy either from the sale of locally produced goods and services to points outside the study area, or from expenditures by non-local visitors to the study area, additional economic repercussions occur through indirect and induced (multiplier) effects.

Other Property Type Income: Income in the form of rents, royalties, interest, dividends, and corporate profits.

Output: Revenues or sales associated with an industry or economic activity.

Total Impacts: The sum of direct, indirect and induced effects or economic impacts.

Value-added: Includes wages and salaries, interest, rent, profits, and indirect taxes paid by businesses. In the IMPLAN results tables, Value-added equals the sum of Labor Income, Other Property Type Income, and Indirect Business Taxes.