

THE OHIO GOLF ECONOMY

REPORT

This report was commissioned by
 GOLF 20/20 for the
 Ohio Golf Alliance,
 and prepared by SRI International.





The Ohio Golf Economy

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THE OHIO GOLF ECONOMY 2006

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I. STUDY OVERVIEW

With over 700 courses and in the enviable position of playing host to six premier golf tournaments (PGA, LPGA, Nationwide) each year, golf is more than a recreational pastime—it is a key industry contributing to the vitality of Ohio’s economy. In 2006, the size of Ohio’s direct golf economy was approximately \$2.3 billion. Golf brings visitors to the state, drives new construction and residential development, generates retail sales, and creates demand for a myriad of goods and services through the operation of the golf facilities themselves. When the total economic impact of these golf-related activities is calculated, Ohio’s golf industry generated approximately \$4.8 billion of direct, indirect and induced economic output, \$1.5 billion of wage income and 68,000 jobs in 2006.

As a major manufacturing state, Ohio’s largest revenue-generating industries include motor vehicles, metals, chemicals, food processing, machinery and plastics and rubber. To put the size of Ohio’s golf economy in context, the direct revenues generated by Ohio’s golf industries (\$2.3 billion) exceeded the revenue generated by important manufacturing industries, such as aluminum production (\$2.2 billion), industrial machinery manufacturing (\$1.9 billion), and pharmaceuticals manufacturing (\$1.4 billion). Thus, golf is a key economic sector in the state.¹

Although many golf-related economic studies have been conducted at the state level, there has been no comprehensive, standardized framework employed in these studies. This makes it difficult to monitor industry growth over time in a specific state, or to make comparisons of the size of the golf economy and its impact across states. This report describes and analyzes Ohio’s golf industry cluster, including the revenues and economic impact generated by the industry. The report represents significant investment in developing a consistent and comparable state-level economic impact framework by GOLF 20/20 and SRI International with considerable input from the Ohio Golf Alliance². *The Ohio Golf Economy 2006* report is one in a series of golf economic impact studies currently being conducted at the state level.

There are many potential uses for such an analysis:

- Defining the range of core and enabled industries associated with the game of golf;
- Clearly articulating, for policymakers, the employment and revenue-generating contributions of the golf industry to the state economy; and
- Building credibility and recognition of the golf industry as a significant business sector and a driver of economic activity in the state.

¹ U.S. Census Bureau. 2002 Economic Census. SRI used the GDP implicit price deflator to inflate 2002 industry revenue data to 2006 dollars.

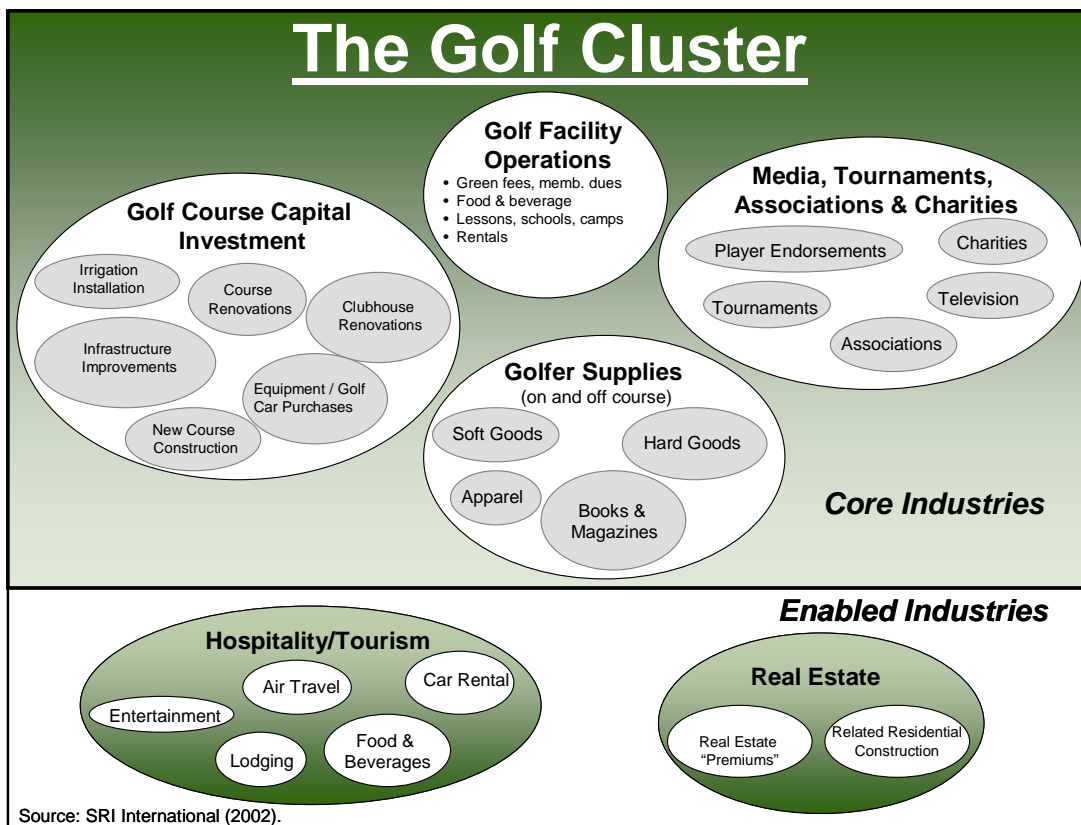
² The Ohio Golf Alliance is a statewide alliance of representatives from the Ohio Chapter of the Club Managers Association of America (CMAA-OH), the Northern Ohio Section of the Professional Golfers’ Association of America (NOPGA), the Southern Section of the Professional Golfers’ Association (SOPGA), the Ohio Golf Association (OGA), the Ohio Chapter of the Golf Course Owners Association of America (OGCOA), the Ohio Golf Course Superintendents Association of America (OGCSA), and related golf organizations.

II. ANALYTICAL FRAMEWORK

Current economic studies of the golf industry, in different states, emphasize different factors and outcomes. For example, one may focus largely on the turf industry, while another might examine the impact of sports and recreation-related tourism more broadly. Ideally, one would want to include all the key activities and industries that are enabled by and benefit from the game of golf. To meet this goal, SRI has developed a standardized, economic impact framework that can be employed to measure a comprehensive set of golf-driven industry components. This state-level framework draws on the conceptual model of the golf economy developed in SRI's 2000 national-level *The Golf Economy Report* and our 2005 state-level *The Virginia Golf Economy Report*.

A. Golf Industry Cluster Definition

To arrive at economic impact, one must first estimate the size of the golf economy in the state. This entails mapping out where the golf industry begins and ends, and then estimating the size of each of these industry segments. We divide the golf industry cluster into two main categories: (1) core industries and (2) enabled industries (see figure). The golf industry cluster begins with the golf facilities themselves and with those other core industries that produce goods and services used to operate facilities and to play the game: golf equipment and golf apparel manufacturers, golf course architects, turf maintenance equipment and service providers, and club management services. The game of golf further enables a number of other industries, such as golf-related tourism and real estate development.



We detail these industry segments and estimate their size in the following section. Having defined the core and enabled golf industries, it is possible to estimate the size of each industry segment and to total them for an overall estimate of the size of the golf economy. Multipliers can then be applied to calculate the ripple effects of these economic activities in terms of: (1) impact on total state economic output and (2) impact on total state employment. However, this process is complicated by the fact that, while most of these industries produce golf-related goods and services, the firms themselves may not limit their activities exclusively to the golf industry. For example, Nike produces golf shoes, but also running, tennis, basketball, and other shoes. Therefore, in general, our approach is to include only those firms and sales that are directly attributable to the game of golf. In so doing, we use a number of different estimation techniques to ensure that our final estimates are reasonable and robust.

Moreover, additional data challenges and location factors make estimation more difficult at the state level than the national level. For example, many of the major golf equipment manufacturers have production facilities in just a few states. Similarly, several of the major golf association headquarters are located in Florida. The presence of such firms, associations, or a number of well-known courses will change the size of golf's economic impact in the state considerably. Therefore, one should consider the size of the golf economy and the game's economic impact in the state in relation to the size of the overall economy and other major industries in that state.

B. Data Sources

SRI developed its framework for measuring the state golf economy based on a broad set of existing sources and data. Although there have been several state-level impact studies conducted in the past, by numerous golf constituencies, few have used a similar methodology, resulting in very different estimates depending on the golf economy elements included. A great deal of data is collected on the golf economy by many organizations on a regular basis. For example, government agencies, national golf associations, and national associations in the enabled industries collect data on different industry elements periodically—annually, every few years, or every five years. In addition, these data are based on a relatively consistent set of inputs by large numbers of constituents. Therefore, the principal challenges involve acquiring the data, inflating or deflating the estimates for the proper target year, and then combining them to represent the entire golf economy in the target year. The core and enabled industry indicators and data sources we have identified are presented below.

State Golf Economy Indicators and Data Sources		
Indicator	Primary source	Cross-validation source
Golf Facility Operations		
# of golf course facilities by type	2006 PGA Facility Database (2005 data)	2002 Economic Census; state task force; NGF Facility Database
Avg. revenues by type of facility	2006 PGA Facility Operations Survey (2005 data)	2002 Economic Census; NGF
# of rounds by facility type	2006 PGA Compensation Survey (2005 data)	National Golf Foundation
Avg. revenues by round type	2006 PGA Compensation Survey (2005 data)	National Golf Foundation

State Golf Economy Indicators and Data Sources		
Indicator	Primary source	Cross-validation source
Golf Course Capital Investments		
Avg. capital investment by type of facility	GCSAA 2005 and 2007 Compensation Survey	National Golf Foundation; State task force
Number of golf courses under construction in current year	National Golf Foundation (2006 data)	NGF Construction database; state task force
Avg. cost of construction per new course	Golf Course Builders Association of America	State task force; interviews with golf course builders in state
Golfer Supplies		
Golf-related manufacturing exports	Company interviews	Company annual reports; state task force
Golf equipment	National Sporting Goods Association (2005 data)	2006 PGA Compensation Survey (2005 data); 2006 PGA Facility Operations Survey (2005 data)
Golf apparel	National Sporting Goods Association (2004 data)	2006 PGA Compensation Survey (2005 data, gross sales by facility type); 2006 PGA Facility Operations Survey (2005 data)
Golf media	Magazine Publishers of America for golf magazine sales; Amazon and Barnes & Noble for top golf book sales	<i>Bowker Annual of Library and Book Trade Information</i> (2006)
Major Tournaments		
# of major tournaments held in state	State task force	Major golf associations
Visitor attendance at tournaments, tournament revenues	Major golf associations	State task force or state associations
Associations & Charities		
# of major state-level golf associations	State counterparts of national golf associations	State task force
Annual revenues/budgets	State golf associations	State task force
# of employees	State golf associations	State task force
Revenues raised through golf-related charities	Sampling of golf professionals to identify # of tournaments and average amount raised	National Golf Foundation
Real Estate		
# of residential golf courses under construction	National Golf Foundation; real estate/development agencies	Interviews with state level golf course architects and real estate developers
# of lots per course	Interviews with golf course architects and real estate developers	Golf Course Builders Association of America, National Golf Course Owners Association, National Association of Home Builders
Avg. construction costs per home and real estate premium	Interviews with golf course architects and real estate developers	Golf Course Builders Association of America, National Golf Course Owners, National Association of Home Builders
Hospitality/Tourism		
# of golf travelers or # of golf-related trips to the state	Travel Industry Association (TIA) of America	State department of tourism/recent surveys/studies
Avg. spending per traveler or per trip	Travel Industry Association (TIA) of America	State department of tourism/recent surveys/studies; National Golf Foundation

III. THE SIZE OF OHIO'S GOLF ECONOMY

SRI estimates the total size of Ohio's golf economy in 2006 was approximately \$2.3 billion. This estimate is comprised of \$1.4 billion in core industries and an additional \$991.2 million in enabled industries, as illustrated in the table below.

Size of Ohio's Golf Economy in 2006 by Segment (\$ million)	
Core Industries	
Golf Facility Operations	\$1,100.4
Golf Course Construction and Capital Investment	\$87.9
Golfer Supplies (retail margin)	\$134.5
Major Golf Tournaments and Associations	\$42.4
Total Core Industries	\$1,365.2
Enabled Industries	
Real Estate	\$470.5
Hospitality/Tourism	\$520.7
Total Enabled Industries	\$991.2
TOTAL GOLF ECONOMY	\$2,356.4

A. Core Industries

Golf Facility Operations

At the center of any golf economy lies the golf facilities—the largest component in terms of revenues. The revenue that flows through a golf facility comes primarily from greens fees, membership fees, golf cart rentals, and associated spending on food and beverages. This revenue, in turn, supports a host of supply sectors including golf equipment manufacturers, food and beverage providers, and turfgrass equipment and maintenance service providers. Ohio's 738 golf courses, 74 stand-alone ranges, and 81 miniature golf facilities generated \$1,100.4 million of revenues in 2006.

Ohio Golf Facility Revenues in 2006 (\$ millions)	
Golf Facilities	\$1,048.5
Practice Ranges & Alternative Facilities	\$51.9
TOTAL¹	\$1,100.4

Note: ¹Golf facility revenues exclude on-course merchandise sales, which are included in the Golfer Supplies industry segment.

This is a sizeable industry, but even more significant when compared to other popular revenue-generating sports. For example, it takes all of the other spectator sports in the state combined—football, baseball, soccer, auto racing and horse racetracks—to equal the size of the golf industry. These five other sports generated revenues of \$998.9 million in 2002, or \$1,112.6 million in 2006 inflation-adjusted dollars, only slightly larger (1.9 percent) than the revenues generated by Ohio's golf facilities.³

³ U.S. Census Bureau (2005). *Ohio: 2002, 2002 Economic Census, Arts, Entertainment & Recreation Geographic Series*, May 2005.

Golf Course Capital Investments

Golf facilities generate economic impacts beyond operational revenues through investments to upgrade and maintain facilities and infrastructure, and through the construction and expansion of courses. These investments create employment in the construction and maintenance industries and often involve the purchase of significant amounts of equipment and supplies from companies within the state. SRI's estimate of Ohio's golf course capital investment is divided into two segments: (1) capital investment at existing facilities and (2) new course construction. Together, Ohio's golf establishments made \$87.9 million worth of capital investments in 2006: \$69.0 million of investments at existing facilities and \$18.9 million for the construction of new courses.

Ohio Golf Course Construction and Capital Investment in 2006 (\$ millions)	
Golf Course Capital Investment¹	\$69.0
New Course Construction	\$18.9
TOTAL	\$87.9

Note: ¹Only the New Course Construction category is included in the economic impact analysis, because it represents new economic output or activity. Golf course capital investment is typically financed through golf facility revenues, so including both Golf Course Capital Investment and Golf Facility Operations in economic impact analysis would result in double-counting.

Golfer Supplies

In 2006, Ohio golfers spent significant sums on items such as golf balls, golf clubs, golf apparel, golf instructional books and DVDs. The economic value that accrues to a state comes from both the production of these goods, as well as retail sales of such items. Ohio is home to a number of companies that manufacture golf club components, swing trainers, golf umbrellas and other golf accessories—GolfWorks, Pukka Golf, Medicus, Haas-Jordan, Gino's Awards, etc. The value of these products that are sold in Ohio is already captured in the retail portion of the Golfer Supplies segment. However, the proportion of production that is being shipped to other states and countries is not. Therefore, we include these companies' value-added exports in our analysis, here. In 2006, Ohio manufacturers' value-added exports of golf-related products was approximately \$19.4 million. In addition, while Ohio is not a major manufacturer of golf equipment (clubs, bags, shoes, balls, etc.), apparel or media (books, magazines, videos/DVDs), on-course and off-course sales of these items are sizeable. The margin that Ohio retailers and golf facilities made on the sale of golfer supplies totaled \$115.1 million in 2006.

Ohio Manufacturers' Value-Added Exports of Golf-Related Products in 2006 (\$ millions)	
TOTAL	\$19.4

Ohio Retailers' Net Revenues on Consumer Purchases of Golfer Supplies in 2006 (\$ millions)	
Golf Equipment (retail margin)	\$78.6
Golf Apparel (retail margin)	\$35.7
Golf Media (retail margin)	\$0.8
TOTAL	\$115.1

Note: This includes on-course and off-course purchases of golf equipment, apparel and media.

State Golf Associations, Tournaments and Charities

Associations

Numerous associations support the game of golf in Ohio. Some of the largest include the state chapters of national golf organizations: the Ohio Golf Course Owners Association, the Northern Ohio and Southern Ohio Sections of the Professional Golfers' Association of America, the local chapters of the Golf Course Superintendents Association (Northern Ohio, Northwest Ohio, Central Ohio, Greater Cincinnati, and Miami Valley chapters), the Ohio chapters of the United States Golf Association and the Club Managers Association of America, the Ohio Junior Golf Associations, as well as the local chapters of the Executive Women's Golf Association. In addition, Ohio boasts a Jack Nicklaus Museum located in Columbus. In total, our estimate of Ohio golf association revenues was \$10.4 million in 2006.

Major Tournaments

In 2006, Ohio hosted five major golf tournaments: two PGA TOUR events, two LPGA tournaments and one Nationwide Tour event. A new Nationwide Tour will debut in Ohio in 2007. The two PGA Tour events held in Ohio were: the Memorial Tournament held at the Muirfield Village Golf Club in Dublin and the World Golf Championships-Bridgestone Invitational held at the Firestone Country Club in Akron. The Jamie Farr Owens Corning Classic presented by Kroger is a premier LPGA tournament held at the Highland Meadows Golf Club in Sylvania. The Wendy's Championship for Children is another annual LPGA event hosted by the Tartan Fields Golf Club in Dublin. Ohio's two Nationwide Tour events are the Legend Financial Group Classic played annually at Stonewater Golf Course in Highland Heights and the new Nationwide Children's Hospital Invitational which will be hosted by Ohio State University's Scarlet Course in July 2007. (The Nationwide Children's Hospital Invitational is not included in 2006 golf economy calculations.) These five tournaments generated approximately \$32.0 million in 2006, excluding the tournament purse and costs for TV broadcasting.

Ohio's Major Golf Tournaments & State Golf Association Revenues in 2006 (\$ millions)	
Major tournaments	\$32.0
Associations	\$10.4
TOTAL	\$42.4

Charities

Ohio's golf industry makes significant contributions to a variety of charities. Locally, the Northern Ohio Golf Association Charities and Foundation conducts the "Back to Golf /Back to Life" program and is a national leader in offering programs to golfers with disabilities. All the major PGA TOUR, LPGA and Nationwide tournaments that are played in Ohio raise significant funds for local charities. For example, the NOGA Charities and Foundation associated with the World Golf Championship-Bridgestone event distributed \$1.1 million in 2006 to the Children's Hospital Medical Center of Akron, the American Red Cross, regional food banks, the Akron Art Museum, and others. Similarly, proceeds from the 2006 Wendy's Championship LPGA tournament benefited the Pediatric Cancer Unit at Columbus Children's Hospital. Golf courses and golf professionals are happy to serve as access points for annual fundraising by local service

organizations. Overall, SRI estimates that the amount of charitable giving attributed to the game of golf in Ohio to be \$155.2 million in 2006.

Charitable Giving by Ohio Golf Industry in 2006 (\$ millions)	
TOTAL	\$155.2

B. Enabled Industries

Real Estate

Real estate developers use amenities to attract new home buyers, and golf is a key amenity in both rural and urban areas of the state. A number of new golf communities were under construction in 2006 offering a mix of single family homes and condominiums. New residential developments are under construction at existing courses (e.g., Glenross in Delaware and Catawba Island Golf Club in Port Clinton), as well as new courses (e.g., Scioto Reserve and the Golf Club of Dublin, both located near Columbus, Shale Creek in Medina, and The Quarry in East Canton). This new golf-related real estate construction generated \$324.0 million in 2006. Furthermore, in 2006 there were approximately 93 golf communities in Ohio, and we estimate the “golf” premium associated with the sale of real estate in these developments to be \$146.5 million. The premium is the additional amount a buyer is willing to pay for a home or property located on a golf course or within a golf community.

Ohio’s Golf Real Estate Revenues in 2006 (\$ millions)	
Golf-Related Residential Construction	\$324.0
Realized Golf Premium	\$146.5
TOTAL	\$470.5

Note: The sale of existing homes is considered a transfer of assets rather than new economic output, so the golf premium that is realized in the sale of an existing home is not included in the economic impact analysis.

Hospitality/Tourism

Across the country, golf has enjoyed increasing popularity, whether it is the primary motivation for a trip or is connected to other recreational time spent with friends and family, or business colleagues. In Ohio, golf is still an emerging tourist segment despite some world-class courses and a Jack Nicklaus Museum to boot. SRI estimates golf-related tourism spending in Ohio to be \$520.7 million in 2006. This is based on: (1) an estimated 2.6 million golf trips taken annually in the state and (2) an average of \$202 of tourism spending per trip.

Ohio’s Golf-Related Travel Expenditures in 2006	
# Golf trips	2,583,000
Average travel \$ per trip	\$201.6
TOTAL (2006\$ millions)	\$520.7 million

Note: This figure assumes a similar level of golf-related travelers in 2006 as in 2005.

IV. GOLF'S ECONOMIC IMPACT IN OHIO

Golf's impact on the Ohio economy includes both the direct effects of economic activity in golf-related industries (i.e., the core and enabled industries), as well as the indirect and induced (or multiplier) effects that ripple through the state economy. Therefore, in 2006, the \$2.3 billion golf economy generated an additional \$2.7 billion in indirect and induced economic impacts for the State of Ohio. The total impact of the golf economy was an estimated \$4.8 billion.

Golf's Impact on Ohio's Economic Output in 2006 (\$ million)			
Industry	Direct Impact	Indirect/Induced Impact	Total Impact
Golf Facility Operations	\$1,100.4	\$1,242.5	\$2,342.9
Golf Course Construction and Capital Investment			
Golf Course Capital Investment¹	\$69.0*	*	*
New Course Construction	\$18.9	\$28.8	\$47.7
Golfer Supplies			
Manufacturing Exports	\$19.4	\$27.8	\$47.2
Retail	\$115.1	\$136.2	\$251.3
Major Golf Tournaments and Associations			
Associations	\$10.4	\$15.2	\$25.6
Tournaments	\$32.0	\$42.4	\$74.4
Golf Real Estate			
Golf-Related Residential Construction	\$324.0	\$493.7	\$817.7
Golf Premium²	\$146.5*	*	*
Hospitality/Tourism	\$520.7	\$684.9	\$1,205.6
TOTAL	\$2,356.4	\$2,671.5	\$4,812.4

Notes: ¹ Only the New Course Construction category is included in the economic impact analysis, because it represents new economic output or activity. Golf course capital investment is typically financed through golf facility revenues, so including both Golf Course Capital Investment and Golf Facility Operations in economic impact analysis would result in double-counting. ² Similarly, the sale of existing homes is considered a transfer of assets rather than new economic output, so the golf premium that is realized in the sale of an existing home is not included in the economic impact analysis. Consequently, these two numbers are neither carried across nor reflected in the total impact calculation. Source: Multiplier values for each Ohio industry sector were obtained from the Bureau of Economic Analysis RIMS II program.

The golf economy also generates significant jobs and earnings for Ohio residents. Based on the economic output of the core and enabled golf industries, SRI calculated the total number of jobs, both direct and indirect, that are generated by golf, as well as the earnings of those workers. As shown below, the golf economy generated a total impact of 68,120 jobs throughout the Ohio economy in 2006, with total earnings of \$1.5 billion. These total (direct plus multiplier) impacts include both the employment and earnings of those employed in golf-related industries, as well as the employment and earnings generated in other sectors of the economy through subsequent purchases of goods and services by golf industry employees.

Golf's Impact on Ohio Employment and Earnings in 2006		
Industry	Total Employment Impact	Total Earnings Impact (\$ million)
Golf Facility Operations	35,644	\$767.2
Golf Course Construction and Capital Investment		
Golf Course Capital Investment¹	*	*
New Course Construction	426	\$14.7
Golfer Supplies		
Manufacturing Exports	292	\$11.0
Retail	2,926	\$76.6
Major Golf Tournaments and Associations		
Associations	377	\$8.2
Tournaments	988	\$27.9
Golf Real Estate		
Golf-Related Residential Construction	7,294	\$251.8
Golf Premium²	*	*
Hospitality/Tourism	20,173	\$380.7
TOTAL	68,120	\$1,538.1

Notes: ¹ Only the New Course Construction category is included in the economic impact analysis, because it represents new economic output or activity. Golf course capital investment is typically financed through golf facility revenues, so including both Golf Course Capital Investment and Golf Facility Operations in economic impact analysis would result in double-counting. ² Similarly, the sale of existing homes is considered a transfer of assets rather than new economic output, so the golf premium that is realized in the sale of an existing home is not included in the economic impact analysis.

Source: Multiplier values for each Ohio industry sector were obtained from the Bureau of Economic Analysis RIMS II program.

V. DETAILED METHODOLOGY & DATA SOURCES

A key challenge in this study was to identify reliable state-level data sources and to develop methodologies for measuring the size of industry components for which cross-state estimates do not exist in straightforward metrics, e.g., golf real estate and off-course purchases of golf apparel and equipment. This section describes each of the core and enabled industries included in the golf economy and SRI's approach to measuring each of these segments.

A. Golf Facility Operations

For this industry segment, we analyzed the number of golf facilities and average facility revenue data to derive a total facility operations estimate. Revenues for this segment include: annual membership fees, daily fees, and cart rental fees; purchases of golf apparel and equipment in pro shops; golf lessons; tournament entry fees; consumption of food and beverages; etc.

Number of golf course facilities. Many golf associations track the number of golf facilities in a state: the National Golf Foundation (NGF), the PGA of America, and state counterparts of the USGA, among others. The U.S. Census Bureau also surveys golf course facilities as business establishments in its Economic Census every five years. However, these organizations' calculations of the total numbers of golf courses in each state, by type of facility, are not always consistent due to: (1) disagreement over whether to count the number of facilities or the number of 18-hole equivalent courses, (2) annual facility or course closures and openings, and (3) inconsistency in the classification of courses, especially resorts.

For example, in some surveys, golf facilities are allowed to self-classify themselves. In others, the surveying organization classifies the facility based on specific criteria. This can mean the difference between a small number of resorts (e.g., a figure that includes five-star accommodation located on or adjacent to an 18-hole course) or a much larger number of resorts (e.g., three-star hotel accommodation located near a daily fee golf course). Similarly, a resort with two 18-hole golf courses could be counted as two golf facilities or as one depending on the reporting organization. Fortunately, the variances caused by these data collection issues are very small, and thus do not materially impact the overall analysis. The table below presents slightly differing estimates for the number of golf course facilities in Ohio in 2006 or the latest available year.

Estimates of Ohio Golf Facilities from Various Sources, 2002-2006					
	2002 Census (# of facilities minus resorts & municipal)¹	2005 PGA (# of facilities)²	2006 Ohio Golf Alliance (# of facilities)	2006 NGF (# of facilities)³	2006 NGF (# of 18-hole equivalent courses)³
PRIVATE	647	206	206	182	179.0
PUBLIC		500	522	572	548.0
Daily fee/ semi-private		409	426		454.0
Municipal	(PGA: 91)				
Military		91	96		94.0
University					
RESORT	(PGA: 10)	10	10	9	
TOTAL	647 (748 w/PGA)	716	738	763	727.0

Sources: ¹ U.S. Census Bureau, *2002 Economic Census*.

² Professional Golfers' Association of America (2006). *Facility Database*.

³ NGF (2007). Total Facility Supply Tables 5-8, *Golf Facilities in the U.S., 2007 edition*, p.6-8.

After thorough analysis of different golf course facility lists and numbers in collaboration with the Ohio Golf Alliance, SRI used the Alliance's facility numbers as the basis for our assessment. The Alliance's total facility number (738) falls in between the PGA's slightly lower number (716) and NGF's slightly higher number (763). The Ohio Golf Alliance's breakdown of facilities by type closely resembles the PGA's categorization. This is due to the fact that SRI was able to obtain a PGA listing of Ohio courses, and then cross-referenced this list with those obtained from the Northern Ohio PGA, Southern Ohio PGA, Miami Valley Golf Association and the Ohio Golf Course Owners Association.

Average revenues per facility. The SRI team collected average revenue data from a variety of sources. Here again, the data challenge was that average facility revenues will vary significantly depending on: (1) the number of holes (e.g., a 9-hole course versus a 27-hole course) and (2) the type of facility—whether a golf course facility is private, daily fee, resort, municipal, etc.

The U.S. Census Bureau collects revenue data for golf course facilities as part of its Economic Census of all U.S. establishments every five years. Whereas facility surveys conducted by private sector organizations are often based on low response rates (less than 30 percent), all establishments are required by law to respond to the Census Bureau survey. However, the

Census Bureau data has several limitations. Many types of facilities are not included in the survey: (1) resort facilities, (2) municipal and military facilities, (3) driving ranges and (4) golf course facilities without payroll. In addition, in 2002 the national economy was just emerging from an economic recession which may have impacted negatively average golf course revenues. Still, the latest 2002 Economic Census contains revenue, payroll, and employment data on 12,261 golf facilities broken down by state. This provides a robust estimate with which to compare other available golf facility revenue data.

The PGA recently began collecting revenue data for all 50 states on an annual basis through the PGA Annual Operations Survey. The latest available data are from 2005. In addition, PGA revenue data are broken down by type of facility for categories for which Census data are not available—resorts, municipal courses, and military courses.

As an additional validity check, we also examined NGF revenue data. However, it is important to note that NGF does not provide state-level facility data. It presents average revenue data for: (1) public facilities for two regions (Sunbelt and Frostbelt) by fee level (mid-range and premium) and (2) private facilities—a national average—by fee level (mid-range and premium). For the table, below, SRI calculated a single NSF average revenue figure for each category by using the sample size and mean.

Estimates of Ohio Average Revenue per Facility Data From Different Sources, 2002-2005			
	Census (2002\$)	PGA (2005)	NGF (2005)
Private facility	\$2,173,777	\$1,900,247	\$3,564,339
Daily fee facility	\$904,900	\$1,523,574	\$1,291,582
Resort facility	X	\$2,671,664	X
Municipal/military/university facility	X	\$900,680	X
Driving range	X	X	\$350,000
Miniature golf	\$257,901	X	X

Sources: ¹ U.S. Census Bureau, *2002 Economic Census*.

² Professional Golfers' Association of America (2006). *Operations Survey*.

³ NGF (2006). *Operating & Financial Performance Profiles of 18-hole Golf Facilities in the U.S., 2007 edition*.

⁴ Golf Range Association of America and NGF (2003). *Profile of Golf Practice Facility Operations 2003*.

Average revenue data from the Census (2002), PGA (2005) and NGF (2005) are presented above. The NGF average revenue data are significantly higher, since they reflect national averages by course fee level rather than Ohio averages. The PGA data are significantly higher than the Census data in the daily fee facility category, and slightly lower in the private facility category. When one adjusts the Census data for inflation and factors in the 96 municipal, military and university facilities at the lower average revenue figure of \$900,680, the Census and PGA differences largely cancel out.

In consultation with the Ohio Golf Alliance, SRI calculated total traditional facility revenues using PGA average revenue data. Driving range revenues were calculated using Golf Range Association of America (2003) data, and miniature golf facilities were calculated using Census (2002) data. We adjusted for inflation over the 2002-2006 period using the GDP deflator.

2006 Golf Facility Operations Revenues		
Facility type	Calculation	Estimate
Private facilities	Average revenue ¹	\$1,656,713
	Number of facilities	206
	Total revenue [1]	\$341,282,894
Daily fee facilities	Average revenue ¹	\$1,353,574
	Number of facilities	426
	Total revenue [2]	\$576,629,572
Municipal/military/university facilities	Average revenue ¹	\$793,986
	Number of facilities	96
	Total revenue [4]	\$76,222,633
Resort facilities	Average revenue ¹	\$2,452,580
	Number of facilities	10
	Total revenue [3]	\$24,525,800
Driving ranges	Average revenue	\$350,000
	Number of facilities	74
	Total revenue [5]	\$28,350,000
Miniature golf facilities	Average revenue	\$257,901
	Number of facilities	81
	Total revenue [6]	\$20,889,981
TOTAL	Sum [1] to [6]	\$1,065,632,111
TOTAL (2006\$)²	Adjusted for inflation	\$1,100,417,200

Note: ¹ In this table, on-course merchandise sales have been subtracted from average facility revenue, because on-course merchandise sales are included in the Golfer Supplies industry segment. ² Adjusted for inflation into 2006 dollars using the appropriate GDP deflator.

Sources: Golf facilities average revenue data are from the PGA of America (2006), Operations Survey 2006. Driving range average revenue data from the Golf Range Association of America (GRAA) & NGF (2003), *Profile of Golf Practice Facility Operations*. Miniature golf facilities average revenue data are from the 2002 Economic Census.

B. Golf Course Capital Investment

To calculate golf course capital investments, SRI collected data on two major types of investment: (1) capital investment at existing facilities and (2) new course construction.

Ohio Golf Course Construction and Capital Investment in 2006 (\$ millions)	
Golf Course Capital Investment¹	\$110.5
New Course Construction	\$18.9
TOTAL	\$129.4

Note: ¹ Only the New Course Construction category is included in the economic impact analysis, because it represents new economic output or activity. Golf course capital investment is typically financed through golf facility revenues, so including both Golf Course Capital Investment and Golf Facility Operations in economic impact analysis would result in double-counting.

Investment at existing courses. SRI examined golf course capital investment from two sources: NGF and the GCSAA. The GCSAA data comes from golf course capital budget questions included in its 2005 and 2007 Compensation Surveys. The 2007 data is broken down by: (1) type of facility, (2) number of holes at the facility and (3) agronomic region. The NGF's 2006 Operating and Financial Performance Profile presents estimates of capital expenditures at: (1) public

facilities by fee level (mid-range and premium) and divided into two regions (Sunbelt and Frostbelt); and (2) private facilities by size (those with revenues of less than \$3 million and those with revenues above \$3 million).

After review of both data sets, SRI applied the GCSAA data to our Ohio capital investment calculations. We estimated average facility investments in Ohio using the known distribution and type characteristics of facilities in the state. (See preceding section on number of facilities for sources.) These imply that each of Ohio's 738 golf courses invested an average of approximately \$93,485 in 2006, for a total capital investment of \$69.0 million.

New course construction. The NGF's Golf Facilities in the U.S. series is the only national source for estimates of the number of new golf courses under construction in each state. In 2006, NGF estimated that five new 18-hole equivalent golf courses opened in Ohio and that seven were under construction.

An estimate for the average investment for each new golf course in Ohio is derived from the Golf Course Builders Association of America's *2006 Guide to Estimating Cost for Golf Course Construction*. This database of golf course construction costs is based on a survey of golf course builders around the country and is divided into four construction regions. Using the values provided for region three (Central Plains) and the average ("normal") costs for each of the various construction categories (see box below), we estimate the average investment required to build a new golf course in Ohio is \$4.7 million.

To Build a Golf Course: Required Investments	
Mobilization	Greens Construction
Layout and Staking	Tees
Erosion Control	Bunkers
Clearing	Bridges
Selective Clearing	Bulkheading
Topsoil	Cart Paths
Excavation	Fine Grading
Rough Shaping	Seeding and/or Grassing
Drainage	
Irrigation	

This investment, however, is not entirely expended over one year, but is disbursed over several years. Assuming the average course takes approximately three years to complete, we estimate the seven courses under construction in 2006 and the five new openings invest an average of \$1.6 million each, for a total of \$18.9 million.

C. Golfer Supplies

This section explains our methodology for calculating Ohio manufacturers' exports of golf club components, golf swing trainers, golf umbrellas and other golf accessories used by golfers. We

also detail our methodology for calculating the retail margin for on-course and off-course purchases of golf equipment, golf apparel, and golf media.

Manufacturing Exports. The economic value created by golfer supplies consists of two components: (1) value-added production and (2) the retail sales margin. On the manufacturing, or production side, we are concerned with the value-added production of golf turf maintenance equipment, golf accessories, golf equipment, and golf apparel. This is the value of the company's wholesale revenues minus the cost of production inputs, and this value-added production is attributable to the state in which the golf club or golf ball washer is manufactured.

It should be noted that the value-added production of companies whose products are sold exclusively to golf courses is already accounted for in the Golf Facility Operations segment. For example, if Medicus manufactures golf swing trainers in Ohio, its Ohio sales are already accounted for in the economic impact multiplier applied to the Golf Facility Operations segment. However, if Medicus exports its swing trainers to other states and countries, such value-added production would be captured in our analysis here.

We began by working with the Ohio Golf Alliance to identify major manufacturers of golf-related products in the state. We identified a number of companies manufacturing golf club components, golf swing trainers, golf umbrellas and other golf accessories used by golfers—GolfWorks, Medicus, Haas-Jordan, Gino's Awards and Pukka Golf, among others. We then contacted these companies to ascertain: (1) if they had production facilities in Ohio (if not, they were not included), (2) the total value of their golf-related sales, and (3) the percentage of these sales that were out-of-state. Finally, we extrapolated value-added output from each company's revenues using value-added data from the Census's *Survey of Manufacturers*.

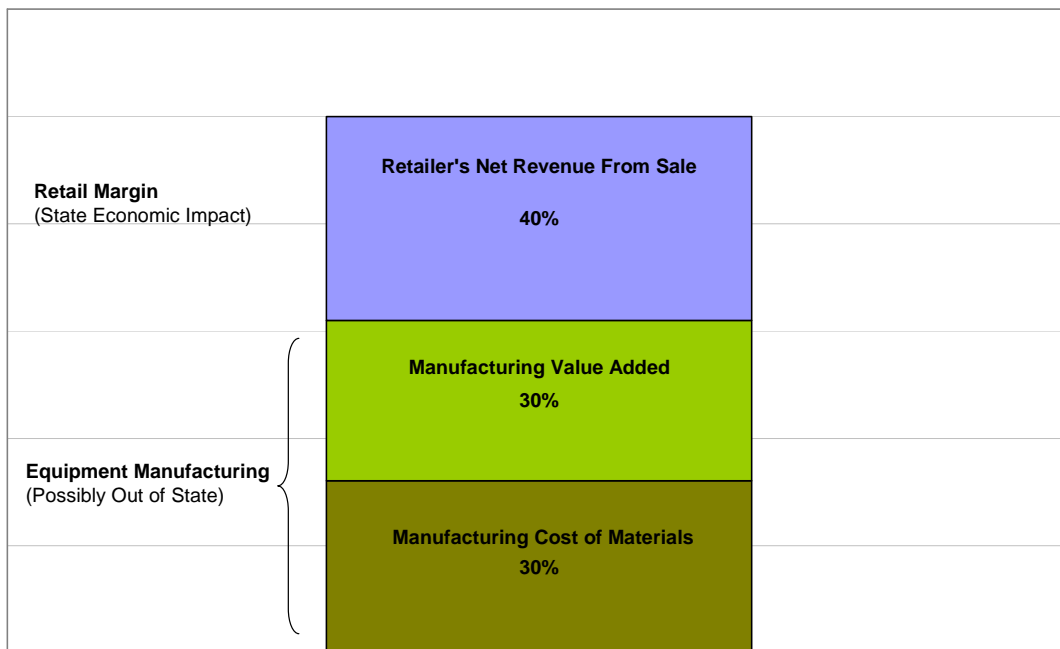
Ohio Manufacturers' Value-Added Exports of Golf-Related Products in 2006 (\$ millions)	
TOTAL	\$19.4

Retail Margin. On the retail side, the economic value is derived from the margin the retailer makes from the sale of the golf club, i.e., the net revenues accruing to retailers after covering the cost of purchasing the golf equipment or apparel from the wholesaler/producer.

To calculate this margin, we first estimate total sales of golf apparel and equipment at the state level and then apply the requisite retail margin percentage for economic impact analysis. In our national level study for GOLF 20/20, SRI was able to collect national sales data from a number of sources: (1) the NGF, (2) the National Sporting Goods Association (NSGA), (3) Golf Datatech, and (4) the Census Bureau. Unfortunately, the relatively small sample size for the majority of these surveys do not allow for publication of reliable state-level estimates by these organizations. However, each year the NSGA conducts a 100,000-household consumer panel survey for its annual *The Sporting Goods Market* publication. SRI uses these data in conjunction with the PGA's golf facilities data for each state to derive state-level estimates of golf equipment and apparel sales.

For example, in 2005, NSGA reported total U.S. off-course and on-course purchases of golf bags to be \$332.6 million. The NSGA survey found the East North Central region accounted for 15.8% of these purchases, or \$52.6 million. Within the East North Central region, one can estimate Ohio's share of purchases by creating a rounds- or courses-based weight. Using either approach yields similar weights, since the number of rounds played is highly correlated with the number of 18-hole equivalent courses in a state ($r=0.93$). SRI used the number of 18-hole equivalent courses in each state, as it was easier to verify than estimated number of rounds played. Ohio represents 24.7% of total 18-hole equivalent courses in the East North Central, so this weight was applied to the East North Central region total (\$52.6 million) to estimate \$13.0 million of golf bag sales in the state of Ohio in 2005. Further, retail margins on final sales suggest that 40.1%, or \$5.2 million, of total sales was retained in the Ohio economy. (See graphic below.) As data are not yet available for 2006, SRI adjusted the 2005 data for price inflation yielding: \$5.4 million.

Distribution of Economic Value of \$1 of Golf Equipment Sales in State
(Preliminary)



Ohio's On-Course and Off-Course Golf Equipment & Apparel Purchases, 2006		
Category	Calculation	Estimate (\$ million)
Golf club sets	East North Central region's sales	\$396.1
	OH's courses-based weight	24.7%
	OH's share of sales [1]	\$97.9
Golf apparel	East North Central region's sales	\$381.3
	OH's courses-based weight	24.7%
	OH's share of sales, [2]	\$88.9
Golf balls	East North Central region's sales	\$186.9
	OH's courses-based weight	24.7%
	OH's share of sales, [3]	\$46.2
Golf clubs	East North Central region's sales	\$105.2

Ohio's On-Course and Off-Course Golf Equipment & Apparel Purchases, 2006		
Category	Calculation	Estimate (\$ million)
	OH's courses-based weight	24.7%
	OH's share of sales, [4]	\$26.0
Golf bags	East North Central region's sales	\$54.1
	OH's courses-based weight	24.7%
	OH's share of sales, [5]	\$13.4
Golf shoes	East North Central region's sales	\$50.9
	OH's courses-based weight	24.7%
	OH's share of sales, [6]	\$12.6
TOTAL	Sum of [1] to [6]	\$285.0 million
Retail sales margin	Multiply TOTAL by 40.1%	\$114.3 million

Source: National Sporting Goods Association (2006). *The Sporting Goods Market in 2006*, Mt. Prospect, IL: NSGA and *Sports Clothing Expenditures in 2004*, Mt. Prospect, IL: NSGA. The 2005 NSGA data have been adjusted for inflation to 2006 dollars.

Golf media. Similar to golf equipment, golf media's economic contribution to the state economy has two components: value-added production and the retail sales margin. On the production side, the economic impact created by the publication of magazines or books is attributable to the state in which the magazine or book is published. On the retail side, the economic impact is derived from the margin the retailer makes from the sale of golf media, i.e., the net revenues accruing to retailers after covering the cost of purchasing the media from the wholesalers/producers. For golf magazines, we identified the publications with the largest circulations and the state in which they are published—no major golf magazines were published in Ohio in 2006. Similarly, no major publishers of golf books are located in the state. However, we calculated a weight to estimate the percentage of book retailers' sales attributable to the sale of golf books in stores. Total retail golf book sales in 2006 were estimated to be \$2.1 million with a retail sales margin of \$851,000. Golf videos and DVDs are more difficult. In SRI's previous national-level study, we were not able to identify a source with data on the annual sales of golf-specific videos/DVDs. In the case of this current state-level study, this category was also omitted due to the absence of a reliable data source.

On-Course and Off-Course Sales of Golf Books in Ohio, 2006	
Category	Estimate (\$1,000)
Ohio retail book sales¹	\$505,574
Golf books as % of total book sales	0.4%
Total retail golf book sales	\$2,123
Retail sales margin	\$851

Note: ¹ Adjusted for inflation into 2006 dollars using the appropriate GDP deflator.

Sources: Ohio retail book sales data from the 2002 Economic Census. Golf books as a percentage of total book sales derived from the *2006 Bowker Annual of Library & Book Trade Information* and American Booksellers Association data.

Ohio Retailers' Net Revenues on Consumer Purchases of Golfer Supplies in 2006 (\$ millions)	
Golf Equipment (retail margin)	\$78.6
Golf Apparel (retail margin)	\$35.7
Golf Media (retail margin)	\$.8
TOTAL	\$115.1

Note: This includes on-course and off-course purchases of golf equipment, apparel and media.

D. State Golf Associations, Tournaments & Charities

Associations. SRI worked with the state task force to collect revenue data for the largest Ohio golf organizations: the Ohio Golf Course Owners Association, the Northern Ohio and Southern Ohio Sections of the Professional Golfers' Association of America, the local chapters of the Golf Course Superintendents Association (Northern Ohio, Northwest Ohio, Central Ohio, Greater Cincinnati, and Miami Valley chapters), the Ohio chapters of the United States Golf Association and the Club Managers Association of America, as well as the local chapters of the Executive Women's Golf Association. We also included the revenues of the Jack Nicklaus Golf Museum in Columbus. In total, our estimate of Ohio golf association revenues was \$10.4 million in 2006.

Major Tournaments. In 2006, Ohio hosted five major golf tournaments: two PGA TOUR events, two LPGA tournaments and one Nationwide Tour event. We subtracted the tournament purse and cost of television broadcasting from total tournament revenues to estimate the revenues that remained in the state.

Ohio's Major Golf Tournaments & State Golf Association Revenues in 2006 (\$ millions)	
Major tournaments	\$32.0
Associations	\$10.4
TOTAL	\$42.4

Charities. Overall, SRI estimates that the amount of charitable giving attributed to the game of golf in Ohio to be \$155.2 million in 2006.⁴ This estimate is derived from a national study⁵ based on the number of charitable golf outings held; the discounted fees, services and staff time for these events; as well as the charitable giving associated with professional golf tournaments. Charitable giving is not included in economic impact estimation because it is a direct transfer of income. Nevertheless, it is an important contribution of the industry to the state.

Charitable Giving by Ohio Golf Industry in 2006 (\$ millions)	
TOTAL	\$155.2

⁴ SRI based its calculation on the number of rounds played in Ohio in 2006, and adjusted the figures for inflation based on the CPI inflation rate, cross-referenced with the rate of increase in charitable giving in the United States during this period.

⁵ National Golf Foundation (2002). *The Charitable Impact Report*, November 2002.

E. Real Estate

In analyzing golf-related residential real estate, SRI collected data on two components: (1) new golf-related residential construction and (2) the “golf” premium associated with the sale of golf community homes.

Ohio's Golf Real Estate Revenues in 2006 (\$ millions)	
Golf-Related Residential Construction	\$324.0
Realized Golf Premium	\$145.5
TOTAL	\$470.5

Note: The sale of existing homes is considered a transfer of assets rather than new economic output, so the golf premium that is realized in the sale of an existing home is not included in the economic impact analysis.

Golf-related residential construction. For this industry segment, SRI worked with Ohio golf course builders and golf real estate developers to arrive at estimates of the number of courses with active real estate development, the average number of homes constructed in each new golf community, the fraction of these homes under construction in a given year, and the average construction costs per type of home (i.e., condominium, townhouse or single family home). The number of courses with active development was derived from total golf facility openings over the past five years and adjusted based on golf task force input, since not all new courses have real estate development. Construction values varied considerably depending on such factors as the location of golf communities within the state, the proportion of condominiums or townhouses versus single family homes, and overall real estate market conditions. From interviews with industry representatives, SRI estimates that, on average, approximately 1,050 units per course were being developed in 2006 at a build-out rate of 10 percent per year. We further assumed average construction costs in the state of \$200,000 for single family homes and \$100,000 for condominiums. Multiplying the total number of each type of unit under construction times the average construction cost per unit yielded a total 2006 golf-related residential construction figure of \$324.0 million.

Realized golf premium. The “golf” premium is the extra value a home owner can expect to receive on the sale of a home located in a golf community that is above and beyond the premium associated with a home’s other features or amenities (e.g., square footage, fixtures, landscaping, etc.). Through industry interviews, SRI arrived at a conservative estimate of this premium of \$25,000 per unit. Multiplying the approximately 93 existing Ohio golf communities by the average number of housing units per golf course, we arrive at a total of 97,650 golf community homes. In 2006, the home turnover rate (percentage of homes sold relative to the total housing stock) was 5.7 percent. Therefore, the realized golf premium was calculated by multiplying the home turnover rate by the total number of golf community homes by the average golf premium per unit. SRI estimates Ohio’s golf real estate premium was \$146.5 million in 2006.

F. Hospitality/Tourism

Although a large and critical golf industry segment, there are no central sources of state-level golf tourism data. SRI calculates a state’s total golf tourism revenues by collecting data for two types of figures: (1) the annual number of golf-related trips and (2) average spending per trip.

Number of golf-related trips. Many states subscribe to the Travel Industry Association (TIA) of America’s TravelScope® statistics which provide annual data on the number of people traveling to or within a state and the average length of their trips. In addition, some states’ departments of tourism have sponsored golf tourism studies. In the case of Ohio, the Ohio Division of Travel and Tourism estimated a total of 172.2 million trips were taken in Ohio in 2005. The Ohio Division of Travel and Tourism defines a “trip” as “any travel taken outside the normal routine.” This is a more liberal definition than that used by TIA.⁶ We, therefore, adjusted this figure to bring it more in line with the industry definition of a trip—one in which a person travels 50-plus miles to, through or within a state. This gives us 129.1 million total trips.

Based on the Ohio data, golf industry data and comparative golf tourism data across states, SRI then estimated that 2.0 percent of Ohio’s total trips, or 2.6 million trips were golf-related. This seems plausible given PGA’s estimate of 18.4 million rounds played in Ohio in 2005, or approximately 14.0 percent of total rounds played on Ohio courses, were played by golfers from other parts of Ohio, from out of state or from other countries.

Average spending per golf trip. SRI estimated that average spending per golf trip in Ohio in 2006 was \$201. This average incorporates both overnight and day trips, and day trips make up the majority of golf trips in Ohio. To estimate average golf trip expenditure, we analyzed data from NGF’s *The U.S. Golf Travel Market, 2003 Edition* report and the Ohio Division of Travel and Tourism. We adjusted average trip spending based upon relative price levels in Ohio vis-à-vis the rest of the country. Multiplying the total number of golf trips by average spending per trip, SRI found that golf-related tourism spending in Ohio was approximately \$520.7 million in 2006.

Ohio’s Golf-Related Travel Expenditures in 2006	
# Golf trips	2,583,000
Average travel \$ per trip	\$201.5
TOTAL (2006\$ millions)	\$520.7 million

Note: This figure assumes a similar level of golf-related travelers in 2006 as in 2005.

G. Golf’s Economic Impact

The impact of golf on a state’s economy includes both the direct impact of the sector itself (its core and enabled industries), as well as the indirect and induced (or multiplier) impacts that occur as golf’s direct impact creates ripple effects throughout the state economy.

Direct economic impact. The direct economic impact of golf is simply the size of the golf industry cluster within the state economy in terms of revenues. The “state golf economy” can be calculated by adding together the size of each of the core and enabled industries calculated in the sections above:

⁶ TIA defines “a person trip” as a trip in which a person travels 50 or more miles to, through or within a state.

Direct Impact of the State Golf Economy	
Core Industries	+ Golf Facility Operations
	+ Golf Course Capital Investment
	+ Golfer Supplies
	+ Media, Tournaments, Associations
Enabled Industries	+ Real Estate
	+ Hospitality/Tourism
= Size of State Golf Economy	

Indirect/induced economic impact (multiplier impact). Golf course facilities and the companies that provide goods and services to the golf industry, in turn, purchase goods and services from other companies. These purchases are considered the “indirect” impacts of the golf sector. Furthermore, the employees directly employed by the golf sector will spend much of their incomes in the region, creating more spending and more jobs in the economy. These impacts are considered “induced” impacts. Together, the indirect and induced impacts make up the multiplier impact of the golf economy.

Multiplier values vary from region to region, based on the unique characteristics of the state’s or region’s economy. Industries with more extensive linkages to other industries within the local economy will have a greater multiplier effect on final economic activity relative to the initial, direct effect. Conversely, economies and industry sectors dependent on a large share of imported supply will have smaller multiplier effects. For this study, the RIMS II (Regional Input-Output Multipliers), calculated by the U.S. Bureau of Economic Analysis, were used to calculate the multiplier impact of Ohio’s golf economy.

Multiplier Impacts on State Economy				
Industry	Direct	Indirect	Induced	TOTAL (\$ million)
Golf Facility Operations				\$2,342.9
Golf Course Capital Investment				\$47.7
Golfer Supplies				\$298.5
Media, Tournaments, Associations				\$100.0
Real Estate				\$817.7
Hospitality/Tourism				\$1,205.6
TOTAL				\$4,812.4

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