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THE ECONOMIC CONTRIBUTION OF COLORADO'S GOLF INDUSTRY

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and Ned Prosser and E. Peter Elzi Jr. [2]

- *In 2002, the Colorado Golf Industry directly contributed over $560 million in to Colorado's economy.*
- *Taking indirect economic activity, tourism and real estate premia into account, the golf industry's broader economic impact is $1.2 –1.6 billion.*
- *The golf industry's economic multiplier is among the highest of any Colorado industry.*

Two recent studies of the US golf industry show that golf courses continue to grow as an industry, with 14,725 courses nationwide, compared to 13,258 courses in 1999. These facilities generate $20.5 billion in direct revenues and $62 billion in all associated economic activity (Golf 20/20 and World Golf Foundation). Yet, there is some concern with the decrease in golf rounds, which were down to 503.4 million rounds in 2002 from 518.4 in 2001. Meanwhile, the Mountain region (including Colorado, Wyoming, Utah and the northern halves of Arizona and New Mexico) also recorded a decline in rounds (19.7 million rounds in 2001 to 19.2 million rounds in 2002).

To assess the state of the industry in Colorado, compare its economic impact relative to the national industry and other Colorado sectors, and clearly define the role of golf in local economies, Colorado's golf industry decided to fund its own study. The Colorado Golf Association, Rocky Mountain Golf Course Superintendent's Association, Colorado Women's Golf Association, Colorado Chapter of the Club Manager's Association of America, Colorado Section PGA, and the Colorado Chapter of the Golf Course Owner's Association collaborated with Colorado State University and THK Associates to complete the economic analysis presented here.

In 2002, the Colorado Golf Industry contributed over $560 million in direct revenues to Colorado's economy (Table 1). When considering indirect economic activity, and using similar methods to the Golf 20/20 study, this impact is over $1.68 billion. This fact sheet will present another method to analyze the broader impacts of the Colorado golf industry, using primary survey data from golf courses and a customized IMPLAN regional economic analysis, which suggests the industry's economic impact is $1.2 billion.

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Table 1-Colorado Golf Course Revenues (2002)

Total Revenue in Million Dollars

	Public	Private	Resort	Total
Green Fees	$ 137.49	$ 9.51	$ 42.51	$ 189.51
Golf Car Rentals	$ 35.28	$ 7.00	$ 5.54	$ 47.82
Other Rentals	$ 3.44	$ 2.88	$ 3.45	$ 9.76
Driving Range	$ 15.29	$ 1.66	$ -	$ 16.95
Pro Shop Merchandise	$ 25.82	$ 11.66	$ 15.39	$ 52.88
Food and Beverage	$ 39.54	$ 48.64	$ 1.98	$ 90.16
Dues/Initiations	$ 9.26	$ 111.95	$ 13.60	$ 134.81
Other	$ 5.94	$ 10.52	$ 1.70	$ 18.16
Total/Revenue	**$ 272.06**	**$ 203.82**	**$ 84.18**	**$ 560.06**

Golf Round Trends

There was a general decline in number of golf holes played in Colorado between 2000 and 2002 (Figure 1). While holes played at public courses actually increased in 2002, private and resort courses show 34% and 4% declines, respectively, between 2000 and 2002. The trends for average rounds per course were quite similar (Figure 2). Average rounds at public courses showed a decline (6%) between 2000 and 2002, with a slight recovery between 2001 and 2002, while private and resorts experienced smaller declines (4%) in average rounds over the same period. The regional impact analysis is based on the 2002 numbers, so it should be noted that the economic impact will be a conservative estimate based on the smallest output recorded over the past three years, an overall sluggish economy, and drought conditions.

Figure 1

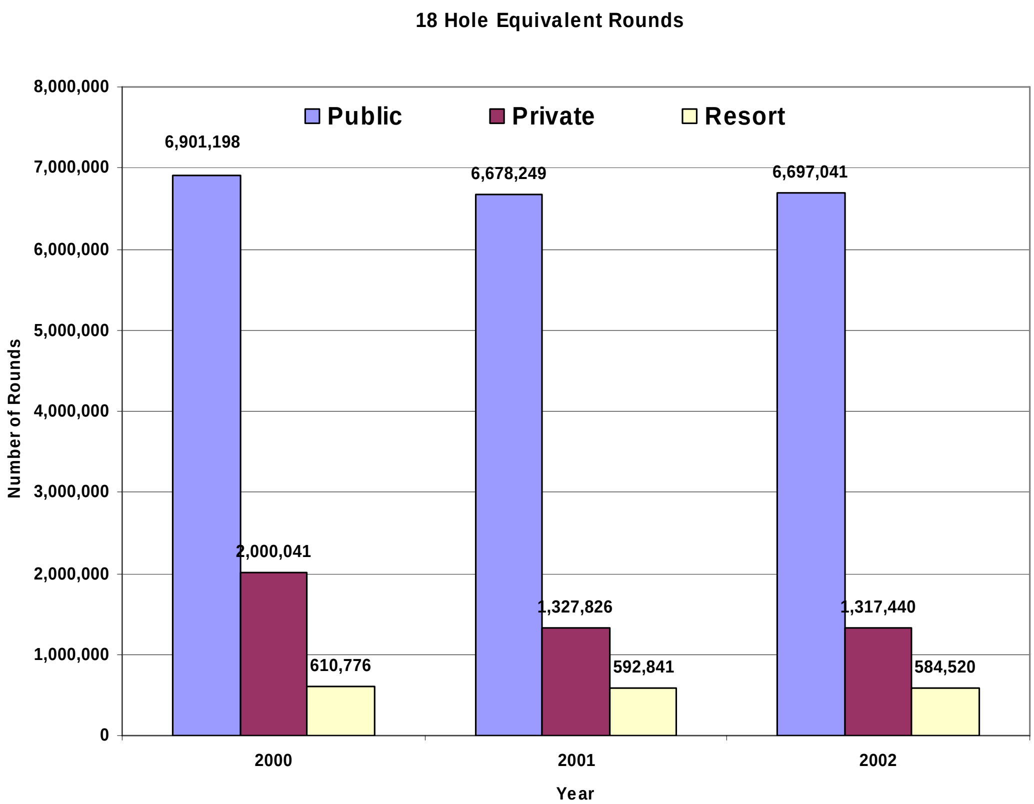
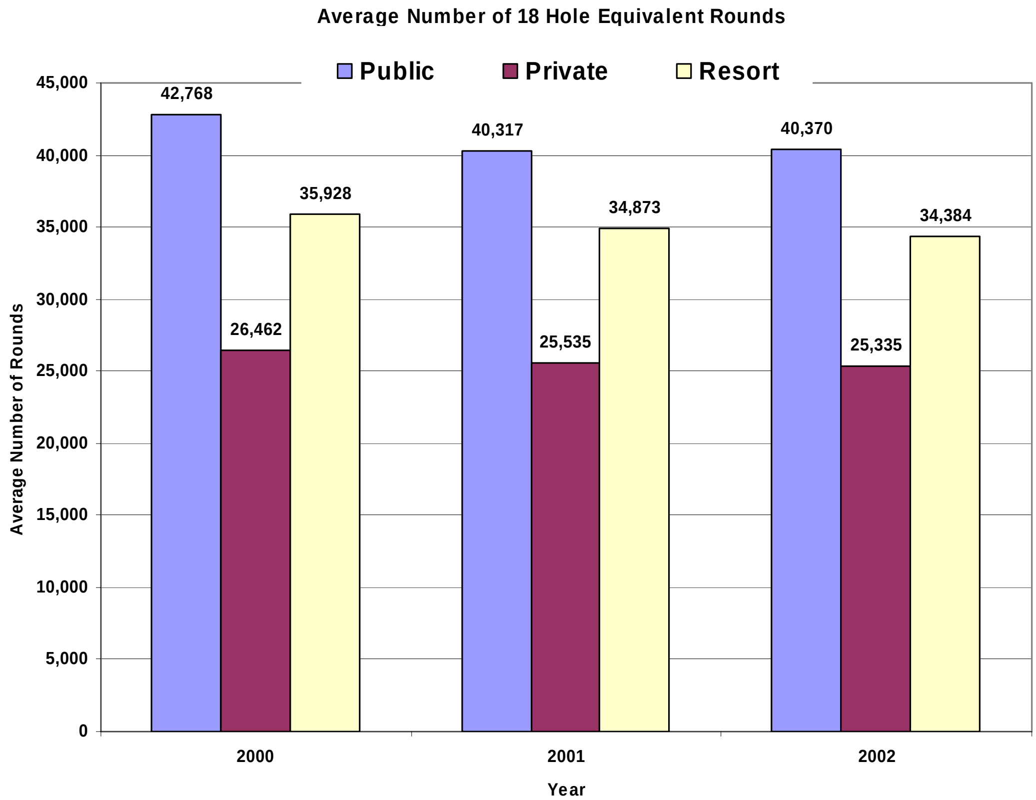


Figure 2



Capital Expenditures

The golf industry reports strong capital expenditures during 2002 and 2003 (Table 2). Private course capital investments were higher than public courses in 2002 (by almost 50%), but their investments dropped to two-thirds of public levels in 2003.[3] The 2003 share is more in line with the smaller number of private courses (69 vs. 170 public courses, or private courses as 29% of total numbers) when considering the significantly larger size of private facilities (private courses with clubhouses three times larger than public courses and maintenance areas almost twice as large).

Private course expenditures decreased between 2002 and 2003, while public courses show increased expenditures, almost entirely due to irrigation investments. The increase in irrigation investments among public courses may signal a progressive water-saving approach by the golf course superintendents of public courses. The pie charts that report shares of expenditures to different categories show the shift from clubhouse renovation and building investments to water-saving technology between 2002 and 2003 while vehicle and course investments remained virtually unchanged.

Operating Expenditures

There is some variation in cost structure between private (including private clubs and resorts in this case) and public courses (Table 3) as evidenced by equal expenditures between the two categories even though there are fewer private courses (one half the number of public). Figures 4a & b show the per course level of operating expenditures for both public and private courses, and while the largest share of public courses spend between \$0.5 and \$1.0 million dollars on operating each year, the largest share of private courses spend 3-4 times that, \$2-3 million, each year on operating costs. Overall, these expenditure shares were very similar to those found at the national level, suggesting similar cost structures to the national industry norms (Golf 20/20).

[3] For the expenditure discussion, the private category includes both private courses and resorts, since few resorts reported on these numbers (as they are part of broader businesses and may not have their exact shares of costs broken out from the parent business.

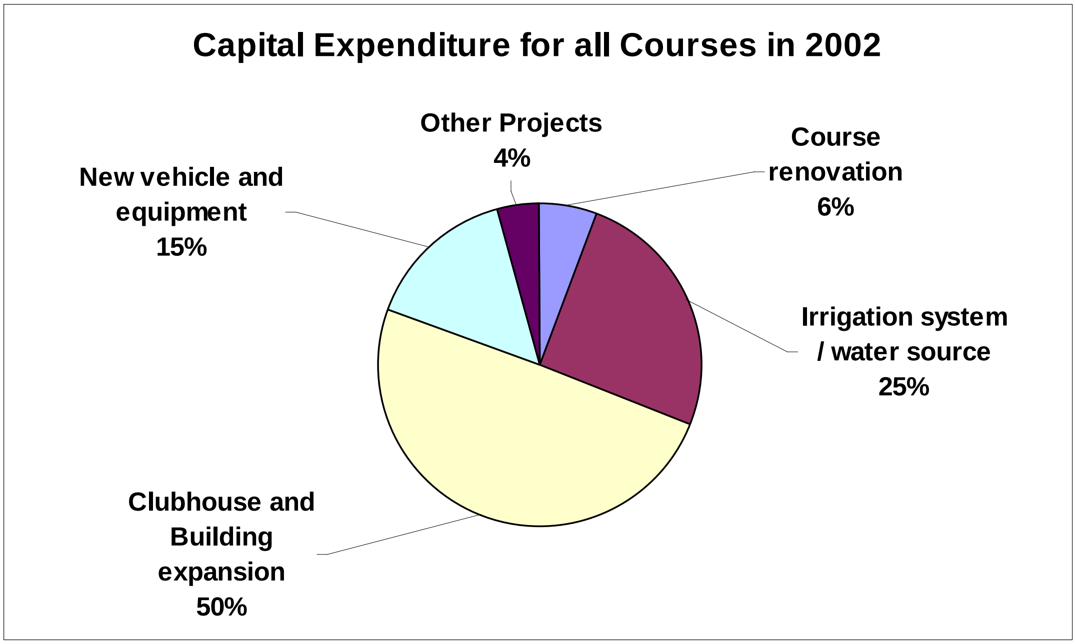
Table 2-Capital Expenditures (2002 and 2003)

Expenditure Projects (in Million Dollars)			
2002 Projects	Public	Private	Total
Course renovation	$ 1.90	$ 0.91	$ 2.81
Irrigation system/water source	$ 6.37	$ 6.06	$ 12.83
Clubhouse and Building expansion	$ 4.62	$19.59	$ 24.21
New vehicle and equipment	$ 6.44	$ 1.24	$ 7.46
Other Projects	$ 0.89	$ 1.09	$ 1.98
Total	**$20.00**	**$28.89**	**$ 49.89**
2003 Projects	Public	Private	Total
Course renovation	$ 1.19	$ 1.06	$ 2.25
Irrigation system/water source	$10.68	$ 5.47	$ 16.15
Clubhouse and Building expansion	$ 6.27	$ 7.24	$ 13.52
New vehicle and equipment	$ 5.00	$ 1.82	$ 6.82
Other Projects	$ 1.15	$ 0.93	$ 2.08
Total	$24.29	$16.52	$ 40.82
Average Clubhouse Square Footage	**3814**	**13366**	
Average Maintenance Square Footage	**2846**	**4074**	

Table 3-Operating Expenditures (2002)

Total Expenditure in Million Dollars	Public	Private	Resort	Total
Full time wages	$ 52.03	$ 51.97	$ 6.29	$110
Part time wages	$ 19.44	$ 22.39	$ 1.87	$ 44
Seasonal wages	$ 10.75	$ 10.61	$ 1.79	$ 23
Facilities maintenance	$ 16.44	$ 11.26	$ 2.30	$ 30
Capital Expenditures	$ 14.40	$ 21.56	$ 1.57	$ 37
Operational equipment	$ 24.71	$ 8.78	$ 2.72	$ 36
Equipment leases paid	$ 5.06	$ 2.19	$ 0.63	$ 8
Marketing expenditures	$ 1.96	$ 0.52	$ 0.47	$ 3
Payroll taxes	$ 3.01	$ 9.10	$ 0.53	$ 13
Income taxes	$ 0.09	$ 0.61	$ 0.01	$ 0.7
Property taxes	$ 1.06	$ 6.33	$ 0	$ 7
Workers comp taxes	$ 0.97	$ 2.13	$ 0.10	$ 3
Other taxes	$ 0.25	$ 0.34	$ 0.20	$ 1
Group insurance	$ 3.07	$ 5.40	$ 0.04	$ 9
Liability insurance	$ 1.05	$ 2.67	$ 0.12	$ 4
Water expense	$ 5.05	$ 1.83	$ 0.94	$ 8
Electricity expense	$ 3.73	$ 4.41	$ 0.39	$ 9
Natural gas/propane	$ 0.77	$ 0.79	$ 0.09	$ 2
Sewer expense	$ 0.52	$ 0.14	$ 0.06	$ 0.7
Solid waste disposal	$ 0.38	$ 0.46	$ 0.04	$ 0.9
Pro Shop Merchandise	$ 23.34	$ 8.29	$ 2.57	$ 34
Food and Beverage	$ 21.96	$ 7.80	$ 2.42	$ 32
Other expenditures	$17.37	$25.81	$ 3.74	$ 47
Total Expenditure	$ 227	$ 205	$ 29	$ 462

Figure 3 a & b


Capital Expenditure for all Courses in 2002
Other Projects 4%
Course renovation 6%
New vehicle and equipment 15%
Irrigation system / water source 25%
Clubhouse and Building expansion 50%

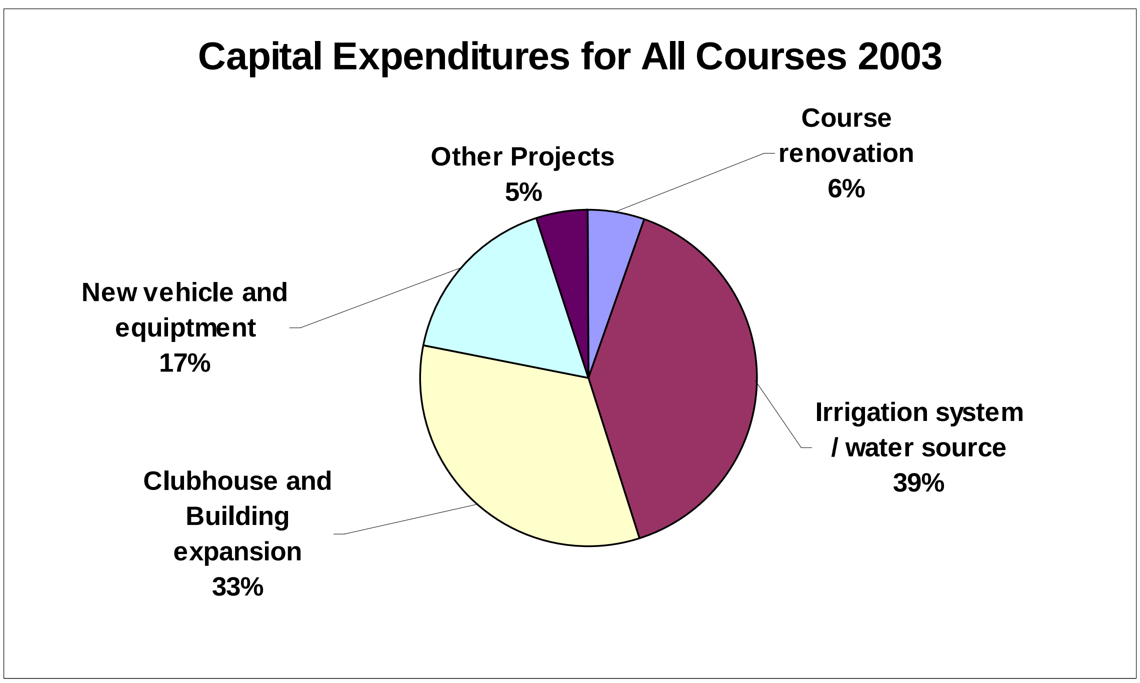
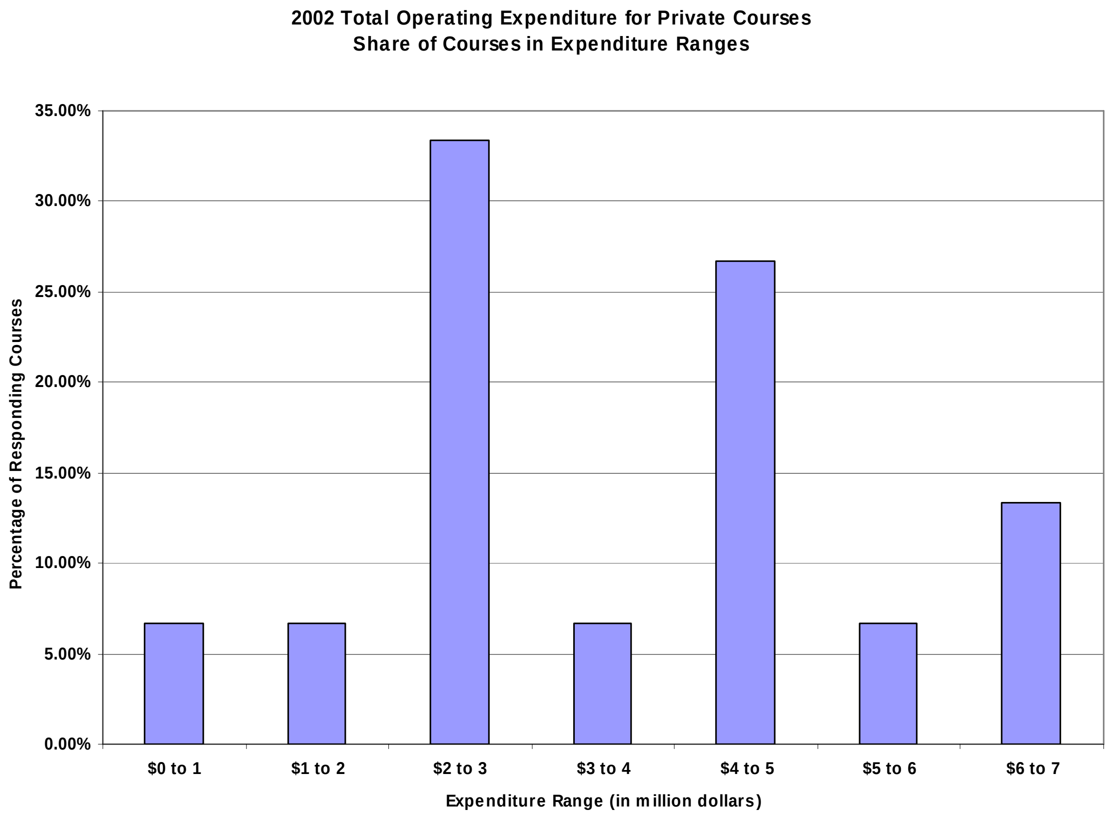
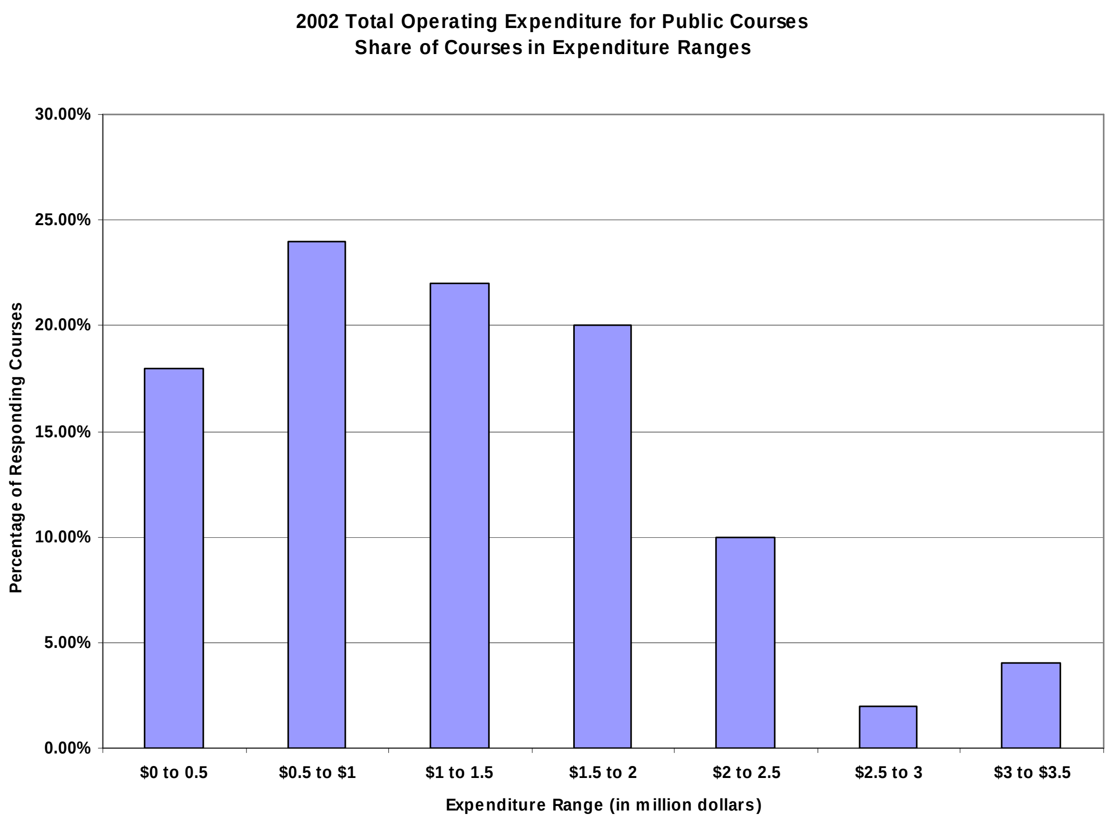

Capital Expenditures for All Courses 2003
Course renovation 6%
Other Projects 5%
New vehicle and equiptment 17%
Irrigation system / water source 39%
Clubhouse and Building expansion 33%

Figure 4 a & b


2002 Total Operating Expenditure for Private Courses
Share of Courses in Expenditure Ranges
Percentage of Responding Courses
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
$0 to 1
$1 to 2
$2 to 3
$3 to 4
$4 to 5
$5 to 6
$6 to 7
Expenditure Range (in million dollars)


2002 Total Operating Expenditure for Public Courses
Share of Courses in Expenditure Ranges
Percentage of Responding Courses
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
$0 to 0.5
$0.5 to $1
$1 to 1.5
$1.5 to 2
$2 to 2.5
$2.5 to 3
$3 to $3.5
Expenditure Range (in million dollars)

Among the expenditures, labor was the dominant cost for all types of courses (Figure 5), showing a strong employment impact from increased activity and revenues in this sector, a point that will be important to the discussion of broader economic impact later in this publication. There are also significant tax receipts, suggesting another positive impact for local economies. The detailed capital and operating expenditure figures are the basis for the customized regional impact analysis of the golf industry's indirect and induced activity within the Colorado economy.

Employment

Employment and wages are strong in this industry, with over $177 million in wages paid to full-time, part-time and seasonal staff employed in 10,913 different jobs throughout the state. This high absolute level of employment, and share of total expenses to wages, is one reason that the golf industry has a relatively high multiplier effect to local economies, an issue that will be discussed in further detail below.

Golf Course Revenues

Revenue for Colorado's golf industry totaled an estimated $560,060,000 in 2002 (Table 1). Greens fees accounted for 34% of the revenue (primarily at public courses and resorts, where fees were 50% of revenues) and dues at private courses represented 24% of total revenues (Figure 6). Significant revenues were also secured from golf cart rentals (relatively higher for public), pro shop merchandise (relatively higher for private) and food and beverage purchases.

Given reported operating expenditures, the gross profit margins for courses are healthy as well. Given 2002 revenue and operating cost numbers, public courses grossed about $90 million in profits, to cover capital expenditure payments, interest, and returns to land and management. We also assumed that the public courses took credit for pro shop and concession revenues, but did not have information on costs since many of these are contracted businesses. Once we assumed 65% costs of goods sold for pro shop and 35% for concessions, the new profits for these courses was $22 million, a more reasonable operating profit for public courses. Meanwhile, private courses and resorts grossed about $100 million in profits to return to these same factors.

Real Estate Impacts

Another significant contribution to Colorado's economy is the additional value added to real estate that fronts and surrounds golf courses, which in turn creates increased property taxes for government entities. Based on the number of real estate oriented golf facilities and the amount of lineal footage of property frontage (1,180,000 lineal feet, 95 courses), the total value added from premiums to residential property is estimated at $832 million, while commercial properties have added value of $50 million. Currently, these real estate impacts are estimated to create an additional $8.8 million in property taxes on an annual basis.

Regional Differences

As part of the effort to define and gauge the economic impact of the golf industry on the Colorado economy a data base of all golf facilities in the state was developed and detailed estimates of rounds played by course type, location and source were made (Table 4). The state had 239 separate golf facilities as of the end of 2003. Many of these facilities have more than one course at their location. The courses are defined as public, private, or resort, and have been broken down into 5 distinct regions: Denver Metro, West Slope, Mountain, North and South. Rounds played are identified as coming from four sources: Residents, Overnight Visitors, Second Home Owners, and Daytrippers/Houseguests.

In total, just over 7.8 million rounds of golf were played in Colorado in 2003. The 160 public facilities hosted 75.6% of these rounds, averaging 36,972 rounds per course. Private courses accounted for 19.2% of all rounds played, while the 17 resort facilities played 5.2% of the rounds in Colorado. Private and resort courses each averaged approximately 24,000 rounds played. Overall, Colorado courses averaged 32,753 rounds played in 2003.

On a regional basis 41.9% of all rounds were played in the Denver Metro region. The 84 golf facilities in the Denver area hosted almost 3.3 million rounds, or 39,036 rounds per facility. The Mountain region comprised 10.9% of rounds played in Colorado, while the 23 West Slope courses played 9.8% of total rounds.

A critical component when calculating economic impacts from golf is isolating the source of the rounds played at the various facilities. While permanent residents make up the vast majority of rounds played at most golf courses (83.3% of all rounds played) people traveling to play golf will spend significant dollars on ancillary activities while away from home. In the Mountain region, 63% of rounds played are by people traveling from outside the area. In contrast, for all of Colorado, 16.7% of rounds played (1,306,000 rounds) are by golf travelers. This represents a very substantial amount of economic activity generated apart from golf

Figure 5

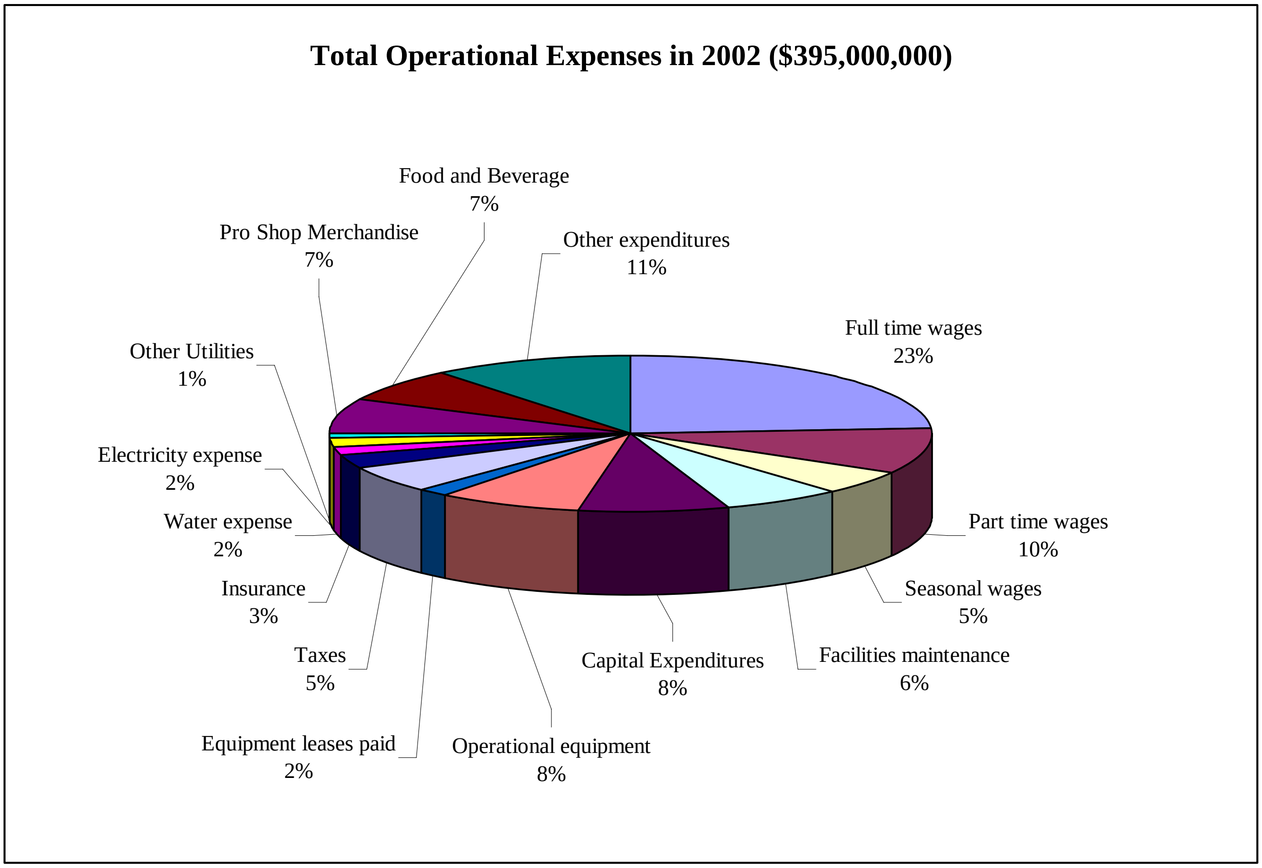


Figure 6

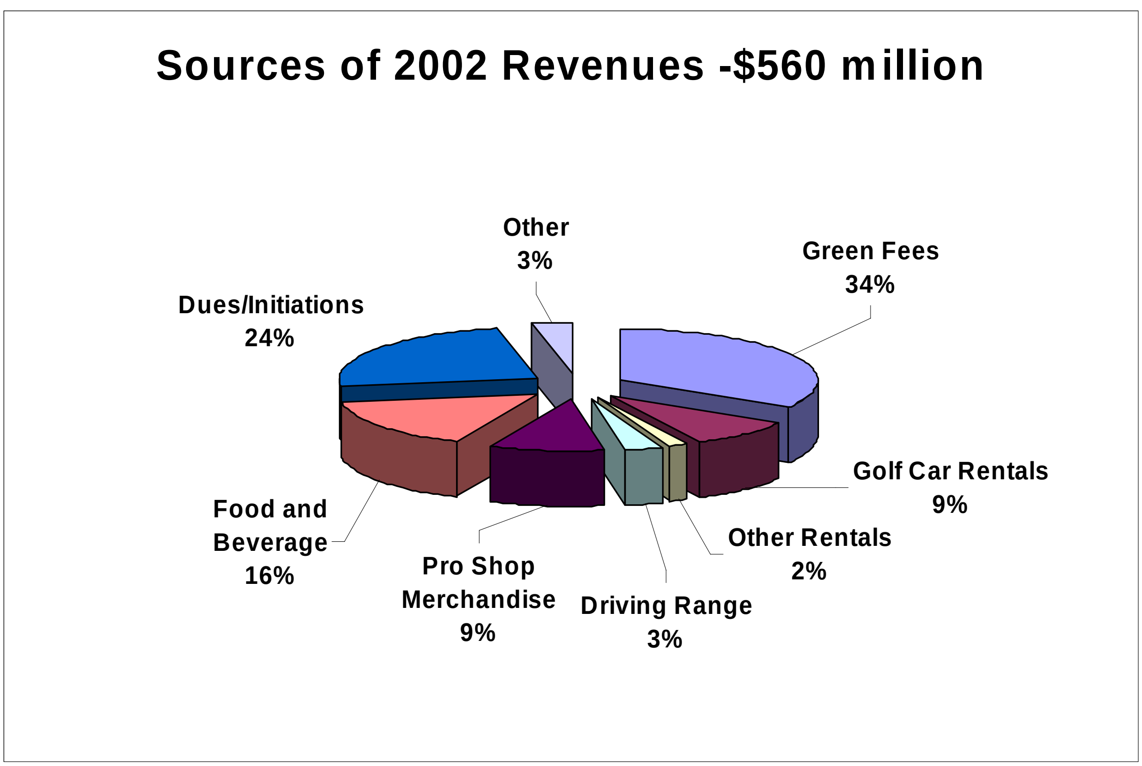


Table 4. Ancillary Golfing Revenues in Colorado by Source and Location

Region	Round Source	Rounds Played	Estimated # of Golfers	Equipment	Books, Mags, & Apparel	Travel-Related Expenditures: Lodging	Ground Trans.	Food	Entertainment	TOTAL INDIRECT EXPENDITURES
Denver Metro										
	Resident	2,869,125	229,530	$36,036,210	$16,067,100					$52,103,310
	Overnight Visitor	242,646	110,294			$31,020,085	$12,063,366	$17,233,381	$8,616,690	$68,933,523
	Second Home Owner	3,279	328			$0	$738	$9,591	$4,427	$14,756
	Daytripper/Houseguest	163,950	136,625			$0	$2,595,875	$7,138,656	$3,244,844	$12,979,375
Total		3,279,000	476,777	$36,036,210	$16,067,100	$31,020,085	$14,659,979	$24,381,628	$11,865,961	$134,030,963
Golf Travel		409,875	247,247	-	-	$31,020,085	$14,659,979	$24,381,628	$11,865,961	$81,927,653
West Slope										
	Resident	657,900	52,632	$8,263,224	$1,842,120					$10,105,344
	Overnight Visitor	61,200	27,818			$7,823,864	$3,042,614	$4,346,591	$2,173,295	$17,386,364
	Second Home Owner	19,125	1,913			$0	$4,303	$55,941	$25,819	$86,063
	Daytripper/Houseguest	26,775	22,313			$0	$423,938	$1,165,828	$529,922	$2,119,688
Total		765,000	104,675	$8,263,224	$1,842,120	$7,823,864	$3,470,854	$5,568,360	$2,729,036	$29,697,458
Golf Travel		107,100	52,043	-	-	$7,823,864	$3,470,854	$5,568,360	$2,729,036	$19,592,114
Mountain										
	Resident	315,425	25,234	$3,961,738	$883,190					$4,844,928
	Overnight Visitor	264,275	120,125			$33,785,156	$13,138,672	$18,769,531	$9,384,766	$75,078,125
	Second Home Owner	204,600	20,460			$0	$46,035	$598,455	$276,210	$920,700
	Daytripper/Houseguest	68,200	56,833			$0	$1,079,833	$2,969,542	$1,349,792	$5,399,167
Total		852,500	222,652	$3,961,738	$883,190	$33,785,156	$14,264,540	$22,337,528	$11,010,767	$86,242,920
Golf Travel		537,075	197,418	-	-	$33,785,156	$14,264,540	$22,337,528	$11,010,767	$81,397,992
South										
	Resident	1,187,100	94,968	$14,909,976	$3,323,880					$18,233,856
	Overnight Visitor	65,950	29,977			$8,431,108	$3,278,764	$4,683,949	$2,341,974	$18,735,795
	Second Home Owner	13,190	1,319			$0	$2,968	$38,581	$17,807	$59,355
	Daytripper/Houseguest	52,760	43,967			$0	$835,367	$2,297,258	$1,044,208	$4,176,833
Total		1,319,000	170,231	$14,909,976	$3,323,880	$8,431,108	$4,117,099	$7,019,788	$3,403,989	$41,205,840
Golf Travel		131,900	75,263	-	-	$8,431,108	$4,117,099	$7,019,788	$3,403,989	$22,971,984
North										
	Resident	1,491,563	119,325	$18,734,025	$4,176,375					$22,910,400
	Overnight Visitor	48,375	21,989			$6,184,304	$2,405,007	$3,435,724	$1,717,862	$13,742,898
	Second Home Owner	16,125	1,613			$0	$3,628	$47,166	$21,769	$72,563
	Daytripper/Houseguest	56,438	47,031			$0	$893,594	$2,457,383	$1,116,992	$4,467,969
Total		1,612,500	189,957	$18,734,025	$4,176,375	$6,184,304	$3,302,229	$5,940,273	$2,856,623	$41,193,829
Golf Travel		120,938	70,632	-	-	$6,184,304	$3,302,229	$5,940,273	$2,856,623	$18,283,429
State										
	Resident	6,521,113	521,689	$81,905,173	$26,292,665	0	0	0	0	$108,197,838
	Overnight Visitor	682,446	310,203	0	0	$87,244,517	$33,928,423	$48,469,176	$24,234,588	$193,876,705
	Second Home Owner	256,319	25,632	0	0	$0	$57,672	$749,733	$346,031	$1,153,436
	Daytripper/Houseguest	368,123	306,769	0	0	$0	$5,828,606	$16,028,667	$7,285,758	$29,143,031
State Total		7,828,000	1,164,292	$81,905,173	$26,292,665	$87,244,517	$39,814,701	$65,247,576	$31,866,377	$\boxed{\$332,371,009}$
State Golf Travel		1,306,888	642,603	-	-	$87,244,517	$39,814,701	$65,247,576	$31,866,377	$224,173,171

itself. Almost 700,000 rounds are played by golfers staying in paid, overnight facilities. This alone could fill approximately 500 lodging units every day of the year.

In addition, revenues attributable to golf that are generated through equipment, apparel and book/magazine sales, as well as dollars spent on lodging, food, transportation and entertainment by golf travelers have been calculated. Building off the rounds played data, total indirect expenditures on these items is estimated at $332 million. Of this total, it is estimated that $82 million was spent on golf equipment in Colorado in 2003. Given the share of rounds played by travelers (see above), spending by golf travelers is just under $225 million on an annual basis and almost 35% of these travel expenditures are in the Mountain region of Colorado.

Broader Economic Impact

All of the discussion on impacts due to specific types of golfers and expenditures in allied retail/ industrial sectors signals that golf has a broader impact than the revenues spent at courses would suggest. Yet, estimating the broader impacts is somewhat complex.

At the national level, the World Golf Foundation's Golf 20/20 report expanded the economic reach of golf courses, augmenting direct revenues by the activity created by allied industries. For example, they give the industry credit for additional real estate economic activity ($9.9 billion) equal to almost 50% of the direct revenue total ($20.5 billion). If we did the same for Colorado, that would add another $270.5 million in economic activity for real estate. Still, this added value/ economic activity is far less than the $882 million calculated earlier. Using the same logic, Colorado's golf industry also supports $368 million in hospitality and tourism, $123 million in media and tournaments, $163 million in golfer supplies and $213 million in capital expenditures (which is higher than the numbers reported directly by courses in our survey by a magnitude of four, but may represent capital investments by associated economic sectors (golf stores, hotels, nearby restaurants)).

As a comparison to the Golf 20/20 approach, we developed a more directed economic impact analysis for Colorado using primary data and a customized IMPLAN economic analysis. IMPLAN is based on specific economic relationships. The categorization of economic activity by IMPLAN can be summarized in these three areas:

- *Direct effect* refers to production change associated with a change in demand for the good itself. It is the initial impact to the economy, which is exogenous to the model.
- *Indirect effect* refers to the secondary impact caused by changing input needs of directly affected industries (e.g., additional input purchases to produce additional output).
- *Induced effect* is caused by changes in household spending due to the additional employment generated by direct and indirect effects.

When a business expands or contracts, there is a ripple effect through the economy. For example, when a golf course expands, they buy more mowers and fertilizer and they hire more workers. This new economic activity generates even more activity in related businesses who sell to the course, and who, in turn, buy more inputs and hire more labor. The total impact of a change by one industry therefore is multiplied through the economy through various linkages to other businesses and payments to workers. To capture this effect, it is necessary to use an economic model that contains these linkages, but it is virtually impossible to fully determine linkages through an entire economy by means of surveys and individual projects. Still, this study goes further than most economic analyses in directly collecting a large share of primary data to integrate into IMPLAN.

Of every dollar of golf course output, a certain amount is paid to providers of inputs from other sectors. Every dollar of golf course output can be broken into input cost and value above the costs of the inputs, which is value-added. In the golf course industry, a total of 47% of each dollar is accounted for as inputs from other sectors. The remaining 53% is value added, which goes to employee compensation, proprietary income, and other incomes not accounted for in the cost of the inputs (Table 5).

The economic outcomes of an IMPLAN simulation are based on two important features in the model, multipliers and regional purchase coefficients (RPCs). The multipliers describe the size of the indirect and induced effects that expansion in a certain industry yields through its contribution to other input sectors. According to Table 6, the largest suppliers of golf course inputs are the building materials and gardening sector, which accounts for course operational equipment and some capital expenditures, followed by the retail sector,

Table 5-Golf Course Sector Output, Employment and Value Added (*in millions of dollars)

Sector	Golf	Total for All Industries in State
Industry Output	560	309,706
Employment	10,913	2,979,325
Employment Compensation	177	101,629
Proprietor Income	87	13,925
Other Property Income	10	50,576
Indirect Business Tax	25	15,181
Total Value Added	299	181,311

Table 6-Top Industries Demanded by Golf Courses

Rank	Industry	Gross Absorption Coefficient	Gross Inputs	RPC	Regional Absorption Coefficient	Regional Inputs
1	Building Materials & Gardening	0.08	44.8	0.950	0.0760	42.56
2	Miscellaneous Retail	0.07	39.2	0.935	0.0655	36.66
3	Eating & Drinking	0.06	33.6	0.900	0.054	30.24
4.	New Industrial and Commercial Buildings	0.05	28.0	0.995	0.050	27.87
5	Maintenance and Repair Other Facilities	0.04	22.4	1	0.040	22.40
6	Wholesale Trade	0.035	19.6	0.998	0.0350	19.56
7	Landscape and Horticulture Services	0.025	14.0	0.756	0.0189	10.58
8	Equipment Rental and Leasing	0.025	14.0	0.756	0.0190	10.61
9	Real Estate	0.016	9.04	0.700	0.0113	6.33
10	Water Supply and Sewerage Systems	0.015	8.4	0.934	0.014	7.84
11	Advertising	0.004	2.2	0.758	0.003	1.67
12	Computer and Data Processing Services	0.003	1.53	0.758	0.002	1.16
13	Other Business Services	0.003	1.5	0.758	0.002	1.14
14	Accounting, Auditing and Bookkeeping	0.003	1.48	0.827	0.002	1.23
15	Electric Services	0.003	1.44	0.861	0.002	1.24
	Total	0.431	241.19	12.88	0.395	221.1
	Mean	0.029	16.079	0.859	0.026	14.74

building construction, food and beverage, and maintenance sectors. The dominance of local sourcing among these sectors is part of the reason there is a relatively high multiplier for this industry.

The sizes of the indirect and induced multipliers are also affected by the economic activity that spills out of the study area, the state of Colorado. The leakages from the study area come from purchases that are made for imports, which do not multiply through the local economy as fully as purchases from businesses inside the study area. Specifically, IMPLAN draws on the Regional Purchase Coefficient for an industry, which indicates the proportion of purchases made by an industry locally. For the golf industry, the RPC for its top 15 input sectors is 0.86, suggesting that 86% of the purchases for golf courses are made locally. Meanwhile, the same RPC for all sectors is 0.46, a significantly lower number. In short, the golf industry will have a higher economic impact multiplier because of its value-added and the "local" nature of many of its input purchases.

Together, all of these parameters influence the multiplier effect an industry has on the economy. By definition, the direct multiplier for any industry is 1. The indirect and induced contributions from the subsequent economic transactions with other local businesses (as explained above) are then added on top of that effect. Overall, we found that the total impact on the economy from the golf sector is indexed by a multiplier of 2.13, so that an additional $1.13 in sales is generated from an expansion of the golf course industry by $1 (or lost in the case of contraction). Using this multiplier, we can assume that the broader economic impact from golf on the Colorado economy is $1.2 billion (Table 7). There is a similar multiplier developed for employment, an important factor for economic development and policymakers focused on job creation.

Discussion on Impact of Recent Shocks on the Golf Industry

Although they have been very high profile events in the Denver news and economic discussions, the drought and "slow economy" had relatively minimal impacts on the number of golf rounds (4-6%) played in Colorado. Meanwhile, capital expenditures by courses (16.5%) have seen more significant reductions, possibly due to courses perceiving uncertainty and attempting to minimize overhead costs not directly tied to revenues from green fees and rentals. Still, the resiliency of the golf sector is a bit surprising, given the economic and environmental factors that were expected to harm courses.

This is welcome news to the Colorado economy though, as the previous section showed that the broader economic benefits from growth in this sector are relatively high (and intuitively, any broader losses from reduced output would be similarly large).

The output multiplier associated with the golf industry is among the highest seen in any sector of the Colorado economy. This is due in large part to the high degree of local inputs, a high value-added component, and high export earnings. In comparison, the highest output multiplier in agriculture is seen in the range feed cattle sector with a multiplier of 2.00. The golf industry has a higher output multiplier (2.13) than do commodity agriculture sectors such as food grains (1.78), feed grains (1.71) poultry production (1.57), and cattle feedlots (1.78). Meanwhile, other recreation sectors, such as skiing, have multipliers around 1.8 to 1.9.

Table 7-Output and Employment Multipliers for Golf Course Industry

Output Multiplier						
	Direct	Indirect	Induced	Total	Type I	Type II
Golf	1.0000	0.5354	0.5926	2.1280	1.5354	2.1280
Employment Multiplier						
	Direct	Indirect	Induced	Total	Type I	Type II
Golf	19.4875	8.3465	7.0832	34.9172	1.4283	1.7918

Golf's employment multiplier of 1.79 is closer to the average among industries. Agriculture's employment multipliers vary greatly by type of operation with food grains having an employment multiplier of only 1.51, while vegetable production has an employment multiplier of 3.21 and cattle feedlots have a multiplier of 1.68. Golf's employment multiplier is higher than other recreation industries such as skiing (1.33) and the only recreation industries with a higher employment multiplier are commercial sports teams and movie theaters, which have multipliers of 2.91 and 2.39, respectively. The output multiplier would suggest that the impact on Colorado's economy from a large downturn in the golf industry would be disproportionately large (relative to contraction in other sectors), but the impact on employment would be average, and this research does not address the distributional impacts across regions or economic classes.

Beyond economic impacts, golf courses also play a role in the debate on natural resource use in the public setting. There is some evidence that course management is improving to minimize the negative perceptions of the industry as an excessive user of water. Strategies that golf courses have adopted to manage their courses in times of heightened awareness about water are discussed in another fact sheet that is available at http://dare.agsci.colostate.edu/thilmany/golfresource.pdf. The new water-conserving methods, spurred by regulatory and market risks, may actually play a positive role in engaging courses to more rapidly adopt new irrigation technology and practices with positive resource implications for Colorado, as well as potential long-term cost-savings for the courses themselves.

References:

GCSAA Industry Size Report – GCSAA

The Golf Economy Report 2002 – contact Golf 20/20 at www.golf2020.com