

ALTERNATIVE FACILITIES REPORT TO GOLF 20/20 CONFERENCE ATTENDEES

NOVEMBER 11, 2001

THIS EXECUTIVE SUMMARY AND CONDENSED REPORT WERE PREPARED BY

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SPECIFICALLY FOR THE 2001 GOLF 20/20 CONFERENCE.

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EXECUTIVE SUMMARY

I. OVERVIEW

At the *GOLF 20/20* Conference in November 2000, it was determined that alternative golf facilities were an area of our business that deserved more study. It has long been speculated that because these facilities are less expensive, less time consuming, and less intimidating, they provide natural access points into the game, user-friendly places to learn.

But how many of these facilities are there, and where are they located? What makes some of these facilities more successful than others? What impact do alternative facilities have on traditional facilities? And what are the attitudes of people who utilize alternative facilities?

Following the 2000 conference, the facilities portion of this study was assigned by the World Golf Foundation to *Sportometrics*, a golf economics research company in South Carolina. The consumer portion of the research would be covered in 20/20's Segmentation Research conducted by the National Golf Foundation and NFO WorldGroup.

Initially, of course, it was important to define an "alternative facility." These definitions are provided later in this report as well as in the communications plan section of the conference materials. Essentially, though, we accept alternative facilities to include stand-alone golf ranges, executive courses, par-three courses, pitch & putt courses, and courses of non-traditional hole configuration (three-hole courses, 12-hole courses, etc.).

Alternative golf facilities stand to be very important to the development of golf in general. There are two basic issues. First, what is the relation between alternative facilities and traditional golf courses? In economics, two related products are defined as either substitutes or complements. Substitutes are used in lieu of each other. A good example might be traveling by train or by airplane. Complements are products used together, for instance, golf clubs, golf balls, golf bags, and golf courses. Each one of these items is used in conjunction with the other to create a complete golf experience.

In order to develop the game and business of golf in a thoughtful way, it is important to know whether, in the eyes of golfers, alternative and traditional facilities are complements or substitutes. Do golfers play at alternatives rather than at regular courses when they have the option? Or, do golf ranges, par threes, and executive courses offer the golfer a richer, deeper connection to the overall game that actually increases participation and play at traditional courses?

In other words, is a local, healthy, prosperous golf market comprised of ranges, short courses, and traditional courses all supporting each other by providing the multiple components of the game? Or, do alternative and traditional courses compete for the limited time of the golfer? *Sportometrics* was commissioned by the World Golf Foundation to address this question with some measure of scientific knowledge using the best tools of economic analysis.

The second task was to determine, where possible, the factors that make for success at alternative facilities. Where are they located? What are the market conditions that breed success? What are the demographic characteristics of markets with successful alternative courses? What are the attributes of alternative courses and ranges associated with success?

Throughout this report we regularly use the phrase “golf club.” We do *not* mean a private country club. We use the term “golf club” to differentiate the complex or facility where golf is offered from the different “golf courses” at that facility. This means that the term “club” is the overall facility and the “courses” are the actual hole layouts. This distinction is important because some golf clubs (facilities or locations) have more than one course at their site. Thus, in this report, a club is a location or facility where courses are located. Most clubs have only one course, but some have two or more at one site. This method of classification makes it possible to identify an alternative course at a club which also has traditional 18-hole configurations. For example, the Grand National Golf Course in Opelika, AL has two, traditional 18-hole layouts, named The Links and The Lakes. However, this public club also has a 2,798 yard, 18-hole par three, called The Short. Each of the three courses has 18 holes, but the club has a total of 54. While some people may tend to think of the classification “golf club” as a private facility, we use the term here to mean any and all facilities where the public can play golf.

The staff at *Sportmetrics* wishes to thank Joe Beditz and his staff at the National Golf Foundation, Peter Kazmarek at the United States Golf Association, Steven di Costanzo and Mark Silverman at the Golf Range Association of America, and Bob Carney of *Golf Digest*, all of whom supplied, at no charge, data and advice which allowed the prosecution of this project. Under previous license and payment, data were also used from the *Golf Magazine* Golf Course Guide.

II. MASTER DATABASE

A. The process of creating the *GOLF 20/20* Alternative Golf Facilities Database

- I. Data were assembled from five existing databases
 - a. *Golf Digest*
 - b. *Golf Magazine*
 - c. Golf Range Association of America
 - d. National Golf Foundation
 - e. United States Golf Association
2. Duplicates were eliminated
3. The completed database contains a total of 5,542 alternative facilities in the United States, but 10 military and 220 private courses in this group are not generally open to the public. There are an additional 98 resort courses, which may require an overnight stay or other restrictions for play by the public. This leaves 5,312 alternative facilities open to the public. The total 5,542 alternative facilities break out as follows:
 - a. Driving Ranges..... 2,805 (50%)
 - b. Executive Courses 865 (16%)
 - c. Par Threes..... 1,653 (30%)
 - d. Pitch & Putt 160 (3%)
 - e. Others of various configurations 59 (1%)

B. Description of *GOLF 20/20* Alternative Golf Facilities Database

1. Courses are indexed by state population and number of traditional courses in a state.
 - a. 30.1 percent of all golf facilities in the United States are alternative; half are stand-alone golf ranges; and the other half have golf holes.
 - b. The highest density of alternative golf facilities (per capita) is in Washington DC (67%); followed by Delaware (45.1%) and New Hampshire (43.7%).
 - c. Lowest density in Wyoming (11%); followed by Hawaii (13%).

C. Process of Database Analysis

1. Factors influencing the presence of alternative facilities include:
 - a. **Per capita income.** Higher state income is associated with a higher proportion of alternatives. Alternatives fare better in richer communities.
 - b. **Population density.** Higher population density is linked with a higher proportion of alternatives. Alternative facilities are more prominent in dense communities.
 - c. **Average fees at alternative facilities.** Higher fees at alternative facilities in a state are tied to a greater fraction of alternative facilities in that state. When fees at alternative facilities are higher, there are more alternative facilities in a state.
 - d. **Average green fees at traditional courses.** Once other factors are taken into account, higher fees at traditional courses are associated with a higher proportion of alternatives in a state. This last finding implies that alternative facilities and traditional courses are complements, and it means that traditional facilities and alternatives go together and support each other in the overall golf world.

III. *SUCCESSFUL BUSINESS MODEL*

Building a model for business success at alternative facilities

- A. Analyze prices and rounds at alternative facilities.
- B. Price data are available on 1,704 executive, par three, courses with non- traditional hole configurations, and pitch & putt courses across the country.
- C. Rounds data are available from 704 alternative facilities.
- D. Determine important factors positively influencing green fees and rounds played. General findings:
 1. Golfers pay more at clubs with a full bar.
 2. Golfers prefer a club with a beverage cart, snack bar, and restaurant.
 3. Golfers like a club that accepts tee times.
 4. Golfers pay and play more at clubs with driving ranges, and fees are higher at courses with mats, even taking into account the impact of lighted ranges (which is negative).
 5. Fees are higher where dress codes require a collared shirt and eliminate denim.
 6. Fees are slightly higher in more affluent, more densely populated, and better-educated communities.

7. Rounds are higher in more affluent communities, but we find no impact of education on rounds played.
8. Golfers prefer newer and longer alternative facilities.
9. Fees and average rounds per day are higher in regions where courses are closed some portion of the year because of weather. However, total rounds per year are higher in warm climate regions where clubs are open more days.
10. 18-hole green fees are 48 percent higher than nine-hole fees, on average.
11. Green fees are just over 10 percent higher on weekends than they are during the week.

IV. IMPACT ON TRADITIONAL FACILITIES

The following report demonstrates that it makes good business sense to build alternative facilities in close proximity to traditional courses or in communities where traditional courses are already established or where new traditional courses are being built.

Golfers pay and play more at alternative facilities when they are in communities with a larger number of traditional facilities. The same can be said for traditional facilities. Golfers pay and play more at traditional facilities when they are in communities with a large number of alternative facilities. Therefore, we find that alternative and traditional facilities are complements, and they go hand in hand to produce a thriving golf market.

Perhaps our most important overall finding is that rounds and fees are higher at alternative facilities where there are more traditional courses. So one of the things that prospective alternative golf course owners should do is try and locate new facilities in intense golfing communities as characterized by the presence of traditional courses. Alternative course developers should not shy away from areas with a high density of traditional courses, nor vice versa; our analysis suggests that these two are not substitutes, but instead complements that positively impact business for each other.

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THE MASTER DATABASE

DATABASE CONSTRUCTION

The first step of this study was to develop a database of alternative golf facilities that includes par three, executive, pitch & putt courses, stand-alone golf range facilities, and courses with non-traditional hole configurations. Definitions provided by the World Golf Foundation were followed to identify alternative facilities. While there is room for reasonable people to disagree about definitions, some standard had to be established or the project stood to degenerate into a subjective analysis. We analyzed the existing databases and edited them appropriately so that the definitions are consistent and this work can be checked, verified, replicated, and updated.

The World Golf Foundation's definitions are as follows:

Alternative Courses

Par Three Courses: Courses comprised exclusively of par three holes that average at least 100 yards in length.

Executive Courses: Short courses with a variety of par three, par four and par five holes. Nine-hole executive courses are between 2,000 and 2,600 yards with par from 29-33; eighteen-hole executive courses are between 4,000 and 5,200 yards with a par of 58-66.

Courses of Non-Traditional Hole Configuration: This includes courses with a non-traditional number of holes where the holes are of traditional length.

Pitch & Putt Courses: Courses of short par-three holes that average less than 100 yards in length.

Stand-Alone Golf Range: A golf range that stands alone and not part of a golf complex including other golf components. (We have not included golf ranges attached to alternative courses to avoid double counting. Where possible we identify alternative courses with an attached range).

Data from the following sources were used to compile the *GOLF 20/20* Alternative Golf Facilities database:

- *Golf Digest*
- *Golf Magazine*
- Golf Range Association of America
- National Golf Foundation
- United States Golf Association

As we built the Alternative Golf Facilities Database, we combined all of the listed databases and eliminated duplicate observations. The overlap of information across data sources is not perfect, and we attempted to err on the conservative side. In the end, by combining the best available golf data sources, we believe that we have created a very accurate database that includes nearly every single alternative golf facility in the United States. Details on database construction and exact sources are provided in a data appendix found at www.sportometrics.com.

DATABASE SPECIFICS

The *GOLF 20/20* Alternative Golf Facilities Database has a total of 5,542 records of information across the entire United States. Figure 1 describes the alternative facility types. Half of the alternative facilities are golf ranges. Table 1 lists the database summarized by state. Importantly, for purposes of comparison, we have indexed the alternative facilities by reference to the traditional facilities in the state. To do this we computed the fraction of total facilities in a state that are classified as alternatives. For instance, South Carolina has 99 alternative golf facilities and 403 total golf facilities. This means that of the 502 total number of golf facilities in South Carolina, 24.6 percent are classified as alternative. Outside of Washington DC, Delaware and New Hampshire have the greatest fraction of alternative facilities, Hawaii and Wyoming the least.

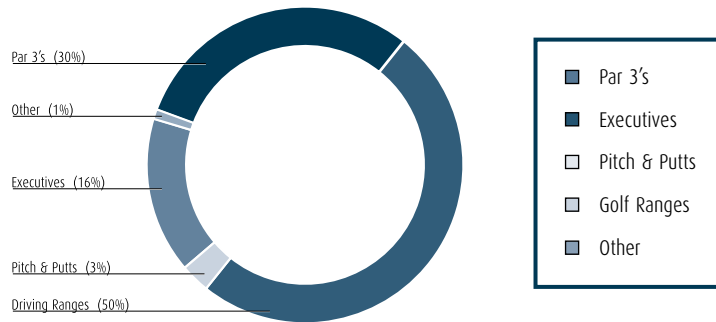


FIGURE 01 Types of Facilities in the *Golf 20/20* Alternative Facilities Database

TABLE 01 :: ALTERNATIVE FACILITIES BY TYPE IN THE UNITED STATES

State	Total Number of Alternatives	Total Number of Golf Facilities	Proportion of Alternatives to Total	Number of Par 3's	Proportion of Par 3's to Total	Number of Executives	Proportion of Executives to Total	Number of Pitch & Putts	Proportion of Pitch & Putts to Total	Number of Driving Ranges	Proportion of Driving Ranges to Total
Alabama	77	298	25.8%	22	7.4%	9	3.0%	0	0.0%	45	15.1%
Alaska	11	26	42.3%	5	19.2%	1	3.8%	0	0.0%	5	19.2%
Arizona	113	335	33.7%	50	14.9%	31	9.3%	4	1.2%	28	8.4%
Arkansas	60	205	29.3%	20	9.8%	9	4.4%	2	1.0%	29	14.1%
California	410	1091	37.6%	183	16.8%	62	5.7%	19	1.7%	142	13.0%
Colorado	69	247	27.9%	19	7.7%	19	7.7%	2	0.8%	26	10.5%
Connecticut	82	230	35.7%	14	6.1%	7	3.0%	2	0.9%	59	25.7%
Delaware	23	51	45.1%	7	13.7%	4	7.8%	1	2.0%	10	19.6%
DC	4	6	66.7%	1	16.7%	2	33.3%	0	0.0%	1	16.7%
Florida	440	1213	36.3%	197	16.2%	76	6.3%	17	1.4%	147	12.1%
Georgia	125	482	25.9%	31	6.4%	5	1.0%	1	0.2%	88	18.3%
Hawaii	10	77	13.0%	3	3.9%	3	3.9%	0	0.0%	3	3.9%
Idaho	32	113	28.3%	9	8.0%	7	6.2%	0	0.0%	16	14.2%
Illinois	224	796	28.1%	63	7.9%	42	5.3%	7	0.9%	109	13.7%
Indiana	135	517	26.1%	52	10.1%	22	4.3%	2	0.4%	57	11.0%
Iowa	62	409	15.2%	19	4.6%	17	4.2%	1	0.2%	24	5.9%
Kansas	63	275	22.9%	11	4.0%	26	9.5%	1	0.4%	23	8.4%
Kentucky	77	320	24.1%	29	9.1%	7	2.2%	2	0.6%	39	12.2%
Louisiana	36	174	20.7%	9	5.2%	4	2.3%	1	0.6%	22	12.6%
Maine	58	154	37.7%	12	7.8%	14	9.1%	1	0.6%	30	19.5%
Maryland	84	232	36.2%	16	6.9%	12	5.2%	1	0.4%	53	22.8%

Massachusetts	164	453	36.2%	41	9.1%	17	3.8%	3	0.7%	102	22.5%
Michigan	285	999	28.5%	63	6.3%	40	4.0%	4	0.4%	176	17.6%
Minnesota	181	541	33.5%	79	14.6%	47	8.7%	2	0.4%	52	9.6%
Mississippi	25	173	14.5%	8	4.6%	3	1.7%	0	0.0%	14	8.1%
Missouri	118	412	28.6%	31	7.5%	7	1.7%	1	0.2%	79	19.2%
Montana	22	90	24.4%	12	13.3%	3	3.3%	1	1.1%	5	5.6%
Nebraska	41	198	20.7%	15	7.6%	12	6.1%	0	0.0%	13	6.6%
Nevada	19	97	19.6%	7	7.2%	2	2.1%	0	0.0%	9	9.3%
New Hampshire	62	142	43.7%	20	14.1%	11	7.7%	2	1.4%	29	20.4%
New Jersey	145	378	38.4%	27	7.1%	20	5.3%	9	2.4%	87	23.0%
New Mexico	14	84	16.7%	6	7.1%	3	3.6%	2	2.4%	3	3.6%
New York	347	1015	34.2%	95	9.4%	55	5.4%	10	1.0%	183	18.0%
North Carolina	163	661	24.7%	29	4.4%	11	1.7%	7	1.1%	115	17.4%
North Dakota	17	101	16.8%	3	3.0%	11	10.9%	1	1.0%	2	2.0%
Ohio	279	898	31.1%	74	8.2%	34	3.8%	1	0.1%	167	18.6%
Oklahoma	44	218	20.2%	12	5.5%	8	3.7%	0	0.0%	24	11.0%
Oregon	73	220	33.2%	31	14.1%	15	6.8%	1	0.5%	25	11.4%
Pennsylvania	312	894	34.9%	63	7.0%	53	5.9%	14	1.6%	174	19.5%
Rhode Island	24	68	35.3%	4	5.9%	3	4.4%	2	2.9%	14	20.6%
South Carolina	99	403	24.6%	30	7.4%	2	0.5%	4	1.0%	62	15.4%
South Dakota	19	98	19.4%	7	7.1%	9	9.2%	0	0.0%	3	3.1%
Tennessee	81	341	23.8%	20	5.9%	6	1.8%	0	0.0%	53	15.5%
Texas	314	1007	31.2%	63	6.3%	25	2.5%	6	0.6%	218	21.6%
Utah	23	112	20.5%	9	8.0%	5	4.5%	0	0.0%	9	8.0%
Vermont	22	77	28.6%	4	5.2%	7	9.1%	0	0.0%	11	14.3%
Virginia	92	368	25.0%	18	4.9%	10	2.7%	5	1.4%	58	15.8%
Washington	130	348	37.4%	39	11.2%	27	7.8%	11	3.2%	53	15.2%
West Virginia	39	136	28.7%	14	10.3%	7	5.1%	1	0.7%	16	11.8%
Wisconsin	188	584	32.2%	56	9.6%	29	5.0%	9	1.5%	93	15.9%
Wyoming	5	45	11.1%	1	2.2%	4	8.9%	0	0.0%	0	0.0%
Totals	5542	18412		1653		865		160		2805	
Averages	108.7	361.0	30.1%	32.4	9.0%	17.0	4.7%	3.1	0.9%	55.0	15.2%

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Several maps sketch a picture of alternative facilities by state. Figure 2 depicts the number of alternative facilities by state. The greatest number of alternative facilities appear in northeast and northern mid western states and in the large southern states, California, Florida and Texas. Figure 2 reveals that alternative facilities are most prominent in cold weather climates (and across

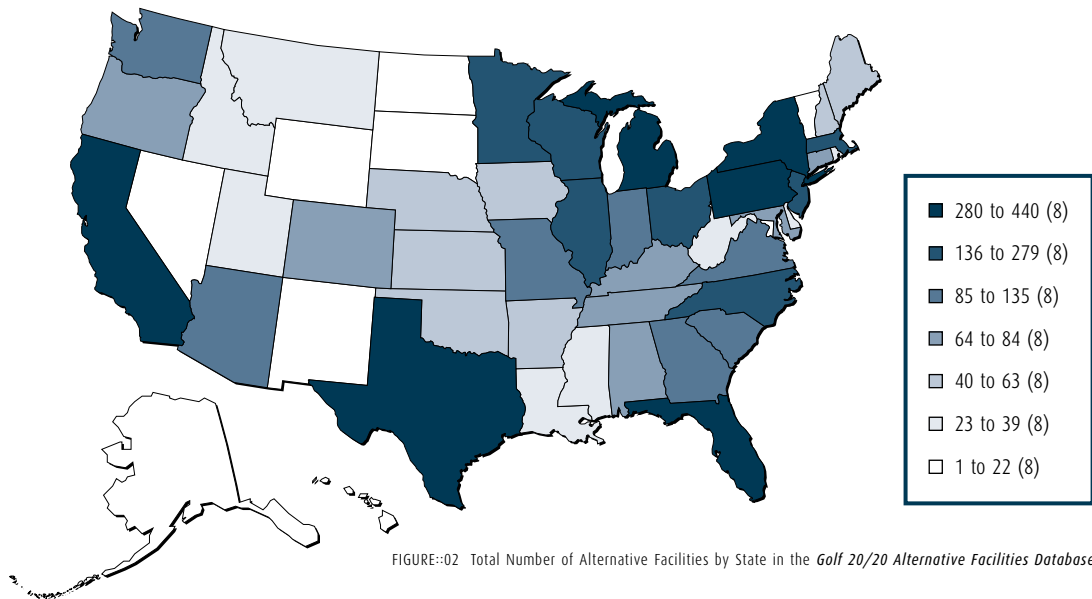
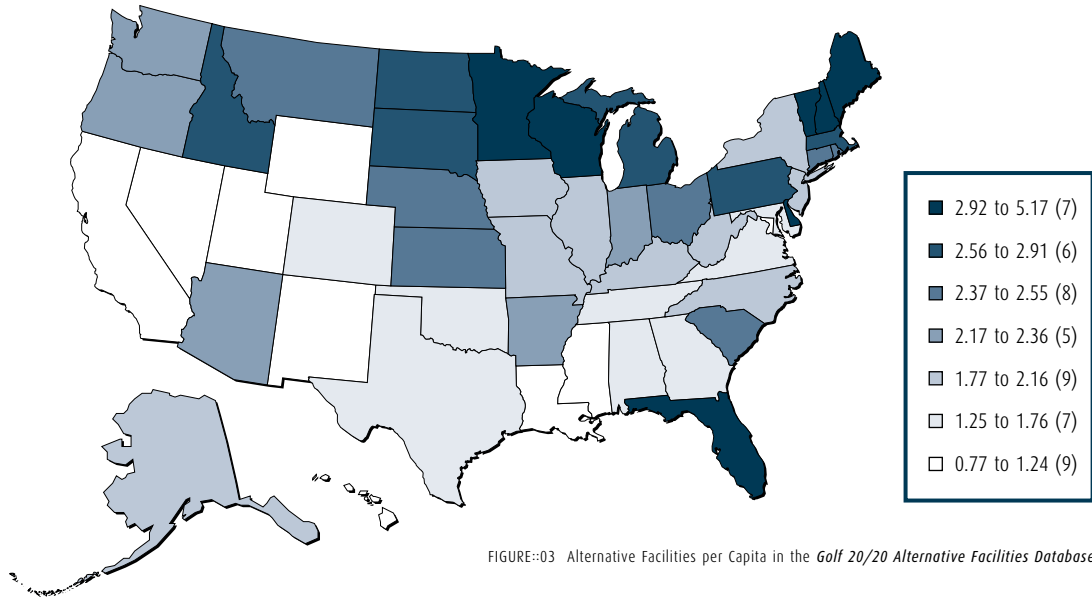


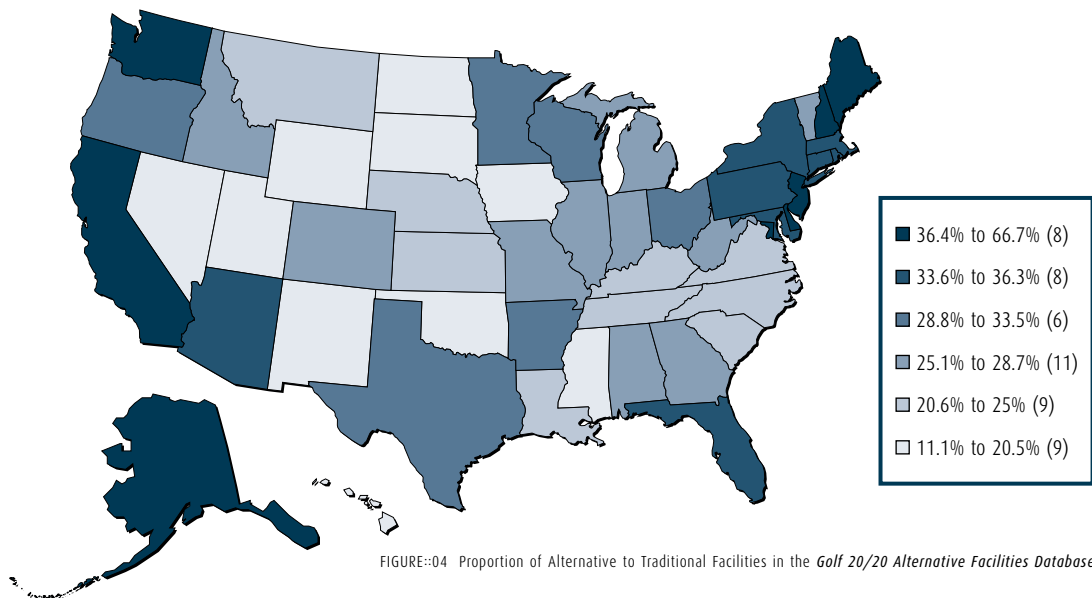
FIGURE::02 Total Number of Alternative Facilities by State in the *Golf 20/20 Alternative Facilities Database*

the large states of the southern tier). This same generalization holds true when we compute the number of alternative facilities per capita, Figure 3. When we take account of resident population, we see that Florida and some northern states have the greatest incidence of alternative facilities.



Comparing the number of alternative facilities to the number of traditional courses in a state Figure 4 we observe that alternatives are most common in Alaska, California, Washington, Maine, and New Jersey as measured by their relative proportions.

Prices to play at alternative facilities are shown in Figure 5. Fees at alternatives are highest in Arizona, Nevada, South Carolina, and numerous northeastern coastal states.



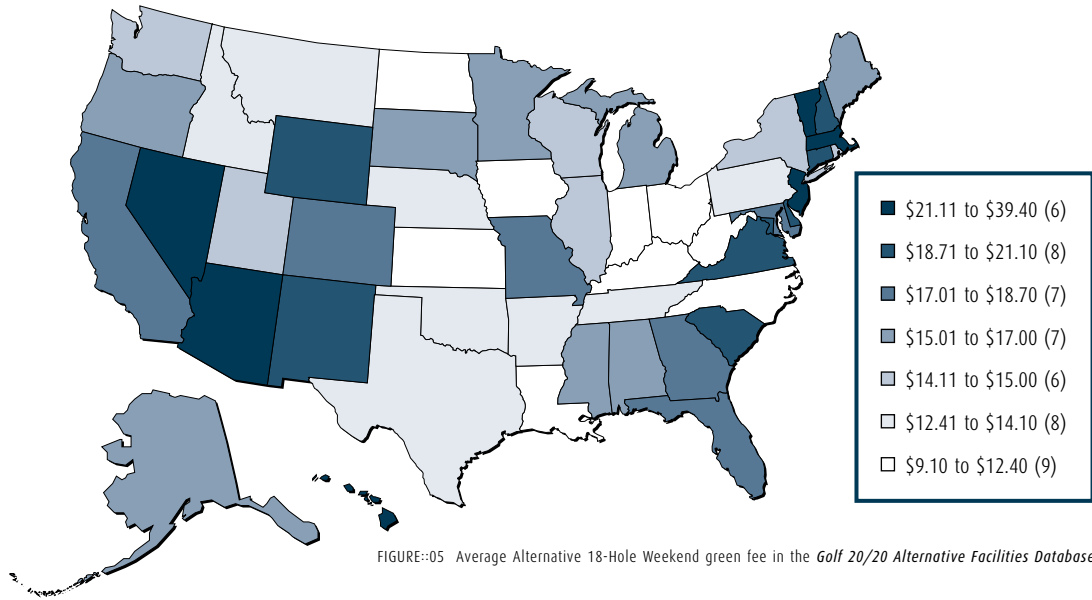


FIGURE::05 Average Alternative 18-Hole Weekend green fee in the *Golf 20/20 Alternative Facilities Database*

Table 2 lists additional information about alternative facilities across the states. We explore the geographical dispersion of alternative facilities in more detail on the following page.

TABLE 02 :: GREEN FEE AND DENSITY INFORMATION

State	Number of Alternative Facilities (all types) per 100,000 residents	Number of Alternative Facilities per 10,000 square miles	Average 18-hole Weekend Green Fee at Alternative Facilities	Average 18-hole Weekend Green Fee at Traditional Clubs	Ratio of Alternative Green Fee to Traditional Green Fee
Alabama	1.76	15.17	\$15.43	\$28.52	54.1%
Alaska	1.78	0.19	\$17.00	\$24.21	70.2%
Arizona	2.36	9.94	\$22.31	\$63.37	35.2%
Arkansas	2.35	11.52	\$14.06	\$24.12	58.3%
California	1.24	26.29	\$17.99	\$50.53	35.6%
Colorado	1.70	6.65	\$17.38	\$44.86	38.8%
Connecticut	2.50	169.23	\$20.95	\$40.17	52.2%
Delaware	3.05	117.67	\$20.88	\$39.42	53.0%
DC	0.77	651.47	\$20.50	\$20.50	100.0%
Florida	2.91	81.49	\$18.30	\$48.55	37.7%
Georgia	1.60	21.58	\$18.49	\$37.46	49.4%
Hawaii	0.84	15.57	\$39.40	\$89.39	44.1%
Idaho	2.56	3.87	\$13.32	\$26.60	50.1%
Illinois	1.85	40.29	\$14.90	\$33.10	45.0%
Indiana	2.27	37.64	\$11.31	\$25.45	44.4%
Iowa	2.16	11.10	\$10.98	\$18.75	58.6%
Kansas	2.37	7.70	\$10.04	\$21.19	47.4%
Kentucky	1.94	19.38	\$10.09	\$22.05	45.7%
Louisiana	0.82	8.26	\$9.17	\$27.02	33.9%
Maine	4.63	18.79	\$16.63	\$27.59	60.3%
Maryland	1.62	85.94	\$17.07	\$44.82	38.1%
Massachusetts	2.66	209.24	\$23.12	\$37.40	61.8%
Michigan	2.89	50.17	\$16.07	\$32.72	49.1%
Minnesota	3.79	22.73	\$16.05	\$27.40	58.6%
Mississippi	0.90	5.33	\$15.21	\$29.61	51.4%

Missouri	2.16	17.13	\$17.67	\$29.24	60.4%
Montana	2.49	1.51	\$14.00	\$25.23	55.5%
Nebraska	2.46	5.33	\$13.46	\$21.94	61.3%
Nevada	1.05	1.73	\$31.63	\$83.82	37.7%
New Hampshire	5.16	69.12	\$20.29	\$32.29	62.8%
New Jersey	1.78	195.45	\$21.93	\$48.55	45.2%
New Mexico	0.80	1.15	\$18.73	\$26.25	71.4%
New York	1.91	73.48	\$14.93	\$30.60	48.8%
North Carolina	2.13	33.46	\$12.37	\$40.02	30.9%
North Dakota	2.68	2.46	\$10.57	\$15.51	68.2%
Ohio	2.48	68.13	\$11.48	\$27.66	41.5%
Oklahoma	1.31	6.41	\$13.88	\$25.48	54.4%
Oregon	2.20	7.60	\$16.45	\$33.52	49.1%
Pennsylvania	2.60	69.61	\$12.43	\$34.06	36.5%
Rhode Island	2.42	229.67	\$14.50	\$32.94	44.0%
South Carolina	2.55	32.88	\$21.06	\$53.36	39.5%
South Dakota	2.59	2.50	\$15.04	\$20.49	73.4%
Tennessee	1.48	19.65	\$13.68	\$28.54	47.9%
Texas	1.57	11.99	\$13.31	\$34.00	39.1%
Utah	1.08	2.80	\$14.19	\$25.63	55.4%
Vermont	3.71	23.79	\$22.83	\$38.04	60.0%
Virginia	1.34	23.23	\$20.62	\$37.52	55.0%
Washington	2.26	19.53	\$14.27	\$30.44	46.9%
West Virginia	2.16	16.19	\$11.54	\$27.43	42.0%
Wisconsin	3.58	34.61	\$14.15	\$28.76	49.2%
Wyoming	1.04	0.51	\$21.00	\$27.98	75.1%
Averages	2.2	51.3	\$16.70	\$34.20	51.40%

RELATION BETWEEN ALTERNATIVE AND TRADITIONAL COURSES

One of our goals with this effort was to better understand the relation between alternative and traditional courses. There are two prominent issues at hand. First, how do alternative courses relate to traditional courses? Are they feeders and complements? That is, do alternative facilities help drive play, rounds, and income of traditional facilities, and vice-versa? Or do golfers substitute between alternative and traditional facilities, sacrificing one experience for another? Second, what are the characteristics of successful alternative golf facilities? For example, does offering tee times, having a range, and selling golf products at an alternative course add value? Also, what demographic characteristics best support alternative facilities?

While we suspect that a healthy, viable golf community has lots of golf shops, alternative facilities and traditional 18-hole layouts, and that these, in some important but complex way, all complement each other, our objective here was to analyze the data to confirm, with the numbers, that our suspicions were correct.

In economics there are many ways to understand the relation between two goods. One of the best ways is to see how the price of one good varies as the price and quantity of another changes. Video conferencing may be a powerful and viable substitute for air travel. If Coke and Pepsi are indeed substitutes, higher prices for Coke will lead people to drink more Pepsi.

At the same time, many different things are often used together to produce an ultimate good. Computer hardware and software are used with each other to produce information processing. Golf clubs and golf balls are used together with golf courses. We call

these type of things complements. If golf clubs and balls are complements, higher prices for golf clubs may lead to fewer balls bought and sold. So when the price for one good and quantity of another good move together, we call them substitutes. When the price of a good and quantity of another good move in opposite ways, we label them complements.

So the basic economic question we address here is, “Are alternative golf facilities and traditional golf courses substitutes or complements?”

We offer two analyses here to address this question. First we examine the cross state variation in the ratio of alternative facilities to total facilities in each state. To do this we take the number of alternative facilities in each state and divide them by the total number of golf courses in each state.

STATE LEVEL ANALYSIS

Revisit Table 1 to see the relevant data for each state. The fourth column lists the percentage of courses in each state that classify as alternatives. The average across the states is 28.9 percent. The high is 67 percent in Washington, DC, with Delaware second. The lowest proportion of alternative facilities is found in Wyoming at 11.1 percent with Hawaii next.

The big states-California (37.6 percent), New York (34.2 percent), Texas (31.2 percent), and Florida (36.3 percent)-all have about a third of their courses as alternative facilities. What factors affect this difference across the states? To tackle this question, we built a statistical model of the ratio of alternative facilities. It turns out that, at the state level, several things appear important. These are per capita income, population density, and the average green fees at traditional courses and nontraditional facilities.

This investigation reveals that golf tends toward alternative facilities when income is high, when populations are dense, and where there are traditional courses in proximity. It is also, perhaps obviously, a good idea to build alternatives in areas that are not already flush with them. The first two of these are probably intuitive, certainly the second. Golf tends to alternatives, golf ranges, par threes and the like, where land is less available. However, the third result-the proximity of traditional courses-is the most interesting one.

Here we observe in the data that higher prices at traditional courses are associated with relatively or proportionately *fewer* alternative facilities. This suggests that alternative facilities and traditional courses are complements. As the price of golf at a regular 18-hole course rises, people are playing *less* at alternatives. And, where the cost of golf at traditional courses is lower, there is more play at alternatives.

If the two were substitutes and did not go together, then higher regular prices would push people *towards* alternatives, but the opposite is true in these data. In effect, at this stage, we see alternative facilities and traditional courses as supporting each other in the same sort of way that golf balls and golf clubs make for golf. So in addition to the finding that it makes sense to build alternative facilities in crowded and higher income areas, it also makes good business sense to build them in close proximity to traditional courses or in communities where there are already established traditional courses or where new traditional courses are being built.

Using this approach to the data, we find that, in much the same way that golf balls, golf clubs and golf courses all go together, so do alternative facilities. This means that a “bundle of golf” should be thought of as including clubs, balls, shoes, traditional courses, and all the various alternatives, such as golf ranges, par threes, and executive courses. We have found in these data that these are all complements.

CLUB LEVEL ANALYSIS

From the *Golf Magazine* database we have access to rounds played and green fee information, plus copious additional information on course characteristics. For the purposes of the investigation here, we only examine courses that are reasonably available to the general public; that is, courses which are public, semi-private, or part of a resort. We exclude military and private courses.

In Table 3 we report some simple statistics for all courses in the *Golf Magazine* database that fit into one of the alternative categories. Of the 5,312 alternative courses open to the public, we have information concerning price and other characteristics from 1,704 alternative facilities. The average green fee on the weekend for these reporting facilities is \$16.25. The 18-hole to 9-hole price ratios on the weekend and during the weekdays are both 1.48. Green fees are about 10-11 percent higher on weekends than they are during the week.

We have rounds data on 704 public, alternative courses. The average annual rounds, played at the alternative course, is 28,920. (When there is a alternative course located as part of a traditional club, we computed the rounds played only on the alternative course holes).

Some clubs close for part of the year, usually for weather reasons. We also computed the number of rounds of golf per day at alternative facilities. When we adjust these rounds for season, that is the amount of time during the year when the course is open, the average number of rounds per day open is 92. We can further adjust the rounds played by the number of holes at the club. This average is 8.1. So for the average 18-hole course, the average daily number of rounds at alternative per 18-hole equivalent is 145.

TABLE 03 :: ALTERNATIVE COURSES — PAR THREES, EXECUTIVES, AND PITCH & PUTT — OPEN TO THE PUBLIC

Variable	Number of Observations	Average Value	Minimum Value	Maximum Value
Green Fee Weekend-18 holes	1704	\$16.25	\$1.00	\$135.00
Green Fee Weekend-9 holes	1533	\$11.14	\$2.00	\$75.00
Green Fee Weekday-18 holes	1533	\$14.41	\$2.10	\$75.00
Green Fee Weekday-9 holes	1533	\$10.11	\$2.00	\$75.00
Cart Fee-18 holes	927	\$14.70	\$2.00	\$35.00
Cart Fee-9 holes	926	\$9.03	\$1.00	\$25.00
Pull Cart Fee	1323	\$2.03	\$0.50	\$7.00
Total Holes at Club	2215	14.5	3.0	90.0
Holes at Course	1539	11.7	3.0	21.0
Year Club Built	1884	1976	1890	2001
Age of Club	1884	25.3	0	111
Yardage-Championship	336	2770.8	395	7105 ^a
Yardage-Mens	1537	2042.3	153	6527 ^a
Yardage-Ladies	1532	1868.9	153	5166 ^a

Yardage-Other	40	2201.0	548	5897 ^a
Slope-Championship	148	98.8	66.0	138.0
Slope-Mens	432	93.3	58.0	132.0
Slope-Ladies	367	93.3	55.0	128.0
Slope-Other	13	96.5	70.0	126.0
Course Rating-Mens	149	49.8	25.6	75.2
Course Rating-Championship	448	43.3	22.5	72.7
Course Rating-Ladies	374	44.6	22.5	72.1
Course Rating-Other	14	48.7	24.6	69.9
Par-Championship	335	43.5	9.0	72.0
Par-Mens	1537	38.0	9.0	72.0
Par-Ladies	1532	38.3	9.0	73.0
Par-Other	40	41.2	11.0	72.0
Total Number of Members at Club	162	394.7	4	5000
Number of Days Club is Open per year	1539	306.4	123	365
18-hole Weekend/Weekday Fee Ratio	1533	1.10	1.0	2.3
9-hole Weekend/Weekday Fee Ratio	1533	1.11	1.0	2.3
Weekend 18/9 hole Fee Ratio	1533	1.48	1.0	3.1
Weekday 18/9 hole Fee Ratio	1533	1.48	1.0	3.3
Annual Rounds Played	704	28,920	2,857	100,000
Rounds Played per Day	704	92.0	13.5	298.2
Round Played per Day per Hole at Club	704	8.1	1.2	24.4
County Square Miles	4415	39,090	2	570,374
County Population	5198	638,247	880	9,213,533
Percent of County w/ H.S. Diploma	5190	76.9%	39.5%	94.8%
Percent of County w/ B.S. or B.A.	5190	20.0%	4.2%	52.3%

^a While these values may seem extreme for par 3, executive, and pitch & putt courses, keep in mind that we also include in the master database, courses with non-standard hole configurations, 3, 12, 21, etc. These long lengths represent lengths at these unusual courses.

We also analyzed green fees and rounds played at traditional golf clubs as they vary with the number of alternative facilities in proximity. Again, we find a strong, statistically significantly positive relation between rounds and fees at *traditional* clubs when they are located in areas with larger numbers of *alternative* facilities. The complementarity between traditional and alternative courses runs both directions, each thriving in areas where there are large stocks of the other.

A BUSINESS MODEL FOR SUCCESS

One of the objectives of this endeavor was to create a successful business model for an alternative golf facility. In this section we report some findings to that end.¹

Our approach is mostly empirical with some economic theory and golf experience as a guide. Basically, we have estimated a green fee equation to determine what kinds of factors play a role in price and by how much. In summary format, these are the results we have uncovered. A detailed technical version of this research is available on the *Sportometrics* web site at www.sportometrics.com.

An important word of caution is in order. While we do discuss relations between variables such as fees and course characteristics,

¹ No statistical analysis can hope to be perfect. We have personally examined the physical facilities at but a few of these alternative courses. Our econometric model only explains about half of the overall variation in success at these clubs, and hence, there are important micro-climate or local effects which we, by nature of our tools, have not explored. These course idiosyncratic features must be examined on a case by case basis. Our work is not meant to replace the case method, but to support and complement it. Our conclusions and findings are general rules of thumb, not exact diagnoses for any particular golf club.

this discussion is absolutely not meant to imply causation. Instead, the variables in the discussion are linked, they go together, but do not necessarily cause one another. The rooster crowing and the sun rising often go together, but we strongly doubt that the rooster's crow causes the sun to come up. Please be careful here.

We estimate two models. The first equation we analyze is used to forecast or predict green fees. With this equation, we can estimate how fees change as course characteristics vary across the sample. The second is a model of rounds played per year. The beauty of this statistical methodology is that it simultaneously accounts for all other differences across courses. Better yet, it is based, not on supposition or intuition, but the actual experiences of the real courses in use. It is a tried and true method for understanding the impact of separate and individual course characteristics.

Please keep in mind that this discussion below covers course features. This means, practically speaking, that we exclude golf ranges, but capture almost all of the other types of alternative courses.

Of the alternative courses analyzed here over sixty percent have golf shops selling golf clubs, apparel, and accessories. Only about seven percent do not offer any golf products. Slightly more than half of the clubs offer senior discounts and allow tee time reservations. Nearly all the facilities-98 percent-allow golfers to walk, and half have attached driving ranges. Of those with ranges, twenty three percent have grass tees, eighteen percent have grass and mat tees, and only nine percent have mats only. There are many combinations of training facilities but the most common, at thirty percent, are those with a putting and chipping green, sand practice area, and teaching professional. Only two percent of these facilities offer caddie services, and most of those are part of a larger traditional golf facility.

Almost all alternative facilities offer some type of food service, more than ninety eight percent. By far the most common food service is a snack bar, present at fifty percent of the facilities. Sixty percent of these courses offer some type of alcohol to their golfers. Of those offering alcohol services, the most common is a full bar which offers beer, wine, and spirits.

In Table 4 we report the results of estimating first rounds and then green fees at alternative facilities on individual course features and the number of traditional clubs in close proximity (in the county). This latter variable helps understand the relation between alternative facilities and traditional courses. As Table 4 reveals, both rounds and fees are higher at alternative clubs when there are more traditional facilities in the local area. We interpret this to mean, using club level data, that alternative and traditional facilities are complements and go together.

TABLE 04 :: CLUB LEVEL ANALYSIS OF ROUNDS AND FEES AT ALTERNATIVE FACILITIES

A Statistical and Economic Model of Relevant Factors

Factor		18-HOLE WEEKEND GREEN FEE		ROUNDS PER DAY	
		Impact	Statistical Probability that Factor Matters	Impact	Statistical Probability that Factor Matters
Bar	Beer & wine	\$0.96	0.84	12.307	0.96
Bar	Beer only	\$0.46	0.57	3.285	0.46
Bar	Full Bar	\$1.24	0.99	6.274	0.73

Metal Spikes Disallowed		(\$0.08)	0.15	-5.917	0.89
Caddies Available		\$0.79	0.47	-12.685	0.71
Accepts Tee Time		\$1.83	0.99	3.344	0.54
Discount to Seniors		(\$0.69)	0.90	3.616	0.65
Walking not Allowed		(\$8.07)	0.99	-4.878	0.35
Range Features	Both Grass and Mats	(\$0.19)	0.23	-1.388	0.18
Range Features	Grass Only	\$0.00	0.01	-8.680	0.91
Range Features	Mats Only	\$2.16	0.99	4.356	0.45
Lighted Driving Range		(\$0.95)	0.88	7.926	0.85
Training Facilities	Putting green only + teaching pro	(\$1.41)	0.72	29.377	0.96
Training Facilities	Putting green, sand & chipping area, + teaching pro	(\$1.63)	0.80	24.336	0.91
Training Facilities	Chipping and putting green	\$1.12	0.70	9.522	0.65
Training Facilities	Putting green, chipping area, + teaching pro	(\$2.35)	0.91	23.952	0.89
Yardage Markers		\$2.74	0.78	2.921	0.13
Number of Traditional Clubs in proximity	\$0.02 per club		0.99	0.218 per club	0.99
Income per Capita in area	\$0.14 per thous. \$'s of income		0.97	1.0 per thous. \$'s of income	0.85
Population Density in area	\$0.26 per 1000 people per sq. mi.		0.97	3/ 1000 people per sq. mi.	0.99
Percentage of High School Grads in area	\$0.13 per percentage point		0.99	0.398 per percentage point	0.79
Age of Course	(\$0.023) per year		0.97	0.022 per year	0.18
Length from Men's Tees	\$0.002 per yard		0.99	0.019 per yard	0.99

20

As Table 4 reveals, there are many factors that matter and some that do not appear to make much difference on fees or rounds. For instance, there is no statistically credible impact on rounds or fees when alternative courses prohibit metal spikes. We have not included in the table for space constraints a number of other factors that do not seem to matter to rounds and fees, but we note that some factors which affect fees often do not seem to affect rounds. To capture the total effect on price and rounds played of several key factors, the revenue associated with several golf course characteristics was computed and shown in Table 5.

TABLE 05 :: REVENUE IMPACTS OF CERTAIN COURSE FEATURES AT ALTERNATIVE FACILITIES

Course Feature	Value per Round, incremental revenue per golfer	Estimated Impact on Number of Rounds per year	Average Annual Estimated Revenue, Adjusted for Rounds Impact
Full Bar	\$1.24	2,448	\$75,641
Restaurant, Snack Bar & Beverage Cart	\$4.34	7,650	\$249,825
Accept Tee Times	\$1.83	0	\$52,924
Dress Code that requires collared shirt and no denim	\$4.70	-5,508	\$46,419
One Additional Traditional Course in the County	\$0.02	64	\$1,623

In summary, we have found out a number of things about alternative golf facilities. First we start with the demographic or general findings.

- Alternative facilities in richer areas and communities with more highly educated people fare better.
- Alternative facilities in more densely populated areas receive higher prices.

- Facilities that are open more days out of the year earn less per golfer per round, than northern courses which are closed more often due to weather (this does *not* mean that total revenues are less; warmer climate courses, obviously, are open more days).

There are also course idiosyncratic features that also are associated with green fees. We discuss these in turn.²

- Having a bar adds to revenue.
- Restaurants add to revenues as well. It is important to note that a beverage cart and snack bar are by far the best deals. Indeed, prices tend to be higher when there is *not* a restaurant, but just a beverage cart and snack bar.
- At alternative facilities, longer courses earn higher fees.
- Courses built more recently charge higher prices. So other things being the same, newly built courses have higher fees even adjusting for length, location, and course quality. Golfers appear to prefer a new course over an old one. At least, that appears to be true for this set of alternative facilities.
- Grass types affect revenues, but the differences between types are not statistically distinguishable.
- Having a course surrounded by homes on the course, does not, in these data, appear to affect green fees.
- Golf shops with apparel and accessories offer revenue enhancement from higher green fees. Adding golf clubs to that mix does *not* appear to offer much potential for extra money on the green fee side.
- Offering tee times is likely to enhance revenues from green fees. In the Master Database about half the courses offer tee times and half do not. Providing that service might be a quick way to generate some additional revenue directly from green fees at what might be relatively low cost.
- Adding a driving range stands to affect revenues on the green fee side, over and above the cost of selling balls.
- Clubs that offer training facilities will be able to charge higher green fees above and beyond the direct revenues earned there. However as these can be very expensive, careful cost investigation is necessary before providing any concrete recommendation. It is noteworthy that there appears to be substantial revenue enhancement potential from adding a complete golf school, teaching professional, and putting green to these alternative facilities.
- *Perhaps our most important overall finding is that rounds and fees are higher at alternative facilities where there are more traditional courses. So as the golf industry determines the viability of advocating development of additional alternative facilities, it should look not only for latent demand but also for active golf communities, as characterized by the presence of traditional courses, but where alternative facilities are in short supply. Alternative course developers should not shy away from traditional course areas. Our analysis suggests that these two are not substitutes, but instead complements that improve the business climate for each other.*

SUMMARY

It makes good business sense to build alternative facilities in close proximity to traditional courses or in communities where traditional courses are already established or where new traditional courses are being built.

Golfers pay and play more at alternative facilities when they are in communities with a larger number of traditional facilities and vice versa. Alternative and traditional facilities are complements, and they go hand in hand to produce a thriving golf market.

² It is important to note that we are absolutely not suggesting that each course should add these features. Here we are only estimating the additional revenues from various sources. The profit decision must, of course, also take cost into account.

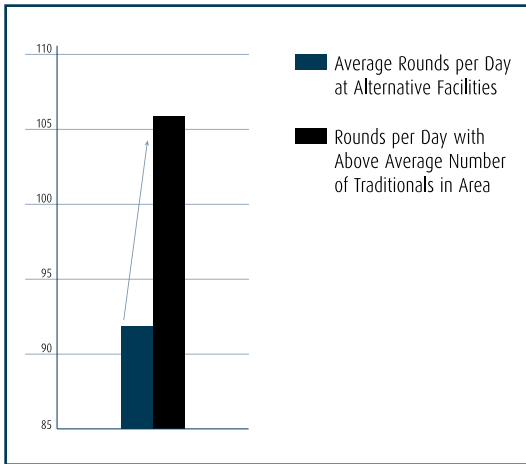


FIGURE::06

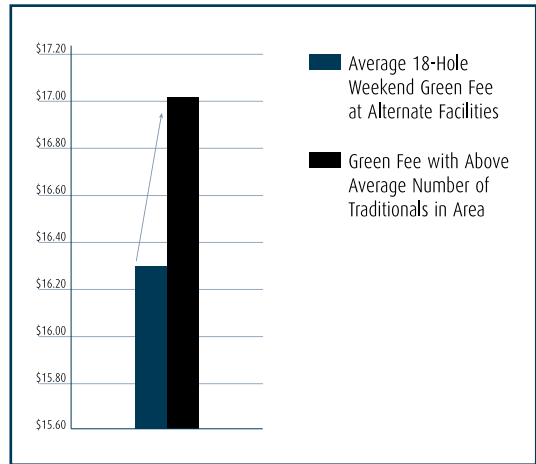


FIGURE::07

This impact can be visualized with two graphical presentations. First we show in Figure 6 the impact on rounds per day at the average alternative facility of locating with the average number of traditional clubs (28.5) and with a heavy concentration of traditional clubs in the area (63.4).³

In Figure 7 we show a similar impact on the 18-hole green fee at the average alternative facility (excluding ranges) of locating in an area with an above average number of traditional golf clubs.

As both charts reveal, the impact is substantial and demonstrates visually the numbers we have been describing. Alternative clubs fare well in golfing areas with a substantial presence of traditional 18-hole layouts.

OTHER RESULTS AND FINDINGS

Golf Ranges

Many traditional courses have attached golf ranges, and while these are not strictly alternative facilities per se, we think they bear noting as complements to the overall golf market. In Table 6 we report the number of traditional and alternative courses in the United States that have attached golf ranges.

TABLE 06 :: ATTACHED GOLF RANGES

Attached Golf Ranges	Frequency	Percent
Traditional Courses with Attached Golf Ranges		
with Grass and Mats	2,330	14.1%
with Grass	8,876	53.7%
with Mats	741	4.5%
None	4,598	27.8%
Alternative Facilities with Attached Golf Ranges		
with Grass and Mats	296	17.0%
with Grass	433	24.9%
with Mats	144	8.3%
None	869	49.9%

³ This is one standard deviation above the mean.

As the table reveals, attached ranges are far more prevalent at traditional courses. Half of the alternative facilities do not have attached golf ranges. Traditional clubs are far more likely to offer a golf range as part of their package.

MAINTENANCE EXPENDITURES

We have data on maintenance expenditures at public, alternative facilities. Figure 8 provides a snapshot of these expenditures. Three-fourths of the alternative facilities spend less than \$200,000 per year on maintenance. A few, two percent, spend as much as \$400,000. Keep in mind that we are talking here about facilities with holes, par threes, pitch & putts, and executive courses, not golf ranges.

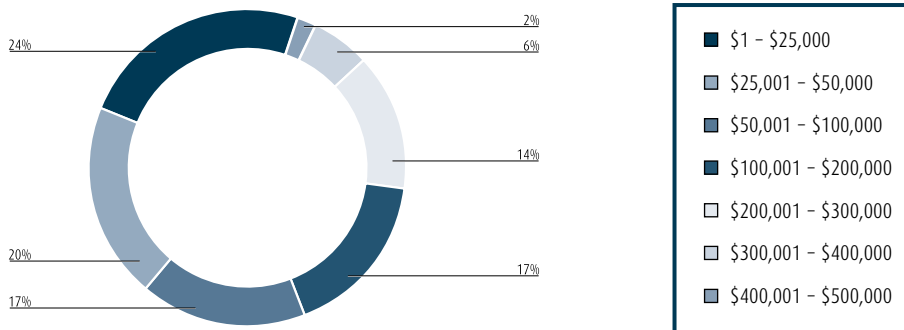


FIGURE::08 Maintenance Expenditures at Alternative Golf Courses in the *Golf 20/20 Alternative Facilities Database*

CONCLUSIONS

At the GOLF 20/20 Conference in November 2000, it was determined that alternative golf facilities were an area of our business that deserved more study. It has long been speculated that because these facilities are less expensive, less time consuming, and less intimidating, they provide natural access points into the game, user-friendly places to learn. The World Golf Foundation asked Sportometrics to: build a database of alternative facilities, determine where they are located, what makes them successful, and how they relate to traditional golf facilities. Below are some highlights of the findings.

Database

- The GOLF 20/20 Alternative Golf Facilities Database contains a total of 5,542 alternative facilities in the United States. Of these 5,312 alternative facilities are open to the public. The total 5,542 alternative facilities break out as follows:
 - Driving Ranges.....2,805 (50%)
 - Executive Courses865 (16%)
 - Par Threes.....1,653 (30%)
 - Pitch & Putt160 (3%)
 - Others of various configurations59 (1%)
- 30.1 percent of all golf facilities in the United States are alternative; half are stand-alone golf ranges; and the other half have golf holes.

Successful Business Model

- Golfers pay more at clubs with a full bar.
- Golfers prefer a club with a beverage cart, snack bar, and restaurant.
- Golfers like a club that accepts tee times.
- Golfers pay and play more at clubs with driving ranges.
- Fees are higher where dress codes require a collared shirt but do not allow denim.
- Fees are slightly higher in more affluent, more densely populated, and better-educated communities.
- Rounds are higher in more affluent communities, but we find no impact of education on rounds played.
- Golfers prefer newer and longer alternative facilities.
- Fees and average rounds per day are higher in regions where courses are closed some portion of the year because of weather. However, total rounds per year are higher in warm climate regions where clubs are open more days.
- 18-hole green fees are 48 percent higher than nine-hole fees, on average.
- Green fees are just over 10 percent higher on weekends than they are during the week.

Impact on Traditional Facilities

The following report demonstrates that it makes good business sense to build alternative facilities in close proximity to traditional courses or in communities where traditional courses are already established or where new traditional courses are being built.

Golfers pay and play more at alternative facilities when they are in communities with a larger number of traditional facilities. Again, we find that alternative and traditional facilities are complements, and they go hand in hand to produce a thriving golf market.

Perhaps our most important overall finding is that rounds and fees are higher at alternative facilities where there are more traditional courses and vice versa. So one of the things that prospective alternative golf course owners should do is try and locate new facilities in intense golfing communities as characterized by the presence of traditional courses. Also, when alternative facilities locate in neighborhoods with existing traditional clubs, the fees and rounds at traditional clubs are found to be higher. Developers of alternative courses should not shy away from areas with a high density of traditional courses, nor vice versa; our analysis suggests that these two are complements that positively impact business for each other.