

Pace of Play Study 2011

July 27, 2011



Acknowledgements

The authors recognize and sincerely thank all the contributing participants in this study, including the staff at the golf courses who spent significant time with us during field work. Their involvement was invaluable for this report.



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PGA, CMAA and GCSAA

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Executive Summary

“The slow play concern is a never-ending challenge.”

“It is a much harder nut to crack than I ever thought.”

“It’s a very tricky situation.”

*“If we don’t have all of the steps in place every minute of every day,
pace of play quickly deteriorates.”*

These are the comments of some PGA Professionals, CMAA facility managers and GCSAA course superintendents (together to be referred to as “managers”) who volunteered to participate in a new PGA, CMAA, and GCSAA Pace of Play Study, launched in Spring 2010. These managers start each day with optimism as they prepare to deliver the game of golf to their playing customers. Each and every day they work hard to present both the great game of golf and their facilities in the best possible manner for their guests and members. Yet, in spite of all their efforts, they continue to find themselves on the front lines of a major daily battle, a battle against slow play.

The study’s Phase I findings, compiled from a variety of surveys, interviews and observations at 13 courses in two states, anticipate the broader findings that will be generated in Phase II, which will invite participation from a larger distribution of courses. To highlight a few findings:

During the study, an improvement success at one participating municipal course underscored the improvement potential for every course. At the end of the first day, the study’s Project Manager recommended some changes, which were implemented on day 2. The impressive results: Average round times were reduced by 22 minutes, every group started exactly at its assigned starting time, and customers were loud in their praise. The General Manager has maintained and expanded the changes, and is already realizing bottom line results.

In this phase, we immediately discovered some gaps in critical information that courses need to manage play. While many courses – including these in this study – monitor and track round progress, more than three-quarters of these first courses do not record round completion times and do not calculate average daily round times for their course, so *they do not know the actual time it is taking their guests to play*. None uses any measure of daily pace of play

performance – *a measure of the quality of their playing experience*. And none has an accurate objective measure of *how long it should take to play the course* (pace rating). Courses reported a variety of starting intervals, but in most cases *the actual observed starting interval was different from the stated starting interval*, a fact not generally known to managers.

Some excellent practices were observed, including communicating pace of play expectations to players, good use of signage to inform and direct players, use of standardized communication messages for staff to deliver, use of up-to-the-minute tee sheets for starters, hands-on management involvement, receptivity to ideas from marshals, play coordinators and starters, ongoing staff training to reinforce successful practices, starter stations on the first tee, careful management of the rough, use of traffic stakes to control golf cart parking, and many more that are listed in the study report.

An emerging message to golf courses was the need to *recognize the variables over which you have control, and do the best job of managing those*. The activities of our next two phases will help courses determine those variables and identify the most effective management practices.

When asked in our Professional Attitude Survey, “Do you believe there could be a solution?” participating managers unanimously answered *yes*, then added caveats such as, “...it depends on how heavy-handed you want to be with your customers and members” and “...but it would need to be supported by additional education for the staff.” And with no clear understanding of, or focus on, the root cause(s) of the slow play problem, managers are left to wade through the wide range of possible solutions, from penalizing or even assigning players to later starting times, to admitting that they themselves are lacking the knowledge, insight and tools to determine the cause. They are working without a model to follow on how to craft a solution for their facility.

In the study, we recognized and validated several recurring themes (basic truths) that we have used successfully in the past to address the slow play problem. They are the roadmap that will guide us in moving forward.

1. **The pace of play *can* be improved.** However, in order to do so, managers first need to understand that slow play is not the actual problem; it is the symptom of more deeply rooted problems.
2. **Tools and Teamwork.** Finding the key variables impacting the pace of play and properly treating them requires the facility management team and staff to:
 - Adopt new ways of approaching this problem,
 - Use new tools and teamwork to diagnose the problem,
 - Have a willingness and passion for effective change.
3. **Personalized Solution for Every Course.** Because there are several competing variables that managers must regain control over, many of which are unique to the course/facility itself, it has been recognized that there is no “one silver bullet” solution. Each course must determine the local root causes underlying its problems and custom design management responses to address them.
4. **Management Team’s Focus on Continuous Improvement.** Led by a local senior executive, the entire management team must participate in designing and implementing their solution in order to manage on a daily basis the critical variables contributing to the slow play and quality problem. Those solutions must be institutionalized and continuously improved...and never ignored.
5. **Allied Association Leadership.** Industry-wide organizations must encourage and prepare their members to embrace change and to adopt an improvement philosophy as a core management principle at each facility.

The study concluded:

Managers must be given the knowledge, the tools and the communication skills to achieve positive change in the way they manage their facility for benefit of the game and the business of golf.

To give a little history, nineteen years ago, in 1992, the PGA of America released a comprehensive report on speed of play, summarizing several years of research on the issue of slow play. The goal in

that report was to define the seriousness and causes of the slow play problem and begin to identify actions to address it.

One of that report's many findings came from a survey of 200 PGA golf professionals who were asked what they thought about the severity of the slow play problem. They indicated that only 50-56% of facility owners saw the problem as serious, compared to 60-71% of golf professionals. But as many as 79% of *players* felt it was a serious problem. The research in that report indicated that the speed of play was affected by three variables: **facility design**, **golfer attributes**, and **management policies**. That research also found that although most of the identified 'best practices' cited by respondents actually focused on management policies in attacking the problem of slow play, those practices usually centered on how management could improve *the players'* knowledge, responsiveness and behavior. Few, if any, best practices identified changes in actual *course management* policies and practices to consistently produce better results. Clearly, the prevailing wisdom was that the root cause of slow play was the golfer, and that managers should focus primarily on educating, preparing, and penalizing golfers to achieve a better performance.

Today's conclusions build on that earlier research but take us further. The study's Project Manager, Bill Yates, brought his fifteen years of pace of play improvement study and implementation experience at more than 150 golf courses around the world to co-author, support and interpret the findings of this study. New conclusions have helped us realize that we are at a critical and perhaps momentous industry decision point...a point the authors of this study are calling "a Softspikes[®] moment." Everyone recognizes that in 1993 *Softspikes changed forever the way the game is played*.

We believe that by effectively focusing on the pace of play as a quality issue controlled by management, there can be immediate benefits for golf facilities. The following project steps are planned:

- Phase 1 (this study). Its proof of concept and findings
- Phase 2 (expansion). Roll out of forms, process and data collection approaches as best practice tools for analysis of each facility's situation
- Phase 3 (adoption). Proposed national rollout led by PGA, CMAA and GCSAA for broad involvement and implementation; this can be referred to as a National Pace of Play

Improvement Campaign that will be designed as the result of extending this study, and *that will likewise forever change the way the game is experienced*

To truly improve and grow the game, some structural changes will be needed. Starting the process by focusing on management attitudes and practices will have the most immediate impact on the game's delivery system...and therefore on the quality of the product as perceived and experienced by the consumer. "When you manage the pace of play, you manage the quality of golf™." (Pace Manager Systems®)

As each course completes its improvement program, the attitudes and understanding will begin to change and the benefits that our study's respondents listed will begin to accrue. Managers have learned that trying to correct the pace of play issue is much harder to do than they expected. But all believe there are solutions, and they are absolutely confident there would be far-reaching benefits. They believe improved pace of play at their course will:

- Generate more revenue from new players and eliminate paying refunds to players displeased by slow play,
- Increase revenue at all other facility profit centers,
- Improve their reputation,
- Build member satisfaction and member retention,
- Improve course and personnel utilization,
- Improve staff morale and working conditions,
- Provide a more consistent and better guest experience, and (perhaps most importantly)
- Attract more players to their course and increase revenue.

"Our biggest priority is getting players to the course. However, once they are here, we want them to have the best playing experience possible." The survey findings showed that managers believe that pace of play is a powerful tool that can possibly make or break a course. Are they willing to go head-to-head with this long-time challenge? One respondent speaks for the rest. "I'd be willing to do just about anything."

What process can PGA Professionals, CMAA Manager and GCSAA Superintendents follow to participate in the next phase of this study? **Individual courses wishing to participate will be given the opportunity to utilize the set of surveys, forms and instructions found in the study’s appendices. These forms and processes are a baseline for fact-finding and analysis at each course. From there, the key problems and opportunities can be identified, action plans may be prepared and implemented, benefits from changes may be measured and evaluated, and a cost-benefit comparison may be performed.** Facilities may also be invited to be a part of our larger data collection effort.

Study and Potential Program Positive Outcomes

The surveys and forms found in the appendix of this study can be used by facility managers to *begin to examine their operation practices*. The process of asking the right questions and making actual observations of their practices will begin to focus attention on the critical management practices that have a significant influence over the pace and flow of play. And like our study team, local managers will begin to spot the areas that lend themselves to improvement.

Typical areas under study:

- Late-arriving groups
- Starting interval
- Starting practices
- Marshaling practices
- Performance measurement
- Customer Satisfaction

Improvement will contribute to:

- Ability to keep the first tee on schedule
- Optimal utilization of the course (revenue)
- Creating a free flowing course (quality)
- Ability to keep the first tee on schedule
- Improving the utilization of the course (revenue)
- Creating a free flowing course (quality)
- Creating a free flowing course (quality)
- Determining the effects of management practices
- Determining the effects of management practices

In the course of this study, we had the opportunity to create an improvement success story at one of our participating California municipal courses (one with more than 70,000 rounds per year). The General Manager (a PGA Professional) fully participated in both study visits, with a basic philosophy of, “I’m always looking for creative and sound ways to change and improve our operations.” After observing

operations and reviewing all the survey responses, the Project Manager made several improvement suggestions, listed below. The General Manager implemented those changes during our second visit, changing the facility's tee sheet for the day and insisting that all staff be fully engaged with our recommended best practices for the day. The results of that day were impressive. Average round times were cut by 22 minutes, including the play of eight high school matches. Every group started exactly at its assigned starting time, round times dropped, and positive customer and staff feedback increased. But most importantly, this far-seeing General Manager has adopted and institutionalized the following changes so that these positive results can be consistently achieved:

- Adding a Starter's Podium to the first tee
- Assigning starters on the tee for two full shifts each day
- Creating a timing and tracking sheet for marshals with detailed player information
- Staging groups in advance to ensure they are fully ready for their assigned starting time
- Providing formal introduction and standard communications scripts for starter
- Starting groups on time
- Having starter congratulate groups on playing the front nine at a good pace

The benefits for this course continue. The customers like the changes and the tight first tee control that is now part of the normal routine. The staff welcomes and adopts the changes, which are making their jobs easier, not harder. And target times for play are met or exceeded 80% of the time. The GM says, "Thanks for including us in your study, your ideas were really eye-opening and your approach is already reaching our bottom line. We have significantly reduced the number of refunds we pay to customers dissatisfied by slow play."

Next Steps

This study's preliminary findings (**Phase I**) will be delivered and further discussed among Allied Associations. This will allow Allied Associations the opportunity to invite additional team members to further evaluate and roll out the methodology, and to include all types of golfing facilities representing all regions of the United States. Best practices and benefits will be communicated. The forms, process, analysis and how to best determine customized facility action steps are key steps of this **Phase 2** activity. A key element of Phase 2 is to determine the method for advisory and subject matter review of a facility's findings in order to define improvement steps needed.

Following that, a larger **Phase 3** project expansion is envisioned. This phase of the study will be to develop specific recommendations and a timeline for a scalable delivery method for national implementation. This national implementation would be supported by the methodology in Phases 1 and 2 and would entail broad-based support and leadership from PGA, CMAA and GCSAA, including development of communications, training methodologies, and a scalable delivery system for implementing the solution toolkit. The campaign will make it possible for these tools to be accessed and administered by the management teams at individual golf facilities throughout the United States.

Our goal is to grow the game of golf...by retaining present players, by reclaiming former players, and by attracting new ones. We envision increased customer satisfaction benefits from an improved pace of play and significant financial benefits that have been demonstrated and are achievable for all participating facilities.

Background

In the summer of 2009, the PGA of America, in partnership with the Golf Course Superintendent's Association of America (GCSAA) and the Club Manager's Association of America (CMAA), proposed conducting a pace of play pilot study at select golf facilities around the country. It was their intent that the study would act as an internal roadmap, using methodology and generating information that would be the foundation of a planned future pace of play improvement campaign and golf facilities across the country.

The study was organized and directed by Mr. Paul Metzler, Senior Director, Consumer Marketing, Research and Industry Relations of the PGA of America. With the support of all partners, Metzler engaged Mr. William M. Yates, Jr. (Bill Yates) as the Project Manager for the study. Yates is an independent consultant specializing in performance improvement with a particular focus on pace of play improvement; he is recognized as the leading authority on pace of play in the U.S. and abroad.

The pace of play pilot study was launched in winter 2009/2010, focusing on facilities in Florida and California as the Northeast and Midwest regions were by then winding down their golfing seasons. Mr. Jon Colclasure, a consultant to the PGA of America, was assigned to work with Florida courses, and Yates worked with California courses.

Strategy

In order to represent the variety of golf course operational models, the PGA recognized that a mix of private, public (daily fee and municipal), and resort facilities would be a critical element of the study. The following facilities raised their hands to participate in the study; their gracious participation, interest, time and assistance have been very much appreciated.

- Villages Golf & Country Club, San Jose, CA – 18 holes (private)
- Bennett Valley Golf Course, Santa Rosa, CA – 18 holes (municipal)
- Ancil Hoffman Golf Course, Sacramento, CA – 18 holes (municipal)
- Hunter Ranch Golf Course, Paso Robles, CA - 18 holes (public daily fee)
- Stevinson Ranch Golf Club, Stevinson, CA – 18 holes (public daily fee)
- PGA Country Club, Port Saint Lucie, FL – 18 holes (private)
- PGA National Golf Club, Palm Beach Gardens, FL – 72 holes (resort)
- PGA Golf Club, Port Saint Lucie, FL – 54 holes (public daily fee)

Through interviews, personal on-site observations and data collection, supplemented by the use of four unique survey instruments (Appendices B-E), a clear picture of each of the following areas was created for each course:

- Status and quantification of the pace of play at the facility (on-site observation, data collection)
- Attitudes of professional management team members regarding pace of play (survey)
- Attitudes of playing consumers regarding pace of play (survey)
- Daily management practices of varying golf facilities (survey, interviews, on-site observation, data collection)
- Pace of play best practices implemented at the facility (interviews, on-site observation, data collection)

The resulting “as is” picture of these courses is presented in this report to establish the baseline and provide a roadmap for the planned future national pace of play improvement campaign. The report includes the project’s 1) strategy, 2) goals, objectives and themes, 3) expected benefits, 4) methodology, 5) findings, 6) recommendations and next steps.

Project Goal, Objectives and Themes

Ultimate goal: The ultimate goal of the three golf associations is to initiate a national pace of play improvement campaign that will increase awareness and implementation of pace of play best practices in order to improve facility utilization, enhance customer satisfaction, and grow golf participation.

Objectives: That ultimate goal led to the development of this pilot study that would identify opportunities and the elements needed to stage the national pace of play improvement campaign. The objectives of the study are to conduct case studies to identify pace of play best practices and to evaluate their impact on golf facility utilization and customer satisfaction across a variety of facility types.

Themes: Guiding and encouraging the impetus for, and the design of, the study were the authors’ beliefs in the following themes:

Theme 1: The pace of play can be improved

Theme 2: There is no one “silver bullet”

Theme 3: Any successful solution will need participation from the entire management team

Theme 4: The study's methodology needs to include identifying the critical unique variables affecting pace of play for each course.

Expected Benefits

The expected benefits of the pace of play pilot study are:

- To demonstrate that there are solutions to the “slow play” problem
- To provide a process, tools and approach for golf facilities globally to use to evaluate their current pace of play situation
- To identify “best management practices” regarding pace of play
- To identify key elements needed for a national pace of play improvement campaign

The expected benefits of the planned future national pace of play improvement campaign are:

- To improve the pace of play (reduce the time to play)
- To increase the quality and value of the playing experience
- To increase facility utilization and revenue
- To grow the game and increase play and customer loyalty

Methodology

► Identifying the Variables:

Identifying the key variables that impact the pace of play; i.e. what to actually study, was a critical element in the study's design and the content of the surveys. It was desired that the study would include participation of our partner organizations, recognizing the role they play and identifying their variables, their best practices and the impact of those practices on the pace of play. To incorporate all the significant variables, the study team used The Five Major Factors™ that impact the pace of play, developed by the Project Manager Bill Yates over his 20 years consulting to golf courses worldwide about performance and pace of play improvement. These major factors are:

- 1. Management policies and practices**
- 2. Player behavior**
- 3. Player ability**
- 4. Course maintenance and setup**
- 5. Course design**

This focused approach gives managers the ability to easily diagnose the root causes of slow play on their courses, as they identify issues and assign them to one of these categories. The study design used this approach in its surveys, interviews, on-site observations and data collection.

► Generating Information:

Four formal surveys were developed and utilized at each course, asking critical questions about trends in procedure, perception and attitude of golf professionals, staff, and playing customers. The surveys are included in the appendices to this report:

- Appendix A: Customer Satisfaction Survey
- Appendix B: Facility Operations Survey
- Appendix C: Professional Attitude Survey
- Appendix D: Superintendent Interview

These surveys were used in combination with interviews, on-site observation and other data collection during two separate visits (each visit was two days) to each course. Following is a description of how these measurement instruments were used.

Customer Satisfaction Survey

The Customer Satisfaction Survey (Appendix A) was distributed to golfers at each facility during the site visits. The survey is a two-sided card with the front side being about “pre-round” information and the back side a post-round review, including questions about satisfaction with pace of play. Some of the facilities distributed the surveys at check-in while others asked the starters to distribute and explain. At least two facilities provided incentives for completion. One facility assigned additional staff to encourage completion and collect surveys on the 18th green. 312 surveys were collected. As usual for a customer satisfaction survey, the opportunity for additional open-ended comments or even unsolicited comments on the course is typically helpful.

Facility Operations Survey

The Facility Operations Survey (Appendix B) was completed by a project management team member through interviews with key management personnel at each course. Their responses (found in Appendix I) were checked by the researcher during subsequent on-site observation during normal operations.

Desired information included stated policies and procedures regarding starters and starting intervals, marshals, training, management oversight, round times, use of carts, check-in and outside services, and other elements of daily experience such as players arriving late for starting times.

Professional Attitude Survey

The Professional Attitude Survey (Appendix C) was completed by the PGA professionals at each course to elicit information about their attitudes on slow play, its causes, who is responsible, what measures have been taken, how it impacts their course and their players, and other responses. Professionals were invited to comment beyond the specific questions, and those responses were recorded. The information about prevalent attitudes is a key element in the findings and recommendations below.

Superintendent Interview

An interview with the course Superintendent was conducted using Appendix D as a guideline. Superintendents enthusiastically participated by describing and pointing out areas of the course where, for example, they changed their maintenance practices in order to improve the pace and flow of play. Specific examples are listed below in the Best Practices section of this report.

Interviews, On-site Observation, Data Collection

Desired information included maintenance and set-up practices through interviews with course superintendents; playing times through course tracking for starting and round completion times, and other observed practices. Researchers measured the effectiveness of facility operations through various forms of data collection and experiments, all with the participation and approval of local management personnel.

Findings are listed below and organized by the particular survey or other methodology used to generate the raw input data. The overall effectiveness of the measurement instrument was also reviewed and analyzed. Recommended improvement changes designed to address key (critical) findings listed below are highlighted and presented below in the “Key Findings, Impact and Recommendations” section of the study report.

Survey Results and Observations

Survey #1: Customer Satisfaction Survey –How customers felt about the pace of play and their overall satisfaction with their experience [Beliefs, comments, perceptions and charts are presented here. Compiled raw data for all courses is included in Appendix E.]

Players’ Beliefs

- Believe slow play is a big problem
- Believe that players are the cause and are preventing a solution
- Believe that personally, *they* are not the slow ones

Public Facility Comments

- “Rates are too high”
- “Slower players should be asked to leave, if they can’t keep up”
- “Poor conditions”
- “Greens are tough”
- “Need to lower cost”
- “Very slow play, with no ranger”

Resort Facility Comments

- “Great”
- “Course is in great shape”
- “Fix fairways”
- “Course is in terrible shape”
- “Staff is excellent”

Private Facility Comments

- “Greens difficult – but fair”
- “Great shape”

Pace of Play Perceptions

During the Phase 1 field work, we evaluated pace of play from both consumer recall and from time logs completed by the facility. The customer satisfaction surveys *completed by golfers at each field test site* included a question about “today’s round time.” The time to complete 18-hole rounds as reported by customers are shown in the charts below and segmented by facility type. From the results shown, one observation a reader could make is that pace of play is not a serious or widespread problem. However, we want to exercise care in interpreting the result from this small sample and have therefore provided the following caveats regarding interpretation of the data presented. Please note that all customer survey responses were voluntary, with some courses having little or no player participation.

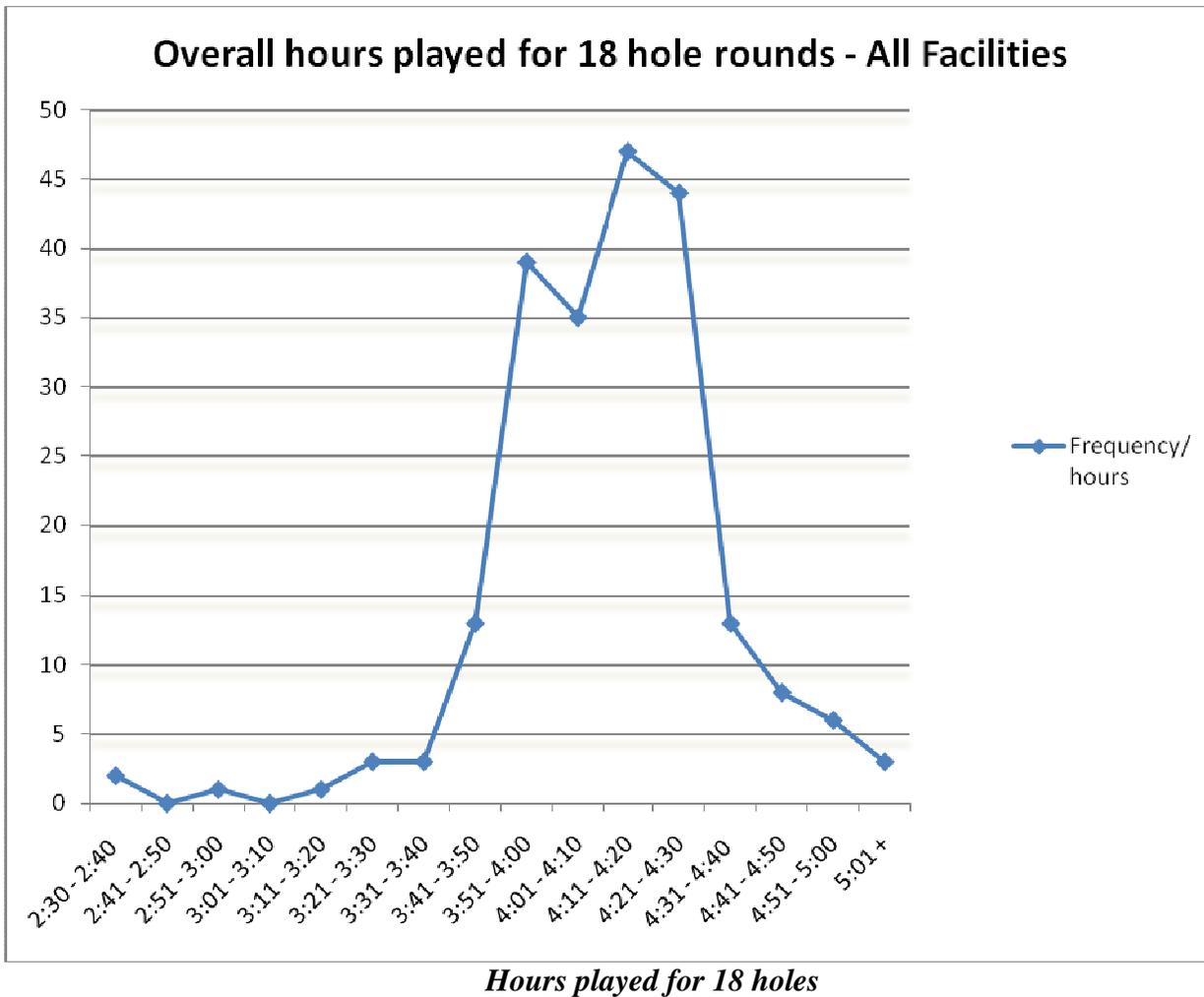
- While the following charts do not seem to indicate a significant pace of play problem among these courses, this does not mean that slow play is not a problem. On the days the data was captured there may have been specific circumstances that allowed for play to move at an efficient rate. There were many tee times where pace of play was not an issue, but there were many tee times where pace of play was a huge issue, which can be attributed to various factors unique to the facility design and facility management practices.
- The sample size for this Phase 1 study was purposely small and is not meant to be a definitive indicator for overall pace of play or a pace problem for each course, for similar facility types or nationally. The sample size was small to enable us to “test the waters” regarding this subject and test our data gathering methodologies as well.
- The participating courses in the study were located in south Florida and central and northern California. The study was conducted in the fall and winter months when courses were not operating at capacity with full tee sheets.
- All playing times during the day were averaged. The faster early morning round times were recorded and averaged in with the slower round times that were recorded later in the day, “On average,” the 18-hole round time was near 4 hours. The golfers who experienced the slower times would agree that the pace of those rounds was a concern.
- The courses that participated in this study did, however, seem to have a similar pattern. The groups in the morning played in less time than the groups in the middle of the day. Pace of play slowed down in the middle of the day, when the course was the most fully loaded with players, then began to accelerate again with fewer later afternoon tee times being utilized.
- Also relevant is that according to the recent golf.com survey, fewer than 1% of players consider themselves to be “slow players.” We believe that players who are completing a customer satisfaction survey may have felt that the round time was slow but didn’t want to report a slow

time. With 99% of players believing slow play is not their fault, it is inevitable that many will prefer to point to others' slow play as the problem. (The same is also true in reverse. If a player is really not satisfied with the pace of play, he will tend to increase his estimate of the time it took to play, when reporting it to the facility or on the survey.)

The Phase 1 data told us that “objective data” gathered from the subjective memories of the participating subjects may not be entirely reliable. In our Phase 2 studies we will continue to ask this question to give us a sense of player perception, but when it comes to providing objective play timing data, we will formally observe, record and report all actual starting and round completion times for the day. (This was done informally in Phase 1 with partial data appearing in Appendix G and anecdotally in the on-site observations section.)

Pace of Play Round Time Data as Reported by Customers

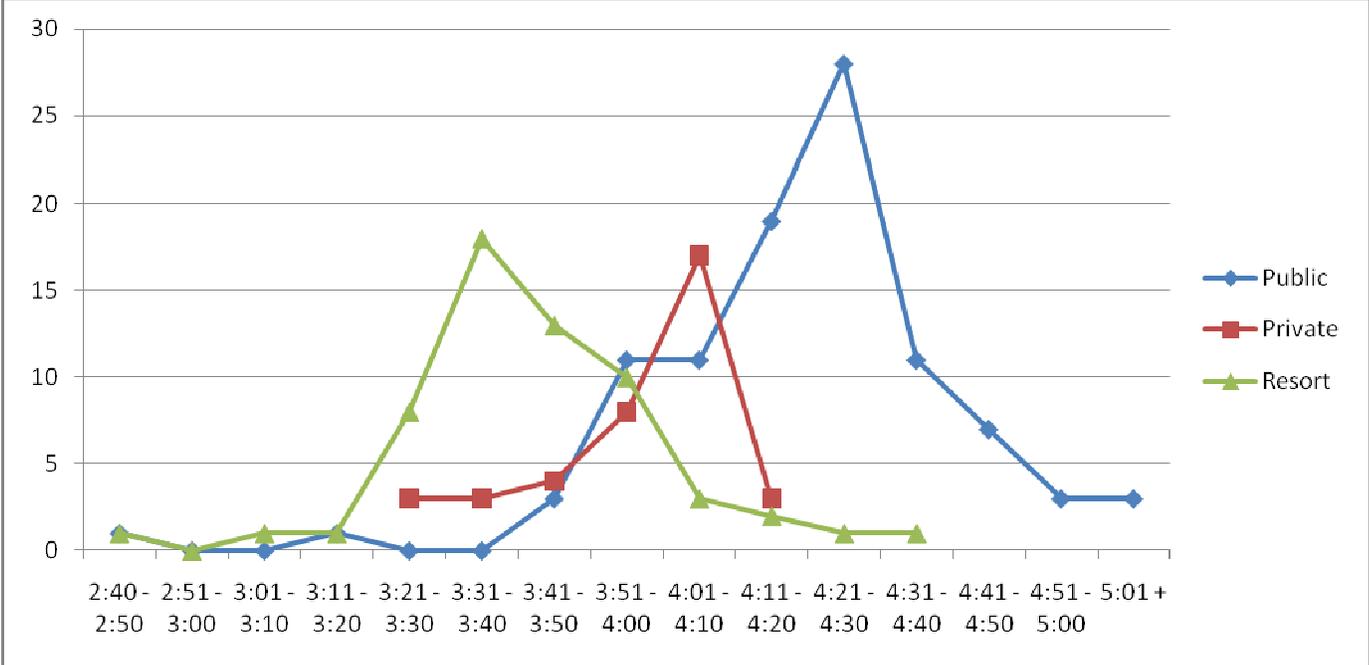
The chart below summarizes the overall results for round times for an 18-hole round of golf from the study's facilities. These numbers include all of the public, private, and resort facilities that participated in the study. These times were those reported by customers through the customer satisfaction surveys. The average round time for facilities participating in the study (based on customer responses) was 4 hours and 14 minutes. 70% were between 3 hours and 40 minutes and 4 hours and 40 minutes.



Mean 4:14

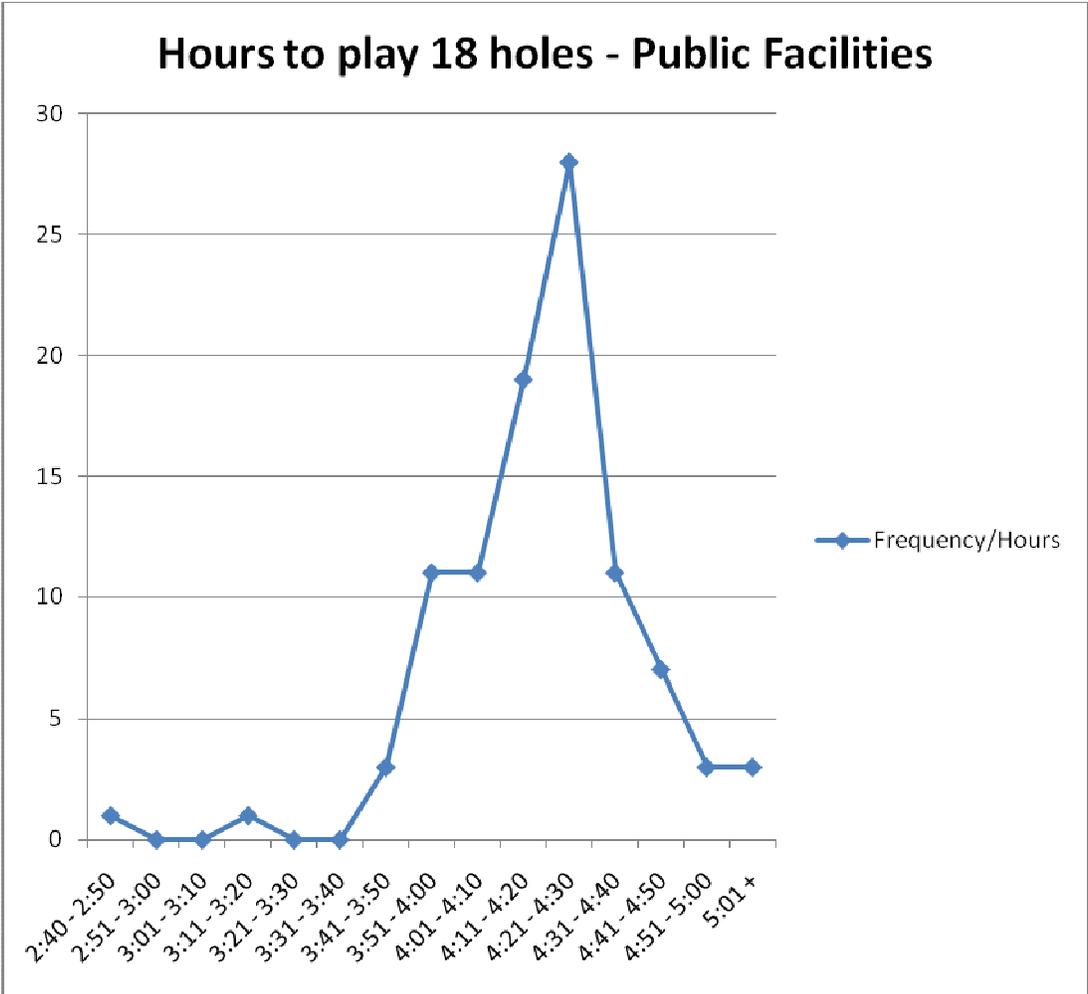
Median 4:15

The chart below represents a comparison of the results collected from all public, private and resort facility customer satisfaction surveys graphed by facility type. There were not as many responses from the resort facility customer surveys as there were for both private and public facilities. Overall, public facilities on average had longer round times than those of resort and private facilities. Resort facilities, overall, showed the fastest average round time among the three categories. Details for each facility type are presented on the following pages.



Hours played for 18 holes

The chart below shows the trend for the total hours played for 18 holes at a public facility. The chart represents data collected from two public facilities that participated in the study. The average round time (reported by participating golfers) was 4 hours and 24 minutes.



Hours played for 18 holes

Mean 4:24
Median 4:30

The chart below represents the time taken to play 18 holes among the private facilities that participated in the study. The chart includes data collected from two private facilities. The average round time (reported by participating golfers) was 4 hours and 9 minutes.



Hours played for 18 holes

Mean 4:09
Median 4:14

The chart below represents the total hours taken to play 18 holes among the resort facilities that participated in the study. The chart represents data from one resort facility with results from four courses. The average round time (reported by participating golfers) was 4 hours and 5 minutes.



Hours to play 18 holes

Mean 4:05
Median 4:02

Customer Satisfaction Survey Results

Overall, the total hours to complete an 18-hole round of golf at public, private, and resort facilities fell between 4 hours and 4 hours 30 minutes (as reported by participating golfers). The average for this data was 4 hours and 15 minutes. However, the tee time and round tracking sheets completed by the golf facility confirmed that most groups took longer than their self-reported time taken to complete an 18-hole round at that particular course.

Among the public sector courses that participated in the study, the total hours taken to complete an 18-hole round generally fell between 4 hours and 4 hours 30 minutes. The average for this data was 4 hours 25 minutes. This time period and the mean of this data was slightly higher than that of private facilities and resort facilities. Public facilities often have more inexperienced players, which is a contributor to slower play. Public facilities also had a lower overall course conditions rating than that of private facilities, with an average of 7.9 out of 10.

Among the private facilities that participated in the study, the total hours taken to complete an 18-hole round generally fell between 4 hours and 4 hours 20 minutes. The average for this data was 4:09. Typically a private facility has members who know the course well and are somewhat more experienced players, a contributor to faster play. Private facilities had an overall course conditions rating of 9 or 10, compared to 7.9 at public facilities.

For the resort sector of the study, the total hours to complete 18 holes generally fell between 3 hours 50 minutes and 4 hours 20 minutes. The resort sector had the highest customer rating of the overall course conditions; the most frequent response was a 10.

A comparison of the tee times and finishing times among the courses that participated in the study shows that most early groups completed their rounds under the estimated time to play 18 holes. This changed as the day went on. Most groups beginning in late morning to midday were behind schedule at most courses, revealing the cumulative effects of problems on the starting tee and elsewhere. The later tee times picked up the pace and finished either at or under the estimated time to play, in part because of gaps in tee times. On days that the actual starting time was later than the scheduled tee time, it took most courses the rest of the day to catch back up unless there was a large break in the day that allowed them to get back on track. Note: one facility did not have any information on the *actual* starting times for each group compared to their scheduled tee time.

Customer Satisfaction

The survey elements selected for the survey are those that have an important influence on pace of play and overall customer satisfaction. 'Course conditions' included condition of the rough, hazards and maintenance activity. 'Hitting good shots' not only plays into a customer's overall satisfaction but has a bearing on the pace of play at many facilities. 'Typical value for time spent,' the 'pace and flow of play,' and 'course design' are all elements that influence the customer's overall satisfaction; course design also has a major impact on pace of play.

For the 312 total surveys, the mean number of rounds played per month was 10. The mean number of rounds played per year was 81. The overall average handicap was a 9.8. By way of comparison, the average men’s handicap in the U.S. is 16.1.

	Overall	Private	Public	Resort
Overall Course Conditions	8.0	8.2	7.9	7.7
Typical Value for Time Spent	7.9	8.3	8.0	7.5
Hitting Good Shots	7.7	7.7	7.7	7.4
Pace and Flow of Play	7.3	7.5	6.6	7.7
Course Design	6.3	7.4	8.3	8.1

Survey #2: Professional Attitude Survey – What professional course managers think about pace of play

- Course Managers think that slow play is a big problem and that slow players are the cause.
- Course Managers have learned that trying to correct the slow play problem is much harder to do than they expected. A few felt that “players don’t care” about helping them solve the problem.
- Course Managers don’t think slow play is their biggest problem. They believe their biggest problem is “getting players to their courses.”
- Course Managers believe that if they could improve the Pace of Play they would:
 - Attract more players to their course
 - Generate more revenue from new players and eliminate paying refunds to players displeased by slow play
 - Retain members and attract new members (Private Clubs)
 - Deliver better customer service
 - Improve the reputation of their course and product
 - Improve the utilization of their course and their personnel (become more productive)
 - Improve the morale and working conditions of their staff
 - Provide a more consistent and enjoyable playing experience
 - Increase revenue at all other facility profit centers
- Course Managers are willing to do “almost anything,” short of incurring extreme financial burden, to implement a solution.

Survey #3: Facility Operations Survey – What professional course managers do about pace of play

Starting Play

- Starting intervals:

- Courses studied used various starting intervals. Starting intervals ranged from seven (7) minutes to nine (9) minutes.
 - 7 minutes (1 course), alternating 7/8 minutes (1 course), 8 minutes (6 courses), alternating 8/9 minutes (1 course) and 9 minutes (4 courses)
- Observation note: In every case, the Actual Starting Interval (measured time from first player to first player) varied (many times widely) from the stated starting interval as printed on the tee sheet for the course.
- 69% of courses studied have a Starter on the first tee. However, one of these courses assigns a Marshal to the first tee to act as a Starter during the morning hours only.
- 69% of courses studied attempt to start players at their assigned times; however, groups frequently arrive late to the first tee, making it difficult to do so.
- For the courses observed, all mention that they have a relatively small percent of players arriving late to both the course and the first tee. However, even this small number upsets the flow of play and the effective utilization of starting intervals and causes starting times to fall behind schedule.
- 62% of courses studied believe that their check-in process is not made clear to the players
- 38% of courses studied use a public address (PA) system to call players to the first tee.
- 31% of courses studied blocked “Starter’s Times” or “Maintenance Times” on their tee sheets
- 85% of course studied reported that “starting times do fall behind schedule,”

Marshaling Play

- For the courses studied, only 38% have a full-time Marshal seven days a week.
- All courses studied use Marshals under restricted circumstances such as reduced or extremely reduced hours, only in peak season, or typically using only one Marshal for the entire course
 - The resort course in the study did use significant staffing for marshaling and play monitoring throughout the day and for all seasons.
 - 77% of courses studied provide no formal Marshal training
 - 69% of courses studied give Marshals the proper monitoring tools to effectively track and monitor play
 - 69% of the courses studied hire Marshals as paid employees

Performance Measures

- 77% of courses studied reported that they do not record round completion times, and therefore nor do they calculate average daily round times for their course. *They do not know the actual time it is taking their guests to play.* Note: there is typically round time and progress tracking, but to estimate the total round time requires “projecting” the finishing time.
- None of the courses studied use any measure of daily Pace of Play Performance – *a measure of the quality of their playing experience.*
- None of the courses studied have an accurate or objectively determined *measure of “how long it should take to play the course”* (a course Pace Rating), even though all courses in the pilot study have estimated pace of play guidelines such as “The pace of play for 18 holes is 4 hours and 20 minutes.”
 - Note: Local USGA® Golf Associations can provide a Pace Rating upon request.

On-Site Observations for All Courses

Summary of results:

The tee time charts [Appendix G] include information from the multiple courses at PGA Golf Club and the multiple courses at PGA National Resort. The data was gathered by the facility and consists of scheduled tee time, actual start time, and time taken to finish 18 holes. Looking at the tee times compared to the finishing times among the courses that participated in the study shows that most of the early groups started out under the estimated time taken to play 18 holes. As the day went on, most of the groups in the late morning to the middle of the day were behind schedule at most courses. This was when the most people were on the course at one time. The later tee times picked up the pace and finished either under the estimated time or even with it. This may be due to a break in tee times allowing time for groups to catch up, or the later groups may not have had as many people in the group. On days that the actual starting time was later than the scheduled tee time, it took most courses the rest of the day to catch back up, unless there was a large break in the day that allowed them to get back on track. Note, while there was no information on the actual starting times for each group, this was offset by significant round time tracking and the starting times being kept very much on schedule.

Note: PGA National Resort & Spa – Golf Guidelines were distributed to guests during the time of the Phase 1 study. [Appendix H] Below are observations noted at each participating course on the day or days of the study.

Private Club, White Tees 6,306 yards, >55,000 rounds per year

- Unofficial Pace Rating 4:09 – Starting interval 7 minutes – Actual playing time 4:18
- When one cart (all carts are player owned) broke down on the first fairway, the first tee fell behind schedule and never caught up.
- Private clubs tend to be self-policing regarding pace of play and players have familiarity with the course; this helps move play along.
- Late arrivals to the course and/or the first tee forced the staff to refocus their activities on finding the latecomers and trying to accommodate them. This disrupted the smooth flow of players to the tee and the scheduled starting times of other members.

Municipal Course, White Tees 6,196 yards

- Management Comment: *“Change is very difficult.”*
- Unofficial Pace Rating 4:06 – Starting interval alternating 7/8 minutes
- Under normal starting practices (no Starter on tee), starting time fell behind schedule and actual average playing time for the day was 4:55.
 - Note: The group scheduled to tee off at 8:30 am actually teed off at 8:42 am. They completed their round at 1:31 pm for a round time of 4:49.
 - Player observation on the first tee: *“It’s going to be a long day.”* The group was scheduled to tee off at 9:45 am, and they were “on deck” waiting to tee off and making this comment at 10:07 am. They eventually teed off at 10:19 am (34 minutes late) and they finished their round at 3:22 pm for a round time of 5:03. However, in their minds, calculating from the starting time they were sold, the round time felt more like 5:37. The playing customer was right; *it was a long day.*

- With a Starter on the tee holding a 9-minute interval, every group started precisely on time and an average round time of 4:38 resulted.
 - Note: The group scheduled to tee off at 8:31 am actually started play at 8:31 am and completed play at 1:19 pm for a round time of 4:48. Interestingly, no Marshal was on the course and as a result, five separate groups playing ahead of the 8:31 group collectively added 40 minutes to the time to play.
- One group of players stopped for lunch at the turn, and then severely disrupted the pace of play and the flow of many groups when they “squeezed” back in on the tenth tee.
- Observed one beverage cart operator who was slowing play by stopping players in the fairway and by socializing with players for long periods of time, backing two groups up at the tee, leaving the hole completely open.
- Regarding tee sheet utilization, it was observed that on weekends the tee sheet is typically full from opening until about 11:30 am. Then play resumes at 1:00 pm when the discounted rates begin.

Municipal Course, White Tees 6,434 yards, 70,000 rounds per year

- Unofficial Pace Rating 4:16 – Starting interval 8 minutes
- Conducted starting interval experiment during our study visit:
 - Saturday 2/13 – Normal starting, 8-minute interval
 - Actual measured starting was 7.8 minutes, average round time for the day was 4:25
 - Monday 4/26 – Starter on tee holding 9-minute interval
 - Actual measured starting interval was 9.8 minutes, average round time for the day was 4:03
 - Play included eight high school matches with four players each.
 - The matches started at 9:12 am and up to that point, the preceding 15 groups played in 4 hours or less. The first high school match finished 29 minutes behind the group ahead of them. The coaches for both teams were spoken to by the Marshal and were with the teams on the course for the entire time. The coaches took no action to encourage their players to move along.

Daily Fee Course, White Tees 6,292 yards

- Unofficial Pace Rating 4:06 – Starting interval alternating 8/9 minutes
- Players looking for the range or the tenth tee had to stop and go into the Pro Shop to ask for directions.
- When the first tee was not attended (their normal starting practices), an average actual starting interval of 9.2 minutes was measured – average daily round time was 4:53
- During the second visit, with a Starter on the tee (the General Manager of the course) holding the stated starting intervals, the average round times for the day was 4:41
- When member of senior management participates in the pace of play study and improvement process, the program probability for success increases greatly as the management decision makers gain an instant understanding of the contributing variables, buy-in for improvement recommendations, and a first-hand knowledge and experience seeing the results of the improved management practices.

Daily Fee Facility, 54 Holes

Course 1 (PGA Village – The Dye Course) – 6,250 yards

Day #1:

- The 7:38 and the 7:47 groups departed on-time. After that the 8:00 am time started 4 minutes late and the 4-minute delay was repeated through 9:03 at which point there were 2 maintenance times. The 9:26 starting time was on-time. After that for the remainder of the morning, the 9:44 started 3 minutes late at 9:47. The actual starting times for the next 2 hours were consistently 3, 4, then 7 minutes later than the scheduled start times through 11:48. There were gaps on the tee sheet until 12:16, at which time one group started early. The next two groups started 1 minute after their stated start time. The 1:02 group started 3 minutes late and then times from 1 to 3 pm were started 1 minute later than the scheduled time. .
- 55 groups on the tee sheet
- Round times ranged from 3 hours and 54 minutes to 4 hours and 31 minutes.

Day #2:

- Cart Path Only
- 51 groups on the tee sheet
- 5 maintenance times on the tee sheet
- The 8 AM tee time was sent off 4 minutes late and it took the rest of the morning to catch up. There was an open time at 11:50. The 11:59 group started four minutes early at 11:55. Then afternoon times were started on time.
- Round times ranged from 3 hours and 52 minutes to 4 hours and 35 minutes.

Course 2 (PGA Village – Ryder Course) – 6,144 yards

Day #1:

- 58 groups on the tee sheet
- 2 groups were no shows
- On-time departures from the tee within 3 to 4 minutes of schedule time.
- Round times varied from 4 hours and 2 minutes to 4 hours and 36 minutes.

Day #2:

- 51 groups
- 4 no shows
- Perfect on-time departures from the tee.

Course 3 (PGA Village – Wanamaker Course) – 6,164 yards

Day #1:

- 57 groups
- 5 no show groups
- All tee times on time or early (Note: groups starting early are not on time)
- Round times ranged from 2 hours and 17 minutes (*a single with the first tee time*) to 5 hours and 17 minutes

Day #2:

- 66 groups
- 2 no show players
- Inserted a group at 8:04 creating an immediate 9 minute delay.
- Then at 8:56, 9:05 and 9:13 a two-some and two threesomes teed off, inserting another group and causing a 14-minute difference between scheduled and actual start times for the groups following them.
- The practice of the starter scratching out the original tee times so that it cannot be read is not desired. The actual start time should be recorded.
- After an unused time at 11:58, scheduled and actual times got back on schedule.
- For the 1:19 starting time, a group arriving late to the first tee was sent to the 2nd tee, then the 1:28 group was also 6 minutes late to the first tee. The 1:37 group was held to 1:43. Next, the 1:46 group, scheduled to be a foursome, was a twosome and was started 9 min late at 1:55. Following that activity, the starting times were on time for the remainder of the day.

Resort Facility, 90 Holes

Course 1 (PGA National Squire Course) – 6,015 yards

Day #1:

- 48 Groups on the course.
- All tee times were on time
- All starting times were filled
- Groups 16 and 20 both added 15 minutes to their round; however, groups following them did not have a problem keeping a 4 hour pace until the 1:32 tee time, this group and the following group both played in about 4 hours and 15 minutes.
- Round times ranged from 3 hours and 53 minutes to 4 hours and 15 minutes.

Day #2:

- 40 Groups on the course.
- All tee times were on time
- The first 6 groups all played in no more than 3 hours and 50 minutes.
- The groups starting on the back 9 played much slower than those starting on the front. The first 3 groups going off the back 9 were all 23 minutes over the 4 hours stated pace.
- Round times ranged from 3 hours and 38 minutes to 4 hours and 23 minutes.

Course 2 (PGA National – Palmer Course) - 6,115 yards

Day #1:

- 27 Groups on the course.
- Groups 7 to 16 all added about 15 minutes to the stated 4 hour round time.
- There was a gap in tee times from 10:36 to 1:32 allowing time for the later groups to catch up.
- Every group after group 16 either played in 4 hours or under.
- Note, there were no tee times recorded after 2:44 pm that day.
- Round times ranged from 3 hours and 42 minutes to 4 hours and 16 minutes.

Course 3 (PGA National Haig Course) – 6,350 yards

- 41 Groups on the course.
- The first 8 groups were very slow, all adding 10 + minutes to the stated 4 hour round time.

- The groups that started on the back 9 played much faster than the groups that started on the front. As a result, these groups had to wait when they made the turn to play the front 9.
- Round times ranged from 3 hours and 38 minutes to 4 hours and 24 minutes.

Course 4 (PGA National – The Champion Course) – 6,373 yards

- 50 Groups on the course.
- The earlier tee times were all on pace for a 4 hour and 8 minute round.
- Groups in the mid-morning to early afternoon played slower as the day continued. These groups adding a slight to significant increase in their round times, made it harder for the late afternoon groups to achieve a 4 hour and 8 minute round.
- Round times ranged from 3 hours and 57 minutes to 4 hours and 38 minutes.

Optimal Tee Time Simulation - PGA Golf Club, Wanamaker Course

As part of this study, we ran a simulation model to test for the optimal tee time interval for the Wanamaker course. This model assumed the yardage using the Gold tees and the green to tee distances between all 18 holes. For example, we measured the distance from the center of the first green to the cart path adjacent to the first green, the length of the travel distance along the cart path to the Gold Tee cart parking area for the second tee, and the walking distance from the cart up on to the second tee.

This simulation also considers the course playing yardage, course rating, and difficulty factors to help us find the optimal tee time interval for the unique design of the course. The factors we evaluated using the results of the simulation were the average round time, the average waiting time, and the total number of groups completing a round during the day. Using this model, we concluded and confirmed that the existing 9 minute tee time interval was optimal for the Wanamaker course for the Gold tees. This simulation tool is available for all U.S. courses through Pace Manager Systems.

Round Tracking

PGA National does continuous round tracking throughout the year for each of their four courses. They distribute Rangers throughout the courses to track starting times, turn times, and finishing times for each group. They compile the data into a report for that specific day. This process allows them to constantly monitor the pace on each course throughout the day.

Best Management Practices Observed at Courses

Following is a list of some best practices observed during the study, which can be considered for addressing the unique situations found on any given course.

Communications

- Pace of play expectations are clearly communicated up front to players
- The cumulative times to complete each hole are printed on the score card
- Good use of signage throughout the course to inform and direct players

- Use of standardized communication messages about pace of play tracking, reporting, problem identification, and customer communication
- Use of clocks on the course to provide feedback to the players
- Providing an up-to-the minute tee sheet for starters, to manage the day's play
- For resort courses, sending bag tags to guests in advance makes player identification easier from the moment they arrive on property
- Target hole times for tournament play are printed on the score cards
- Every day at the halfway house, a menu board offers new selections of six quick prepared menu items players can order and carry along with them to the back nine

Use of Personnel

- Head professional serves as play coordinator on busy days
- With no Marshals on the course, the professional golf staff tours the course each day to maintain the flow of play
- Good ideas from trained Marshals and Starters are evaluated and implemented
- Staff members are assigned as best suited to particular situations or to a specific course at multi-course facilities
- Every staff member follows his/her specific assigned role and responsibilities
- An active "Course Affairs Committee" monitors such issues as pace of play
- Management is actively involved and interested in looking for and implementing improvement ideas; they "want feedback and a fresh perspective" regarding management and customer service issues
- Management teams may consider using a professional secret shopper service to keep an eye on the way the staff greets and works with their customers
- General Manager involvement and on-course presence helps build receptivity to new ideas generated by staff

Education

- Important information is published in player newsletters
- "Tips" cards for players are placed in carts; other printed pace of play materials available
- Course pros lead by example in demonstrating how to play quickly
- Implementation of ongoing staff training to reinforce successful practices
- Provide technical pace of play and communications training for Marshals and Starters

The Course

- A Starter on the first tee starts play on time for every group
- If the course design allows, the Starter can place a pace card on a group's cart, writing in bold letters their names and expected turn time, and as each group finished hole 9, the Starter notes their time and congratulates them on their progress
- Use of a Starter station next to the first tee, which includes a podium, umbrella, clock, and computer system access to the day's tee sheet
- If the course design allows, placement of cart pickup station in proximity to the first tee keeps players from wandering too far afield
- A men's club at a municipal course decided they would check in and record their time at the completion of nine holes; players over the time allotment set by the club would be penalized for slow play

- Ensure accurate and complete information for each golfer on the tee sheet
- Sending late groups directly to the second tee (this may be appropriate for some courses)
- Starter records actual start time for each group on tee sheet
- Use of blocked tee times behind “mini tournaments” (group play)
- Marshals cruising the course give “Shot of the Day” awards to players they observe making a spectacular shot, to encourage positive and frequent interaction between the players and the marshals
- Use of a Master Starter to monitor *all* starting and marshaling for multi-course facilities
- One course humorously encourages players to play “unconventional formats” that are designed to add some fun to their games and move the pace of play along. For example, casual groups can play “Louie the Lip,” which allows them to consider holed any putt outside three feet that lips out of the hole. (Obviously not following standard rules of golf!)
- Use of local rules to address environmental concerns
- Determine and use the optimal starting interval for your course. When enforced, this keeps groups on their assigned starting times without falling behind schedule.
- Use of a “Tee Sentry” stop-and-go light located next to the tee tells players when a blind landing area is clear and safe to play

Technology

- Range finders on carts provides yardages for players
- The Starter, Marshal, pro shop and cart barn personnel effectively use radio communication to monitor players’ locations and see that they arrive at the first tee at the correct time to start their play on time

Best Practices Described by Superintendents

Superintendent Interview – What course superintendents are doing to improve the pace of play

Managing the height and location of rough and managing the width of fairways are only two of the ways today’s superintendents are contributing to improving the pace of play on their courses. The results of interviews conducted with the superintendents of the study’s courses are provided below as a list of best practices that we observed.

PGA Golf Club and PGA Country Club Courses

- Aggressive program of clearing out palmetto bushes along fairways and around greens that were not original design features of the courses
- Implemented a policy of using “traffic stakes” to indicate where golf carts should be parked and to keep carts on path near the greens
- Maintenance of the edges of lakes involves the growth of longer rough in some areas to keep balls from running into lakes; the longer rough also serves as a natural buffer to hold fertilizer
- Staff are considering hole and/or tee redesign, as well as considering a local rule and drop areas to reduce congestion at two of the more problematic par 3 holes on their courses

Villages Golf Club

- Keep rough cut short throughout the course
- Provide a good daily mix of hole locations and prepare a pin sheet for the players to use
- Cut no holes less than 12 feet from the edge of the green
- Forestry is important. Keep trees trimmed for playability; careful location consideration and consultation is necessary when planting trees
- Keep the edges of all lakes and streams clean

Bennett Valley Golf Course

- Consider renumbering the holes to enable players to start with a couple of par 4 holes, not the dogleg par 5 they have now; this should smooth out play
- Looking at controlling the heavy rough and woods on the left side of the present second hole

Ancil Hoffman Golf Course

- Adding new tees to many holes to accommodate both the casual and the competitive players
- Rebuilding one par 3 and one short par 4 to reduce the congestion and waiting on both tees
- Paying constant attention to maintaining the rough at a reasonable height that allows for errant balls to be easily found

Hunter Ranch Golf Course

- Focus on managing the heavy natural rough in the driving areas and around greens
- Adding signage to help players find their way
 - Communicate driving distances on the tee at Hole #11 to avoid a blind water hazard fronting the green
 - Use signage to communicate the playing lines and distances for the semi-blind tee shot on Hole #17
 - Communicate the routes to the driving range and from the ninth green to the tenth tee.

Stevinson Ranch Golf Course

- Key focus is managing the heavy natural grasses and rough bordering each hole
 - “Native savannah grasses are the hallmark of our course and they have to be carefully and constantly managed in areas that are in play.”

PGA National Resort

- The resort has a stated a 4 hour and 8 minutes pace of play for both the Haig Course and the Champion Course. There is a stated 4 hour pace of play for the Squire and Palmer Course. The courses are kept fairly wide open with good trimming of brush and palmettos along the courses. Pin locations typically are not severe. Tee locations and pin settings are adjusted for better flow on peak days. The facility often has cart path only on the Champion course prior to the Honda Classic.

Recommendations

The recommendations below address the study findings, and they reinforce the four themes considered in the study’s design, as follows:

Theme 1: The pace of play can be improved

Theme 2: There is no one “silver bullet”

Theme 3: Any successful solution will need participation from the entire management team

Theme 4: The study’s methodology needs to include identifying the critical variables affecting pace of play

Theme 1: The pace of play can be improved

The study found that across the board, professionals at the courses surveyed believe that there are solutions to the slow play problem, and that it is critically important to the game to achieve those solutions. Course managers agree that a good pace of play is what will get players to the course and it is what will create the overall best experience. They also agree that a slow play reputation is damaging to courses and to the game. Opinion varies about where the primary responsibility lies, but most believe that management plays a key role. “This issue requires that we lead by example...the industry people at the national and local level have to be on board. It must be an industry wide effort.”

Virtually all of the 312 *players* surveyed rated the ‘pace and flow of play’ very important; the average rating on a scale of 1-10 was greater than 8. Players’ comments indicate that they want lower round times, less waiting, and a consistent pace of play...and that they believe better course management will make this possible.

Recommendation to Courses: Make solving the pace of play problem a priority at your course, with management, staff and membership/player buy-in. Seek help from your member associations or outside sources to assist in solving your slow play problem; share best practices and collaborate on solutions that work.

Recommendation to the PGA and Partners: Make solving the pace of play problem a national priority. Get buy-in from other associations and partnerships, and work together to design a nation-wide campaign.

Theme 2: There is no one silver bullet

Solving the problem of slow play can’t be done with one simple response. The managers surveyed in the study expressed frustration that, “it’s a much tougher nut to crack than I thought,” because pace of play is a complex problem involving many variables. Additionally, the findings and the observed best practices of the study clearly demonstrate that every course is unique and that what works for one course might not work for another.

However, there were several consistent issues that surfaced repeatedly in the study that would respond to improved management practices at virtually every course surveyed.

- **Course loading:** Courses in the survey had stated starting intervals ranging from 7-9 minutes. But personal observations showed that no matter what interval was officially being used, it was typically not being consistently managed on the first tee. Players arriving late, groups being squeezed in, no starter on the tee, or overcrowded conditions all

made the starting interval difficult or impossible to maintain. The result was that delays were common and play continued to fall behind throughout the day.

- **Managing expectations:** None of the courses surveyed had an official USGA Pace Rating. A USGA Pace Rating is an objectively determined estimate of the time it “should take” to play a round of golf on a specific course when the course is filled with foursomes. Pace Ratings are based on course length, course obstacles, green to tee distances and cart policy and can be provided by the local USGA Association when they create or update a course Slope Rating. Without a Pace Rating, course managers could only make an educated guess about what the course could actually deliver in terms of round time. Therefore, those courses that desired to communicate expected round times or turn times to their guests had to fall back on their best estimates, which in some cases might never be achievable.
- **Equipping and training marshals:** The findings indicated that only 54% of the courses surveyed had full-time marshals; others relied on part-time or volunteer help. Because none had official pace ratings and only a few had tracking metrics, most marshals did not have the information they needed to do their jobs, and no course in the study had a formal Marshal training program.

Recommendation to Courses: Recognize and manage the variables over which you have full control.
Recommendation to the PGA and Partners: Design training and communication materials and activities to equip managers to diagnose problems and create unique solutions for their course.

Theme 3: Any successful solution will need participation from the entire management team

A number of courses interviewed demonstrated hands-on involvement from their senior managers. This factor greatly facilitated their success. Because recommended changes typically involve changes to basic day-to-day operations, the pace of play improvement program at a course or facility must involve all staff and needs the full support of the executive management team in encouraging and adopting a successful change and improvement philosophy. One of the best practices in the study involved ongoing staff training to ensure that good practices are maintained and improved practices are discovered.

Recommendation to Courses: Golf professionals can help all other senior management team members understand the entire organization’s role in, and the financial and market value of, improving the pace of play. Professionals will be able to champion the design and implementation of a local program of improvement, and do so with the full participation and support of their general managers and owners.
Recommendation to the PGA and Partners: Communicate to member courses that change is acceptable and desired in order to grow the business of golf in the United States. Give courses the web-based diagnostic and implementation tools necessary to build and customize their own solutions.

Theme 4: The study's methodology needs to include identifying the critical variables affecting pace of play

This study's methodology included survey questions, interviews, observation, and survey populations designed to bring forward the most critical variables in pace of play improvement that management teams can control:

- Management attitude and readiness to change
- Loading the golf course (course utilization)
- Monitoring play
- Course design and maintenance
- Facility design
- Communications

Recommendation to the PGA and Partners: Ensure that the design of a national pace of play improvement program includes these critical variables by using similar surveys and invite the participation of other potential partner associations as may be appropriate.

Next Steps

This study's preliminary findings (Phase I) will be delivered and presented this summer. This will then allow time to invite additional team members to further evaluate and rollout the methodology and to include all types of golfing facilities representing all regions of the United States. Best practices and benefits will be communicated. The forms, process, analysis and how to best determine customized facility action steps are key steps of this Phase 2 activity. A key element of this phase is to determine the method for advisory and subject matter review of a facility's findings in order to define improvement steps needed.

Following that, a larger Phase 3 project expansion is envisioned. This phase of the study will be to develop specific recommendations and a timeline for a scalable delivery method for national implementation. This national implementation would be supported by the methodology in Phases 1 and 2 and would entail broad-based support and leadership from PGA, CMAA and GCSAA. This would entail development of communications, training methodologies and a scalable delivery system for implementing the solution toolkit. The campaign will make it possible for these tools to be accessed and administered by the management teams at individual golf facilities throughout the United States.

This will be the way in which we grow the game of golf...by retaining present players, by reclaiming former players, and by attracting new ones, based in part by increased customer satisfaction benefits from an improved pace of play, along with the financial benefits that have been demonstrated and are achievable for all participating facilities.

Appendix A Customer Satisfaction Survey

Date: _____ **Course:** _____ **City:** _____

Type of Course (Please check one):

Private ___ Public (Daily Fee/Municipal) ___ Resort _____

Survey Instructions

Thank you for visiting our course today! To continue to enhance your satisfaction with your golf experience here, we would appreciate your input on the two-section survey below. Using 10 as high, please fill out Section I before your round, and complete Section II immediately following your round. We appreciate and value your participation.

SECTION I – Please complete prior to playing

Your Golf Interests:

How important is...

	Circle your response (10 is high)
- The price to play a round of golf	0 1 2 3 4 5 6 7 8 9 10
- Course design	0 1 2 3 4 5 6 7 8 9 10
- Convenience – location of the course	0 1 2 3 4 5 6 7 8 9 10
- Overall course conditions	0 1 2 3 4 5 6 7 8 9 10
- Scenery and aesthetics	0 1 2 3 4 5 6 7 8 9 10
- Amenities: clubhouse, golf shop, practice facilities, etc.	0 1 2 3 4 5 6 7 8 9 10
- Food & beverage services	0 1 2 3 4 5 6 7 8 9 10
- Customer service	0 1 2 3 4 5 6 7 8 9 10
- Pace and flow of play	0 1 2 3 4 5 6 7 8 9 10
- The people I play golf with	0 1 2 3 4 5 6 7 8 9 10
- Hitting good shots	0 1 2 3 4 5 6 7 8 9 10
- Competition	0 1 2 3 4 5 6 7 8 9 10
- Exercise	0 1 2 3 4 5 6 7 8 9 10
- Making a good score	0 1 2 3 4 5 6 7 8 9 10

This Golf Facility / Course

Have you played this course before? Yes _____ No _____

If "Yes," please rate this golf facility on the following:

- Typical pace and flow of play	0 1 2 3 4 5 6 7 8 9 10
- Typical value for price paid	0 1 2 3 4 5 6 7 8 9 10
- Typical value for time spent	0 1 2 3 4 5 6 7 8 9 10
- Satisfaction with your typical experience at this course	0 1 2 3 4 5 6 7 8 9 10

SECTION II – Please complete after playing Today's Round

- 1. How many holes did you plan to play today? 9 ____ 18 ____ Other _____
 - 2. How many holes did you actually play today? 9 ____ 18 ____ Other _____
 - 3. If your response for #2 is different from #1, why? _____
-

4. What was your starting time today? _____

Circle your response
(10 is high)

- 5. Rate today's course conditions 0 1 2 3 4 5 6 7 8 9 10
- 6. Rate the food and beverage services 0 1 2 3 4 5 6 7 8 9 10
- 7. Rate the overall customer service 0 1 2 3 4 5 6 7 8 9 10
- 8. Rate the overall pace and flow of play 0 1 2 3 4 5 6 7 8 9 10

9. How long did it actually take you to play? _____Hours _____Minutes

- 10. Rate the overall value for price paid 0 1 2 3 4 5 6 7 8 9 10
- 11. Rate the overall value for time spent 0 1 2 3 4 5 6 7 8 9 10

Circle your response
(10 is high)

- 12. Rate your overall satisfaction with today's playing experience 0 1 2 3 4 5 6 7 8 9 10
- 13. If time allowed, would you play again today? Yes ____ No ____
- 14. Will you come back to play again? Yes ____ No ____
- 15. Please make any additional comments or suggestions:

Information about You

- 1. Approximately how many rounds do you play per month? _____
 - 2. What is your average score _____ or USGA handicap index? _____
 - 3. How many rounds do you play per year? _____
 - 4. May we contact you for follow-up on this survey? Yes ____ No ____
- Your email: _____

Thank you for participating in our customer satisfaction survey and for helping us improve your playing experience!

Thank you for your participation in this study.



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Appendix B
Facility Operations Survey

Date: _____ Course: _____ City: _____

Course Type: Private _____ Daily Fee _____ Resort _____

1. Course Starting Policy and Procedures

Circle One

- a. Is the Starter on the tee? Yes No
- b. Does the Starter interact with the playing guests? Yes No
- c. Does the Starter use a standard scripted presentation? Yes No
- d. Does the Starter start play at the assigned starting time? Yes No
- e. Do players start playing at their assigned starting time? Yes No
- f. Is the Starter a paid employee? Yes No
- g. What other duties are assigned to the Starter? _____

- h. What were the Starter's responses when asked "What would help you to do a better job?"

2. Course Marshaling Policy and Procedures

- a. How many Marshals are on duty for every shift? _____ Circle One
- b. Has the Marshal had any formal training? Yes No
- c. Does the Marshal have any pace of play tracking tools? Yes No
- d. Does the Marshal use clear scripted responses? Yes No
- e. Is the Marshal a paid employee? Yes No
- f. What other duties are assigned to the Marshal? _____

- g. What were the Marshal's responses when asked "What would help you to do a better job?"

3. Management Oversight Policy and Procedures

- a. Approximately how many times per day does a key management team member:
 - 1. Tour the course? _____Times/Day
 - 2. Visit the Starter on the tee? _____Times/Day
 - 3. Meet with the Marshal(s) on the course? _____Times/Day
- b. Regarding the starting policy for the course:
 - 1. What is the starting interval? _____Minutes Circle One
 - 2. Are there "Starter's Times" on the Starting Sheet? Yes No
 - 3. Do the actual starting times fall behind schedule? Yes No
 - 4. Does the course record actual finish times for rounds? Yes No

Circle One

5. Do they calculate the average "Daily Round Time?" Yes No
6. Do they use any daily measure of performance? Yes No
7. If "Yes," what measure is used? _____

8. Are carts routinely restricted to cart paths? Yes No
9. Does the course have a Pace Rating? Yes No
10. If "Yes," what is the rating? _____

4. The Check-in Process and Outside Services Policy and Procedures Circle One

- a. Is the check-in process made clear to the players? Yes No
b. Approximately what percentage of players arrive "late" to the course for their check-in?
Approx. _____%
c. Is it easy for players to find the driving range, putting green and first tee? Yes No
d. D. Approximately what percentage of players arrive "late" on the first tee for their starting time? Approx. _____%

5. Maintenance Practices and Procedures (To Be Expanded)

- a. Interview the Superintendent and tour the course together if possible. Make notes of the Superintendent's practices regarding maintenance and set-up for a smooth pace and flow of play. _____

_____ GCSAA to provide input on types of questions to pose to Golf Course Superintendent

6. Playing Times and Data Collection

- a. Using the "Starting and Tracking Sheet," document actual starting and round completion times for rounds played during your course visit.

NOTE: The "Starting Time" is the time the first ball of the group is in the air. The "Round Completion Time" is the time the flag goes back in the hole on number eighteen.

Thank you for your participation in this study.



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Appendix C
Professional Attitude Survey
Regarding Pace of Play

Course: _____ Professional: _____ Date: _____

Purpose: To assess the PGA Professionals' attitudes regarding the possibility of finding a solution for the slow play problem.

Open-ended questions for the PGA Professional(s):

1. What do you think is preventing a solution to slow play?
2. Do you believe there could be a solution?
3. Do your players believe there could be a solution?
4. Where do you think the responsibility for the cause of slow play rests?
5. What specific steps have you taken to tackle the problem?
6. What did you learn in the process?
7. Is slow play the biggest problem you face?
8. What would improve in your operations (for your staff and for your players) if slow play were solved?
9. What would you be willing to do if you thought there was a solution?
10. Please share any other thoughts or comments you have on the problem of slow play.

Please make any further comments on the reverse.

Thank you for your participation in this study.



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Appendix D

Superintendent Interview Regarding Pace of Play

Course: _____ **Superintendent:** _____
Date: _____

Purpose:

To discuss course design, maintenance and set-up practices and attitudes related to pace of play

Open-ended questions for the GCSAA Superintendent(s):

1. *What do you think is preventing a solution to slow play?*
2. *Do you believe there could be a solution?*
3. *Where do you think the responsibility for the cause of slow play rests?*
4. *What specific steps have you and your maintenance team taken to tackle the problem?*
5. *What did you learn in the process?*
6. *What would improve in your operations (for your maintenance staff and your players) if slow play were solved? (Please list all anticipated benefits)*
7. *What would you be willing to do if you thought there was a solution?*
8. *Share any other thoughts or comments you have on the problem of slow play.*

Please see the back of this form for additional information, and make any further comments there as well.

Superintendent Interview Regarding Pace of Play

- Side 2 -

The PGA Golf Professional, CMAA General Manager and GCSAA Course Superintendent should coordinate on daily, as well as special event, course preparation and set-up. The Golf Professional will outline the conditions of play and the playing level of the participants. The Course Superintendent will provide input and recommendations about course maintenance and any special projects affecting play. And the GM will offer financial and management input and overall staff support, to maximize customer service and the quality and value of the player's experience while at the facility. Working closely together, the executive management team will have a coordinated and direct impact on the pace of play, customer satisfaction and the quality of the playing experience.

The following is a list of items to be discussed for improving the day-to-day practices regarding pace of play:

1. *Daily tee placement and hole locations given tee sheet load, weather and other considerations..*
2. *Daily maintenance timing and scheduling*
3. *Mowing program for tees, fairways, rough and greens*
4. *Green aeration and top-dressing, fairway verti-cutting, overall fertilization*
5. *Use and timing of cart-path only policies*
6. *Course marking and directional assistance*
7. *Ropes/signage for cart traffic in front of greens*
8. *Cart parking indicators*
9. *Bunker maintenance practices and policies*
10. *Tree maintenance practices and policies*
11. *Scrub-brush and/or environmental area maintenance and control.*

Thank you for your participation in this study.



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Appendix E

Summary of Customer Satisfaction Surveys

Overall mean and median for all questions and mean / median for key elements influencing pace of play (pg.2).

Your Golf Interests: How important is...

Question	Mean	Median
<i>To be completed prior to today's round (10 is high)</i>		
The people I play with	9.1	10.0
Convenience – location of course	8.8	9.0
Customer service	8.4	9.0
Amenities	8.2	8.0
Course Design	8.1	8.0
Scenery and aesthetics	8.0	8.0
Overall course conditions	7.7	8.0
Pace and flow of play	7.7	8.0
Competition	7.5	8.0
Typical value for time spent	7.5	7.0
Satisfaction with your typical experience at this course	7.5	8.0
Food and Beverage services	7.4	8.0
Hitting good shots	7.4	7.5
Making a good score	7.4	8.0
Exercise	7.2	7.0
Price to play a round of golf	7.1	7.0
Typical value for price paid	7.0	7.0
Typical pace and flow of play	6.9	7.0
Rounds played per month	10	10
Rounds played per year	81	70
<i>To be completed after today's round (10 is high)</i>		
Overall customer service	7.9	8.0
Overall value for time spent	7.7	8.0
Satisfaction with today's playing experience	7.7	8.0
Food and Beverage services	7.4	8.0
Overall value for price paid	7.3	7.0
Overall pace and flow of play	6.9	7.0
Today's course conditions	6.5	7.0

These selected survey elements are those that have an important influence on pace of play and overall customer satisfaction. Course conditions rated the highest, having an impact on pace of play due to the conditions of the rough, hazards, etc. It could potentially make finding your ball more difficult than usual, adding time to your round. Typical value for time spent, pace and flow of play, and course design are all elements that have an influence on the customers overall satisfaction. How important hitting good shots is to customers influences the pace of play for many facilities. People who rating hitting good shots as an important element might trend toward a lower handicap, therefore may play slightly faster than those with a higher handicap. Course design, along with customer satisfaction, can also have an influence on the pace of play for a round. If the course design is more difficult it could result in more lost balls or higher scores, both could be contributing factors of a slower round of golf.

Out of 312 total surveys the mean number of rounds played per month was 10.0. The mean number of rounds played per year was 81.0. The overall average handicap was a 9.8.

	Overall	Private	Public	Resort
Overall Course Conditions	8.0	8.2	7.9	7.7
Typical Value for Time Spent	7.9	8.3	8.0	7.5
Hitting Good Shots	7.7	7.7	7.7	7.4
Pace and Flow of Play	7.3	7.5	6.6	7.7
Course Design	6.3	7.4	8.3	8.1

Thank you for your participation in this study.



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Appendix F
Professional Attitude Survey
Regarding Pace of Play

- SUMMARY OF ALL RESPONSES -

Purpose:

To assess the PGA Professionals' attitudes regarding the possibility of finding a solution for the slow play problem.

Open-ended questions for the PGA Professional(s):

1. *What do you think is preventing a solution to slow play?*

PGA National – At PGA National, the pace of play with members is not really an issue. And with Resort guests, there is a better ability to cover the entire script about the facility, the logistics and expectations for pace of play. The problem comes from the combination of member and resort play. Hence the efforts to segment play on “member” and “resort” courses. More and better up-front communication would help about “what are expectations for pace of play?” However, we do find that we have inconsistencies in delivery of play coordinating communication

PGA G. C. - The majority of staff focus is on operations. In addition, we do not have consistent use of approved scripts for customer communication.

PGA CC- Players' attitudes

Villages G.C. - “Course design, courses are getting too difficult, too much travel with housing.”
- “Playing culture, as players try to copy the pace of the pros on tour.”

Bennett Valley G.C. - You can't realistically provide consequences to those who play slowly. Penalties don't seem to work. Marshals just put their time in to get free golf.

Ancil Hoffman G.C. - In general, manpower and the backbone to enforce pace of play policy.

Hunter Ranch G.C. - Player etiquette and order of play (should be continuous play)
- Management, course layout and our customer's attitude.

Stevinson Ranch G.C. - Golf courses too hard for many outside players
- Need the manpower to manage (Marshal) play on the course
- Human interaction – the difficulty Marshals have in communicating with customers without making them mad.

2. *Do you believe there could be a solution?*

PGA National - Yes. There are certainly things that can be improved. However, some customers aren't concerned. And we need them to be in order to have a smooth running operation for everyone. We can definitely create and implement process improvements. Then the challenge is to effective customer communication on a daily basis.

PGA G.C. - Yes, absolutely. It would need to be supported by additional education for staff and customers.

PGA CC - Yes – Educate the players

Villages G.C. – Yes! Retraining golfers.

Bennett Valley G.C. - Yes, that's why you are here. We believe that it can get better.

Ancil Hoffman G.C. - Yes, I feel that there are answers.

Hunter Ranch G.C. - Yes. Professionals have done a poor job of teaching how to actually play on a course – when to play and how to get ready.

Stevinson Ranch G.C. - Yes, depending on how heavy-handed you want to be as an owner

3. *Do your players believe there could be a solution?*

PGA National - Not sure. Requires ongoing communication in the proper way. The right staffing is critical for this. Continued training is helpful to reinforce proven successful approaches.

PGA G.C. - Yes. However, some players are already aware or more aware of needs for improvement, others aren't aware and others probably don't care.

PGA CC - Yes – Make the course easier, i.e., more open, lower rough, wider landing areas, etc.)

Villages G.C. - They probably think there is no solution. It's really everyone else's fault.

Bennett Valley G.C. - Yes, they are always asking for Marshals to help.

Ancil Hoffman G.C. - Yes. They may not know there is a solution, they just want one.

Hunter Ranch G.C. - We get their complaints but not their proposed solutions.

Stevinson Ranch G.C. - I think they believe there is a solution – it's always the other guy, Marshals aren't doing their jobs, but when spoken to, customers then become indignant.

- There may not be with outside group players.

4. *Where do you think the responsibility for the cause of slow play rests?*

PGA National - With staff at the golf facility.

PGA G.C. - The individual golfer.

PGA CC - The players

Villages G.C. - 90% of it is the golfer, the rest is the golf course.

Bennett Valley G.C. - With the players

Ancil Hoffman G.C. - The players. It's players, management and the golf course.

Hunter Ranch G.C. - With managers and customers. Easier for managers to make changes than to change the behavior of all players..

- Responsibility placed on PGA members for instructing players, pre-shot routines, etc.

Stevinson Ranch G.C. - With the players, they get caught-up in their own problems (looking for balls, etc.) and are reluctant to speak up to members in their own group.

- With the staff as well.

5. *What specific steps have you taken to tackle the problem?*

PGA National - We have good data capture and monitoring here for pace of play. It requires everyone to follow their roles and responsibilities. We have standardized the communications messages about pace of play tracking, reporting, problem identification and customer communications. We do our best on this with group play.

PGA G.C. - We have developed standardized scripts and play management tools such as the pace of play tracking charts. We have also met with the facility superintendent to request easier course set-up on busy days. Sometimes, the head golf professional is even needed to serve in a play coordinator / marshal role which we do when needed.

PGA CC - Education such as publishing tips (cards placed in carts) and reminders (published in newsletters) about pace of play, along with staff training.

Villages G.C. - Wrote articles for our newsletter, trained volunteer member Marshals, abolished our old system of marshaling, now use professional staff for Marshaling, and added more signage.

Bennett Valley G.C. - We tried using 9-minute intervals. We tried and are still using both volunteers and the professional staff as Marshals.

Ancil Hoffman G.C. - Tracking tournament times and posting times for groups.

- Printed materials on pace of play.

- Posted signs on tees 1 and 10.
- Planning to use clocks on the course.
- Initiated a 'Course Affairs Committee.'
- Hunter Ranch G.C.** - Blocking tee times behind mini tournaments (group play).
 - Set professional (tour play) example.
 - Course set-up on very busy days.
- Stevinson Ranch G.C.** - We trained Marshals and Starters and implemented their good ideas.
 - Tee times, clocks on course, Marshal training, local rules to cope with environmental concerns and we put a Starter on the tee.

6. *What did you learn in the process?*

- PGA National** - We have a good understanding of where the challenges can occur. We assign staff who are best suited to each course and each situation. We also believe in the merits of the Master Starter Role who monitors the starting and marshaling at each course.
- PGA G.C.** - The slow play concern is a never-ending challenge.
- PGA CC** - Players don't seem to care
- Villages G.C.** - That it's much tougher nut to crack than I thought.
 - My staff and I can't do it alone.
 - Also, the members need to participate and follow.
- Bennett Valley G. C.** - Tee times fell behind and round times stayed high.
- Ancil Hoffman G. C.** - It's a very tricky situation. People then complain when they feel pushed.
- Hunter Ranch G.C.** - Some players care and some do not care about pace of play.
 - Mini tournaments accept slow play for their group (almost feel it is an entitlement), therefore we block times behind these groups.
- Stevinson Ranch G.C.** - If we don't have the steps listed above in place, pace deteriorates.
 - A slow play reputation is very damaging.

7. *Is slow play the biggest problem you face?*

- PGA National** - No. But it is a part of the overall experience we're working to deliver. However, slow play can easily become a vital part of your golf experience at PGA National. If it does, then the golfer may become frustrated, may get vocal about it and may even ask for a refund. Backups on the starting tee are not a good way to start off with your golf experience. If this persists long-term, you may decide to not travel here as a resort guest or let your membership lapse and play elsewhere. This can then put pressure on rates and fees. So pace of play can be a vital part of the overall experience.
- PGA G.C.** - No. Membership sales and filling the tee sheet are higher priorities.
- PGA CC** - No
- Villages G.C.** - No, number one is the cost to play and number two is the pace of play.
NOTE: Curing the pace of play problem might then mitigate the cost to play problem.
- Bennett Valley G.C.** - Yes, from time to time it is, but in terms of overall operations, no.
- Ancil Hoffman G. C.** - It's not the biggest problem in golf. The biggest problem is how to stimulate golf and retail sales.
- Hunter Ranch G.C.** - No.
- Stevinson Ranch G.C.** - No, our biggest problem is getting players to the course. However, once they are here, the answer is 'Yes,' we want them to have the best playing experience possible.

8. *What would improve in your operations (for your staff and for your players) if slow play were solved?*
- PGA National** - It would likely have a number of advantages including improvements in employee satisfaction, customer satisfaction, the potential for additional course utilization and higher rounds, and additional F&B and Merchandise benefits due to time savings and satisfaction.
- PGA G.C.** - Membership sales would be easier if PGA GC was known as a proven fast pace of play facility. There would likely be less stress on staff. Finally, it might provide the ability to shift focus to other things.
- PGA CC** - Member satisfaction and member retention
- Villages G.C.** - Most definitely it would be our delivery of customer service.
- Bennett Valley G.C.** - We would get more players and more revenue.
- Ancil Hoffman G.C.** - Customer service would be higher.
- The perception of being a well-run operation would increase
 - Improved pace of play would equal more income, no more 'Rain Checks' for walk-offs.
- Hunter Ranch G.C.** - Our revenue, based on improved utilization of staff and tee time inventory.
- Stevinson Ranch G.C.** - Comments like, 'I really like to play Stevenson Ranch, but....' would disappear
- The reputation of our facility would change from being 'great' to being 'the greatest!'
 - More enjoyable experience for customers – more loyalty
9. *What would you be willing to do if you thought there was a solution?*
- PGA National** - The business requires that we pay attention to this. We could consider incentives toward pace of play metrics and customer satisfaction measures.
- PGA G.C.** - Would be willing to do anything reasonable to help provide a solution.
- PGA CC** - Continue educating the players
- Villages G.C.** - I'd be willing to do just about anything. I would even consider hiring a person to oversee the program.
- Bennett Valley G.C.** - Weigh the cost against the benefits before implementing a solution.
- Ancil Hoffman G.C.** - Given that this is a County course, I am willing to adopt changes within the context and latitude of what I am allowed to do.
- Hunter Ranch G.C.** - Anything, that would not cause us to incur an extreme expense.
- Stevinson Ranch G.C.** - Invest time in training the staff.
- Argue strongly with top management to implement that solution.
10. *Please share any other thoughts or comments you have on the problem of slow play.*
- PGA National** - It really helps to have accurate info for each golfer on the tee sheet. We do better on this with Resort guests and member play. For Resort guests, we sent them bag tags in advance for their travel [PK1] cover and for their golf bag, which helps in operations and logistics. Technology discussion:
- a. We do very well with the existing radio communication system in place (Citation Communications)
 - b. The new range finders on each cart seem to be helping for yardages.
 - c. We are open to additional technology support which could include GPS locators for golf cars and additional technology, perhaps PCs (or tablets) that tie into the golf shop tee sheet.
- We typically print tee sheets for starters the night before, but are considering an 8 AM day of play update.
- PGA G.C.** - No shows can be a problem and require significant communication between the golf shop and the starter. We sometimes see that golfers feel that 4.5 or 5 hours is about right for an 18-hole round of golf.

We sometimes hear from customers that they paid their fee and want to enjoy themselves without feeling “rushed” whatsoever.

PGA CC - A concern at PGA CC is the mix of private club and public /resort players.

Villages G.C. - This issue requires that we lead by example, from tour players to course pros, (The influential people at the national and the local level individual clubs and courses) have to be on board. It must be an industry-wide effort.

Bennett Valley G.C. - Slow play is not an everyday issue, it tends to be situational. We really want to take care of it without alienating our customers. We also need to know how to approach groups without offending them.

Ancil Hoffman G. C. – *No response provided*

Hunter Ranch G.C. - Slow play is a combination of many elements that need to be addressed.

Stevinson Ranch G.C. - Everybody talks about the time it takes to play. Time is becoming more and more precious to all of us. Slow Play, is therefore, damaging to the game.



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Appendix G

Pace of Play Research

Starting and Pace Tracking

Course: **PGA Golf Club - Dye Course**

Course Type: **Public**

Date of Study: **3/13/2010**

Tee time

Interval **9 minutes**

Notes: Cart path only. Group 6 was late starting, this made the rest of the tee times behind schedule. By group 30, they were almost 25 minutes behind, in terms of actual starting time compared to the scheduled time. The round times however were around 4 hours and still calculated based on actual start times.

Group	Cart #	Scheduled Start time	Actual Start Time	Actual Starting Interval from Prior Time	18 Finish Time	Finish Interval	Round Time in Minutes	Round Time +/- From 4:20 hours
1		7:02 AM	7:02 AM		11:15 AM		253	-7
2		7:11 AM	7:11 AM	0:09	11:26 AM	0:11	255	-5
3		7:20 AM	7:20 AM	0:09	11:16 AM	-0:10	236	-24
4		7:29 AM	7:29 AM	0:09	11:41 AM	0:25	252	-8
5		7:38 AM	7:38 AM	0:09	11:50 AM	0:09	251	-9
6		7:47 AM	7:50 AM	0:12	12:04 PM	0:14	254	-6
7		7:56 AM	7:59 AM	0:09	12:13 PM	0:09	254	-6
8		8:05 AM	8:11 AM	0:12	12:20 PM	0:07	249	-11
9		8:14 AM	8:20 AM	0:09	12:37 PM	0:17	257	-3
10		8:23 AM	8:28 AM	0:08	12:45 PM	0:08	257	-3
11		8:32 AM	8:38 AM	0:10	12:40 PM	-0:05	242	-18
12		8:50 AM	8:48 AM	0:10	12:49 PM	0:09	241	-19
13		8:59 AM	9:05 AM	0:17	1:19 PM	0:30	254	-6
14		9:08 AM	9:14 AM	0:09	1:28 PM	0:09	254	-6
15		9:17 AM	9:23 AM	0:09	1:49 PM	0:21	266	6
16		9:26 AM	9:31 AM	0:08	2:02 PM	0:13	271	11
17		9:35 AM	9:40 AM	0:09	2:08 PM	0:06	268	8
18		9:44 AM	9:49 AM	0:09	2:17 PM	0:09	268	8
19		9:53 AM	9:58 AM	0:09	2:26 PM	0:09	268	8
20		10:02 AM	10:06 AM	0:08	2:30 PM	0:04	264	4
21		10:11 AM	10:15 AM	0:09	2:33 PM	0:03	258	-2

22		10:20 AM	10:22 AM	0:07	2:44 PM	0:11	262	2
23		10:29 AM	10:30 AM	0:08	2:55 PM	0:11	265	5
24		10:38 AM	10:38 AM	0:08	3:03 PM	0:08	265	5
25		10:47 AM	10:58 AM	0:20	3:21 PM	0:18	263	3
26		10:56 AM	11:05 AM	0:07	3:28 PM	0:07	263	3
27		11:05 AM	11:18 AM	0:13	3:38 PM	0:10	260	0
28		11:14 PM	11:27 AM	0:09	3:45 PM	0:07	258	-2
29		11:23 PM	11:36 AM	0:09	3:49 PM	0:04	253	-7
30		11:32 PM	11:55 AM	0:19	4:14 PM	0:25	259	-1
31		11:41 PM	12:08 PM	0:13	4:28 PM	0:14	260	0
32		11:50 PM	12:17 PM	0:09	4:39 PM	0:11	262	2
33		11:59 PM	12:26 PM	0:09	4:47 PM	0:08	261	1
34		12:08 PM	12:35 PM	0:09	4:55 PM	0:08	260	0
35		12:17 PM	12:44 PM	0:08	5:03 PM	0:08	259	-1
36		12:26 PM	12:55 PM	0:11	5:08 PM	0:05	254	-6
37		12:35 PM	1:02 PM	0:07	5:16 PM	0:08	254	-6
38		12:44 PM	1:20 PM	0:18	5:34 PM	0:18	254	-6
39		12:53 PM	1:29 PM	0:09	5:39 PM	0:05	250	-10
40		1:02 PM	1:38 PM	0:09	5:59 PM	0:20	261	1
41		1:11 PM	1:47 PM	0:09	6:05 PM	0:06	258	-2
42		1:20 PM	1:56 PM	0:09	6:14 PM	0:09	258	-2
43		1:29 PM	2:05 PM	0:09	6:19 PM	0:05	254	-6
44		1:38 PM	2:14 PM	0:09	6:29 PM	0:10	255	-5
45		1:47 PM	2:23 PM	0:09	6:34 PM	0:05	251	-9
46		1:56 PM	2:32 PM	0:09	6:46 PM	0:12	254	-6
47		2:05 PM	2:41 PM	0:09	6:50 PM	0:04	249	-11
48		2:14 PM	2:59 PM	0:18	7:08 PM	0:18	249	-11
49		2:23 PM	3:08 PM	0:09	7:17 PM	0:09	249	-11
50		2:32 PM	3:26 PM	0:18	7:36 PM	0:19	250	-10
51		2:41 PM	3:50 PM	0:24	7:58 PM	0:22	248	-12
52		2:50 PM	3:59 PM	0:09	8:05 PM	0:08	246	-14
53		2:59 PM	4:08 PM	0:09	8:14 PM	0:09	246	-14
54		3:08 PM	4:17 PM	0:09	8:23 PM	0:09	246	-14

Starting and Pace Tracking

Course: **PGA Golf Club - Wanamaker Course**
 Course Type: **Public**
 Date of Study: **3/14/2010**
 Tee time Interval **9 minutes**
 Notes:

<u>Group</u>	<u>Cart #</u>	<u>Scheduled Start time</u>	<u>Actual Start Time</u>	<u>Actual Starting Interval from Prior Time</u>	<u>18 Finish Time</u>	<u>Finish Interval</u>	<u>Round Time in Minutes</u>	<u>Round Time +/- from 4:20 hours</u>
1		7:28 AM	7:28 AM		9:45 AM		137	-123
2		7:37 AM	7:37 AM	0:09	11:44 AM	1:19	247	-13
3		7:46 AM	7:46 AM	0:09	11:58 AM	0:14	252	-8
4		7:55 AM	7:55 AM	0:09	12:20 PM	0:22	265	5
5		8:04 AM	8:04 AM	0:09	12:24 PM	0:04	260	0
6		8:13 AM	8:13 AM	0:09	12:34 PM	0:10	261	1
7		8:22 AM	8:22 AM	0:09	12:41 PM	0:07	259	-1
8		8:31 AM	8:31 AM	0:09	12:56 PM	0:15	265	5
9		8:40 AM	8:40 AM	0:09	1:05 PM	0:09	265	5
10		8:49 AM	8:48 AM	0:08	1:11 PM	0:06	263	3
11		8:58 AM	8:56 AM	0:08	1:22 PM	0:11	266	6
12		9:07 AM	9:05 AM	0:09	1:29 PM	0:07	264	4
13		9:16 AM	9:13 AM	0:08	1:38 PM	0:09	265	5
14		9:25 AM	9:21 AM	0:08	1:55 PM	0:17	274	14
15		9:34 AM	9:30 AM	0:09	2:02 PM	0:07	272	12
16		9:43 AM	9:39 AM	0:09	2:15 PM	0:13	276	16
17		9:52 AM	9:48 AM	0:09	2:26 PM	0:11	278	18
18		10:01 AM	9:57 AM	0:13	2:56 PM	0:30	299	39
19		10:10 AM	10:05 AM	0:08	3:03 PM	0:07	298	38
20		10:19 AM	10:14 AM	0:09	3:24 PM	0:21	309	49
21		10:28 AM	10:22 AM	0:08	3:10 PM	-0:14	288	28
22		10:37 AM	10:30 AM	0:08	3:18 PM	0:08	288	28
23		10:46 AM	10:38 AM	0:08	3:26 PM	0:08	288	28
24		10:55 AM	10:47 AM	0:09	3:27 PM	0:01	280	20
25		11:04 AM	10:56 AM	0:09	3:41 PM	0:14	285	25
26		11:13 AM	11:04 AM	0:08	3:56 PM	0:15	292	32
27		11:22 AM	11:13 AM	0:09	3:49 PM	-0:07	276	16
28		11:31 PM	11:23 AM	0:10	4:39 PM	0:50	316	56
29		11:40 PM	11:31 AM	0:08	4:49 PM	0:10	318	58
30		11:49 AM	11:40 AM	0:09	4:56 PM	0:07	316	56

31		11:58 AM	11:49 AM	0:09	4:52 PM	-0:04	303	43
32		12:07 PM	11:58 AM	0:09	5:06 PM	0:14	308	48
33		12:16 PM	12:07 PM	0:09	5:14 PM	0:07	307	47
34		12:25 PM	12:16 PM	0:09	5:18 PM	0:04	298	38
35		12:34 PM	12:25 PM	0:08	5:03 PM	-0:15	278	18
36		12:42 PM	12:34 PM	0:09	5:12 PM	0:09	278	18
37		12:51 PM	12:43 PM	0:09	5:21 PM	0:09	278	18
38		1:00 PM	12:52 PM	0:09	5:26 PM	0:05	274	14
39		1:09 PM	1:01 PM	0:09	5:33 PM	0:07	272	12
40		1:18 PM	1:10 PM	0:09	5:40 PM	0:07	270	10
41		1:27 PM	1:19 PM	0:09	6:08 PM	0:28	289	29
42		1:36 PM	1:34 PM	0:15	6:12 PM	0:04	278	18
43		1:45 PM	1:43 PM	0:09	6:18 PM	0:06	275	15
44		1:54 PM	1:55 PM	0:12	6:25 PM	0:07	270	10
45		2:03 PM	2:04 PM	0:09	6:31 PM	0:06	267	7
46		2:11 PM	2:13 PM	0:09	6:35 PM	0:04	262	2
47		2:20 PM	2:22 PM	0:09	6:38 PM	0:03	256	-4
48		2:29 PM	2:31 PM	0:09	6:48 PM	0:10	257	-3
49		2:38 PM	2:40 PM	0:09	6:59 PM	0:11	259	-1
50		2:47 PM	2:49 PM	0:09	7:07 PM	0:08	258	-2
51		2:56 PM	2:58 PM	0:09	7:15 PM	0:08	257	-3
52		3:05 PM	3:08 PM	0:10	7:19 PM	0:04	251	-9
53		3:14 PM	3:17 PM	0:09	7:35 PM	0:16	258	-2
54		3:23 PM	3:26 PM	0:09	7:42 PM	0:07	256	-4
55		3:32 PM	3:34 PM	0:08	7:48 PM	0:06	252	-8
56		3:41 PM	3:43 PM	0:09	7:51 PM	0:03	248	-12
57		3:59 PM	4:01 PM	0:18	8:04 PM	0:13	243	-17
58		4:19 PM	4:16 PM	0:15	8:16 PM	0:12	240	-20
59		4:28 PM	4:25 PM	0:09	8:27 PM	0:11	242	-18
60		4:37 PM	4:37 PM	0:12	8:32 PM	0:05	235	-25
61		4:55 PM	4:55 PM	0:18	9:00 PM	0:28	245	-15
62		5:09 PM	5:00 PM	0:05	9:05 PM	0:05	245	-15
63		5:13 PM	5:09 PM	0:09	9:09 PM	0:04	240	-20

Pace of Play Research

Starting and Pace Tracking

Course: **PGA Golf Club - Ryder Course**

Course Type: **Public**

Date of Study: **3/14/2010**

Tee time

Interval: **9 minutes**

Notes: Group 23 added 11 minutes to their round time, making almost every group behind them (except groups 28 - 30) behind pace.

Group	Cart #	Scheduled Start time	Actual Start Time	Actual Starting Interval from Prior Time	18 Finish Time	Finish Interval	Round Time in Minutes	Round Time +/- from 4:20 hours
1		7:36 AM	7:36 AM		11:39 AM		243	-17
2		7:45 AM	7:45 AM	0:09	12:03 PM	0:25	257	-3
3		7:54 AM	7:54 AM	0:09	12:16 PM	0:13	262	2
4		8:03 AM	8:03 AM	0:09	only played 9	0:06		-1
5		8:12 AM	8:12 AM	0:09	12:20 PM	0:04	248	-12
6		8:21 AM	8:21 AM	0:09	12:30 PM	0:10	249	-11
7		8:30 AM	8:34 AM	0:13	12:39 PM	0:09	245	-15
8		8:48 AM	8:45 AM	0:11	12:57 PM	0:18	252	-12
9		8:57 AM	8:57 AM	0:12	1:04 PM	0:07	247	-7
10		9:06 AM	9:06 AM	0:09	1:14 PM	0:10	248	-12
11		9:15 AM	9:15 AM	0:09	1:28 PM	0:14	253	-7
12		9:24 AM	9:24 AM	0:09	1:49 PM	0:21	254	-6
13		9:33 AM	9:33 AM	0:09	1:53 PM	0:04	260	0
14		9:42 AM	9:42 AM	0:09	2:02 PM	0:09	258	-2
15		9:51 AM	9:51 AM	0:09	2:11 PM	0:09	260	0
16		10:00 AM	10:00 AM	0:09	2:15 PM	0:04	255	-5
17		10:18 AM	10:14 AM	0:14	2:32 PM	0:17	252	-8
18		10:27 AM	10:27 AM	0:13	2:34 PM	0:02	247	-13
19		10:36 AM	10:36 AM	0:09	2:43 PM	0:09	246	-14
20		10:45 AM	10:45 AM	0:09	2:47 PM	0:04	242	-18
21		10:54 AM	10:54 AM	0:09	3:13 PM	0:26	259	-1
22		11:03 AM	11:03 AM	0:09	3:20 PM	0:07	257	-3
23		11:12 AM	11:12 AM	0:09	3:43 PM	0:23	271	11
24		11:21 AM	11:21 AM	0:09	3:51 PM	0:08	270	10
25		11:30 AM	11:30 AM	0:09	4:00 PM	0:09	270	10
26		11:39 AM	11:39 AM	0:09	4:09 PM	0:09	270	10
27		11:48 AM	11:48 AM	0:09	4:16 PM	0:07	268	8

28		12:15 PM	12:15 PM	0:27	4:23 PM	0:07	248	-12
29		12:51 PM	12:54 PM	0:39	5:12 PM	0:49	258	-2
30		1:00 PM	1:04 PM	0:10	5:21 PM	0:09	257	-3
31		1:09 PM	1:13 PM	0:09	5:43 PM	0:22	270	10
32		1:18 PM	1:22 PM	0:09	5:53 PM	0:10	271	9
33		1:27 PM	1:31 PM	0:09	6:00 PM	0:07	269	9
34		1:36 PM	1:40 PM	0:09	6:11 PM	0:11	271	11
35		1:45 PM	1:48 PM	0:08	6:24 PM	0:13	276	16
36		1:54 PM	2:00 PM	0:12	6:33 PM	0:09	273	13
37		2:03 PM	2:10 PM	0:10	6:35 PM	0:02	262	2
38		2:21 PM	2:23 PM	0:13	6:53 PM	0:18	270	10
39		2:30 PM	2:32 PM	0:09	7:05 PM	0:12	273	13
40		2:39 PM	2:41 PM	0:09	7:08 PM	0:03	267	7
41		2:48 PM	2:50 PM	0:09	7:19 PM	0:11	269	9
42		2:57 PM	2:59 PM	0:09	7:30 PM	0:11	271	11
43		3:06 PM	3:08 PM	0:09	7:38 PM	0:08	270	10
44		3:15 PM	3:17 PM	0:09	7:47 PM	0:08	270	10
45		3:24 PM	3:26 PM	0:09	7:56 PM	0:09	270	10
46		4:00 PM	4:00 PM	0:34	8:20 PM	0:26	260	0

Pace of Play Research

Starting and Pace Tracking

Course: **PGA National - Squire Course**

Course Type: **Resort**

Date of Study: **3/26/2010**

Tee time

Interval **8 minutes**

Notes: Groups 16 and 20 added 15 minutes to their round.

Group	Cart #	Scheduled Start time	Actual Start Time	Actual Starting Interval From Prior Time	18 Finish Time	Finish Interval	Round Time in Minutes	Round Time +/- From 4:00 hours
1		7:32 AM	7:32 AM		11:32 AM		240	0
2		8:20 AM	8:20 AM	0:48	12:15 PM	0:25	235	-5
3		8:28 AM	8:28 AM	0:08	12:28 PM	0:13	240	0
4		8:36 AM	8:36 AM	0:08	12:40 PM	0:06	244	4
5		8:44 AM	8:44 AM	0:08	12:49 PM	0:04	245	5
6		8:52 AM	8:52 AM	0:08	12:52 PM	0:03	240	0
7		9:08 AM	9:08 AM	0:16	1:02 PM	0:10	234	-6
8		9:16 AM	9:16 AM	0:08	1:11 PM	0:09	235	-5
9		9:24 AM	9:24 AM	0:08	1:19 PM	0:08	235	-5
10		9:32 AM	9:32 AM	0:08	1:29 PM	0:10	237	-3
11		9:40 AM	9:40 AM	0:08	1:33 PM	0:04	233	-7
12		9:48 AM	9:48 AM	0:08	1:40 PM	0:07	232	-8
13		9:56 AM	9:56 AM	0:08	2:02 PM	0:22	246	6
14		10:04 AM	10:04 AM	0:08	2:06 PM	0:09	242	2
15		10:20 AM	10:20 AM	0:16	2:25 PM	0:19	245	5
16		10:28 AM	10:28 AM	0:08	2:43 PM	0:18	255	15
17		10:36 AM	10:36 AM	0:08	2:36 PM	-0:07	240	0
18		10:44 AM	10:44 AM	0:13	2:44 PM	0:08	240	0
19		10:52 AM	10:52 AM	0:08	2:43 PM	-0:01	231	-9
20		11:00 AM	11:00 AM	0:08	3:15 PM	0:32	255	15
21		11:08 AM	11:08 AM	0:08	3:08 PM	-0:07	240	0
22		11:16 AM	11:16 AM	0:08	3:16 PM	0:08	240	0
23		11:24 AM	11:24 AM	0:08	3:28 PM	0:12	244	4
24		11:32 AM	11:32 AM	0:08	3:32 PM	0:04	240	0
25		11:48 AM	11:48 AM	0:16	3:35 PM	0:03	227	-13
26		11:56 AM	11:56 AM	0:08	3:46 PM	0:11	230	-10
27		12:04 PM	12:04 PM	0:08	4:02 PM	0:16	238	-2
28		12:12 PM	12:12 PM	0:08	4:12 PM	0:10	240	0
29		12:28 PM	12:28 PM	0:16	4:22 PM	0:10	234	-6

30		12:44 PM	12:44 PM	0:16	4:44 PM	0:22	240	0
31		12:52 PM	12:52 PM	0:08	4:42 PM	0:02	230	-10
32		1:00 PM	1:00 PM	0:08	4:53 PM	0:11	233	-7
33		1:08 PM	1:08 PM	0:08	5:00 PM	0:07	232	-8
34		1:16 PM	1:16 PM	0:08	5:08 PM	0:08	232	-8
35		1:24 PM	1:24 PM	0:08	5:29 PM	0:21	245	5
36		1:32 PM	1:32 PM	0:08	5:42 PM	0:13	250	10
37		1:40 PM	1:40 PM	0:08	5:54 PM	0:12	254	14
38		1:48 PM	1:48 PM	0:08	5:56 PM	0:02	248	8
39		1:56 PM	1:56 PM	0:08	6:04 PM	0:08	248	8
40		2:04 PM	2:04 PM	0:08	6:10 PM	0:06	246	6
41		2:12 PM	2:12 PM	0:08	6:12 PM	0:02	240	0
42		2:20 PM	2:20 PM	0:08	6:26 PM	0:14	246	6
43		2:28 PM	2:28 PM	0:08	6:34 PM	0:12	246	6
44		2:44 PM	2:44 PM	0:16	6:44 PM	0:10	240	0
45		2:52 PM	2:52 PM	0:08	7:00 PM	0:16	248	8
46		3:08 PM	3:08 PM	0:16	7:15 PM	0:15	247	7
47		3:24 PM	3:24 PM	0:16	7:28 PM	0:13	248	8
48		3:32 PM	3:32 PM	0:08	7:32 PM	0:04	240	0

Pace of Play Research

Starting and Pace Tracking

Course: **PGA National - Palmer Course**

Course Type: **Resort**

Date of Study: **3/26/2010**

Tee time

Interval **8 minutes**

Notes: **Large break from 10:45 am to 1:30 pm.**

<u>Group</u>	<u>Cart #</u>	<u>Scheduled Start Time</u>	<u>Actual Start Time</u>	<u>Actual Starting Interval From Prior Time</u>	<u>18 Finish Time</u>	<u>Finish Interval</u>	<u>Round Time in Minutes</u>	<u>Round Time +/- From 4:00 hours</u>
1		7:32 AM	7:32 AM		11:32 AM		240	0
2		7:40 AM	7:40 AM	0:12	11:42 AM	0:25	242	2
3		7:48 AM	7:48 AM	00:08	11:51 AM	0:13	243	3
4		8:04 AM	8:04 AM	00:16	12:10 PM	0:06	246	6
5		8:20 AM	8:20 AM	00:16	12:33 PM	0:04	253	13
6		8:28 AM	8:28 AM	00:08	12:36 PM	00:03	248	8
7		8:36 AM	8:36 AM	00:08	12:49 PM	00:13	253	13
8		8:44 AM	8:44 AM	00:08	12:54 PM	00:05	250	10
9		8:52 AM	8:52 AM	00:08	1:07 PM	00:13	255	15
10		9:00 AM	9:00 AM	00:08	1:10 PM	00:03	250	10
11		9:16 AM	9:16 AM	00:16	1:31 PM	00:21	255	15
12		9:24 AM	9:24 AM	00:08	1:39 PM	00:08	255	15
13		9:32 AM	9:32 AM	00:08	1:47 PM	00:08	255	15
14		9:40 AM	9:40 AM	00:08	1:56 PM	0:09	256	16
15		9:48 AM	9:48 AM	00:08	2:03 PM	00:07	255	15
16		9:56 AM	9:56 AM	00:08	2:12 PM	00:09	256	16
17		10:20 AM	10:20 AM	00:24	2:20 PM	0:07	240	0
18		10:28 AM	10:28 AM	0:13	2:28 PM	00:08	240	0
19		10:36 AM	10:36 AM	00:08	2:36 PM	0:08	240	0
20		1:32 PM	1:32 PM	02:56	5:22 PM	02:46	230	-10
21		1:40 PM	1:40 PM	00:08	5:35 PM	0:07	235	-5
22		1:48 PM	1:48 PM	0:08	5:45 PM	00:10	237	-3
23		2:04 PM	2:04 PM	00:16	5:59 PM	00:14	235	-5
24		2:20 PM	2:20 PM	00:16	6:02 PM	00:03	222	-18
25		2:28 PM	2:28 PM	00:08	6:14 PM	00:12	226	-14
26		2:36 PM	2:36 PM	00:08	6:21 PM	00:07	225	-15
27		2:44 PM	2:44 PM	00:08	6:42 PM	00:21	238	-2

Pace of Play Research
Starting and Pace Tracking

Course: **PGA National - Haig Course**
 Course Type: **Resort**
 Date of Study: **3/26/2010**
 Tee time Interval: **8 minutes**

Notes: The first 8 groups were slow, all adding 10+ minutes to their round time.
 The groups starting on 10 played much faster than the groups starting on 1.
 As a result these groups had to wait when making the turn.

<u>Group</u>	<u>Cart #s</u>	<u>Schedule Start time</u>	<u>Actual Start Time</u>	<u>Actual Starting Interval from Prior time</u>	<u>18 Finish Time</u>	<u>Finish Interval</u>	<u>Round Time in Minutes</u>	<u>Round time +/- from 4:08 hours</u>
1		7:32 AM	7:32 AM		11:55 AM		263	15
2		7:40 AM	7:40 AM	0:08	12:03 PM	0:08	263	15
3		7:48 AM	7:48 AM	0:08	12:11 PM	0:08	263	15
4		8:04 AM	8:04 AM	0:16	12:22 PM	0:11	258	10
5		8:12 AM	8:12 AM	0:08	12:30 PM	0:08	258	10
6		8:20 AM	8:20 AM	0:08	12:36 PM	0:06	256	8
7		8:28 AM	8:28 AM	0:08	12:45 PM	0:09	257	9
8		8:36 AM	8:36 AM	0:08	12:54 PM	0:09	258	10
9		8:44 AM	8:44 AM	0:08	12:58 PM	0:04	254	6
10		8:52 AM	8:52 AM	0:08	1:06 PM	0:08	254	6
11		9:00 AM	9:00 AM	0:08	1:08 PM	0:02	248	0
12		9:08 AM	9:08 AM	0:08	1:16 PM	0:08	248	0
13		9:16 AM	9:16 AM	0:08	1:24 PM	0:08	248	0
Starting Times After Crossover								
14		12:04 PM	12:04 PM	2:48	4:00 PM	2:36	236	-12
15		12:12 PM	12:12 PM	0:08	4:10 PM	0:09	238	-10
16		12:20 PM	12:20 PM	0:08	4:18 PM	0:20	238	-10
17		12:36 PM	12:36 PM	0:08	4:34 PM	00:16	238	-10
18		1:00 PM	1:00 PM	0:24	5:03 PM	00:29	243	-5
19		1:08 PM	1:08 PM	0:08	5:16 PM	0:13	248	0
20		1:16 PM	1:16 PM	0:08	5:24 PM	00:08	248	0
21		1:32 PM	1:32 PM	0:16	5:40 PM	0:16	248	0
22		1:48 PM	1:48 PM	0:16	5:44 PM	0:04	236	-12
Reverse 9								
23		7:32 AM	7:32 AM		11:20 AM		228	-20

24		7:56 AM	7:56 AM	0:08	11:34 AM	0:14	218	-30
25		8:04 AM	8:04 AM	0:08	11:52 AM	0:18	228	-20
26		8:12 AM	8:12 AM	0:08	12:30 PM	0:19	258	10
27		8:28 AM	8:28 AM	0:16	12:34 PM	0:04	246	-2
28		8:44 AM	8:44 AM	0:16	12:44 PM	0:10	240	-8
29		8:52 AM	8:52 AM	0:08	12:50 PM	0:08	238	-10
30		9:00 AM	9:00 AM	0:08	12:58 PM	0:08	238	-10
31		9:08 AM	9:08 AM	0:08	1:00 PM	0:02	232	-16
32		9:16 AM	9:16 AM	0:08	1:08 PM	0:08	232	-16
33		9:24 AM	9:24 AM	0:08	1:16 PM	0:08	232	-16
Starting Times After Crossover								
34		12:04 PM	12:04 PM		4:00 PM		236	-12
35		12:12 PM	12:12 PM	0:08	4:10 PM	0:10	238	-10
36		12:28 PM	12:28 PM	0:16	4:38 PM	0:28	250	2
37		12:36 PM	12:36 PM	0:08	4:54 PM	0:16	258	10
38		12:44 PM	12:44 PM	0:08	5:03 PM	0:09	259	11
39		12:52 PM	12:52 PM	0:08	5:16 PM	0:13	264	16
40		1:00 PM	1:00 PM	0:08	5:24 PM	0:08	264	16
41		1:16 PM	1:16 PM	0:16	5:40 PM	0:16	264	16

Pace of Play Research

Starting and Pace Tracking

Course:

PGA National - Champion Course

Course Type:

Resort

Date of Study:

3/26/2010

Tee time Interval

8 minutes

Notes:

The early groups kept on pace.

As the day went on, groups kept adding minutes to their round time, making it hard for the course to get back on pace.

<u>Group</u>	<u>Cart #s</u>	<u>Scheduled Start time</u>	<u>Actual Start Time</u>	<u>Actual Starting Interval from Prior time</u>	<u>18 Finish Time</u>	<u>Finish Interval</u>	<u>Round Time in Minutes</u>	<u>Round time +/- from 4:08 hours</u>
1		7:32 AM	7:32 AM		11:40 AM		248	0
2		7:40 AM	7:40 AM	0:08	11:48 AM	0:08	248	0
3		7:48 AM	7:48 AM	0:08	12:02 PM	0:14	254	6
4		7:56 AM	7:56 AM	0:08	12:09 PM	0:08	253	5
5		8:04 AM	8:04 AM	0:16	12:17 PM	0:15	253	5
6		8:12 AM	8:12 AM	0:08	12:25 PM	0:08	253	5
7		8:20 AM	8:20 AM	0:08	12:35 PM	0:10	255	7
8		8:28 AM	8:28 AM	0:08	12:39 PM	0:04	251	3
9		8:36 AM	8:36 AM	0:08	1:02 PM	0:23	266	18
10		8:44 AM	8:44 AM	0:08	1:08 PM	0:06	264	16
11		8:52 AM	8:52 AM	0:08	1:16 PM	0:08	264	16
12		9:00 AM	9:00 AM	0:08	1:26 PM	0:10	266	18
13		9:08 AM	9:08 AM	0:08	1:31 PM	0:05	263	15
14		9:16 AM	9:16 AM	0:08	1:39 PM	0:08	263	15
Starting Times After Crossover								
15		12:04 PM	12:04 PM	2:48	4:08 PM		244	-4
16		12:12 PM	12:12 PM	0:08	4:10 PM	0:02	238	-10
17		12:28 PM	12:28 PM	0:08	4:44 PM	0:34	256	8
18		12:44 PM	12:44 PM	0:08	4:52 PM	0:08	248	0
19		12:52 PM	12:52 PM	0:08	5:03 PM	0:11	251	3
20		1:00 PM	1:00 PM	0:08	5:18 PM	0:15	258	10
21		1:08 PM	1:08 PM	0:16	5:41 PM	0:23	273	25
22		1:16 PM	1:16 PM	0:08	5:46 PM	0:05	270	22
23		1:24 PM	1:24 PM	0:08	5:49 PM	0:03	265	17
24		1:32 PM	1:32 PM	0:08	6:05 PM	0:16	273	25
25		1:40 PM	1:40 PM	0:08	6:18 PM	0:13	278	30

26		1:48 PM	1:48 PM	0:08	6:24 PM	0:06	276	28
27		1:56 PM	1:56 PM	0:08	6:31 PM	0:07	275	27
Reverse 9								
28		7:32 AM	7:32 AM	0:08	11:40 AM		248	0
29		7:40 AM	7:40 AM	0:08	11:48 AM	0:08	248	0
30		7:48 AM	7:48 AM	0:08	11:56 AM	0:08	248	0
31		7:56 AM	7:56 AM	0:08	12:04 PM	0:08	248	0
32		8:04 AM	8:04 AM	0:08	12:12 PM	0:08	248	0
33		8:12 AM	8:12 AM	0:08	12:20 PM	0:08	248	0
34		8:20 AM	8:20 AM	0:08	12:28 PM	0:08	248	0
35		8:28 AM	8:28 AM	0:08	12:36 PM	0:08	248	0
36		8:36 AM	8:36 AM	0:08	12:44 PM	0:08	248	0
37		8:44 AM	8:44 AM	0:08	12:52 PM	0:08	248	0
38		8:52 AM	8:52 AM	0:08	1:00 PM	0:08	248	0
39		9:00 AM	9:00 AM	0:08	1:08 PM	0:08	248	0
40		9:08 AM	9:08 AM	0:08	1:22 PM	0:02	254	6
41		9:16 AM	9:16 AM	0:08	1:29 PM	0:08	253	5
Starting Times After Crossover								
42		12:04 PM	12:04 PM	0:08	4:05 PM		241	-7
43		12:12 PM	12:12 PM	0:08	4:20 PM	0:15	248	0
44		12:20 PM	12:20 PM	0:08	4:24 PM	0:04	244	-4
45		12:36 PM	12:36 PM	0:16	4:44 PM	0:20	248	0
46		12:44 PM	12:44 PM	0:08	4:57 PM	0:09	253	5
47		1:00 PM	1:00 PM	0:16	5:11 PM	0:08	251	3
48		1:08 PM	1:08 PM	0:08	5:05 PM	-0:06	237	-11
49		1:40 PM	1:40 PM	0:32	6:03 PM	0:16	263	15
50		2:04 PM	2:04 PM	0:24	6:07 PM	0:16	243	-5

The crossover process that is used in the above charts starts groups on number 1 tee and number 10 tee. It does maximize the course for the first 2 hours of play. However, using this process can create a problem when groups are making the turn. If the groups on the front nine do not play at the same pace as the groups on the back nine, or vice versa, it can result in multiple groups waiting at the turn. At PGA National, the two courses that make the turn at the club house (Haig Course and Champion Course), the facility uses crossover times. Their pace tracking did not show any problems, however, there were 1 – 2 open tee times prior to the crossover that would have helped to alleviate any potential issues.

Thank you for your participation in this study.



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Appendix H



PGA NATIONAL RESORT & SPA – GOLF GUIDELINES

PACE OF PLAY:

Our target time for eighteen holes is four hours or less, and in an effort to ensure a reasonable pace for all players, we ask that you and your fellow playing partners follow these simple guidelines:

- 1) Please be at the tee at least 10 minutes prior to your scheduled tee time.
- 2) **Play Ready Golf** (Drop your cart partner at their ball and proceed to your ball to hit your shot, play when ready and safe to do so, park your cart on the cart path nearest the exit point of the green, record your scores on the next tee).
- 3) Please limit your time looking for and/or searching for golf balls.
- 4) Please remember **your position on the course is directly behind the group in front of you**, not directly in front of the group behind you.
- 5) Starters will attempt to pair singles, twosomes and threesomes into foursomes to ensure an even pace.
- 6) Marshals may relocate you on the course as necessary to improve pace of play issues.

COURSE CARE:

- 1) Please fill all divots with the sand provided. Replacement sand is located in boxes near the restrooms.
- 2) Please repair your ball mark and one additional on each green.
- 3) Please rake bunkers and place the rakes outside the bunker edges.
- 4) Please be respectful and keep off private property.
- 5) Please follow daily cart rules as described by the Starter: Ninety degrees, rough only, cart path only.
- 6) Keep carts on the path on all par 3's.
- 7) If issued a handicap flag, please make sure carts are parked at least 30 feet from the green while using your GPS system as a guide on parking. Please use blue stakes as a guide for parking when present.

DRESS CODE:

Proper golf attire is required on the course and practice facilities at all times. Tee shirts, gym shorts, denim, short shorts, tank tops and dress of this nature is inappropriate. Shirts should be tucked in and caps worn forward.

RESTROOM COMBINATION:
1-3-5



WHERE PLAYERS PLAY™

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Appendix I

Thank you for your participation in this study.

Facility Operations Survey									
Summary of Responses									
	PGA Country Club (Private, 18 holes)	PGA Golf Club (Public, 54 holes)	PGA National Resort & Spa (Resort / Private, 72 holes)	Villages G.C. (Private)	Bennett Valley (Municipal)	Ancil Hoffman (Municipal)	Hunter Ranch (Daily Fee)	Stevinson Ranch (Daily Fee)	
1. Course Starting Policy and Procedures									
A. Is the Starter on the tee?	No	Yes	Yes	No	No	Yes - Usually morning only	No	Yes	
B. Does the Starter interact with the playing guests?	Yes	Yes	Yes	NA	NA	Yes	NA	Yes	
C. Does the Starter use a standard scripted presentation?	No, members know the info.	Not always	Yes, adjusted based on recognition of private members vs resort or outside guests	NA	NA	Yes	NA	Yes	
D. Does the Starter start play at the assigned starting time?	Not really. The players do.	Yes, however there are frequent late arrivals on the tee	Yes, based on players arriving at the tee on time	NA	NA	No	NA	No	
E. Do players start playing at their assigned starting time?	Not really. They hit when ready.	Yes, subject to accommodating late arrivals	Yes	NA	NA	No	NA	No	
F. Is the Starter a paid employee?	Yes	Yes	Yes	NA	NA	No	NA	Yes	
G. What other duties are assigned to the Starter?	Track cart numbers, track turn times on #9 Green, help start ad-hoc players/rounds.	Track cart numbers. Pair up ad-hoc players.	Track cart numbers	NA	NA	NA	NA	Preps carts & water for the day and acts as Marshal	
H. What were the Starter's responses when asked: "What would help you to do a better job?"	"I really have everything I need to do my job."	Better communication about updates to the tee sheet and transactions in the golf shop affecting start times	I would feel more confident in my job if I was sure that management would always back me up regarding my play management decisions.	NA	NA	Need more authority	Need to have a Starter	Help in getting groups to tee on time	
Other Notes:	The starter is typically stationed near the cart staging area and the starter building. He can see the tee from that location. However, he is unable to control the tee from his station. The Lead Professional is planning to restation the starter to the tee area.	Radios not always working well. Particularly from the golf shop to the starter on the Dye. Golf Staff are definitely aware and are seeking radio system improvements.	PGA National has a "Master Starter" who coordinates starters and play coordinators across all 4 courses. The Master Starter has a comprehensive operational view of all starter, marshalling and player activities.	Pro Shop uses PA System to call groups to the tee	Pro Shop uses PA System to call groups to the tee	Pro Shop uses PA System to call groups to the tee	Pro Shop uses PA System to call groups to the tee	Pro Shop uses PA System to call groups to the tee	
2. Course Marshaling Policy and Procedures									
A. How many Marshals are on duty for every shift?	2 - high season (winter)	1 for each of the 3 courses per shift (AM / PM)	One	One - Summer only	One - AM 4 hrs, PM 4 Hrs	One - AM 4 hrs, PM 4 Hrs	One - Fri, Sat, Sun 8 am - 3pm	Two - Starter also acts as Marshal	
B. Has the Marshal had any formal training?	Just experience at the facility	Just experience at the facility	On the job training	NA	Yes	Yes	No	Yes	
C. Does the Marshal have any pace of play tracking tools?	Yes, pace tracking sheet	Yes, pace tracking sheet	Yes, pace tracking sheet	NA	No	Yes	No	No	
D. Does the Marshal use clear scripted responses?	No, not really	Yes	Yes, they include "please close the gap" and "please pick up the pace"	NA	No	No	No	Yes	
E. Is the Marshal a paid employee?	Yes	Yes (Play Coordinator)	Yes	No - Volunteer Summer only	No	No	Yes	Yes	
F. What other duties are assigned to the Marshal?	N/A	Collect range baskets from the range.	Provide hourly pace recap to Master Starter. Also provide end of shift written report.	NA	Monitor range, pickup trash	NA	NA	NA	
G. What were the Marshal's responses when asked: "What would help you to do a better job?"	"I really have everything I need to do my job."	A clear set of instructions, status and relevant info from the golf professional on-duty at the beginning of their shift.	It is often a fine line between firm pace of play management and creating a situation where a golfer makes a customer satisfaction complaint. If a complaint, it reflects poorly on the Marshal.	NA	NA	NA	Have Pro ride with Marshal for training audit	Ensure Mgmt support for on-course decisions	



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3. Management Oversight Policy and Procedures									
A. Approximately how many times per day does a team member:									
1). Tour the course?	at least once per day	at least once per day	Hourly through 4:30 or 5 pm.	Two times per day	Two times per day	Three times per week	Once per day	Pro tours course with Starter on busy days	
2). Visit the Starter on the tee?	at least twice per day and several contacts via Radio	at least once per day	Hourly	NA	NA	Once per day	NA	NA	
3). Meet with the Marshal(s) on the course?	at least once per day	as needed	As needed, but in frequent communication via radio	Two - Summer Only	Four -eight	Once per day	No - By radio only	NA	
B. Regarding the starting policy for the course:									
1). What is the starting interval?	8 minutes	9 minutes	8 minutes	7 Minutes	Alternating 7 and 8 Minutes	8 Minutes	Alternating 8 and 9 Minutes	9 Minutes	
2). Are there "Starter's Times" on the Starting Sheet?	No	There are "Maintenance times" on the tee sheet	No	Yes - Two per Hour	Yes - 1 per Hour for Men's Club	No	Yes	No	
3). Do the actual starting times fall behind schedule?	Rarely	Yes	Yes, based on late arrivals to the tee	Yes	Yes	Yes - observed +24 min for 29th group	No	No	
4). Does the course record actual finish times for rounds?	No, record turn time on #9.	Yes	No, but there is tracking of +/- time compared to 4 hour pace	No	No	No	No	Marshals do on busy days	
5). Do they calculate the average "Daily Round Time"?	No	No	No	No	No	No	No	No	
6). Do they use any daily measure of performance?	No	No	No	No	No	No	No	No	
- If "Yes," what measure is used?		general monitoring of overall pace of 4:20	Each Marshal prepares a written report for their shift and highlights are rolled up hourly to the Master Starter's daily activity recap.						
C. Are carts routinely restricted to cart paths?	No	no	No, except for the Champion Course, in which case it is usually Cart Path Only	No	No	No	No	No	No
D. Does the course have a Pace Rating?	No	no	No	No	Yes	Local calculation 4:30 at 15 min per hole	No	No	No
- If "Yes," what is the rating?					4:30 - Local Calculation				
- Comments	Stated pace of play at 4 hours printed on scorecard and in the Member Handbook. However the pace tracking chart uses a 4.12 pace for 18 holes	Stated pace is 4 hours and 20 minutes. This includes time for F&B at the turn.	Stated pace of play is 4 hours. During on-site observation, mid-day pace ranged generally from +5 to +15 minutes.						
4. Check-in Process, Outside Services Policy and Procedures									
A. Is the check-in process made clear to the players?									
B. Approximately what percentage of players arrive "late" to the course for their check-in?									
C. Is it easy for players to find the driving range, putting green and first tee?									
D. Approximately what percentage of players arrive "late" on the first tee for their starting time?									
	No, private members familiar with process	not really	No	Yes	Yes	No - Developing signage	Yes	Yes	
	Very small %	estimated 10-20%	estimated 10-20%	Very small %	Small %	20 to 40%	Small % for early morning times	Small %	
	Yes, all very visible from golf Shop and cart area	Yes, except for the Dye Course which is some distance from the Golf Shop. Recommend that golfers on the Dye warm up on the far end of the practice range.	Yes	Yes	Yes	Yes	No - Developing signage	Yes	
	Very small %	Estimated 10%, always a few that arrive late	Less than 10%	Called to tee over PA system	Called to tee over PA system Always a few late to arrive	Called to tee over PA system Less than 10%	Called to tee over PA system Very small %	Called to tee over PA system Very small %	
5. Maintenance Practices and Procedures									
A. Interview the Superintendent and tour the course together if possible. Make notes of the Superintendent's practices regarding maintenance and set-up for a smooth pace and flow of play.									
6. Playing Times and Data Collection									
A. Using the "Starting and Tracking Sheet," document actual starting and round completion times for rounds played during your course visit.									
NOTE: The "Starting Time" is the time the first ball of the group is in the air. The "Round Completion Time" is the time the flag goes back in the hole on number eighteen.									

Thank you for your participation in this study.



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