Learning to Live with Golf Cart Traffic

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GOLF CARTS have become an integral part of most golf course operations today. In more ways than one, they have made their mark at public, municipal, private, and resort courses throughout the country. While golf carts have done much to popularize the game of golf in this country, they also are the source of many headaches for the golf course superintendent. Since golf carts are here to stay, learning how to deal with the negative aspects associated with their use is essential in producing the best quality golf course conditions.

In 1990, the National Golf Foundation estimated that there were 800,000 to 850,000 electric and gasoline-powered golf carts in use on golf courses. Each cart was estimated to have made 150 rounds annually at an average rental fee of $14.00 per round, for a total of more than $1.7 billion in revenue. It further should be noted that this figure does not include income from trail fees from privately owned golf carts. Given these rather substantial income figures, the importance of this revenue producer to the golf industry is obvious. Furthermore, to add to this already impressive number of golf carts in existence, approximately 115,000 new carts are manufactured each year.

Other factors that lend credence to the use of golf carts on golf courses include enabling those with physical handicaps to play the game, as well as extending the number of years of play for many golfers. Use of golf carts also enables golfers to enjoy the game despite inclement or oppressively hot weather conditions and, in some cases, they actually assist in speeding up play.

Considering these benefits, it is safe to assume that carts are here to stay on the golf course. But consider some of the negative effects of cart traffic on the turf and soil. Even though a golf cart tire does not exert as much actual pressure on the turf as the human foot, golf cart operators tend to travel in similar patterns, resulting in accelerated turf wear and compacted soil conditions that limit turf recovery in these areas. During periods of turf dormancy, turf injury can be particularly severe, with little chance for improvement until normal turf growth resumes. This is a problem with warm-season grasses during the winter months and, to some extent, with cool-season grasses during dry, hot summers or very cold winters. Not only are effective management programs necessary to correct turf wear and soil compaction, therefore, but effective traffic-control methods also are necessary to minimize turf damage.

Problems of excessive turf wear and compaction are most noticeable in areas where traffic concentrates, usually near tees and greens or tight fairway areas. Loss of turf due to intense traffic conditions also can occur in other areas when adverse environmental conditions exist, such as drought stress or heavy rainfall conditions. While concentrated traffic on dry or frozen soil tends to cause turf loss due to physical wear, soil compaction is the greater concern when wet conditions persist. Programs ranging from intensive aerification to renovation with soil amendments to complete sodding sometimes assist in reestablishing acceptable turf conditions. Unfortunately, these improvements may only be temporary, and turf loss may occur again when similar environmental conditions return.

THE MOST efficient and logical approach to most problems is to correct the source of that problem. Effective traffic control, therefore, is essential to minimize the negative effects resulting from concentrated golf cart traffic. A variety of approaches have been found to be effective in providing improved turfgrass quality under high-traffic conditions.

Traffic injury near tees and greens often occurs despite the presence of cart paths. There seems to be a natural tendency for drivers to pull their golf carts off the edge of the path, as they would when pulling their cars off to the side of the road. This causes a gradual deterioration of the turf adjacent to the path, and the area soon becomes a mudhole awaiting the brand-new golf shoes of the unsuspecting, recently elected club president.

This situation can effectively be avoided by installing curbing along the paths in these potential wear areas. Installation of four- to six-inch curbing during initial path construction, using the same material, be it concrete or asphalt, works well and presents a neat, uniform appearance. When adding curbing to existing concrete cart paths, concrete curbing can now efficiently be installed (in areas of the country where it is practical) utilizing a one-step curbing machine. Typically, however, curb additions to existing paths are made with treated wood timbers or railroad ties.

With any curbing method used, the most important point to remember is to backfill the turf side to the top of the curb. Attention to this detail provides a cleaner look and allows for easier maintenance in these areas. Furthermore, the tendency to trap water on the turf side of the curb is eliminated.

To minimize turf wear and compaction throughout the fairways and roughs under intensive traffic conditions, installation of a continuous cart path system has proven to be the best solution in many parts of the country. At facilities that average more than 30,000 to 40,000 cart rounds annually, continuous golf cart paths are essential for maintaining healthy turf and good course conditioning. A continuous path system also allows the use of golf carts, restricted to paths only, during excessively wet conditions when carts might not otherwise be permitted on the course. Loss of revenue is thereby averted, too.

(Opposite page, top) One-step concrete curb installation machines allow quick, efficient curb installation for effective traffic control.

(Opposite page, bottom) Cart paths ending in a balloon shape in combination with movable flower containers create an aesthetically pleasing method to effectively distribute golf cart traffic.

(Left) Entry and exit areas of partial cart path systems typically exhibit excessive turf wear conditions.

During more favorable soil moisture conditions, a continuous cart path system allows implementation of the 90-degree rule. Adherence to this rule effectively minimizes concentrated wear patterns by distributing traffic throughout the entire length of the fairway. Also, an eight-foot-wide continous cart path system provides an effective pathway for the daily travels of maintenance equipment.

On courses where continuous cart paths are neither feasible nor desired, wear areas are a common occurrence at the entry and exit points to cart path sections. At the fairway entry point coming from the tee, the cart path should end in a balloon or fan shape, or should lead away from the fairway into the rough area. This allows carts to exit from the path at many points to better distribute traffic flow and minimize turf wear. Where straight paths already exist, ropes, signs, or other physical barriers can be used to force carts to exit the path at selected locations.

At Lakewood Country Club, in Denver, Colorado, an effective and aesthetically pleasing method of distributing traffic involves the use of planters. By constructing planters using lightweight materials, it takes just a single worker to move the planters to desired locations. These planters are both functional and attractive for the members of this club. Also, utilizing small plant containers within the large planters allows older, less attractive flowers to be replaced easily with new material.

TO CONTROL and direct traffic flow around green complexes, use of ropes, painted lines, or signs across the fairway can be effective but may require added labor for moving ropes and signs or repainting lines every time the fairways are mowed. Also, a painted line across the fairway can be a disadvantage during periods of slow fairway turf growth, resulting in excessive wear from the inability to relocate this line as often as necessary.

An alternative and effective method of traffic control in this area involves the use of a 4″ × 4″ post with a spike base. This fairway exit point indicator at the edge of the rough can be easily moved as necessary to prevent excessive turf wear. On occasion, a directional sign can be utilized to emphasize the intent of this marker post.

In summary, there is no doubt that the golf cart has become an important factor in today's golf industry. The revenue produced on an annual basis allows many public courses to maintain reasonable green fees. Equally important, golf cart income is extremely beneficial in maintaining a favorable "bottom line" at private clubs and resort courses. Additionally, for many golfers, the golf cart provides added enjoyment to the game and extends the number of years they can play.

Since golf carts are here to stay, traffic management must be viewed as a basic aspect of routine course management. Through the implementation of effective traffic-control practices, the golf cart and the golf course can better exist in harmony and make the ever-increasing traffic on today's golf courses easier to live with.