

## **“Adult” Slick Road Course Go-Kart Tracks Increase Adult Attendance**

**By Peter F, Olesen, P.E.**

A major innovation in concession go-kart operations in the past 30 years has been the creation of the modern “Adult” slick road course. This innovation has allowed family entertainment centers to add an adult track into a total attraction mix on a small footprint and relatively low construction cost. It allows that segment of the concession go kart adult public to drive on a track without younger drivers being present. The more demanding driving skills required, become an added incentive. Because of the slick surface, most drivers leave the track feeling they could have done better.

To maximize the challenge, many track operators have added timing systems to respond to the competitive nature of many drivers, causing them to make repeated runs to lower their lap times and total times.

### **Origin:**

For many years go-kart track operators, seeking to add a variety to their attraction mix constructed small oval tracks with a flat cross section. They ran water across the pavement in the turns (or spread shuffle board wax) to cause kart to slide around the turns. These were called slick tracks, skid tracks or drift tracks. Being oval tracks, all turns were in the same direction.

Entertainment Concepts, Inc. recognized the potential to be gained by expanding the overall appeal of the track by creating their **“Adult” Slick Road Course**, which contained new design elements that increased the driver’s challenge and added more entertainment value. The intent was to force drivers to drive in such a manner that they maintained traction on the straight sections and controlled skids through the turns to maximize forward speed (pressing the accelerator to the floor would generate skids and spinouts, greatly increasing lap times). The result was a new geometric concept with extremely tight turns in both directions, varied length short tangent sections and the creation of a very slippery pavement surface. The turns can be made even more challenging through either coating the pavement in the turns with a polyurethane surface, applying wax, or both.

### **Result:**

The resulting drive experience is far different than driving on a conventional track. Negotiating the track tests the driver’s skills and proves challenging, much like driving on “black ice.” Many NASCAR and other racecar drivers have over the years commented that it was the most fun they have had outside their full sized cars. These are definitely skill tracks not meant for younger unlicensed drivers.

The overall appeal of the design was improved through designing the track and pit entrance/exits to accommodate the track being operated in either direction by just parking the karts in the pit facing in the direction of travel desired. To make the track and ride experience even more appealing, the track geometry and grading is designed to create a completely different driving experience when the direction of travel is reversed. Some existing track operators reverse directions during the slower week days to increase attendance and revenues and at least one operator of multiple facilities, reverses direction each day.

The first “Adult” slick road courses were constructed at new Malibu SpeedZone facilities in Dallas and Los Angeles in 1996. Each track recorded million dollar annual revenues for at least the next five years.

In 2000 Sugar Grove Family Fun Park in Illinois opened with a dual track (common pit building) that included a family road course on one side and an improved “Adult” slick road course on the other side.

These improvements included adding one more curve to the overall geometrics and the introduction of grade changes of up to 4 feet in elevation to further differentiate the skill requirements. To demonstrate the popularity of the track, which is located in much smaller market, the track has had an ongoing Wednesday Night League (operated by the league members) every season to-date.

### **Benefits:**

The addition of an “adult” slick road course to a facility increases the appeal to that portion of the total market that is 16 years and older. The skill challenge of the track generates a higher number of repeat rides, contributing to total revenues.

### **Track Capacity**

To date most interest has been in the construction of a 500 foot track because of its ability to provide serious thru-put with a reasonable budget, minimal space requirement and the ability to gain sizable additional thru-put by adding dual pitting.

The capacity of a 500 foot track is approximately 14 karts on the track at one time, but there is no exact number. Each track will ultimately demonstrate its optimum capacity by the number of rides the track generates per hour. These will be impacted by staff skill in loading and unloading the karts between rides, potential time delays due to having to untangle karts on the track after spinouts or collisions and all karts are stopped, reducing the number of runs per hour. Another element will be the skill levels of the drivers themselves.

For purposes of planning, peak hour capacity is approximately 8 runs per hour per kart, taking into consideration the time to load and unload karts and occasional track time delays. This computes into  $14 \times 8 = 112$  rides per hour during peak hours.

For facilities with multiple peak hours we recommend adding pit capacity for a second set of karts. This increases the hourly track ride session to 13 runs per kart per hour. This in effect allows an increase in peak hour capacity to 182 rides. This is accomplished without constructing any additional track other than an extra pit lane and slight widening of the pit entrance and exit to accommodate the extra lane. The major cost of course is the necessity to purchase a second set of karts.

There is no operational reason to limit adult slick tracks to the popular 500 foot length. Should the target market have a potential demand for higher peak hour capacity, the track could easily be increased by increasing length, pit capacity and number of karts.

### **Natural Partner to Family Road Course Track:**

The “Adult” Slick Track is a natural attraction partner to the widely popular family road course tracks found throughout the United States. It doubles the attraction draw for guests living beyond the existing market reach, as well as helping increase the daily revenues of the go-kart segment.

Most operators elect to first construct a family road course track as it has a broader age demographic. Modern family tracks have gentler curves, permitting karts to go around the track without skidding. The maximum speeds are usually set at between 18 and twenty miles per hour, with the track geometrics and varied banking of the curves giving an illusion of the karts going faster.

Rather than setting absolute minimum age limits the vast majority of the track operators rely on specific minimum height limits based on drivers being able to reach the accelerator, brake pedal and steering wheel. As a result most 10 year olds and older can drive the karts, providing a sizable added ridership.

Modern go-karts are very safe, with seat belts, cushioned wrap around bumpers, modern steering and brakes. The track design provides added safety through the use of track safety barrier systems that provide additional cushioning to reduce impacts.

Additional safety is provided by kart being equipped with remotely controlled devices, such as Kartrol or Kart commander on gasoline engined karts and the remote controllers used for battery powered karts, all of which can be activated to put the karts to an idle or stop by the push of a button on the track supervisors hand held controller.

**Conclusion:**

For most facilities, the first track to construct would be the family road course because of the wider demographic served. We would recommend (budget and space permitting) that in all but very small markets, consideration being given to adding an "adult" slick road course as soon as possible because of its potential boost to the bottom line.

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