

**A MESSAGE TO THE NEIGHBORS!
FAMILY ENTERTAINMENT CENTERS ARE GOOD NEIGHBORS!
By Peter F. Olesen P.E.**

Introduction:

This article is addressed to the people living adjacent to, or close by the proposed family entertainment center.. Its purpose is to present realistic information concerning the realities of a facility proposed to become a fixture in your community.

Many people have never visited a modern family entertainment center and therefore may have formed misguided opinions as to the impact a family entertainment center (FEC) will have on the local neighborhood in which it is proposed to be built. It is hoped that the information presented in this article is read with an open mind. Once you have had the opportunity to read and evaluate the information presented herein, you should have a better understanding as to what an FEC is and what it is not.

The FEC industry consists of a wide range of individual concepts that span outdoor, indoor or combinations of both. They may target older or younger markets, contain different attraction mixes and have very different configurations.

The indoor facilities in larger urban environments may target both family and adult markets in buildings containing mini-lane and full scale bowling, full service restaurants, laser tag, bumper cars, game rooms, birthday party and or corporate meeting rooms and associated amenities.

In other situations the facilities may also include indoor electric go-karts and midway rides. Food services can range from minor snack bar types to pizza buffets and casual dining. The mixes may vary, but the underlying concept of providing family oriented entertainment remains the same.

Outdoor FECs can range from stand alone miniature golf courses or concession go-kart tracks to facilities containing various combinations of outdoor attractions including go-karts, miniature golf, bumper boats, ropes courses, batting cages, zip lines and other attractions accompanied by a point of sales building that may also include food services, soft play, laser tag, game room and birthday party rooms.

An FEC can only succeed if the local community accepts it and finds it to be a positive addition. Most potential developers of FECs are people with a strong desire to be a positive factor in the life and development of their local community. Those who do not have this approach will be setting a course toward failure. Properly designed, constructed and operated, family entertainment centers will be positive additions to any community, not only in providing clean entertaining participatory recreation for a wide segment of the community for many years to come. As the name implies, they provide family entertainment for a broad cross section of the American family, from toddlers to seniors.

This article is based on factual technical information as well as experience with numerous new and existing FECS around the country. Most facilities are properly operated, do not accept rowdy or anti-social behavior by guests and are positive factors in their communities. They are not the dingy facilities of twenty or thirty years ago that often attracted the less socially adjusted members of the community. The modern concession go-kart track, either as a stand-alone facility or as part of an FEC is now oriented toward family units and do not seek nor tolerate the anti-social or raucus activities of the "old days." The vast majority of modern well-designed concession go-kart tracks are well received and supported by their local communities.

We ask that this article be read with an open mind. Once you have read the information contained herein, visited existing facilities or contacted other communities to find out their experiences, we feel you will have a positive attitude toward the concept and an open mind with respect to the local developer's proposed project. Unfortunately, there are times when "the fear of the unknown" generates opposition to one of the potentially best family oriented attractions that can be developed within your community. Properly conceived, designed, constructed and operated facilities will provide positive experiences for the entire community, including families, youths, adults and senior citizens.

In every community there exists a desire for family entertainment and recreation beyond the local theaters, fast food outlets, organized sports, school and church activities. While some communities are fortunate to have available a wide range of such activities, both publicly funded and private, this is not the usual situation.

Most communities lack outside activities for almost every age group, especially pre-teens and teenagers. The community participation in the typical baseball, softball, midget football, soccer, basketball, hockey and tennis runs less than 20% of the total population. This is reflected in the difficulties in accommodating these age groups in family outings. It also results in the individual or peer group activities they partake in when not part of family units. Without wholesome outlets, these activities may result in antisocial activities.

Of course, it is possible to make family outings to regional and destination theme parks and related facilities. The problems with this solution include the following:

1. It requires a major time commitment.
2. The cost per family unit is very high for both travel and admission costs.
3. For destination facilities, food, lodging and travel costs must be added.

For many families, these visits are not economically feasible. Even for those families that can afford them, such trips are usually taken on an annual or longer spacing. Therefore, the shorter, less costly visits on a more frequent basis provide a benefit to everyone.

The development of FECs over the years has provided the public in many communities to have an alternative to doing nothing, hanging out at the mall, becoming couch potatoes or becoming involved in antisocial activities (this is especially true for the teen age segment of the community). They take many forms and provide countless numbers of family and other group activities governed by time constraints, economics, personal preference and physical limitations.

Outdoor or combined indoor/outdoor facilities offer the potential of providing the greatest variety of activities. Properly conceived, they can provide entertainment opportunities over the complete age range from toddler to grandparent. Proper conception, design and construction enable FECs to become valuable assets to any community. By their nature, they are happy places where people enjoy themselves. Integral to their success is becoming attractive additions to their neighborhood.

Careful selection of attractions assures that they appeal to both individuals and groups, providing opportunities to observe or participate as they choose. Enjoyment can be gained from both approaches. Success of the FEC also depends on acceptance by the local community. As a result, planning must include consideration of its impact on the surrounding community. This includes consideration of appearance, the people attracted, traffic on adjacent streets, noise, lighting, drainage and related issues.

In developing an FEC in any community, both the developer and the designer seek to create an appealing, comfortable and entertaining environment for families. To be successful, the facility must attract repeat attendance. These characteristics are the same ones that will generate a good neighbor image for the surrounding community. Often, people associate FECs with the old time amusement parks that came into being more than a hundred years ago. These facilities were usually a collection of hard rides and a midway consisting of individual games and rides managed by separate owners. Often they were staffed by and attracted unsavory people. Most were not well maintained or policed. The lack of coordinated efforts to make the facilities more attractive to families contributed to the closing of many.

FECs, on the other hand, follow the example of the modern theme park industry in seeking to provide clean, wholesome, family oriented entertainment in an attractive environment. They also seek to discourage attendance by trouble makers and gangs. The goal of creating a comfortable and enjoyable facility spans assembling attractions that provide entertainment for the whole family and presenting an appealing physical environment, to controlling noise and lighting levels.

Impact on the Community

A properly designed FEC will have a positive impact on the community it serves. This includes providing an elective activity, generating additional revenue for other businesses in the area, increasing tax revenue, providing jobs for residents and related benefits.

Obviously an FEC will generate more traffic, but not in the concentrated volumes that would result from many other businesses allowed under the existing zoning classification for the site. Further, the traffic it does generate will not be concentrated during peak hour traffic periods on the adjacent highway system.

As every site has certain capacity constraints due to the number of attractions, available parking and related elements, people attending the FEC will vary their times to avoid overcrowding. This will, in effect, reduce peak period traffic volumes.

Having an FEC in the community will keep many younger members of the community closer to home. It also offers potential employment for this under employed segment of the community. Another benefit is the result that more of the community's available disposal income will be spent in the community, as well as attracting revenue from neighboring communities.

Appearance of Facility

There is no single formula for creating an attractive facility that will appeal to everyone. This is equally true in terms of homes, schools, churches, shopping centers, offices, municipal buildings, stores, parks and so on. In recognition of this, most communities have established guidelines, ordinances or other controls to assure acceptable designs.

It is important, however, that the FEC be attractive to the vast majority of its guests, or it will not be successful. Therefore, appearance must be an integral part in the development of the concept plan, which includes the individual attractions and related facilities. Consideration must also be given to what is visible from off-site, as this contributes to the generation of attendance.

On-site design must include the development of attractive looking facilities, the synergism of each attraction in terms of its relationship to other attractions and the ability to maximize usage. Landscaping plays a major element in creating visually attractive facilities and is, therefore, an integral part of any concept planning. In today's environmentally concerned community, the use of green space, planting of trees and shrubs and the use of water in the total site configuration can help gain community support. Proper planning will result in the visual enhancement of both the overall site and its individual components.

Modern Lighting of Family Entertainment Centers

Proper lighting is an integral part of the design of any FEC. It affects the safety and operation of the individual attractions and the total facility. Lighting also has an impact on the facility's acceptance by the local community.

It is unfortunate that many misconceptions exist in the average community with respect to the lighting proposed by individual FEC developments. Lighting can be both friend and foe of everyone, depending upon how it is being considered. We all want our personal environment to have sufficient light for comfort and security, but none of us want to feel imposed on by light generated by others. This difference must be an important consideration of both designer and developer in the creation of a successful FEC concept. The sense of security at any given FEC is enhanced by provision of sufficient levels of lighting throughout the facility. This is true in the parking lot, arcade building, go-kart track, bumper boat pond, miniature golf course, walkways, etc..

Obviously, it is impossible to create a facility with lights that cannot be seen from the surrounding area. Even a single 100-watt light bulb can be seen for miles when there are no physical obstructions. What can be controlled is the number of tall light standards that are installed, the use of sharp cutoff luminaires to eliminate light spill at the property line and the method of light distribution.

Whenever luminaires are mounted at significant heights, sharp cut-off units (lighting units with shrouds to control the direction of the light distribution) are recommended. In this manner it is possible to reduce light "spill" at the boundaries of the site to zero foot-candles, if required. Wherever practical, from both safety and operational viewpoints, shorter light standards with lower wattage luminaires should be installed.

Average light levels of 20 foot-candles at the surface level should be provided on go-kart tracks and bumper boat ponds to permit safe operation. This does not mean that the light has to spill over on adjacent property. Light spill-over can be avoided through the use of sharp cut off luminaires, such as described above, to reduce resulting light levels to zero foot-candles at the property lines. Other exterior and interior attractions and related site elements require varying light levels and should be designed to comply with local codes.

Relative Noise Levels at Family Entertainment Centers

Every facility generates noise, as does every vehicle, person, pet, appliance and machine in the surrounding community. They do so over a wide range of sound levels. Recognizing this, each well designed FEC will

give consideration of the impact individual attractions will have on the surrounding neighborhood, in developing the best configuration of attractions.

As attractions go, FECs are low-level noise generators. The noise levels at sporting events, carnivals, fairs and other outdoor activities are much higher, as are the ambient noise levels of most adjacent streets and highways.

Most FECs use music as a muted background and use loudspeakers judiciously. These can be set at levels acceptable to the neighbors. As a comparison, even the lowly lawn mower generates a much higher noise level than the concession go-kart.

Available noise studies for Honda go-kart engines, which to this writer's knowledge are used by all current concession go-kart manufacturers, show that their generated noise levels do not result in levels that could be considered unacceptable when compared to other noise generators.

One of the most detailed sound studies we have seen was based on the Honda GX 160, the most widely used concession go-kart engine. This study found that the sound level generated by 10 go-karts running at full-throttle, projected to a distance of 150 feet from the source, was 61 decibels. This is equivalent to the sound level of normal conversation in a room with several people.

What these studies have not taken into consideration is the fact that while the Honda engines were run at full throttle, the typical concession go-kart engine is throttled down by a rev limiter to reduce the full throttle rpms of approximately 5150 rpms to a speed of approximately 3200 rpms with typical gearing (belt reduction) to keep the kart speeds at 20mph or lower. The current maximum speed insured by most if not all insurance carriers is 22 mph. Most kart manufacturers recommend a maximum speed of 18 mph. This would result in lower engine noise levels.

It is unfortunate that the studies we have seen are based on projections of sound at various distances from the point of noise measurement rather than actual measurements taken at the distances referred to in the study. Most studies we have seen are based on the projection of sound measurements taken at a point 10 feet from the kart, with the engine running at full throttle. The projected sound levels were then computed, assuming a flat surface with no obstructions. These conditions would not occur, other than on an empty airport runway. Any obstructions, including vegetation, which interrupt the direct movement of sound, reduce its level.

Under actual site conditions, sound levels are further reduced or mitigated by a variety of existing conditions and site elements, including the following:

1. Existing natural and landscaped vegetation.
2. Ambient noise levels from nearby streets and highways.
3. Physical features such as buildings, berms, fences, automobiles and countless other features that may stand in the line of generated noise.
4. Not all of the karts would be concentrated at one point running at full throttle at any given time.

Site Generated Traffic

There will, of course, be additional traffic generated by an FEC. Without additional traffic, there would be no facility. This is equally true for any commercial or residential development developed on the property. The total volume of traffic, as well as the peak hour volumes, will not be as heavy as the volumes generated by most other uses permitted under the specific zoning classification. This includes commercial, business or industrial zoning classifications that govern the specific site being developed. Due to the nature of FECs, including long hours of operation, restricted total capacity, wide range of visitor preference in terms of attendance times and related factors, site generated traffic will be distributed over a longer period of time than most other uses.

To illustrate the volumes of traffic that could impact on the local flow of traffic, we have developed the information presented in the table below for a typical facility in an average community. It assumes 60,000 visits during a summer season that spans Memorial Day through Labor Day at an outdoor FEC located in a small to medium city area. The representative facility consists of an arcade, point of sales and snack bar building, go-kart track, miniature golf course and either a bumper boat pond or batting cage. Peak hours of

operation for FECs normally occur in the evenings from 7:00 PM till 9:00 PM and on weekend days from 1:00 PM till 3:00 PM and from 7:00 PM till 9:00 P.M..

We arbitrarily adjusted the assumed total days of full operation during this period to 80, to allow for inclement weather. Using these numbers we arrive at 750 visitors per day. Assuming 2.5 visitors per automobile, we compute 300 vehicles arriving at the site on an average day. As peak attendance varies by day and hour, we have developed the tabulation below to present the projected peak number of vehicles arriving at the FEC at different times. Projected peak attendance occurs Friday evenings and on weekends.

For communities, the existing afternoon peak traffic volumes on community streets would occur in the time range from 4:00 P.M. to 6:00 P.M. and on Saturdays from 11:00 A.M. to 1:00 P.M.. Peak hours on Sundays can vary greatly depending on the specific highway or street adjacent to the site. The specific adjacent roadway network serving the facility and the location of the primary market population, will dictate the directional distribution of the peak hour volumes shown above

During the non-summer months, peak hour and daily traffic movements will be lower than those projected above. This will occur due to the impact of school functions, high school, college and professional sports, homework and related events.

REPRESENTATIVE TRAFFIC FLOW CHARACTERISTICS FOR TYPICAL FAMILY ENTERTAINMENT CENTER				
Day of Week	Daily Percentage of Weekly Traffic	Daily Vehicle Movements Entering Facility	Peak Hour Percentage of Daily Traffic	Peak Hour Vehicle Movements Entering Facility
Monday Thru Thursday	11	230	20	46
Friday	16	336	20	67
Saturday and Sunday	20	420	15	63

The above table demonstrates the anticipated peak hour traffic movements for the FEC. These historically do not occur concurrently with the peak hour traffic periods that occur on the adjacent street system. In most situations, they are different. For most communities, the peak hour traffic flows occur between 7:00 AM and 9:00 AM in the morning and between 4:00 PM and 6:00 PM in the evenings

Check Them out:

Visit several existing FECs to see for yourself how the facilities serve family units, teens and adults alike. Take note of the relaxed and enjoyable attitudes of the guests and staff. The employees and guests alike reflect the overall atmosphere the owner wishes to create for his/her guests.

Conclusions:

FECs are a beneficial addition to the community, providing the local equivalent of a small theme park, in terms of operations and atmosphere. They attract a cross section of the local residents and provide a clean, happy and entertaining form of family and individual recreation. They are not the reincarnation of the old amusement parks or free standing go-kart facility of years gone by.

The impact of a well conceived, constructed and operated FEC on its neighboring community will be positive. It increases the number of jobs available to local residents, provides an attractive, clean and wholesome outlet for the entire age range within the community and will blend into the community landscape.

Peter is a registered professional engineer in Illinois and Wisconsin. He is the President of Entertainment Concepts, Inc. (formerly Peter F. Olesen and Associates, Inc.) a firm with more than 34 years of experience in the design of family entertainment centers, both outdoor and indoor, stand alone go-kart tracks and miniature golf courses, bumper boat ponds and related attractions. The firm has been at the forefront of go-kart, miniature golf course and bumper boat pond design, having brought about many innovations in safety, geometrics, design and construction methods that are now widely emulated throughout the industry. The firm has performed more than 550 projects in 45 states, Angola, Brunei, Canada (Alberta, British Columbia, Ontario, Quebec and Saskatchewan), Cuba (Guantanamo Bay), Kazakhstan, Mexico, Puerto Rico, Saudi Arabia and Vietnam. These projects span feasibility, concept development, master plans, final design and construction engineering. He is a member of the faculty of Foundations Entertainment University, has presented seminars at the International Association of Amusement Parks and Attractions, FunExpo, Kart Expo and Leisure Expo as well presenting go-kart safety seminars for the State of Ohio. He has, and continues to write articles for industry magazines and internet newsletters. You can reach him at 847-561-7013 or [www.peteolesen@yahoo.com](mailto:peteolesen@yahoo.com). The company web site is www.fecdesigners.com.

Copyright 2018 Entertainment Concepts, Inc.