

PROSPECTUS FOR A CHILD ORIENTED MIXED USE DEVELOPMENT

by

Aroon Chinai

Submitted to the  
Department of Architecture in Partial  
Fulfillment of the Degree Requirements of  
MASTER OF SCIENCE IN REAL ESTATE DEVELOPMENT

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SEPTEMBER 1992

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Signature of the author \_\_\_\_\_  
Aroon Chinai  
Department of Architecture

Certified by \_\_\_\_\_  
Lawrence Bacow  
Associate Professor of Law and Urban Planning

Accepted by \_\_\_\_\_  
Lawrence Bacow  
Chairman  
Interdepartmental Degree program in Real Estate Development

Accepted by \_\_\_\_\_  
Dennis Frenchman  
Associate Professor of Urban Planning

Rotaf

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Abstract

The growth in children's population, increase in spending by children, and renewed focus on the family, has increased the demand for family activities. This increase in demand has created the opportunity for child oriented real estate development. Although progress has been made in this arena, the potential of mixing a variety of children's activities in a single development has not been adequately explored. This thesis explores the concept of mixing children's education, entertainment, recreation, retail, and dining in a mixed use development. Three models are developed for a child oriented mixed use development for both urban and suburban marketplaces. These models could inform future development projects; further, these models provide a framework for analyzing specific locations, market feasibility, and implementation strategies.

Thesis Supervisor: Lawrence S. Bacow  
Title: Professor Urban Studies and Planning

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## Introduction

After a decade when Americans struggled to find more time for work to increase their earnings, what people now seem to want even more than money is time off - time away from their jobs and chores, to do what ever strikes their fancy<sup>1</sup>. American values are changing with a new emphasis on spending time with family and friends. In addition to increasing their leisure time, Americans desire to enhance this time by purchasing quality services, experiences, and entertainment. American developers and institutions have responded by packaging family entertainment, recreation, and education. For example, American Express now sells experiences in sports, politics, food, and entertainment; the McDonalds Corporation has opened Leaps and Bounds, a chain of large indoor play centers; and suburban retail malls are being fitted with family entertainment centers. Renowned entertainment companies such as Disney are expanding their operations. Further, new private institutions for children's recreation and education have emerged including the Discovery Zone and Kidstop. This shift in Americans' materialistic values to a focus on family wellbeing is spawning new service institutions.

The growth in the population of children in the upcoming decade will compound the demand for family services. "With baby

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<sup>1</sup> "Tempus Fugit, But You Can Buy It." New York Times  
October 10, 1991

boomers entering their child rearing years, the kiddie ranks are swelling. There are 37 million children in the United States aged 12 and younger. By the year 2000 there will be 47 million children, a 25 per cent increase from today.<sup>2</sup> Enrollments in nursery and elementary schools are both increasing for the third year in a row to 6 and 28.7 million respectively, the highest level since the mid-70's<sup>3</sup>.

Children are increasingly influencing parents spending patterns, in addition to having deep pockets of their own. Surveys have found that children's pleas affect everything from consumer electronics purchases to dining and entertainment. "American children spent over \$ 6 billion in 1989, 41% more than in 1984."<sup>4</sup> Children spend nearly \$2 billion a year on candy, soft drinks and snacks, \$1.9 billion on toys, games, and crafts, \$700 million per year on clothing, \$600 million a year on movies, sports, and entertainment, and \$486 million on video games. Today's children are visiting stores before they start

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<sup>2</sup> "Inside the Discovery Zone". Adweek's Marketing Week.  
September 16, 1991

<sup>3</sup> How Age is Saving College Campuses. Boston Globe.  
November 22, 1991

<sup>4</sup> "Today's Children have deep pockets". Publishers Weekly.  
June 21, 1991.

grade school, and by age 10 average 5 visits per week.<sup>5</sup>

The new market for local and regional family institutions is currently in its infancy. Visitation to these new local entertainment, recreation, and educational institutions is growing as rapidly as they appear. The visits to family entertainment centers grew 20% in 1990 to exceed 97,000,000 visits per year.<sup>6</sup> Communities are ready and waiting to absorb these new gathering places. The same growth is occurring in small franchises like the Discovery Zone. "As of year end 1991, a total of 35 stores were operating, with 120 scheduled to open by year end 1992<sup>7</sup>" The privately owned company says it has also sold 108 franchises in 25 states. The existing Discovery Zones average 120,000 to 150,000 visits a year.

The market is responding effectively to the demand for family and children's institutions in non-urban environments, but inner cities are not realizing the same growth in new products. In urban environments such as New York or Boston, where these family entertainment centers have not been implemented, visitation to existing institutions has grown steadily over the past five years. For example, the Manhattan Children's Museum has grown from a visitation of under 50,000

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<sup>5</sup> "Today's Children Have Deep Pockets"; Publishers Weekly, June 21, 1991

<sup>6</sup> Amusement Industry Abstract, Funworld, February 1992

<sup>7</sup> "Fitness & Fun Merge at the Zone, Shopping Center World, January 1992.

annually in 1988 to 250,000 in 1992<sup>8</sup>. I believe that the demand for new children's institutions exists in cities, but that an effective means of packaging them has not been put forth. In the suburbs, it is feasible to create a single use destination for children, such as an indoor playground, and have it succeed; but in a city, such a place is less likely to survive due to high rent and insufficient visitation. I believe that synergy can be created by mixing together a variety of children's uses including education, entertainment, recreation, retail, and dining in a single destination. A child oriented mixed use development is a solution to the challenge of creating a place that offers activities for different age groups. Further, mixing a variety of activities in a single destination offers the ability to satisfy the different members of the family unit.

This thesis investigates the underlying demand for children's products to determine if sufficient agglomeration economies exist to justify aggregating children's activities in a mixed use development. The study first investigates existing children's institutions and family destinations such as theme parks, festival market places, museums, entertainment centers, and indoor playgrounds to assess their program design, target market, and underlying demand for their products. Supply and demand information is compiled based on the success of these in offering entertainment, recreation, education, retail, and

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<sup>8</sup>Interview, Robert Blandford, Program Director, Manhattan Children's Museum.



dining. This information is used to develop models for a child oriented mixed use development (MUD) applicable to both the urban and suburban environment. Ultimately, the study will zero in on the most feasible model for a child oriented (MUD).

## Chapter 2

### Making a New Mix

- I. Mixed Use Development Concepts Applied to Children
  - . Mixed Use Development Defined
  - . The Children's Market
  - . Synergy Created by Mixing Uses
  - . Integrating the Children's Market and Mixed Use Development
  
- II. Program components for a Child Oriented (MUD)
  - . The children's menu

## I. Mixed Use Development Concepts Applied to Children

### Introduction

In this chapter, existing information on mixed use developments (MUD), the children's market, and locations where children's institutions exist are examined. The issues involved in mixing uses are explored, and this information is then used to formulate a methodology for studying the feasibility of a child oriented mixed use development.

### Mixed Use Development Defined

The concept of mixing different types of uses in one development has been around for many years. Mixed use developments typically incorporate retail stores, office space, housing, and hotel facilities. They might also include marinas, parks, parking, research and development centers, and entertainment. Examples of larger mixed use developments include in New York, Rockefeller Center, South Street Seaport, and Battery Park City, and in Boston, Prudential Center, Faneuil Hall, and Copley Place.

Both the community and developers benefit from mixing uses in one place. It creates diverse activity in a small area, which draws a variety of people at different times. Ideally, synergy is created among the uses boosting the performance of each use; for example, housing should complement retail sales. In addition, mixing uses provides developers with a hedge against market effects in individual segments, such as dips in the

demand for office space. Finally, developers are able to amortize infrastructure improvements over a larger number of uses.

The drawbacks to mixing uses in one development are the complexity and cost involved in creating and operating the development. The development costs are higher in a mixed use project due to the complexity of integrating uses. Each use may have different physical requirements, such as ceiling heights and column spacings. In addition, the programming of uses is complicated and changes over time. For example, how much of each type of use should there be? How much housing is the right amount, and what is the target market? Each use must be programmed to interact with the other uses in the development as well as respond to the outside environment. Finally, financing mixed use projects may be difficult as their feasibility of success is difficult to measure. But despite these issues, mixed use developments continue to be developed; and increasingly, they are being developed to integrate new and different uses.

#### The Children's Market

While the overall economy grew less than 2 percent in 1991, the growth in spending by children grew by more than 25 percent exceeding \$60 billion dollars. Children's spending is expected to exceed 75 billion in 1992. In addition, American Demographics estimates that children influence more than \$132

billion dollars worth of their parents spending.<sup>9</sup> Big retailers such as the Gap and Limited saw the potential of the children's market and opened Kid's Gap and Limited Too exclusively for children. The children's retail market is attracting entertainment companies including Disney, Ringling Brothers, Sesame Street, and Hanna Barbara.<sup>10</sup> The Disney Store was started in 1987 and is "now one of the most sought after chains in the shopping center industry."<sup>11</sup> "Now with 78 Stores and one Mickey's Kitchen restaurant...The Disney Stores average sales more than \$650 a square foot, with some units topping \$1,000."<sup>12</sup> The Disney Stores are located primarily in suburban malls and their numbers are growing. Other entertainment companies are following Disney's lead and investigating the opportunity of opening themed retail stores and restaurants.

#### Synergy Created by Mixing Children's Uses

The concept of mixing uses can be applied to children's services to create new dynamics in family destinations. There

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<sup>9</sup> James McNeal, The littlest Shoppers, American Demogrphics, February 1992, Page 48.

<sup>10</sup> Shopping Centers Today, Mice, Magic, and Malls, May, 1991, Page 28.

<sup>11</sup> Ibid, page 28.

<sup>12</sup> Ibid, Page 28

currently exist many individual use institutions for children including museums, theme parks, indoor recreation facilities, theaters, arcades, entertainment centers, day care centers, child focused restaurants and retail stores. Each of these institutions may be classified into one of the following uses: education, entertainment, recreation, retail, and dining. Traditionally, the agglomeration of these institutions has been minimal, since different organizations are managing the site selection and operation. Despite a strong demand for these children's products, very little effort has been made to mix these components together in one development.

In 1990, The Disney Store decided to experiment with combining retail and dining and created a store with a new restaurant called Mickey's Kitchen. It is estimated that the sales per square foot at this combined store and restaurant are three times the average Disney Store. The use of themes to tie different uses together increases customer draw and time on premises; further, the ability to make people stay longer in your establishment dramatically increases spending.

Themes may be used to intertwine uses and create synergy in a child oriented mixed use development. Themes such as sports, animation, music, video, history, cars, time periods, and cartoon characters can be created to integrate education, entertainment, recreation, retail, and dining. For example, indoor sports activities such as batting, tennis, and miniature golf may be enhanced through interactive educational systems.

Young sports enthusiasts can improve their skill while having fun. Further, locating a retail sports store, such as Hall of Fame Sports, and a sports themed restaurant adjacent to the action will create additional synergy.

The mixing of uses creates an environment that lowers people's inhibitions and encourages social interaction. Interaction is created among family, friends, and strangers who are participating in themed experiences. A common interest in a theme, such as sports, music, or science establishes a basis for social interaction. Further, this social experience increases the amount of time families are willing to spend exploring. The increased visitation time produces additional sales. In conclusion, social experience is the cornerstone for customer satisfaction, repeat visits, and endorsement to friends.

Integrating the Children's Market and Mixed Use Development

Two general markets exist for a child oriented mixed use development, urban and suburban. Within each market there are three possible locations or sites.

<b>GROUP</b>	<b>URBAN</b>	<b>SUBURBAN</b>
<b>LOCAL</b>	<b>Urban Community Retail</b>	<b>Suburban Community Shopping Center</b>
<b>REGIONAL</b>	<b>Urban Retail District</b>	<b>Suburban Regional Mall</b>
<b>SUPER REGIONAL</b>	<b>Urban Stand Alone</b>	<b>Suburban Stand Alone</b>

Each location requires a specific response in program size and market orientation. Although the urban and suburban locations are different, there are similarities between them in terms of the magnitude of children's development they can absorb. Accordingly, three groups are created.

The first model focuses on the community retail center as a site for a child oriented MUD. The community market is a localized market, drawing mostly visitors who live in the local neighborhoods. The demographics required to support a 200,000 square foot shopping center are approximately 75,000 people within an 6 mile radius or 15 minute drive. These demographics would be the foundation for defining the number of visits to a child oriented MUD located in a community center.



The second model focuses on the regional mall or urban retail district or mall as a site for a child oriented MUD. Both the urban and suburban centers draw people from a large radius. In an urban retail district, a significant number of visitors would be tourists. The demographics required to support a 400,000 square foot regional mall are a minimum of 150,000 people within an 8 mile radius or 20 minute drive.<sup>13</sup> The demographics of urban districts have to be looked at on an individual basis, but increased population densities would be required. In both the urban and suburban regional models, a child oriented MUD would be integrated into regional malls or urban retail districts. The specific visitation to these centers and the number of children in the region will determine appropriate size for a child oriented MUD.

The third model utilizes the requirement for a super regional mall as a standard for a stand alone suburban mixed use development. The demographics required to support a 800,000 square foot super regional mall are a minimum of 300,000 people within a 12 mile radius or 30 minute drive.<sup>14</sup> The demographics of urban districts have to be looked at on an individual basis, but increased population densities would be required. The super regional mall or tourist district draw within a city is required to support a stand alone child oriented MUD. A stand alone

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<sup>13</sup> Interview, Susan Pistilli, International Council of Shopping Centers, July 28, 1992.

<sup>14</sup> Ibid

child oriented MUD would requires high levels of population. The target market for a child oriented MUD is much narrower than for a super regional mall. Super regional malls attract people of all ages; whereas this type of project would attract only people with children, which is much less.

In planning a child oriented mixed use development, the specific location has to be looked at in terms of demographics, existing development, population of children, income, competition, and site constraints. All of these factors influence the size, design, and program for a proposed mixed use development. The location methodology developed in this chapter will be used later to analyze existing children's institutions in terms of their size, program, and siting in relation to location and market. This analysis will assist in defining the program, size, siting, cost, pricing, and organization size that would best serve a child oriented MUD in each location.

## II. Program Components for a Children's Mixed Use Development

### The Children's Menu

In this section, I investigate education, entertainment, recreation, retail, and dining as components for a child oriented mixed use development. Each component is examined in terms of its elements and how they are packaged and offered for public use. The elements of each use were defined by researching different types of children's institutions. For example, sports, games, and physical exercise are elements of the recreation component. These elements are found in children's recreation centers. Finally, children's retail and dining institutions were defined by examining malls and interviewing parents.

### Education

Education in institutions such as museums is packaged in ways that make learning fun, challenging, and experiential. The primary areas addressed in non-school education are culture, science, and history.

<b>CULTURAL</b>	<b>SCIENCE</b>	<b>HISTORY</b>
Ethnology Arts Music Craft Lifestyles	Human Body Medicine Space Ocean Nature Environment	U.S.A. Events Foreign Events Local & Regional Anthropology Famous Children Famous People

Education is presented using both human contact and non-human contact methods. The former method involves direct contact with children, whereas the latter involves the use of pre-recorded, interactive video, computer generated, or simulated experience.

HUMAN CONTACT	NON-HUMAN CONTACT
Theater Shows Workshops Demonstrations Tours Games Classes	Interactive Exhibits Animatronics Computer Exercises Games Puzzles Video Presentations Theater

**Recreation**

Recreation includes kid powered activities as well as amusement rides.

GAMES	SPORTS	PHYSICAL EXERCISE	OTHER
Ball Toss Shooting Gallery Skeet Ball	Mini-Golf Tennis Cage Basketball Batting Cage Bowling	Climbing Running Jumping Swimming Bouncing	Dancing Singing Karaoke

**Entertainment**

Entertainment is packaged in amusement rides, live performances, and imaged performances.

<b>AMUSEMENT RIDES</b>	<b>LIVE ENTERTAINMENT</b>	<b>IMAGED ENTERTAINMENT</b>
Carrouseles Roller Coaster Swirl & Whirl Free Fall Kiddie Rides Flume Ride Trains Bumper Cars Bumper Boats	Theater Magic Shows Comedy Shows Puppet Shows Circus Singers Dancer Clowns Musical Revues Mimes Parades Oom-Pah-Pah Bands	Interactive Exhibits Animatronics Interactive Computer exhibits Simulated Rides Video Games Movies Holographic Displays

**Retail**

Retail categories include clothing, toys, games, gifts, and sporting goods. Three categories are define for children's retail including specialty, toy, and clothing stores. Specialty retail carry unique products and may incorporate special skills, resources, and heritage of the region. In addition, I offer suggestions for new forms of child oriented specialty retail including a children's book store, art gallery, music store, and greeting cards and gifts.

<b>SPECIALTY RETAILERS</b>	<b>TOY RETAILERS (National)</b>	<b>CLOTHING RETAILERS (National)</b>
The Disney Store Nature Company Learning Tree Hall of Fame Sports Quilted Giraffe The Circus Spencers Gifts Kites of Boston Toys for keeps Puzzle People The Balloon Shop * Children's Bookstore * Kids Art Gallery * Kids Music Store * Kids Greeting Cards	Toys R Us Kiddie Land FAO Shwartz Child World	Gap Kids Limited Too Kolorful Kids Kids Unlimited Kids R Us Esprit Kids

\* Represents new retail store concepts

### Dining

Dining is considered in two forms: National restaurant chains and specialty restaurants.

<b>SPECIALTY RESTAURANTS</b>	<b>NATIONAL CHAINS RESTAURANTS</b>
Johnny Rockets Hard Rock Cafe Ben & Jerry's Ice Cream Cinnabon Boston Chipyard Boston Brownie Ethnic Restaurants Festival Dining Mickey's Kitchen	McDonalds Wendy's Burger King Chuck E. Cheese Pizza Hut Nathans Famous Restaurant

In conclusion, two methodologies were developed in this chapter. The market size and location matrix will be used to analyze the market reach of existing children's institutions. Additionally, the program component methodology will be used to

define and compare the programs offered by existing children's institutions. Finally, both methodologies will be used in crafting models for a child oriented MUD.

## Chapter 3

### Existing Children's Institutions Analysis

- . Introduction to children's institutions
- . Description of each institution
- . Program analysis
- . Additional specifications
- . Analysis & conclusions



## Introduction

In this chapter, the program component and location methodologies developed in chapter 2 are used to evaluate existing institutions that cater to children. Four groups of institutions are examined including children's recreation centers, children's museums, family entertainment centers and indoor theme parks, and outdoor theme parks, and festival marketplaces. The groups are created in terms of program focus and magnitude of institution. Institutions are evaluated in terms of their program content, size, location, and market orientation. A variety of institutions have been selected in order to gain insight into what types of children's places exist in both the urban and suburban markets.

In the first section existing children's institutions are described, located, and measured. Each institution is described in terms of its location, market, siting, purpose, underlying themes, and success. This information shows the relationship between uses, location, and success. Comparative charts for each of the four groups of institutions are presented to compare program composition in terms of square feet allocated to uses. For example, a museum might allocate 80% of its floor space to education. In addition, information on site specification, visitation, admission charges, other revenues, and organization size are presented. These items are investigated to correlate program with visitation, size, and where possible construction and operating costs.

In the second section, institutions are compared and analyzed in terms of their program, site specifications, visitation, pricing strategy, and organization size. The analysis and discussion focuses on understanding how location affects program size, scope, and focus. The urban and suburban location chart developed in chapter 2 is used to establish the market reach of each institution. Finally, the information learned by studying existing institutions is packaged into guidelines for developing a child oriented (MUD) for both the urban and suburban market.

#### Group 1, Children's Recreational Facilities

##### The Discovery Zone, Chicago Illinois

Discovery Zones are franchised indoor playgrounds for kids that are located in shopping centers and malls. They are primarily located in the suburbs with almost none found in a major city. The purpose of Discovery Zones is to promote children's fitness and interaction. The facility offers a padded indoor playground with obstacle courses, games, and features of outdoor playgrounds. The target market is young children, age 3 through 10 years old. Discovery Zones do not function as day care centers while parents shop; parents must remain with their children. The company is relatively new, but is expanding rapidly due to the success of its existing franchises and will have more than 100 franchises by the end of 1992.

### McDonald's Playland, Chicago, Illinois

McDonald's Playland are located in suburban Chicago and are owned by a subsidiary of the McDonalds corporation. They are similar to Discovery Zones in program, siting, size, and location. Contrary to expectation, they are not connected to McDonald's restaurants. Currently only two playgrounds have been developed. McDonalds would not comment on the success of these institutions, but said that they were experimental.

### Gymboree

Gymboree is a non-profit organization that has hundreds of franchises throughout the world. It is a unique concept in that most of the Gymboree programs are located in churches and local community buildings. The franchisee leases space one day a week to run a program that focuses on children's recreation and interaction. Classes meet once a week for 8 weeks, and parents are required to stay with their children. The Gymboree concept is very successful.

### **Group 2, Museums**

#### Boston Museum of Science, Boston, Massachusetts

The Boston Museum of science is located on the Charles River between Boston and Cambridge. The museum is in a stand alone urban location. The museum is more than 300,000 square feet in area and features mostly educational exhibits. The facility includes three major attractions including the main exhibition

area, an Omni-max theater, and a computer learning center. In addition, there is a small amount of space devoted to retail and dining. The museum charges separate admission fees for each major attraction ranging from \$4.50 to \$6.00. In addition, the museum charges a parking fee. The Museum is very successful.

#### Boston Children's Museum, Boston, Massachusetts

The Boston Children's Museum is located on Fort Point Channel across from downtown Boston. The museum is housed in its own building adjacent to the Computer Museum, and close to the Boston Tea Party Museum. The three children's places form a cluster of kid's institutions located in an otherwise business district. The cluster is within walking distance (less than 2 miles) from the Aquarium, but is not directly influenced by aquarium visitation. The purpose of the Children's Museum is to educate children through hands on experiences in science, art, and culture. The museum features both permanent and temporary exhibits. Many of the exhibits are interactive, although few are computer driven. The museum accommodates class trips and offers after school and weekend programs. The museum is very successful due to its ability to attract non-local visitation. The fact that it is in a cluster of other attractions contributes to its success.

### Manhattan Children's Museum, New York City, New York

The Manhattan Children's museum is located on 83rd Street on the west side of New York City. The museum is in a stand alone building and is not clustered with other children's destinations. But, the museum is located in a primary residential part of Manhattan. The museum is roughly the same size as the Boston Museum and features the same type of exhibits and programs. Most of the museum visitation comes from people in the local community. The museum is moderately successful with a much lower visitation than the Boston Children's museum; however, visitation has been increasing every year.

### Group 3, Family Entertainment Centers and Indoor Theme Parks

#### Knotts Camp Snoopy, Bloomington, Minnesota.

Knotts Camp Snoopy is a large family entertainment center located within the Mall of America in Minneapolis, Minnesota. Camp Snoopy is a joint venture between Melvon Simon and Associates, developers of the West Edmonton Mall, and Knotts Berry Farm, owner and operator of Knottsberry theme park in California. The 300,000 square foot indoor theme park is the center attraction of the 4.2 million square foot retail mall. "The park will feature Snoopy and his friends in a Minnesota camp like environment and will incorporate educational and cultural attractions as well as 26 rides, including state of the

art roller coaster and grand carousel<sup>15</sup>. The park offers a pay as you go program, and just opened in August 1992. The success of this large family entertainment center will hinge on the overall visitation to the mall. The projections for visitation are very high, exceeding 14 million people annually, after 1995.

#### River Fair, Clarksville Indiana

River Fair is the 100,000 square foot Family entertainment center (FEC) within the 750,000 Square foot River Fall Mall in Clarksville, Indiana, which opened in 1990. The mall is located within the city limits of Clarksville, but relatively close to Louisville, Kentucky. The FEC is located on the second floor, along with 11, food vendors, and a Loews cinema. The FEC utilizes a pay as you go program and features rides, carrouseles, trains,, mini-golf, games... It recently has implemented educational programs on Mark Twain as well as the origin of the carrousel and train. Attendance exceeds 750,000 annually.

#### Metroland, New Castle, England

Metroland is the 70,000 square foot indoor theme park located within the 2.2 million square foot Metrocenter Mall in Newcastle, England. Metroland is attached to the mall in its own structure and functions as an anchor. Metroland's theme is

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<sup>15</sup> Mall of America Signals New Era in Retail, Shopping Center World, May 1991.

medieval and features large murals, exotic plantings, waterfalls, castles, hot-air balloons, a roller coaster, and a tremendous amount of other activities. Medieval mascots move through the park providing amusement. The park recently changed strategy and moved from a pay as you go to a fixed admission price of \$6.95 with an option to be a spectator for \$4.00, which is refunded upon a \$10.00 purchase. Current visitation is 500,000 with growth plans to achieve 750,000.<sup>16</sup> The park is successful.

#### Baltimore Power Plant, Baltimore Maryland

The Baltimore Power Plant is a failed indoor, urban theme park that was developed by Six Flags corporation as part of the Baltimore Inner Harbor redevelopment program. The 80,000 square foot project included rides, interactive exhibits, shows, retail, and dining. The concept failed for reasons that include poor design, development, operation, and pricing strategy. The originally creative design was compromised to save money. The staff chartered to develop the project lacked construction and development skills. The original operation plan featured independent movement of customers throughout the facility. However, this was changed:

"Visitors were escorted from one exhibit or show to another (by guides who were poorly trained and did nothing to add to the visitors' experience), with little chance to explore on their own until the end

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<sup>16</sup> MetroCenters Indoor themepark, Monitor magazine, May 1990

of the tour. Most visitors left immediately after the disappointing tour and spent their money elsewhere in the Inner Harbor."<sup>17</sup>

Finally, the price was too high, \$8.75, which was worth less than the two hours of entertainment received. In January 1986 Six Flags closed the attraction after 18 months of operation.

#### Sports Park, Union, New Jersey

Sports Park is a stand alone family entertainment center located on route in Union New Jersey. Sports Park, a 50,000 square foot facility, offers many sports activities including batting, mini golf, tennis, basketball, and bowling. But it also features many rides. "Sports Park's strategy for profitability involves keeping attraction and game prices as inexpensive as possible. A family of four can spend \$20 to \$25 and visit for two or three hours. Kids can come in with \$8 or \$10 and really enjoy themselves for two hours."<sup>18</sup> The park draws more than 500,000 a year and the owners plan to open up more parks in the future.

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<sup>17</sup> "Baltimore Power Plant, Assessment of a failure" Urban Land, January 1989

<sup>18</sup> Maggie Blackert, Sports Park USA: Text Book Family Entertainment, Family Entertainment Center Quarterly, Page 1.



#### Group 4, Outdoor Themeparks and Festival Market Places

##### Epcot Center, Orlando, Florida

Epcot Center is Disney's grand discovery center that focuses on two themes. Future World includes educational and entertainment experiences on "Our Planet Earth", the environment, the human body, the automobile, and science and technology. The second theme explores cultures and countries of the world; shows, exhibits, dining, and retail are offered from more than twenty countries. Epcot Center is one of most frequented tourist destinations in the world, with visitation that exceeds 20 million annually.

##### Sesame Place, Langhorn, Pennsylvania

Sesame Place is a themepark based on the Children's Television Workshop program "Sesame Street". Sesame Place is a stand alone destination that features mostly outdoor rides, water rides, exhibits, and entertainment. The park draws many visitors from as far one hundred miles from New York and Philadelphia. The Sesame characters move through the park educating and entertaining the mostly under 10 year old children. Indoor facilities include a studio, a restaurant, and a retail shop. The studio is a set for filming a video with audience participation. The park is seasonal and operates from May through October and utilizes a fixed price admission charge. The park is successful and is continuing to expand.

## Faneuil Hall

Faneuil Hall is a festival marketplace located in downtown Boston near the business district. The festival marketplace is a pedestrian district incorporating specialty retail, dining, and entertainment. Faneuil Hall is a major tourist destination and draws more than 14 million visitors a year. The project set a precedent by redeveloping a blighted downtown area into a successful stand alone mixed use development.

## Program Analysis & Specifications

The following charts analyze children's institutions in terms of program, site specification, visitation, financial data, and organization size. There are four charts addressing the following groups of institutions: small, recreation and play centers; non profit children's museums; indoor family entertainment centers (FEC); and theme parks and festival marketplaces.

**GROUP 1, SMALL RECREATION CENTERS**

**URBAN & SUBURBAN**

INSTITUTION NAME	DISCOVERY ZONE	MCDONALD'S PLAYLAND	RIVER FAIR
LOCATION	Suburban Community Shopping centers	Suburban Community Shopping centers	Suburban Regional Mall

PROGRAM COMPONENTS			
Entertainment	5%	0%	0%
Education & Culture	0%	0%	25%
Recreation & Play	75%	85%	75%
Retail	5%	5%	0%
Dining	10%	10%	0%

SITE SPECIFICATIONS			
Outdoor Space	None	None	None
Indoor Floor Space	9,000 - 11,000	11,000	100,000
. Retail Space	500	500	External
. Dining Space	1,000	1,000	External
Adjacent Mall Space	150,000 - 400,000	150,000 - 400,000	750,000
Parking	N/A	N/A	N/A
VISITATION DATA			
Annual Visitation	120,000 - 150,000	N/A	1,000 - 2,000
% Child Visitors	60%	60%	50%
Target Age	3 - 9	3 - 9	0 - 6
Parent Supervision Req'd	Yes	Yes	Yes
Visitor Profile	90% local	90% local	90% local
FINANCIAL DATA			
Adult Admission Price	No Charge	No Charge	No Charge
Child Admission Price	\$5.95	\$4.95	\$59 for 8 classes
Estimated Revenues	\$900,000 - 1,000,000	N/A	\$108,000
. Per Capita	\$7.50	N/A	N/A
. Amusement Area	\$720,000	N/A	N/A
. Retail	\$60,000	N/A	N/A
. Dining	\$120,000	N/A	N/A
. Birthday Parties	\$50,000	N/A	N/A
Cost of Building	Lease	Leased	Free
Cost of Furnishings	\$450,000	N/A	N/A
ORGANIZATION SIZE			
Total Employees/Shift	2 - 3	5	4
. Managers	3 - 5	N/A	0
. Office & Admin	10 - 12	15 - 20	1
. Floor	12hrs/day	16hrs/day	1 Day/week

**GROUP 2, CHILDREN'S MUSEUMS**

**URBAN**

<b>INSTITUTION NAME</b>	<b>BOSTON MUSEUM OF SCIENCE</b>	<b>BOSTON CHILDREN'S MUSEUM</b>	<b>MANHATTAN CHILDREN'S MUSEUM</b>
<b>LOCATION</b>	<b>URBAN STAND ALONE</b>	<b>Suburban Community Shopping centers</b>	<b>Suburban Regional Mall</b>

<b>PROGRAM COMPONENTS</b>			
<b>Entertainment</b>	<b>0%</b>	<b>0%</b>	<b>11%</b>
<b>Education &amp; Culture</b>	<b>86%</b>	<b>75%</b>	<b>86%</b>
<b>Recreation &amp; Play</b>	<b>0%</b>	<b>15%</b>	<b>0%</b>
<b>Retail</b>	<b>3%</b>	<b>5%</b>	<b>3%</b>
<b>Dining</b>	<b>9%</b>	<b>5%</b>	<b>0%</b>

<b>SITE SPECIFICATIONS</b>			
Outdoor Space	None	4,500	2,500
Indoor Floor Space	411,200	28,200	17,500
. Retail Space	32,900	1,200	570
. Dining Space	32,900	Adjacent	No
OFFICE SPACE	115,800	N/A	4,200
Parking	Yes	Yes	No
<b>VISITATION DATA</b>			
Annual Visitation	1,527,000	750,000	250,000
% Child Visitors	33%	55%	50%
Target Age	All ages	3 - 12	3 - 12
Parent Supervision Req'd	No	No	No
Visitor Profile			
Metro Area	50% (Estimate)	50%	50%
State	30%	29%	44%
National	15%	20%	5%
International	5%	1%	1%
<b>FINANCIAL DATA</b>			
Adult Admission Price	\$6.00	\$6.00	\$4.00
Child Admission Price	\$4.50	\$6.00	\$4.00
Revenues	\$22,166,000	\$6,200,000	\$1,397,000
Adult Admissions	\$6,871,460	N/A	\$153,000
Child Admissions	\$6,871,460	N/A	\$153,000
Events	\$3,768,220	N/A	\$297,000
Program Fees	\$1,200,000	N/A	\$160,000
Memberships	\$1,828,000	N/A	\$66,000
Individual Donations	\$3,400,000	N/A	\$147,700
Corporate Sponsorship	\$400,000	N/A	\$71,000
Local & State	\$160,000	N/A	209,000
Retail Sales	\$3,056,000	N/A	97,000
Investment	\$2,222,000	N/A	N/A
Cost of Building	N/A	N/A	N/A
Cost of Furnishings	N/A	N/A	N/A
<b>ORGANIZATION SIZE</b>			
Total Employees/Shift			
. Managers	N/A	5	3
. Office & Admin	100 FT/ 30 Volunteer	45	14 - 18
. Floor	72 FT/ 7 Volunteer	44	23
Hours of Operation	9 hrs/day	9 hrs/day	9 hrs/day

**GROUP 3, FAMILY ENTERTAINMENT CENTERS**

**SUBURBAN**

<b>INSTITUTION NAME</b>	<b>KNOTTS CAMP SNOOPY</b>	<b>SPORTS PARK</b>	<b>RIVER FAIR</b>
<b>LOCATION</b>	<b>Suburban MegaMall</b>	<b>Stand Alone Suburban</b>	<b>Suburban Regional Mall</b>

<b>PROGRAM COMPONENTS</b>			
<b>Entertainment</b>	<b>3 Theaters, 16 Rides</b>	<b>40%</b>	<b>70%</b>
<b>Education &amp; Culture</b>	<b>4 Exhibits</b>	<b>0%</b>	<b>10%</b>
<b>Recreation &amp; Play</b>		<b>50%</b>	<b>20%</b>
<b>Retail</b>	<b>7 Retail Stores</b>	<b>5%</b>	<b>0%</b>
<b>Dining</b>	<b>15 Dining Locations</b>	<b>5%</b>	<b>0%</b>

<b>SITE SPECIFICATIONS</b>			
Outdoor Space	None	None	None
Indoor Floor Space	300,000	50,000	100,000
. Retail Space	Internal	Internal	External
. Dining Space	Internal	Internal	External
Adjacent Mall Space	4,200,000	No	750,000
Parking	N/A	400 Cars	N/A
<b>VISITATION DATA</b>			
Annual Visitation	Project 12,000,000	600,000	600,000
% Child Visitors	50%	50%	60%
Target Age	6-15	All ages	N/A
Parent Supervision Req'd	No	No	No
Visitor Profile	65% < 50 miles 35% > 50 miles	90% < 25 miles 10% > 25 miles	Regional
<b>FINANCIAL DATA</b>			
Adult Admission Price	No Charge	No Charge	No Charge
Child Admission Price	No Charge Pay as you go \$0.50 per ticket	No Charge No Charge \$0.25 tokens	No Charge No Charge Pay as you go \$0.40 per ticket
Estimated Revenues			
. Per Capita	\$6.00	\$5.00 - \$6.00	\$4.00 - \$5.00
. Amusement Area	\$60 million	\$2.5 million	3 million
. Retail		\$250,000	
. Dining	\$12 million	\$500,000	
. Birthday Parties			
Cost of Building	\$70 million	Leased	In Mall
Cost of Furnishings	Included in above	\$3.5 Million	N/A
<b>ORGANIZATION SIZE</b>			
Total Employees/Shift	350		
. Managers	N/A	N/A	30 - 35
. Office & Admin	N/A	N/A	30
. Floor	N/A	N/A	5
Hours of Operation	12hrs/day	16hrs/day	12hrs/day

**GROUP 3, FAMILY ENTERTAINMENT CENTERS (Continued)**

**URBAN**

<b>INSTITUTION NAME</b>	<b>BALTIMORE POWER PALNT</b>	<b>METROLAND</b>	
<b>LOCATION</b>	<b>Urban Stand Alone</b>	<b>Urban Fringe Mall</b>	

<b>PROGRAM COMPONENTS</b>	<b>FAILED</b>		
<b>Entertainment</b>	<b>60%</b>	<b>70%</b>	
<b>Education &amp; Culture</b>	<b>10%</b>	<b>0%</b>	
<b>Recreation &amp; Play</b>	<b>2%</b>	<b>15%</b>	
<b>Retail</b>	<b>10%</b>	<b>5%</b>	
<b>Dining</b>	<b>18%</b>	<b>5%</b>	

<b>SITE SPECIFICATIONS</b>			
Outdoor Space	None	None	
Indoor Floor Space	80,000	70,000	
. Retail Space	5,000 (Int)	Internal	
. Dining Space	9,500 (Int)	Internal	
Adjacent Mall Space	No, in Area	2,200,000	
Parking	N/A	N/A	
<b>VISITATION DATA</b>			
Annual Visitation	N/A	500,000	
% Child Visitors	N/A	60%	
Target Age	All Ages	6 - 15	
Parent Supervision Req'd	No	No	
Visitor Profile	Tourist Mostly	Regional Mostly	
<b>FINANCIAL DATA</b>			
Adult Admission Price	\$8.75	\$6.95	
Child Admission Price	\$8.75	\$6.95	
Estimated Revenues	N/A	\$4,500,000	
. Per Capita	N/A		
. Amusement Area	N/A	\$3,500,000	
. Retail	N/A	\$500,000	
. Dining	N/A	\$500,000	
. Birthday Parties	N/A	N/A	
Cost of Building	\$185,000/YEAR	\$13,600,000	
Cost of Furnishings	40,000,000	\$21,000,000	
<b>ORGANIZATION SIZE</b>			
Total Employees/Shift	N/A	50	
. Managers	N/A	5	
. Office & Admin	N/A	5	
. Floor	N/A	40	
Hours of Operation	N/A	N/A	

**GROUP 4, THEME PARKS AND FESTIVAL MARKETPLACES**

**URBAN & SUBURBAN**

<b>INSTITUTION NAME</b>	<b>DISNEY EPCOT CENTER</b>	<b>SESAME PLACE</b>	<b>FANEUIL HALL</b>
<b>LOCATION</b>	<b>Stand alone Suburban</b>	<b>Stand alone Suburban</b>	<b>Stand Alone Urban</b>

<b>PROGRAM COMPONENTS</b>			
<b>Entertainment</b>	<b>21 Attractions</b>	<b>6 Shows</b>	<b>2,000 Performances</b>
<b>Education &amp; Culture</b>	<b>16 Exhibits</b>	<b>1 Exhibit</b>	
<b>Recreation &amp; Play</b>		<b>10 Rides</b>	
<b>Retail</b>	<b>61 Retail</b>	<b>2 Retail</b>	<b>50%</b>
<b>Dining</b>	<b>30 Dining Locations</b>	<b>2 Dining</b>	<b>50%</b>

<b>SITE SPECIFICATIONS</b>			
Outdoor Space	260 Acres	8 Acres	None
Indoor Floor Space	N/A	41,785	219,000
. Retail Space	N/A	N/A	N/A
. Dining Space	N/A	N/A	N/A
Parking	Internal	Internal	Internal
<b>VISITATION DATA</b>			
Annual Visitation	15,000,000	781,000 (5 Months)	14,000,000
% Child Visitors	N/A	60%	50%
Target Age	All Ages	3 - 8	Adults
Parent Supervision Req'd	No	Yes	No
Visitor Profile	10% Local 10% State 60% National 20% International	35% w/i 20 miles 50% w/i Phila & N.Y.	50% Local 50% Tourist
<b>FINANCIAL DATA</b>			
Adult Admission Price	\$30 - 35	\$18.95	No Charge
Child Admission Price	\$30 - 35	\$16.95	No Charge
Estimated Revenues	N/A	N/A	N/A
. Per Capita	N/A	N/A	N/A
. Amusement Area	N/A	N/A	N/A
. Retail	N/A	N/A	N/A
. Dining	N/A	N/A	N/A
. Birthday Parties	N/A	N/A	N/A
Cost of Building	N/A	N/A	N/A
Cost of Furnishings	N/A	N/A	N/A
<b>ORGANIZATION SIZE</b>			
Total Employees/Shift			
. Managers	N/A	5	N/A
. Office & Admin	N/A	20	N/A
. Floor	N/A	769 P/T	100 (Total)
Hours of Operation	13 hrs	12 hrs	16 hrs

Analysis & Conclusions

The market location matrix developed in chapter 2 is now used to show the location of institutions analyzed. By examining the programs of institutions in each location an assessment can be made regarding what uses are successful in each market location. This information can then be used to prioritize uses for child oriented mixed use development in each location.

<b>AREA</b>	<b>URBAN</b>	<b>SUBURBAN</b>
<b>Local</b>	<b>Urban Neighborhood or Community Center</b> . Gymberee	<b>Suburban Neighborhood Shopping Center</b> . Discovery Zone . Mcdonald's Playland
<b>Regional</b>	<b>Urban Retail District</b> . Metroland . Baltimore Power Plant	<b>Suburban Regional Mall</b> . Knotts Camp Snoopy . River Fair
<b>Regional Plus</b>	<b>Urban Stand Alone</b> . Boston Museum of Science . Boston Children's Museum . Manhattan Children's Museum . Faneuil Hall	<b>Suburban Stand Alone</b> . Sports Park . Sesame Place . Disney Epcot Center



### Program Mix

In comparing institutions for children there are distinct programmatic differences among the groups. Discovery Zone and McDonalds Playland are located in suburban shopping centers and devote more than 75% of their space to recreation. Children's museums are located primarily in cities in stand alone locations and devote more than 75% of their space to education. Family entertainment centers are located in both urban and suburban retail districts and devote more than 70% of their space to entertainment. Outdoor themeparks are located in suburban stand alone locations and devote most of their outdoor space to entertainment. Finally, festival marketplaces are located in urban stand alone locations and devote most of their space to themed dining and retail. It appears that the utilization of themes can boost the demand for retail and dining. In places where themes are not deployed, Discovery Zone, children's museums, and some family entertainment centers, retail and dining occupy less than 15% of the floor space.

All of the institutions are investing in one or a couple of uses. None of the institutions has a program that places equal emphasis on all the components in a children's mixed use development. The complexity required to create, operate, and manage a mixed use development could be the reason for its lack of existence.

The priority given to each use in a mixed use development is a function of the location, market size, existing development,

and competition. The information learned about the existing institution program focus influences the proposed programs for a mixed use development. But rather than mimic existing institutions, a mixed use development would offer elements from each of the five uses, entertainment, education, recreation, retail, and dining. The following discussion prioritizes floor area devoted to each use based on institution location.

#### Suburban Shopping center

A mixed used development in a suburban shopping center should give highest priority to recreation followed by dining, entertainment, education, and finally retail. By following the success of Discovery Zone program, but adding a small component of education and entertainment, the institution will best succeed.

#### Urban Neighborhood

A mixed use development in an urban neighborhood should merge the attributes of Discovery Zone, and Gymberee. Accordingly, the highest priority would be recreation followed by education, entertainment, dining, and retail.

#### Suburban Regional Mall

A mixed use development in a suburban regional mall should follow the trend of the existing family entertainment centers and focus on entertainment, followed by recreation, education,

retail, and dining. The retail and dining components should be small as a mall already has existing retail and dining facilities. A comprehensive plan would involve creating a children's zone within a mall tying together recreation, entertainment, and education with children's retail and dining.

#### Urban Retail District

A mixed use development in an urban retail district will have a more balanced program than its suburban counterpart. Tourism and history will increase the demand for education and retail. The priority is derived by applying the suburban shopping mall concept to a retail district. The proximity to dining defines the extent of in-house dining required. Since a food court doesn't exist in most urban locations, it is concluded that there would be more dining within the development. The program priority is on entertainment followed by recreation, education, dining, and retail.

#### Suburban Stand Alone

The suburban stand alone mixed use development requires a more balanced program of uses since it is independent of existing retail development. It will follow the trends exhibited by places such as Sports Park, Epcot Center and Sesame place with a focus on entertainment followed by recreation, retail, dining and education.

Urban Stand Alone

The urban stand alone mixed use development integrates aspects of the festival marketplace, the outdoor themepark, and museums. This mixed use development would have the most balance program with nearly equal emphasis on each use. The wealth of history in urban locations combined with the extent of tourism boosts the demand for retail and education. The program is balanced but still gives the most space to entertainment, followed by recreation, education, retail, and dining.

In conclusion, the following matrix is presented as a guideline for allocating floor space for each children's use as a function of location.

**GUIDELINES FOR ALLOCATION OF FLOOR SPACE IN A CHILD ORIENTED MUD BASED ON LOCATION.**

<b>FLOOR SPACE</b>	<b>MOST SPACE</b>				<b>LEAST SPACE</b>	<b>SIZE</b>
Urban Shopping Center	REC	EDUC	DINE	ENT	RETL	<b>SMALL</b>
Suburban Shopping District	REC	DINE	ENT	EDU	RETL	
Urban Retail District	ENT	REC	EDUC	DINE	RETL	
Suburban Mall	ENT	REC	DINE	EDUC	RETL	
Urban Stand Alone	ENT	REC	EDUC	RETL	DINE	
Suburban Stand Alone	ENT	REC	RETL	DINE	EDUC	<b>BIG</b>

### Site Specification

The institutions examined fall into four size groupings. The children's recreation centers are under 15,000 square feet, the children's museums are between 25,000 and 35,000 Square feet, family entertainment centers range in size from 20,000 to 300,000 Square feet, with an average size of about 100,000 Square feet, and theme parks and festival marketplaces range in size from 200,000 Square feet to over 100 acres.

The children's recreation centers such as Discovery Zone and Gymboree are located mostly in urban and suburban community centers. Family entertainment centers, such as River Fair and Metroland are located in suburban and urban regional shopping centers. Most all of these institutions depend on proximity to retail for their success. Conversely, children's museums are primarily located in stand alone buildings within downtown districts. Children's museums are not dependent on retail for success, but rather on proximity to both local community as well as other tourist destinations. Themeparks, such as Sesame Place, are primarily located within a one hour drive of a major city, while festival market places are located in downtown districts.

Three magnitudes of mixed use development are required in both the urban and suburban markets. Urban and suburban community shopping center require a project size less than 30,000 square feet, the suburban mall and urban retail district will require a project size between 60,000 and 120,000 square

feet, and the suburban and urban stand alone complexes require a project size between 90,000 and 200,000 square feet.

### Visitation

The small recreation centers draw between 50,000 and 150,000 people annually, which is significantly less than children's museums which draw between 250,000 and 750,000 people. Mid sized family entertainment centers located in regional malls draw between 500,000 and 1,000,000 people annually. The majority of themeparks and festival market places often draw in excess of 1,000,000 people annually.

The target age group for the small recreation centers is younger than for museums; for example, Discovery Zone targets children between age 3 and 9, while the Boston Children's Museum targets children between age 3 and 12. The target age group for FEC's is much broader than museums and recreation centers. FEC's cater to different age groups through a variety of features. For example, carrouseles cater to young children, while miniature golf targets adults. As a trend, the larger the institution, the broader the age group targeted.

Visitation is not consistent within groups but dependent on facility location, size, quality, competition, and demographics. For example, the Children's Museum in Boston has three times the visitation of the Manhattan Children's Museum. This disparity may be caused by the fact that the Boston museum is in a cluster of children's destinations where as the Manhattan museum is

stand alone. But, other factors including marketing, demographics, and quality of exhibits may play a role.

Visitation is primarily a function of location, siting, and demographics. The criteria used by Toys R Us in locating its stores is an excellent guideline for locating a mixed use development in a urban or suburban community. Toy's R Us requires a trading area population of 200,000 people within a five mile radius. Further, the neighborhood must have 20% kids and family median income that exceeds \$27,000.<sup>19</sup> A community Toys R Us will draw between 200,000 and 300,000 visitors annually.<sup>20</sup> The suburban mall and urban retail district facilities will draw between 500,000 and 1,000,000 visits depending on the existing draw to the destination and percentage of children in the region. A well sited urban center, located near a high draw destination, such as a Faneuil Hall, will achieve the high end. The larger stand alone complexes should draw between 500,000 and 1,500,000 visitors.

#### Admission Charges

Small, recreation centers charge children an admission fee ranging from \$4.95 to \$7.50, but parents are admitted free. The up front admission fee is advantageous to both the customers and operators. Customers are able to pay once and stay as long as

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<sup>19</sup> Kids "R" Us, Cover Story, Stores, March 1991

<sup>20</sup> Interview, Ron Overcek, Manager, Toys R Us, Northgate Shopping Center, Revere, Massachusetts.

they want, letting their child's curiosity lead him through the play environment. Similarly, the children's museums charged between \$4.00 and \$6.00, but parents have to pay for admission. A family's average length of stay in a recreation center is approximately one hour versus two hours in a children's museum. Thus, if a mother and son go to the Discovery Zone the cost is about \$3.00 per person for one hour worth of enjoyment. Similarly if a mother and son go to the Boston Children's Museum, the cost is \$3.00 per hour with an expected length of stay of two hours. Thus, it would appear that people are willing to pay between \$2.50 and \$3.50 per hour to be at these smaller destinations.

Family entertainment centers utilize either an up front admission fee or a pay as you go system to generate revenues. Metroland and the former Baltimore Power Plant indoor themepark respectively utilize an entrance fee of \$6.95 and \$8.75; alternately, Knotts Camp Snoopy and River Falls utilize a pay as go system where customers can buy tickets between \$0.40 and \$0.50, which may be used for rides, games, and entertainment. There are benefits and drawbacks to each system. The up front fee is beneficial in that it allows only paying customers into the facility; however, if the price is too high, it may cause people not to come in. The \$8.75 admission fee was one of the primary reasons the Baltimore Power Plant, an indoor theme park, failed.

"This admission price was clearly too high for the value received and worked against the traditional



theme park idea that visitors receive high value entertainment for a number of hours so that they will then spend additional money on food, other entertainment and specialty retail items."<sup>21</sup>

On the other hand, the pay as you go system can also be fraught with problems. For example, the Franklin Mills family entertainment center, operated by 49th street galleria, in the Franklin Mills mall, Philadelphia, recently closed its doors. In reflecting on the things they would have done differently, John Franklin believes they should not have used a pay as you go system.

"The pay as you go system attracted teenagers to just hang out in the center, and not spend money. Further, they scared away potential customers."<sup>22</sup>

Further, it is interesting to note that Metroland just changed from a pay as you go system to a \$6.95 up front admission fee. According to David Woolf, the change is paying off.

"Its my role to create long term profitability. We've had an excellent first summer season. Our gate receipts are equal to the level of ride revenues when it was free admission. We are on target for 500,000 visitors in our first year of operation. Our target for admissions is 750,000 within the two year plan."<sup>23</sup>

It appears that culture, location, and demographics may be

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<sup>21</sup> Baltimore's Power Plant, Assessment of a failure, Urban Land, January 89

<sup>22</sup> Interview: John Franklin, Western Development Company, Philadelphia, PA.

<sup>23</sup> Indoor themepark, European Style: Metroland, Funworld, December 1992.

factors that influence the decision whether to use a pay as you go system or an admission price. In locations where allowing free entrance will attract loiterers and undesirable people; primarily urban locations, it is certainly advantageous to utilize an admission charge. Although no industry standard has been set, I believe that urban locations should use a admission charge, while suburban locations should use a pay as you go system.

An average size FEC can entertain a family for approximately two or three hours. Estimated revenues per hour are between \$2.50 and \$3.50 per person.

Most theme parks charge an up front admission fee. The cost of admission ranges from approximately \$12.00 to \$34.00. In earlier days, theme parks often utilized a pay as you go system, but today it is less common. The theme park admission price follows a similar formula to other institutions in that they charge between \$2.50 and \$3.50 for one hour worth of fun. Festival market places do not charge admission, but rather create animated urban streetscapes that induce people to shop at the specialty retail stores and dine at the variety of inexpensive but unique restaurants.

The guidelines for cost of admission to a child oriented MUD are based on the pricing strategies used by existing institutions. Both the urban and suburban community project should charge an admission fee between \$4.00 and \$6.00 for children only. The urban retail district center should charge

admission for all people over age 3, the price should be between \$5.00 and \$7.00. Conversely, the suburban mall center should utilize a pay as you go system and sell tickets for \$0.50 that may be applied to rides in groups of one to five tickets. Similarly, the urban stand alone center should utilize an admission fee between \$7.00 and \$9.00, while the suburban stand alone center should utilize a pay as you go system.

#### Organization Type & Size

Two business classifications exist for the institutions examined, profit and non-profit. Only the museums maintained non-profit status, which enabled them to utilize a variety of institutions in creating their programs. It is worth noting that non-Profit institutions receive a significant portion of their operating budget from contributions and fund raising events. For example, the Manhattan Children's Museum receives 55% of its budget from local and state support, corporate sponsorship, individual donations and gifts, and fund raising events.

The ability to have non-profit status for the educational component of a child oriented mixed use development will improve the quality of the program through access to a variety of institutions including schools, churches, corporations, museums, and associations. This might be accomplished by creating a public-private partnership with a local association to run the educational component on a non-profit basis.

Analysis of the organization size for the four groups of institutions reveals such variability within groups that a larger sample size is required to draw good conclusions. Nonetheless, a number of tentative conclusions can be reached. Education requires the most staff, averaging one person per 500 square feet followed by recreation with one person per 600 square feet. Entertainment is ambiguous due to the fact that FEC's and themeparks have in house personnel as well as contract entertainers. Hired personnel averaged one person for 1,600 square feet for FEC's not including contracted entertainment, which would reduce that number.

In the next chapter, the conclusions reached in this chapter are used to formulate three models for a child-oriented mixed use development.

## Chapter 4

### Three Models for a Child Oriented MUD

- . Description of Methodology used to define prototypes
  - . Explanation of Concept
  - . Model Diagram
  - . Program
  - . Physical Design
  - . "The Experience"
  - . Financial
  - . Business Strategy
  
- . Model 1, Bonding to a single use destination (Toys R Us)
  - . "The Power Play Center"
  
- . Model 2 Children's services to complement a regional mall or urban retail district.
  - . "Family Entertainment Center"
  
- . Model 3 Stand alone child oriented mixed use development
  - . "The Exploratorium"

## Methodology

In Chapter 4, three models for a child oriented mixed use development are described. Each model is discussed in terms of underlying purpose, relationship to existing urban and suburban development, physical design, visitor experience, and program of uses. The three models are developed for different applications, although each model is discussed in terms of both the urban and suburban environments. The first model, the simplest of the three, involves bonding a children services institution with a major toy store, such as Toys R Us. The bonding process will ideally create an intertwined shopping, entertainment, and recreational experience for children and their parents. The second model involves complementing a retail district or regional mall with a family entertainment and resource center. This center will offer educational programs, entertainment, recreation, and day care as its primary functions. The third model involves creating a stand alone children's mixed use development that intertwines education, entertainment, recreation, retail, and dining in a unique experience under one roof.

Each model is described in five sections: Model explanation, diagram, program, physical design, experience, finance, and business strategy. The explanation section describes what the concept is, how it works in both the urban and suburban context, and where it will work. Additionally, information is presented regarding what is required to make each model work. In the next

section, Diagrams are used to illustrate the interaction of the children's services with its proposed environment and visitors. The program section examines themes employed to mix of education, entertainment, recreation, retail, and dining in the development. In addition, programs are defined for different size institutions. The physical design & environment section shows the relationship between the child oriented mixed use development and surrounding development in the locational market. Further, the relationship between building design, themes, and program of uses is described. The experience section takes the reader on a journey through the children's place invoking a child's experience. The admission pricing section examines the pricing strategy and potential revenues from admissions and sales. Finally, the business strategy looks at ways to minimize cost and maximize quality.

The program for each model will be designed with flexibility of change in each of the uses. Entertainment will change periodically by having new shows, exhibitions, and computer software. The recreational equipment will be modular and capable of being reconfigured and traded on a lease basis. The educational programs and exhibits will change frequently and be part of a large library network, similar to museums.

## Model 1, The Bonding Model

### Explanation

The bonding model involves merging children's services, recreation, entertainment, and dining with a major national toy store chain, such as, Toys R Us or Child World. The national recognition and annual draw of a mega-toy store will fuel the family services enterprise hence forth known as the "Power Play Center". The synergy created by the additional uses will increase overall visitation and time spent on premises.

The concept involves selecting a national retailer and convincing them that their sales will be boosted by having a Power Play Center. Child World presents an excellent opportunity, as they are having difficulty competing with Toys R Us. Child World can create a new identity by integrating itself with a "Power Play Center."

The bonding concept is adaptable to both urban and suburban locations. In both cases, the constraint is available land or leasable building space next to a major toy store. Further, it is capable of working in both shopping centers and stand alone toy stores.

The interaction between the retail store and Power Play Center will depend mostly on the motivations of the retail store management. If the retailer desires to change its identity by creating a new experience for its customers, the concept would be to expand the space and intertwine the service components



with the retail component. However, if the retailer desires not to change its identity, then the bonding will be only at the surface with the power play center placed next to the retailer. Only retailers whose formula is not working would want to redefine their identity, while successful retailers would prefer not change their identity, but would welcome the synergy of having a children's services institution next door.

A typical suburban Toys R Us is located in the Northgate Shopping center in Revere, Massachusetts. The store is 52,000 square feet in size and generates about \$13 million dollars in sales. Discussions with the manager at the Northgate Toys R Us suggest that the company is seeking ways to get more people into its stores; however, the concept of adding services such as education, recreation, entertainment, and dining is not an option they would consider. The company does not want to change its identity. But the manager believed strongly that developing a Power Play Center next to a Toys R Us would create synergy and be beneficial to all parties. He believed that sales would be increased for their store.

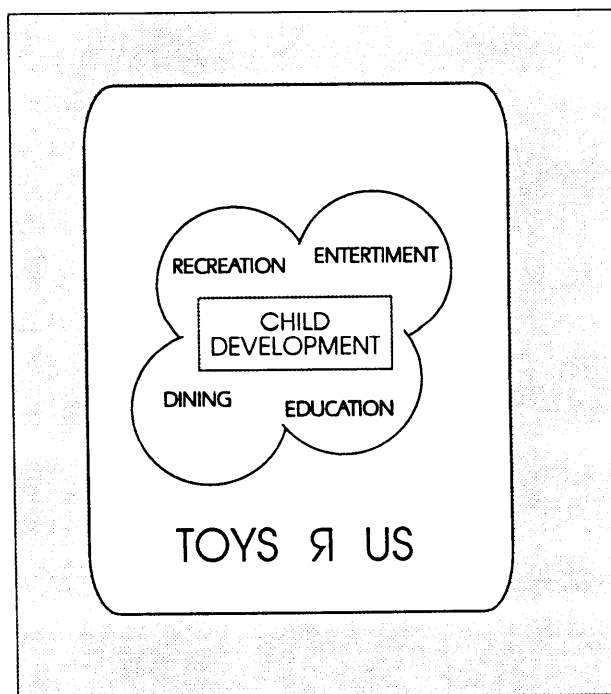
The concept is best suited to suburban stand alone stores on a major roadway, but could easily work in a city. For example, the Toy's R Us in New York City is a solid anchor to which a Power Play Center could bond. The Toy's R Us is located in Herald Square, on 34th Street, across from Macys. The store is 72,000 square feet, operates with 125 employees, and produces \$20 million dollars in sales. The Toys R Us is complemented

with a Kids R Us clothing store that is 22,000 square feet and generates \$8 million in sales.<sup>24</sup>

Thus, I believe two models exist for bonding, the intertwined bond, "the Child World Scenario" and the surface bond, the Toys R Us Scenario".

### Program & Physical Design

The two models suggest two different design options for a power play center. In adapting a major toy store, the additional space required would be about 50% of the existing size of the store. Since the size of major toy stores varies from 30,000 to 70,000 square feet, the additional space required to integrate a kids power center will vary between 15,000 and 35,000 square feet, depending upon the size and visitation of the store.



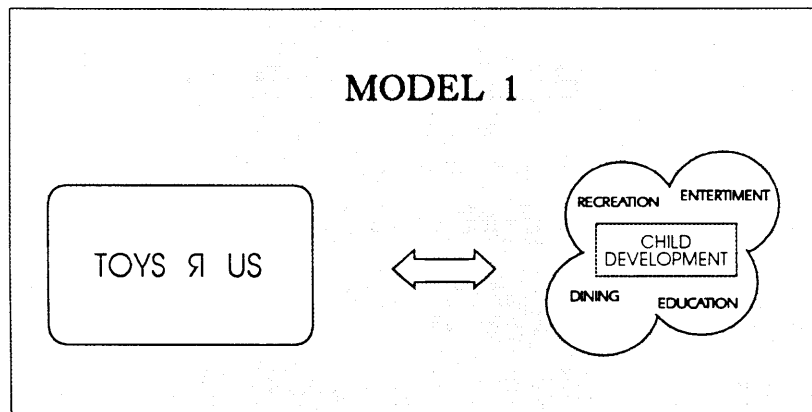
<sup>24</sup> "Toys R Us", New York Times, March, 28, 1990

The intertwined bond would strategically mix retail, education, recreation, day care, and dining. In this case, additional space would be required to reprogram the retail space into a child centered mixed use development. With the continuing priority on retail, the store would be divided into themed zones that include toys and games, sports, arts & crafts, and audio-visual experiences. The four zones would surround a Play and Learn Area in the central corridor, that would contain education, recreation, and entertainment for each theme. At the rear of the corridor would be a dining area, strategically positioned at that back of store. After indulging in the play and learn area, customers could then have a snack. In order to exit the store, customers would have to walk through the retail aisles. This would entice parents to purchase items that their kids enjoyed in the learn and play area, such as sports equipments or toys.

Each zone within the corridor will offer experiences that are designed to encourage interest in its theme. For example, the sports zone might include an obstacle course for fitness; batting, tennis, and basketball cages; systems for learning skiing, bicycling, and swimming; and some sports games and video programs. The toys and games, arts and crafts, and audio and visual sections would be designed similarly.

The surface bond model is conceptually similar to the intertwined bond model, but it is physically separated from the children's retail establishment. It involves leasing space

adjacent to a Toys R Us and creating a self contained children's Power Play Center. Since the services are unchained from the retail, the physical design will be different. In this case the themes of sports, toys and games, arts & crafts, and audio and visual arts are strategically planned to create a journey for parents and children.

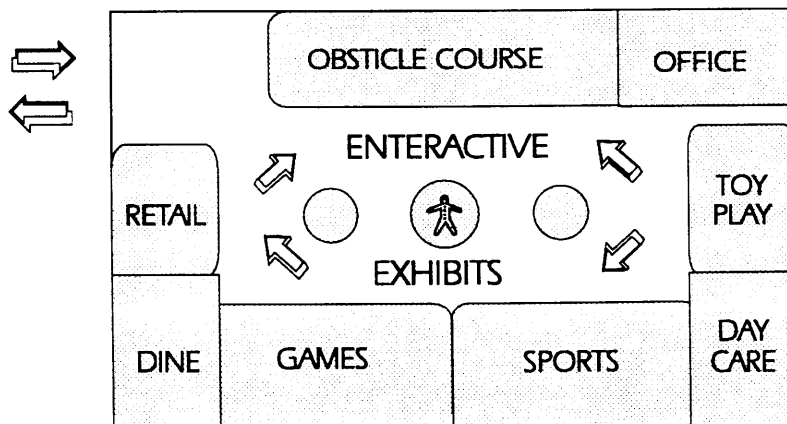


**Program Summary**

<b>PROGRAM</b>	<b>SIZE - SQFT FEET</b>	<b>PERCENT</b>
<b>Entertainment</b> . TV characters . Motion Movie Simulator . Interactive exhibits . Video games . Redemption games	6,000 - 8,000	11%
<b>Education</b> . Product education . Arts & Crafts	1,000 - 2,000	3%
<b>Recreation</b> . Obstacle course . Tennis and batting cages . Toy Play . Kids Mini Golf	6,000 - 9,000	13%
<b>Retail</b> . Toys R Us	30,000 - 50,000	71%
<b>Dining</b> . Snack Bar or Chuck E Cheese	1,000 - 1,500	2%
<b>Total (Power Play Center)</b>	<b>14,000 - 20,500</b>	<b>35%</b>

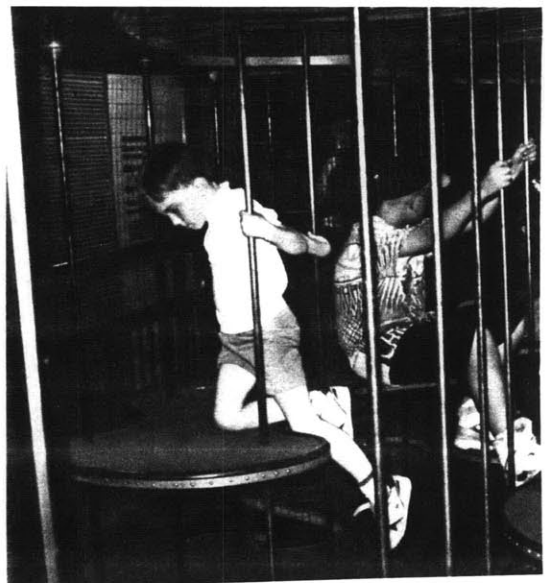
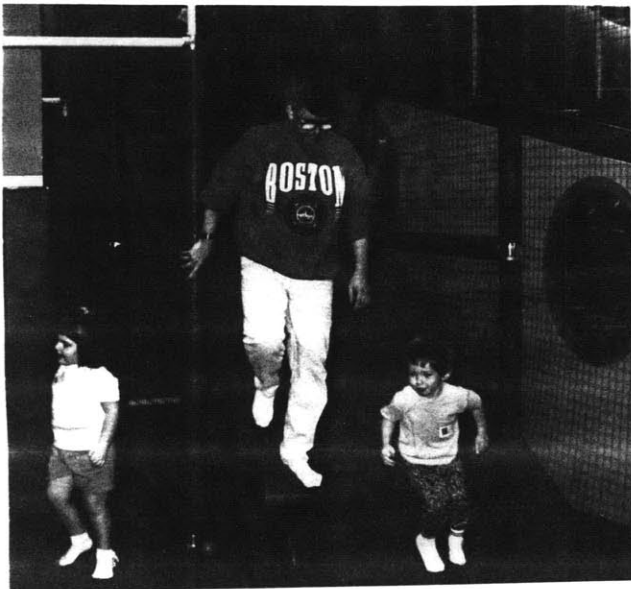
**The "Power Play" Experience**

Potential Floor Plan



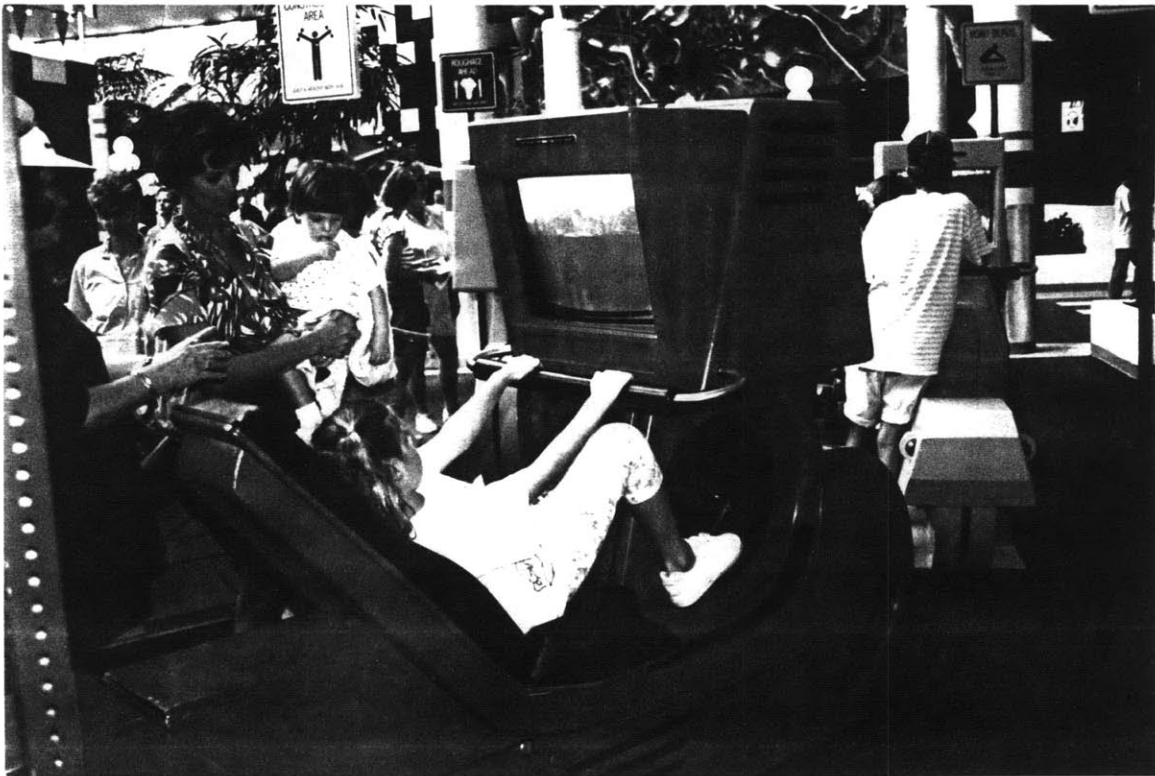
You're dad exits off route 128 and pulls into the Toys R Us lot. In front of you is the familiar Toys R Us sign in primary colors, but whats this "Kids Power Play" sign next to it? You look ahead and see the once familiar Toys R Us now has a new bold and bright building next to it. You see some familiar friends standing in front this new building, and you turn to your mom and say "there's Daffy". You run up to the building to greet your TV friends, who then escort you and your parents inside. Inside is a large open space with lots of color and lots of families. Once inside you follow a yellow brick road that leads you on an adventure.

Your first experience is the parent & kid obstacle course. Its a race with different tracks for different sized people. You have to plow your way through a channel of balls, go through a tube, work your way through a spiders web, climb up the rubber steps, and slide down across the finish line.



Next you board a thrill master motion movie simulator that takes you on a 8 minute journey through space as a Jeddi Warrior. Its Star Wars, and you and your parents are on Luke Skywalker's space ship. Your mission is to destroy the enemy planet.

Of course you succeed. Next, its on to the interactive exhibits where people inside machines talk to you and you respond by pressing buttons, turning wheels, or using your feet. Then its on to the toy and game play area where kids can play with the latest games and parents are able to learn about different toys and games in order to make educated decisions about their purchases.



Then its on to the sports center where you play tennis or softball. This is where parents can test there sporting talents with a round of miniature golf.



Finally, the yellow brick road leads you to a gallery of the latest video games, adjacent to the dining area, where your parents can rest from all that exercise, and you can still play, but you have to have a healthy snack first.

#### Admission Charges

In both scenarios, the Power Play Center would generate revenues through an admission charge for children. Parents would be admitted free of charge. The admission fee would be between \$4.50 and \$6.50 depending on the location of the center and size of retail anchor. In addition, revenues will be generated within the arts and crafts and audio-visual sections. These



areas will have charges for materials children's use when they participate in workshops. Finally, there will be an additional charge for parents who wish to leave their kids and shop,

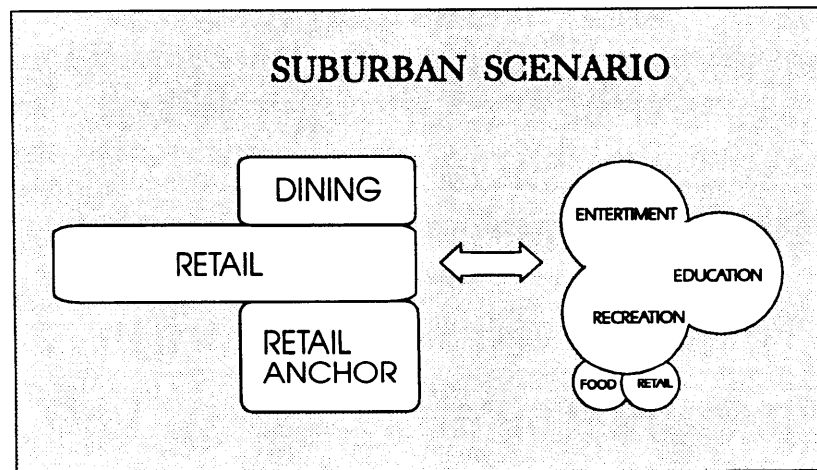
#### Addendum

The bonding model can be applied to other institutions such as Showcase cinema. In this case, the program composition would have to respond to an older clientele. The target audience would be older children and teenagers. The program mix would include education as well as retail. Finally, bonding onto a cinema will significantly affect visitation patterns and types of experiences the facility would be able to offer.

**Concept 2, Family Entertainment Center as an Anchor.**

**Explanation**

The anchor concept involves supplementing a regional mall or downtown retail destination (Faneuil Hall) with a 1990's version of the family entertainment center (FEC), which would include components of education and culture. The FEC anchor concept is currently being piloted in several suburban regional malls including: Forest Fair Mall near Cincinnati; 49th Street Galleria in Salt Lake City, and Franklin Mills Megamall near Philadelphia. Developers are redeveloping anchor stores or other existing retail space into entertainment complexes.



In the suburban context, developers are gaining confidence in providing entertainment as a means of reducing mall sterility, creating social interaction, and providing family fun. The addition of entertainment and recreation to regional malls distinguishes them from neighborhood centers, which increases regional mall draw radius. People are willing to drive larger distances for the mixed use experience. The visitation of entertainment centers boom during the summer when traditionally mall attendance is slow. The entertainment draw counter balances the slow retail during the Summer, and it even gives it a boost. Finally, entertainment centers allow parents the flexibility to leave their kids behind in order to do serious shopping. Some centers have integrated day care for smaller children into their program. The key to success in adding family entertainment to a mall is to select malls that are family oriented and cater to children's clothing, accessories, toys, and sports equipment. Finally, the mixing of entertainment and retail creates synergy between the uses increasing sales and customer satisfaction.

The urban environment has yet to package and develop a family entertainment center. Hence forth, this thesis will focus on the issues involved in implementing the suburban concept in an urban environment. An urban family entertainment center would complement the existing regional draw to the retail district; additionally, it would enhance the image of the district as a gathering place. Urban retail districts often cater to tourism

unlike the suburban regional malls. Accordingly, the program of an urban center would have to reflect a more tourist appeal. In order for the concept to work, there needs to be a significant number of retail stores to support an entertainment center. Further, downtown locations that draw a strong percentage of tourists are good target markets; for example, Boston's Faneuil Hall, Manhattan's South Street Seaport, and Chicago's Watertower Mall are premiere locations where this concept could be successfully deployed.

In either environment, family entertainment centers increase the number of visitors, duration of visit, and expenditures. According to Forrec International of Toronto, developer of the family entertainment center in the West Edmonton Mall "Amusements can extend a mall's draw by as much as five times current industry averages."

#### Program

The program mix in all locations will have strong components of entertainment and recreation. The components of education, culture, retail, and dining will vary depending on the location, visitation patterns, and visitor profiles.

The entertainment and recreation components will create an animated atmosphere incorporating rides, live performances, computer and video generated experiences, and challenging sports activities.

The education and culture component will be dictated by the

extent of tourism to the region or city. High tourism due to area history and culture, will propel an extensive education component in the program mix. Urban Centers would have an edge over regional malls in integrating education due to their wealth of history. Specific shows and exhibits on historical events around national holidays could be used as major attractions to draw visitors to the site.

The retail component required for the entertainment center is highly dependent on the type of retail that currently exists in the mall or urban district. The addition of a family entertainment center will alter the current profile of visitors and visitation patterns. The FEC should increase the demand for retail establishments catering to children. This new demand could be serviced through in house retail or through adjacent leasable retail space.

The dining component for both a mall or urban entertainment center would be determined by existing restaurant proximity and capacity. Ideally, a mall entertainment center would be adjacent to the mall food court in order to create synergy between the two uses. In an urban center, the facility would include a restaurant.

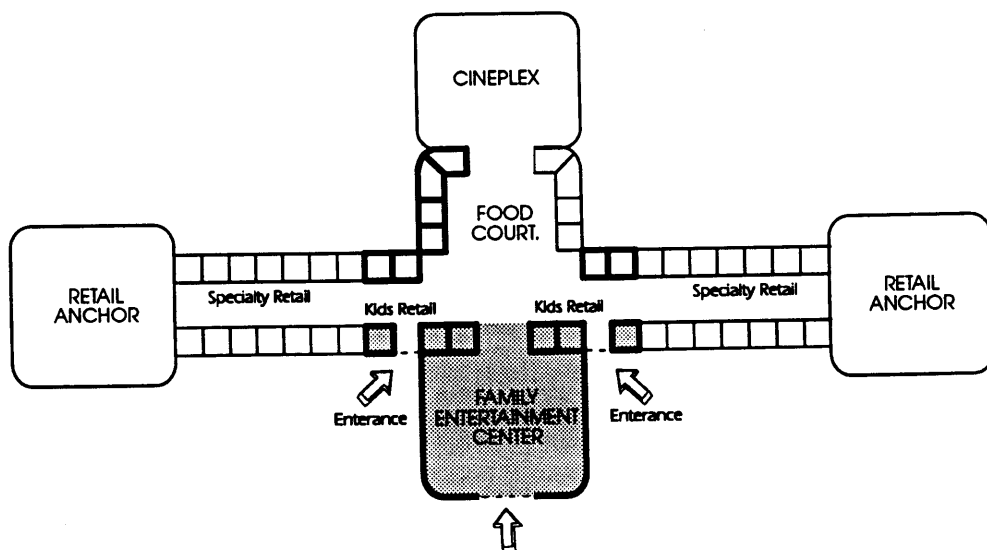
<b>MODEL 2, FAMILY ENTERTAINMENT CENTER</b>	<b>AREA - SQUARE FEET</b>	<b>URBAN %</b>	<b>SUBUR %</b>
<b>Entertainment</b>			
. Live performance areas	2,000 - 4,000		
. Motion Movie Cinema	1,000 - 2,000		
. Carnival Games	3,000 - 5,000		
. Video games	3,000 - 4,000		
. Kiddie Rides	2,000 - 3,000		
. Carrousel	2,000 - 3,000		
<b>Total</b>	<b>13,000 - 21,000</b>	<b>37%</b>	<b>30%</b>
<b>Education</b>			
. Historical exhibits	1,000 - 2,000		
. Interactive computer learning	1,000 - 3,000 2,000 - 3,000		
. Discovery theater	4,000 - 8,000	14%	9%
<b>Total</b>			
<b>Recreation</b>			
. Miniature golf	8,000 - 12,000		
. Ice skating/Roller Blade*	6,000 - 12,000		
. Batting and tennis cages	2,000 - 3,000		
<b>Total</b>	<b>16,000 - 25,000</b>	<b>28%</b>	<b>47%</b>
<b>Specialty Retail</b>			
. 1 - 5 Stores	3,000 - 10,000	11%	6%
<b>Theatrical Dining</b>			
. 1 - 3 Restaurants	3,000 - 10,000		
. Party Room	2,000 - 4,000		
<b>Total</b>	<b>5,000 - 14,000</b>	<b>10%</b>	<b>7%</b>
<b>Subtotal</b>	<b>42,000 - 78,000</b>		
<b>Other (Circulation, day care)</b>	<b>15,000 - 23,000</b>		
<b>Grand Total</b>	<b>59,000 - 101,000</b>		

Site Selection and Physical Design

The family entertainment center should occupy less than 10% of the retail floor space in the mall or urban district. In a mall this would be about the same size as a smaller sized anchor store such as Lechmere, Walmart, or Nordstroms, 60,000 to 120,000 square feet.

Family entertainment centers in suburban malls are often located near the food court and movies theaters. For example, the River Falls Mall is designed with retail on the first floor and the FEC, food court, and theaters on the second floor. However, the separation of retail from the services does mitigate the synergy that could be achieved. Themes can be used to unite components and create synergy between the FEC, retail, food court, and theaters. A suburban mall concept might look like the following:

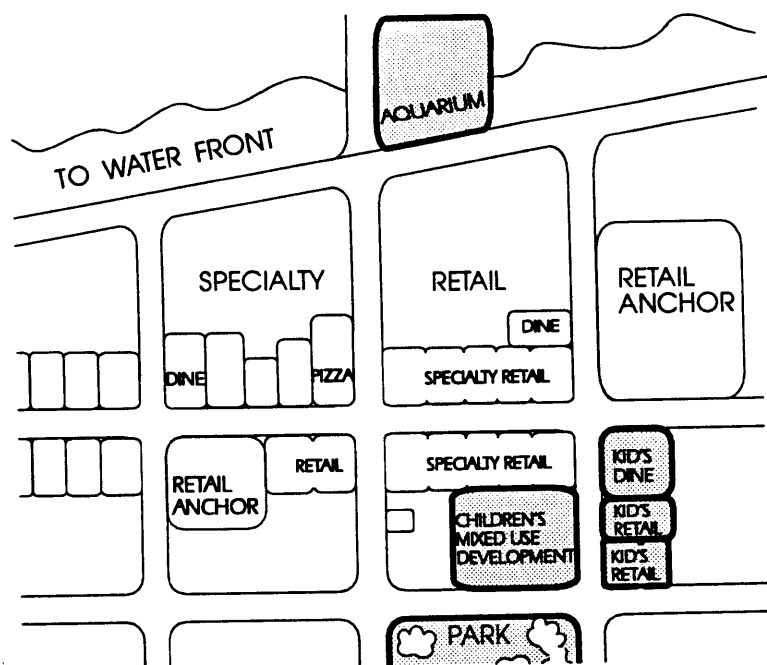
SYNERGY - MALL & F.E.C.



In transposing the suburban mall model of the FEC to an urban retail district prototype, a variety of issues must be addressed with respect to FEC integration in the district as well as the physical design of the building.

Site selection will be critical to the success of the FEC. Ideally, the selected district should be located in an area of high pedestrian traffic and family appeal. Further, the FEC should be located next to existing specialty retail and close three or more anchors. In the urban context, anchors would include museums, parks, convention centers, and aquariums. It is important that the district already draw families, and not be labeled as a business district. Festival marketplaces such as Boston's, Faneuil Hall or New York's South Street Seaport are choice sites. The following diagram depicts an urban district scenario.

## URBAN RETAIL DISTRICT





The urban center should have a minimum floor plate size of 20,000 square feet in order to convey openness. Ideally, the FEC would be created in a custom designed new building, but most probably it would be created in a redeveloped building. The entire FEC should be contained in three floors or less; the fewer the floors the better. In addition, the ceiling heights should be no less than 12 feet, and preferably higher. Access to an open air roof is highly desirable. The Urban FEC must have in-house retail and dining unlike the mall prototype. Finally, The retail and dining should be accessible from both the street and inside the FEC.

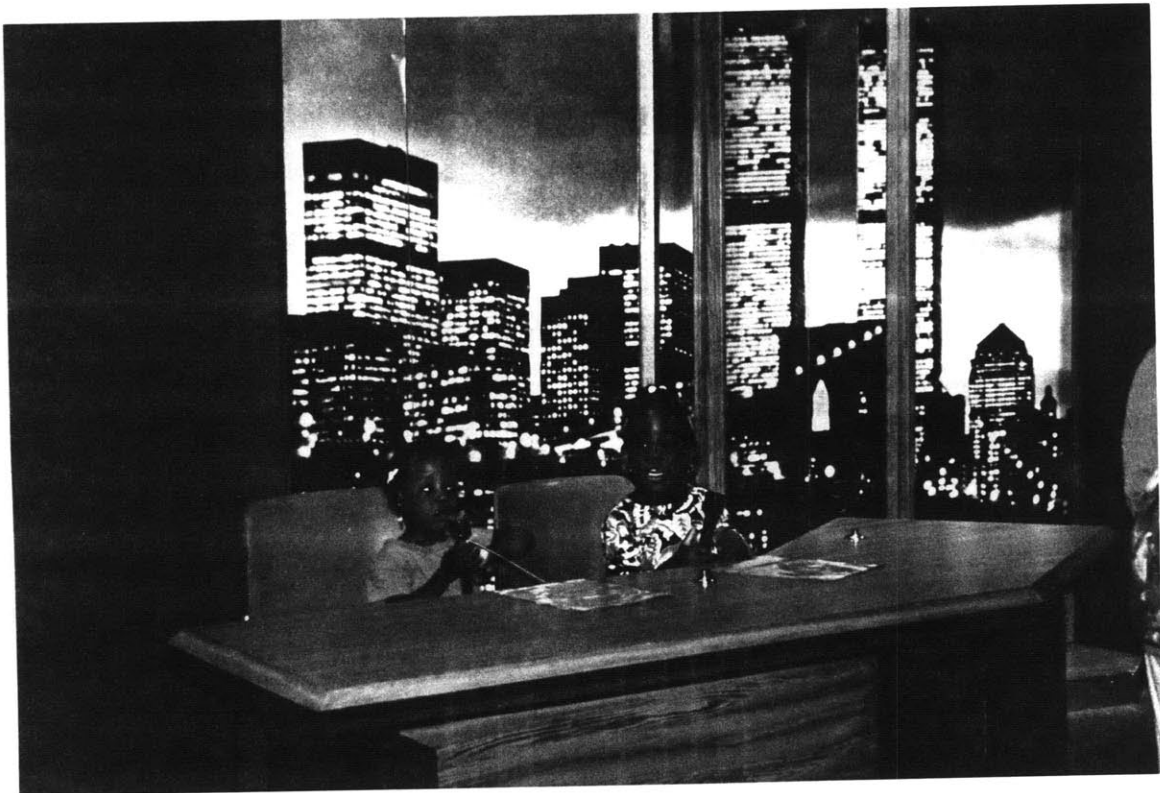
#### The Experience, An Urban Choreography

Imagine arriving at Quincy Market, your favorite place to eat in Boston and seeing this new building with a giant banner hanging along its side that says: Grand Opening, "The Boardwalk, Entertainment Center" In front of the building is a boardwalk upon which stand your favorite TV characters, "The Simpsons". Even your dad is interested in checking out this place. You walk up the boardwalk and are greeted by your friends, the Simpsons, who escort you into the building. The open space in front of you expands outward and down drawing you in. Where to go first as your eyes see rides, sporting games, and live entertainers, and this is only the first floor. You board the carrousel and watch the world spin before your eyes.

Next you move to the motion movie cinema with your parents,

they seem a little scared. What about tennis lessons in our Wimbledon Center Court booth?

On the second floor is a theater where you and 8 other kids can be selected to star in the filming of a reenactment scene in the history of Boston, perhaps the Boston Tea Party or Bunker Hill. It takes less than a half hour and maybe its the your grand opportunity to becoming a star.



Then, its off to the 3rd floor, and this floor is going to make your dad's day, put him in a good mood. Its the miniature golf course, but this course has moving bridges and spinning windmills to add to your challenge. Then, its down the back

ramps that show highlights of the history of Faneuil hall and downtown Boston. In addition, there are interactive computer terminals to challenge you with history sports, puzzles, space, ocean, and the human body.



Now you are down to the 1st level. Here you'll be entertained by strolling musicians, mimes, comedians, and entertainers while you enjoy a snack in the theatrical restaurant. In addition, there is a retail shop on the boardwalk selling T-shirts, gifts, toys, games, and novelties. Finally, there is an arcade for you to play in while your parents shop.

### Admission Charges

The urban FEC will charge an up front admission fee ranging from \$5.00 to \$7.00 depending upon size and location. Additional revenues will be generated through video games, retail sales dining, workshops, daycare, and neighboring leases held by the developer. Typical suburban FEC's have sales per square foot ranging from \$50.00 - \$150.00 that includes the admission cost. The following chart analyzes potential revenues with different assumptions:

### Business Strategy

The ultimate goal is to create a mini-district within the larger district that becomes known as "Kiddie city", where the FEC is the anchor surrounded by kids specialty retail and dining. Ideally, the FEC developer should select a site where he is able to negotiate first option on lease rollovers of the adjacent specialty retail stores. The developer will then be able to create a children's mixed use mini district.

### Concept 3, Stand Alone, Child Oriented Mixed Use Development

#### Explanation

The concept involves creating a next generation family destination, a child-centered mixed use development, that intertwines entertainment, culture, education, recreation, retail, and dining, in a year round destination. This new institution will marry uses forming an animated center for family exploration, hence forth called the "Exploratorium". Unlike the bonding and anchor concepts which involve a merging of institutions, the Exploratorium is free to intertwine uses altering traditional experience. The destination will be a minimum of 90,000 square feet and capable of drawing regional, national, and international visitors. It will be a high tech environment utilizing state of the art, Disney type experiences, with a multi-tasking, theatrical staff to entertain kids from age 3 to 95.



The Exploratorium Concept can be packaged for either a downtown location or a suburban location. The critical factor determining feasibility is population density, competitive destinations in the area, and available land or building space.

An urban exploratorium will require a city with a metro area population that is growing and will exceed 2 million people by 1995. In addition, the city must have a significant number of inner city habitants as well as growing tourism. Further, the city must not have a plethora of existing family destinations and cultural attractions, but rather be in need of major family destinations. Cities that fall into this category include: Phoenix, Cleveland, Sacramento, Seattle, Pittsburgh, and Fortworth. Finally, the intertwining of uses within the Exploratorium requires a large open floor plate, a minimum of 40,000 square feet. The Exploratorium should have 95% of its offerings within the first 3 stories of height. Optimally, a new building would be created for this destination.

A suburban Exploratorium will require suburban population densities found only around major cities in the United States. The city population should exceed 4 million with the entire metro region exceeding 8 million people. The target market for a suburban Exploratorium would be affluent professionals who live in the suburbs and commute to the city during the week, but prefer not to go to the city on weekends. Cities that fall into this category are New York, Los Angeles, Chicago, Philadelphia, and Washington D.C. A Suburban Exploratorium should have 95%

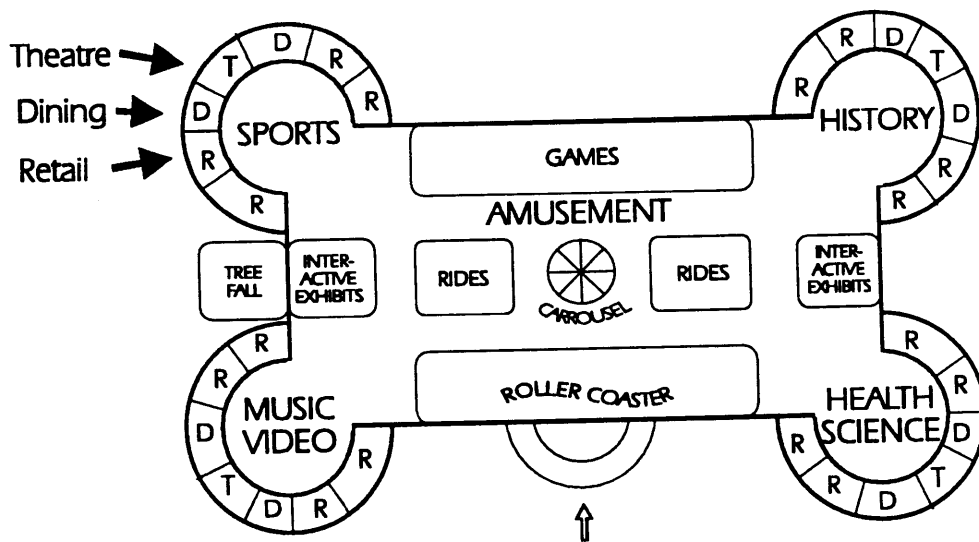
of its offerings on the first two floors.

Proposed Site

Based on population density, income, and competition, preliminary investigations show locating an Exploratorium in mid - Long Island would optimize the above factors. Long Island, N.Y. has a population of 2.8 million people who would be within an one hour drive from this destination. In addition, there are an additional 8 million people in New York City, who would be within a 1.5 hour drive from the exploratorium. Further, the per capita income of people in Long Island is the highest in the United States with an Effective Base Income of \$61,000.00.<sup>25</sup> Finally, there aren't any major attractions on Long Island.

Program

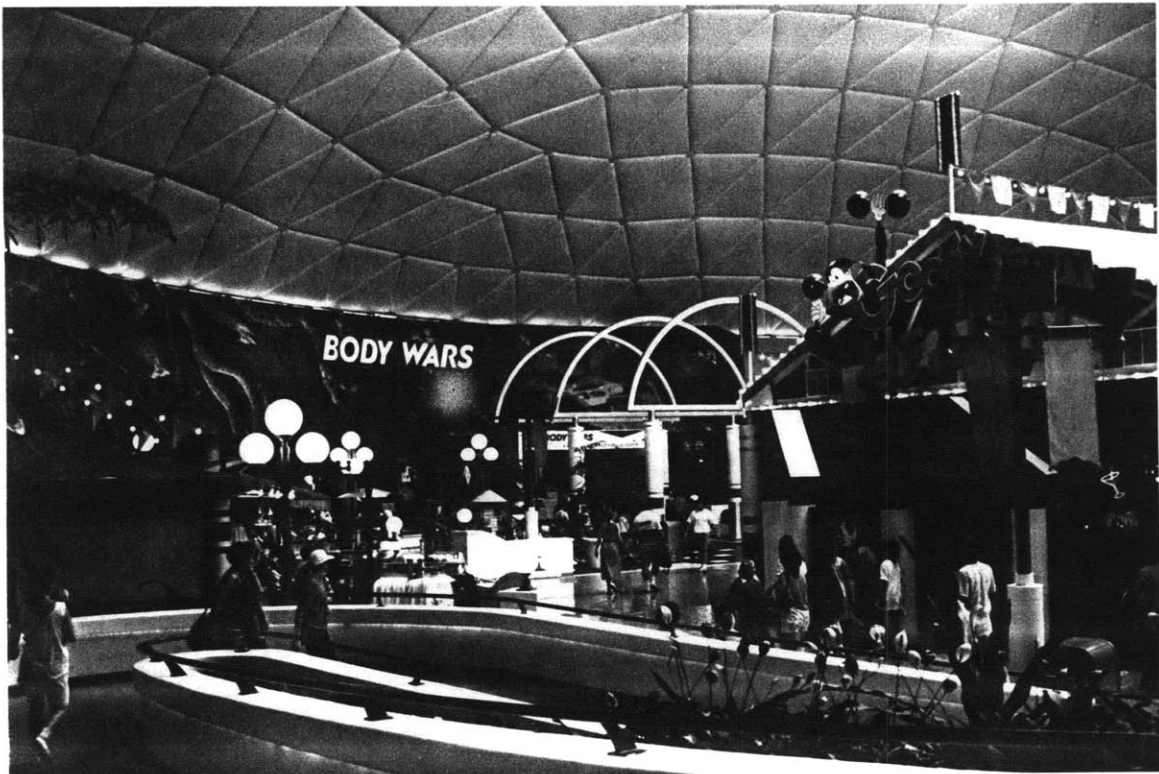
The destination will include an amusement and ride area plus four themed areas that integrate entertainment, education, recreation, retail, and dining.



<sup>25</sup> 1991 Survey of Buying Power Demographics, Sales and Marketing Management Magazine, 1991 Issue.

The four themes are sports, music and video, history, and health and science. The amusement area encompasses approximately half of the complex with the themed areas encompassing the other half. The themed areas are symmetrically located on the four corners of the amusement area.

The amusement & ride area will feature entertainment, recreation, an Exploratorium souvenir shop, and retail pushcarts. The entertainment component will revolve around a carrousel located in the center. Around the carrousel will be open air performance platforms as well as closed mini theaters for both live and imaged entertainment.





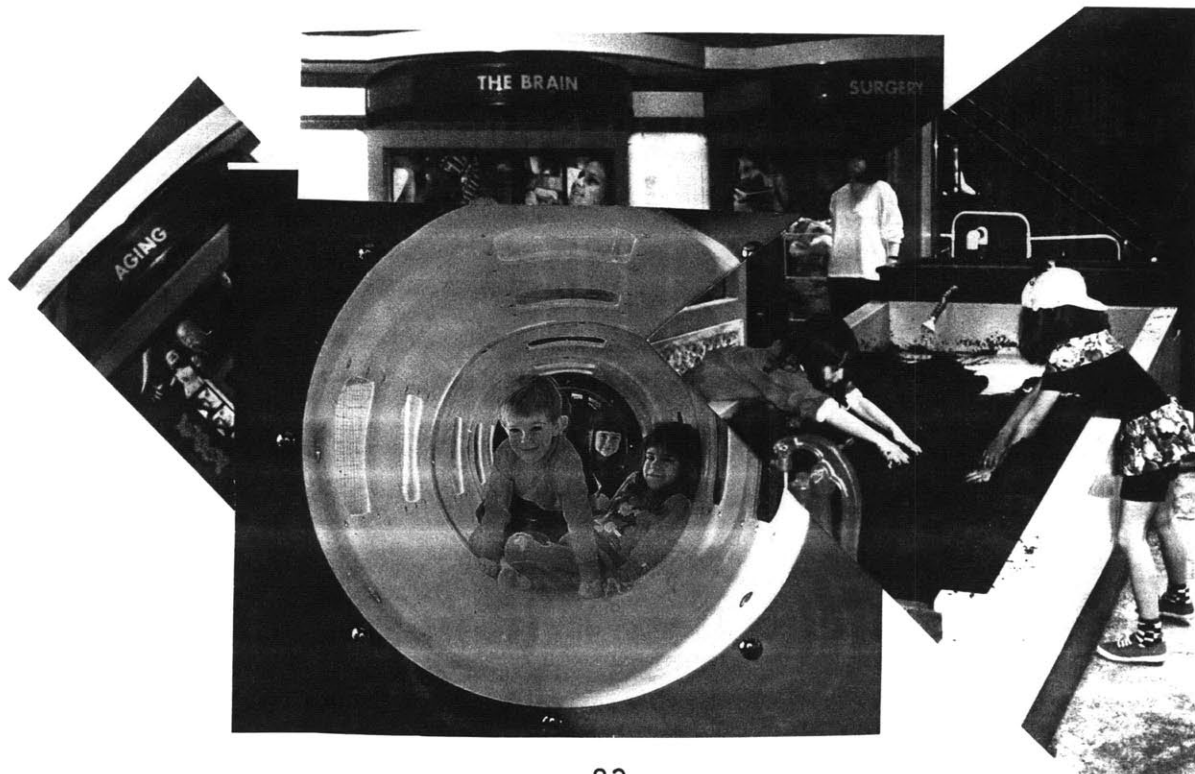
In addition there will be a roller coaster, a free fall ride, a motion movie cinema, and kiddie rides. In front of the entrance to each theme, but on the main field, will be interactive exhibits, skill games, and redemption games focusing each theme. This will tie the themes into the main field. The pushcarts will offer craft type items made in the local region. Finally the souvenir shop will offer memorabilia products, toys, and games relating to activities in the Exploratorium. In the next section, each themed area will be described, excepting the sports area which was described earlier.



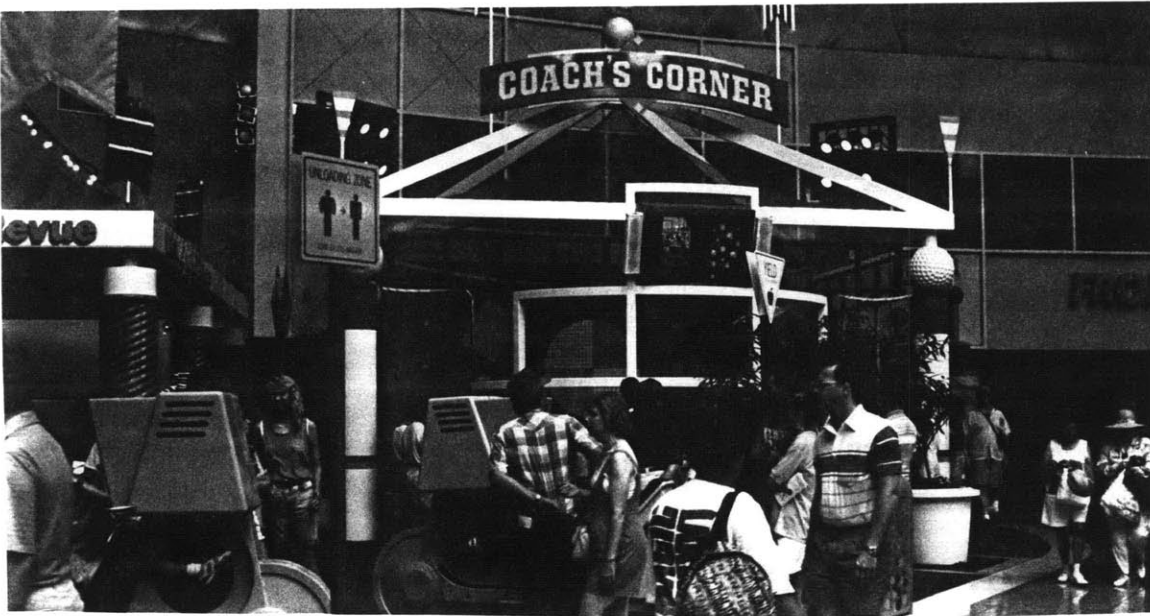
At each themed area, the first level integrates retail and dining with a composite of entertainment, recreation, and education, while the second level integrates recreation, entertainment, and education. For example, in the music and

video themed area, there would be a hard rock cafe style restaurant with live music or a Johnny Rockets restaurant with a musical revue. Surrounding the open space would be retail consisting of a music/video store and musical equipment store. On the second floor would be interactive music & video exhibits, history of music, and play music equipment.

The health and science themed area would be a garden type restaurant with a park atmosphere. A waterfall will provide a soothing tranquility drowning out the sounds of the neighboring action. A theater in the park will offer education and entertainment on eating right, exercising, brushing your teeth, and preventative health care. There will be a health and science type retail such as the Nature Company. On the second floor will be interactive exhibits regarding the earth, environment, space, and the human body.



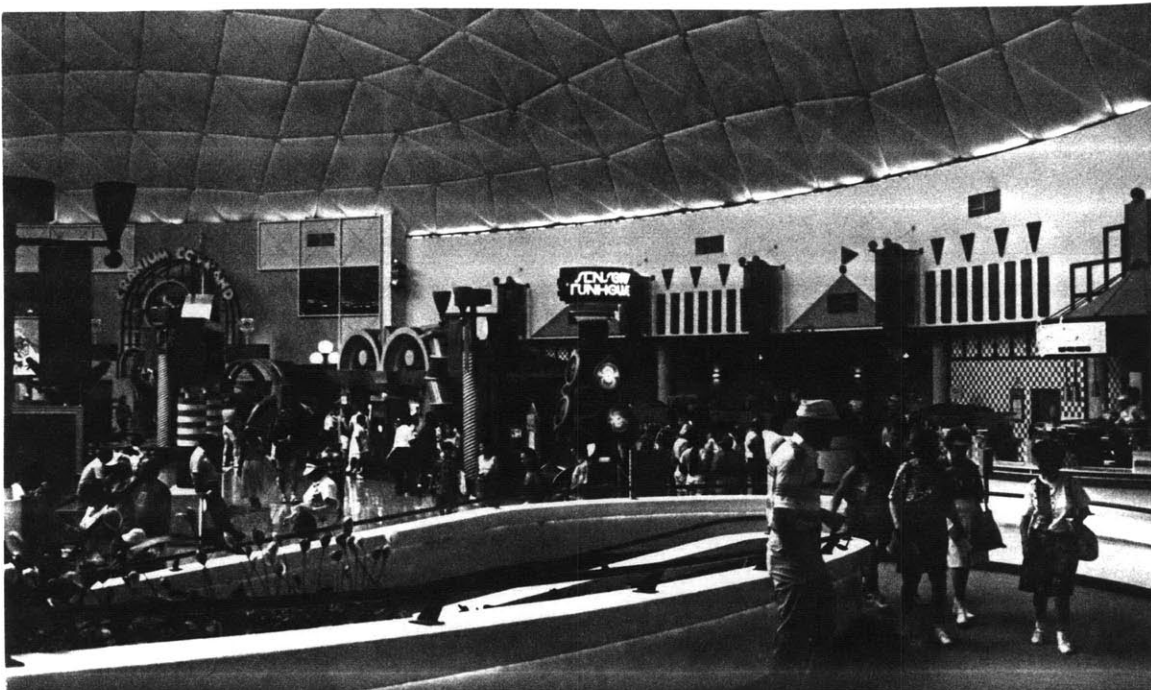
The history area will intertwine history exhibits and shows with dining and retail. Dining will take place on an old stage coach where the historical events will be re-enacted. The area surrounding the stage coach will function as a train station where children can plan a journey any where in the United States. Interactive exhibits will challenge them in geography and the history of different places. In addition, there will be a children's book store and a memorabilia store.



<b>MODEL 3, EXPLORATORIUM</b>	<b>AREA - SQUARE FEET</b>	<b>URBAN %</b>	<b>SUBUR %</b>
<b>Entertainment</b>			
. Theater	2,000 - 3,000		
. Live performance areas	2,000 - 3,000		
. Motion Movie Cinema	1,000 - 2,000		
. Video games	3,000 - 4,000		
. Old fashioned train	5,000 - 10,000		
. Roller Coaster	3,000 - 5,000		
. Kiddie Rides	3,000 - 5,000		
. Carrousel	2,000 - 3,000		
. Free Fall Ride	2,000 - 3,000		
<b>Total</b>	<b>23,000 - 38,000</b>	<b>30%</b>	<b>35%</b>
<b>Education</b>			
. Historical exhibits	4,000 - 6,000		
. Interactive learning	2,000 - 3,000		
. Discovery theater	2,000 - 3,000		
. Corporate Expositions	5,000 - 10,000		
<b>Total</b>	<b>13,000 - 22,000</b>	<b>20%</b>	<b>14%</b>
<b>Recreation</b>			
. Miniature golf	12,000 - 20,000		
. Ice skating (Outside)	20,000 - 30,000		
. Batting and tennis cages	2,000 - 3,000		
<b>Total</b>	<b>14,000 - 23,000</b>	<b>23%</b>	<b>22%</b>
<b>Specialty Retail</b>			
. 8 - 12 Stores	12,000 - 24,000	15%	18%
<b>Theatrical Dining</b>			
. 4 - 8 Restaurants	8,000 - 16,000		
. Party Room	2,000 - 4,000		
<b>Total</b>	<b>10,000 - 20,000</b>	<b>12%</b>	<b>11%</b>
<b>Subtotal</b>	<b>72,000 - 127,000</b>		
<b>Other</b> (Circulation, theming)	22,000 - 38,000		
<b>Grand Total</b>	<b>94,000 - 165,000</b>		

### Physical design

The physical design of the Exploratorium should convey a open air atmosphere, The building could achieve this transparent character through the use of either a glass and space frame structure or a tensile structure configured to evoke the character of a circus tent. The resulting open air atmosphere will simulate an outdoor theme park experience. The main area of the structure, a minimum of 40,000 square feet, will be a tall single story space enclosing the amusement & ride area. The ceiling height at the perimeter should be a minimum of 24 feet rising to a peak of 50 feet at the center to accommodate the roller coaster.



The themes of sports, music and video, health and science, and history are integrated through the use of 15,000 to 20,000 square foot, two story structures at each corner of the rectangle. These four structures will be circular in order to create a center for interaction among education, entertainment, recreation, retail and dining. In addition, the "themed" corner structures will open onto the rectangular field on two levels. The first level will provide access to and from the amusement field, and the second level will be a balcony offering spectators an aerial view of the action.

The Exploratorium will create a park like atmosphere incorporating many trees and plants, running water, and windy paths. The facility will be designed to move visitors through the activities following a circular pattern that starts in the amusement and ride area and circles through the four themes. But, of course people will be free to go where ever they want.

#### The Experience, a Suburban Choreography

Imagine entering a new place, a place that radiates energy from within, a place of people, animation, and sensation. Imagine entering through a tunnel that transforms your motion and speech into your favorite cartoon characters, heroes, or stars. As you work your way through, you and a friend can interact as Laurel and Hardy, the Road Runner & Wyle Coyote, or the Simpsons. They'll follow every move you make and sound you make. The end of the tunnel opens into a tremendously large open space filled

with sunlight. Your eyes scan the tall trees, flowers, running brooks, and clouds within the internal sky. Then you see a weather balloon with people in it navigating between the clouds. There's a swoosh of sound as a roller coaster passes over your head, and you feel the wind it left behind. You lead your parents into this unfamiliar world by following the yellow brick road. You board the roller coaster that takes you on a thrill journey over mountains, through underwater canyons, and over the empire state building, where King Kong is trying to grab your coaster car. It's an experience brought to life through projected images similar to a 3-D movie. After that thrilling adventure, you venture into other ride experiences, such as the bumper cars. Then you continue down the yellow brick road and you come to some sporty looking chaps who are entertaining kids and their families with a street side performance. Behind them is batting, tennis, and basketball challenges, where you can develop your skill, show off your abilities and maybe win a prize. Adjacent to this is your favorite sports store, Hall of Fame, and a sports themed restaurant. And beside that is a live acrobatic performance going on. The show finishes and you applaud thinking its over, but then some unsparty looking want to be sportsmen take the stage and make you laugh with their lack of ability. Next, you board a train which takes you on a journey through history, where animatronic characters and live performers re-enact historical events. Then its on to the music and video section where you are on stage with Michael Jackson,

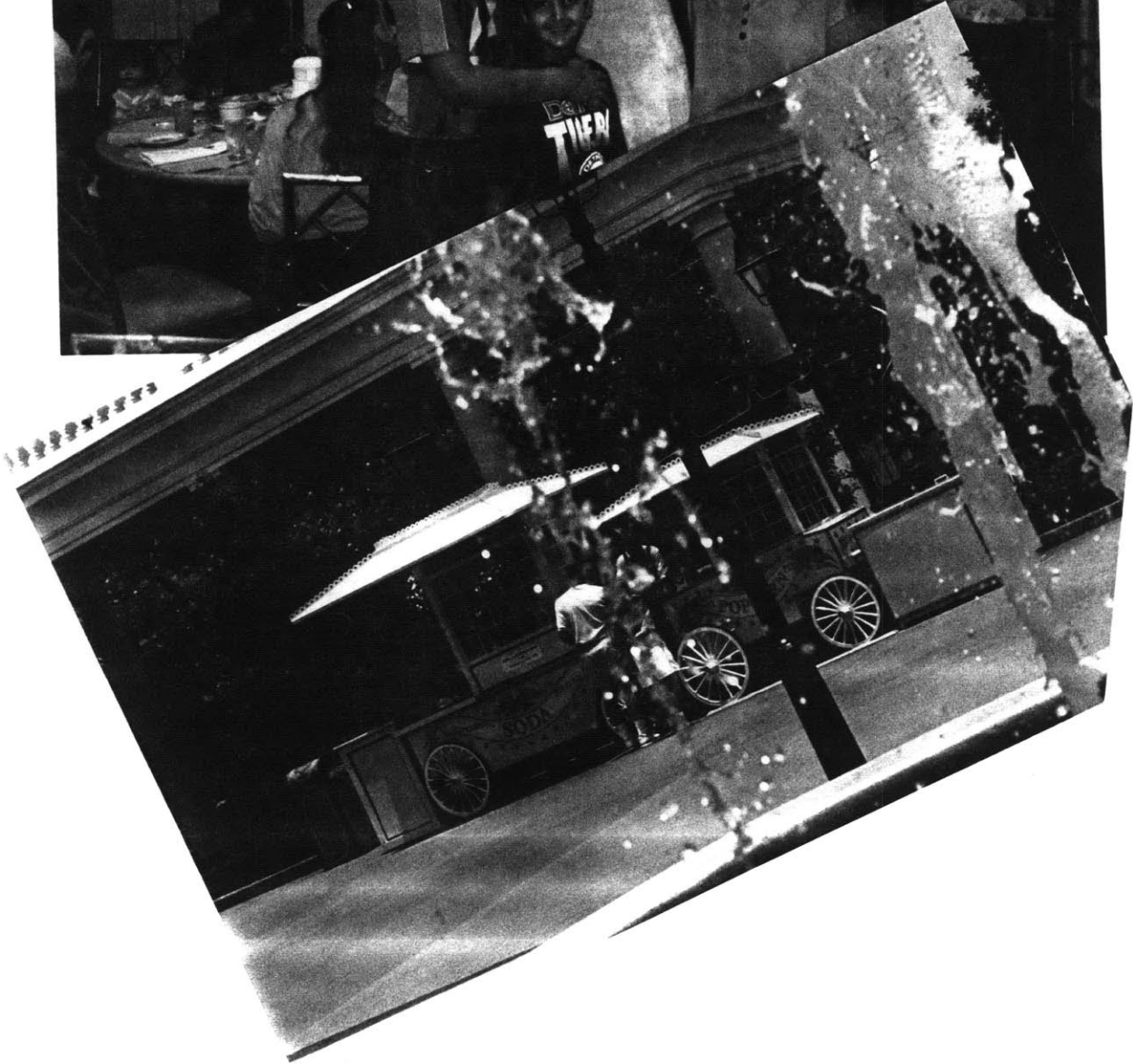
of course there is a music and video store, and a musical revue of the fifties by the waiters and waitresses of Johnny rockets. Finally, you come to the health and science section where you can learn about how your body works. Can you meet the fitness tests. The exploratorium creates a world for you to discover and develop your passions.

### Admission Pricing

The urban and suburban Exploratorium's will use different systems for revenue generation. The suburban project will use a pay as you go system, where tickets are purchased for \$0.50 and may be used in multiples for rides, games, and activities. An urban project will use a one price admission charge of \$8.00 for adults and \$6.50 for kids with the following allowances. A person can buy a spectator ticket for \$5.00 which permits entrance to the park, but not the use of rides. Further, the \$5.00 admission charge is refundable upon a \$15.00 purchase.

Finally, a major issue emerges in the urban stand alone environment where an admission charge is used. The issue concerns allowing access to retail without paying admission. A physical conflict occurs if the retail is accessible from the street as well as from the inside. In this case the retail and themed dining would have to be grouped together in such a way as to minimize the number of arteries into the amusement and ride area. Finally, a hand stamp, patch, or tag system will have to be deployed to insure customers have paid.





## Chapter 5

### Financial Analysis

Description of Financial Model

Financial Analysis

- . Model 1, Power Play Center
- . Model 2, Family Entertainment Center
- . Model 3, Exploratorium

## Description of Financial Model

### Introduction

In this chapter a financial model is used to analyze the three child oriented MUD concepts crafted in chapter four. The primary objective is to examine the relative financial risks and opportunities of each concept. The financial model is very basic and does not attempt to consider the effects of urban versus suburban locations. A financial analysis is performed on each project with respect to capital requirements, revenues, operating costs, debt service, and profit. The sensitivity of each concept is tested by running optimistic, pessimistic, and most likely financial scenarios for each concept. The results from the financial analysis will assist in defining the risks and opportunities of each concept.

### Assumptions

The assumptions for the financial analysis are based on the planned facility design and data from operations of the closest analogues to a child oriented MUD. Data from existing children's institutions are the basis for formulating the most likely, optimistic, and pessimistic scenarios. In order to approximate the financial parameters of a MUD it was necessary to look at both amusement park and retail store operations. The following shows how assumptions were made for analyzing each concept.

The most likely, optimistic, and pessimistic scenarios model the effect of variations in attendance, admission price, rent paid out, rent received, and day care fees. The attendance and admission charges are modeled by using the high, low, and average of closest analogues within a class (size) of institution. For example for the Power Play Center, the optimistic and pessimistic scenarios are derived by data from McDonald's Playland and Discovery Zone. The rent (NNN) was based on information gained through the literature review .<sup>26</sup> This rent includes the base rate, overages, and common area charges. It does not include taxes, insurance, and utilities which are included in the operating expenses. The rent received from leasing space to specialty retail stores and restaurants is varied based on information gained through literature review on regional malls and super regional malls.<sup>27</sup>

The following general assumptions are made and do not vary among the most likely, optimistic, and pessimistic scenarios. Both the Power Play Center and Family Entertainment Center are presented as a rental lease and do not include financing of a new building, while the Exploratorium is presented as a new construction project where the cost of the building is financed. Finally, estimates are made for the amount of retail and

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<sup>26</sup>1990 Dollar & Cents Guide to Shopping Centers, Urban Land Institute, 1990

<sup>27</sup> Ibid

restaurant space. A decision can be made whether this space will be leased to tenants or be run by the facility operator. In the Power Play Center, it is assumed that the retail and restaurant will be operated by the principal tenant. In the FEC and Exploratorium, it is assumed that the space will be leased to tenants who will pay a monthly fee. For the sake of simplicity, the stated retail and restaurant space lease rates include base rent, overages, and common area charges. The lease rates do not include taxes, insurance, utilities, and maintenance.

#### Revenues

Revenues are defined by multiplying admission charges by annual attendance. The pay as you go system was not directly modeled, but would have similar performance. In addition, revenues may include retail and food sales, day care, workshops, and arcade games.

#### Operating Costs

Operating costs include rent, wages, taxes, utilities, insurance, advertising, cost of sales, arcade prizes, security, and other expenses. The operating costs are reported as a percentage of revenue and are based on data from the operations of small family entertainment centers and small themeparks.<sup>28</sup>

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<sup>28</sup>Interviews: Bill Harrelson, Harrelson Consulting, July 25, 1991.

Publications: 1991, Amusement Industry Abstract, Funworld,

The percentages used are estimates extrapolated from available data and are a function of proposed project size, complexity, and content.

#### Net Operating Income

The NOI is the total revenues minus operating costs. The project value is based on the ratio of NOI over an interest rate of 11%.

#### Debt Service

The debt service includes both the capital equipment and building construction costs respectively financed at 12 percent over ten years and 11 percent over thirty years. If the space is leased only capital equipment costs are included.

#### Net Cash Flow After Debt Service (NCFADS)

NCFADS is computed by subtracting operating costs and debt service from the total revenues. A return on equity figure is derived by the ratio of NCFADS over the equity invested.

#### Construction Costs

Construction costs are simplified into six categories: Site preparation; shell construction; fitout for main area; fitout for retail and dining; and roads, parking, and landscaping. In

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February 1992.

the Power Play Center and FEC, where space is leased, the fitout costs are the equity investment for the project. In the Exploratorium, where space is built, the equity for the project is assumed to be 25 percent of total construction costs.

#### Development Soft Costs

The development soft costs are based on typically used percentages of the construction cost.

#### Program Components and Capital Equipment Costs

The capital equipment costs for the program components are at the heart of the financial analysis. The components of education, entertainment, recreation, retail, and dining are defined in terms of their elements and associated costs. The equipment costs are based on estimates from interviews with consultants and equipment suppliers. The floor area required for each use and average cost per square foot is calculated for each use. Finally, the floor area of the facility is derived based on the planned uses.

## MODEL 1, POWER PLAY CENTER

<b>EXECUTIVE SUMMARY</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Project Size (SQFT)	20,150	20,150	20,150
<b>Equity Invested (Fit Out Costs)</b>	<b>\$503,750</b>	<b>\$503,750</b>	<b>\$503,750</b>
Profit (NOI-DS Cap Equip.)	\$104,288	\$372,973	(\$137,587)
<b>Rate of Return</b>	<b>20.7%</b>	<b>74.0%</b>	<b>-27.3%</b>
Project Value (Capped NOI)	\$2,341,045	\$4,783,636	\$142,182
Project Cost (Fitout + Cap Equip)	\$1,393,750	\$1,393,750	\$1,393,750
Revenues	\$1,330,000	\$1,900,000	\$830,000
NOI	\$257,515	\$526,200	\$15,640
Debt Coverage Ratio	1.68	3.43	0.10

<b>ASSUMPTIONS</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
<b>Attendance Annually</b>	<b>150,000</b>	<b>200,000</b>	<b>100,000</b>
<b>Avg Admission Charge/Person</b>	<b>\$5.50</b>	<b>\$6.00</b>	<b>\$5.00</b>
Hourly Wages	\$5.00	\$5.00	\$5.00
Salary Wages	\$10.00	\$10.00	\$10.00
Interest Rate (Equip)	12%	12%	12%
Interest Rate Mortgage	N/A	N/A	N/A
Rent Willing to Pay (NNN)	\$12.50	\$10.00	\$15.00
Retail Space (SF)	1,000	1,000	1,000
Retail Lease out Rate	N/A	N/A	N/A
Restaurant Space (SF)	2,000	2,000	2,000
Restaurant Lease out Rate	N/A	N/A	N/A
Daycare & Workshops (rate/hr)	\$3.00	\$4.00	\$2.00



**MODEL 1, POWER PLAY CENTER**

<b>REVENUES</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Admission Charges	\$825,000	\$1,200,000	\$500,000
Retail			
Lease			
Sales	\$150,000	\$200,000	\$100,000
Food & Drink			
Lease	\$225,000	\$300,000	\$150,000
Sales			
Video Games	\$40,000	\$40,000	\$40,000
Day Care	\$90,000	\$160,000	\$40,000
<b>Total Revenue</b>	<b>\$1,330,000</b>	<b>\$1,900,000</b>	<b>\$830,000</b>

<b>OPERATING COSTS</b>	<b>MOST LIKELY SCENARIO</b>		<b>OPTIMISTIC SCENARIO</b>		<b>PESSIMISTIC SCENARIO</b>	
Rent	\$251,875	18.9%	\$201,500	10.6%	\$302,250	36.4%
Wages	\$319,200	24.0%	\$456,000	24.0%	\$199,200	24.0%
Property Taxes	\$26,600	2.0%	\$38,000	2.0%	\$16,600	2.0%
Maintenance	\$106,400	8.0%	\$152,000	8.0%	\$66,400	8.0%
Utilities	\$79,800	6.0%	\$114,000	6.0%	\$49,800	6.0%
Insurance	\$66,500	5.0%	\$95,000	5.0%	\$41,500	5.0%
Advertising	\$66,500	5.0%	\$95,000	5.0%	\$41,500	5.0%
Cost of Sales	\$93,100	7.0%	\$133,000	7.0%	\$58,100	7.0%
Arcade Prizes	\$15,960	1.2%	\$22,800	1.2%	\$9,960	1.2%
Security	\$6,650	0.5%	\$9,500	0.5%	\$4,150	0.5%
Other	\$39,900	3.0%	\$57,000	3.0%	\$24,900	3.0%
<b>Total Operating Costs</b>	<b>\$1,072,485</b>	<b>80.6%</b>	<b>\$1,373,800</b>	<b>72.3%</b>	<b>\$814,360</b>	<b>98.1%</b>

<b>NET OPERATING INCOME</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Total Revenues	\$1,330,000	\$1,900,000	\$830,000
Operating Costs	(\$1,072,485)	(\$1,373,800)	(\$814,360)
<b>Net Operating Income</b>	<b>\$257,515</b>	<b>\$526,200</b>	<b>\$15,640</b>
<b>Project Value = NOI/11%</b>	<b>\$2,341,045</b>	<b>\$4,783,636</b>	<b>\$142,182</b>
<b>Debt Coverage Ratio</b>	<b>1.65</b>	<b>3.38</b>	<b>0.10</b>

<b>DEBT SERVICE</b>	<b>AMT FINANCED</b>	<b>PAYMENT</b>
Capital Equipment (100%) 10 yrs @ 12%	\$905,000	\$155,809
Building (75%) 30 Yrs @ 11%	\$0	\$0
<b>Total Debt Service</b>		<b>\$155,809</b>

**MODEL 1, POWER PLAY CENTER**

<b>CASH FLOW AFTER DEBT SERVICE</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Total Amount Invested (Fitout Costs)	\$503,750	\$503,750	\$503,750
Total Revenue	\$1,330,000	\$1,900,000	\$830,000
Total Operating Costs	(\$1,072,485)	(\$1,373,800)	(\$814,360)
Net Operating Income	\$257,515	\$526,200	\$15,640
Total Debt Service	(\$153,227)	(\$153,227)	(\$153,227)
<b>Profit</b>	<b>\$104,288</b>	<b>\$372,973</b>	<b>(\$137,587)</b>
<b>Return Rate</b>	<b>20.7%</b>	<b>74.0%</b>	<b>-27.3%</b>

<b>CONSTRUCTION COSTS</b>	<b>SQFT</b>	<b>\$/SQFT</b>	<b>COST</b>
Shell Construction	20,150	\$0	\$0
Fitout for Main Area	12,500	\$25	\$312,500
Fitout for Retail & Dining	3,000	\$25	\$75,000
Fitout for Circulation	4,650	\$25	\$116,250
Roads, Parking & Landscaping	300,000	\$0	\$0
<b>GRAND TOTAL</b>	<b>20,150</b>	<b>\$25</b>	<b>\$503,750</b>

<b>CAPITAL COSTS</b>	<b>AREA - SQFT</b>	<b>ITEM(S) COST</b>	<b>COST/SQFT</b>	<b>COST</b>
<b>ENTERTAINMENT</b>				
Motion Movie Cinema	2,000	\$350,000	\$175	\$350,000
Interactive Games	500	\$50,000	\$100	\$50,000
Redemption Games (20)	1,000	\$100,000	\$100	\$100,000
Video Games (30)	1,000		\$60	\$60,000
<b>ENTERTAINMENT SUBTOTAL</b>	<b>4,500</b>	<b>\$500,000</b>	<b>\$124</b>	<b>\$560,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>36%</b>		<b>% OF TOTAL COST</b>	<b>63%</b>
<b>EDUCATION</b>				
Product Education	1,000		\$50	\$50,000
Interactive Computer Exhibits	500		\$100	\$50,000
Discovery Theatre	500		\$40	\$20,000
<b>EDUCATION SUBTOTAL</b>	<b>2,000</b>	<b>\$0</b>	<b>\$60</b>	<b>\$120,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>16%</b>		<b>% OF TOTAL COST</b>	<b>13%</b>
<b>RECREATION</b>				
Obstacle Course	2,000		\$50	\$100,000
Tennis & Batting Cages	2,000	\$20,000	\$10	\$20,000
Toy Play	1,000	\$10,000	\$10	\$10,000
Kid's Mini-golf	1,000	\$40,000	\$40	\$40,000
<b>RECREATION SUBTOTAL</b>	<b>6,000</b>	<b>\$70,000</b>	<b>\$28</b>	<b>\$170,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>48%</b>		<b>% OF TOTAL COST</b>	<b>19%</b>
<b>RETAIL</b>				
Gift Shop	1,000		\$10	\$10,000
<b>RETAIL SUBTOTAL</b>	<b>1,000</b>		<b>\$10</b>	<b>\$10,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>8%</b>		<b>% OF TOTAL COST</b>	<b>1%</b>
<b>DINING</b>				
Snack Bar	1,000		\$20	\$20,000
Party Room	1,000		\$20	\$20,000
<b>DINING SUBTOTAL</b>	<b>2,000</b>			<b>\$40,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>16%</b>		<b>% OF TOTAL COST</b>	<b>4%</b>
<b>CAPITAL COSTS FOR PROGRAM USES</b>	<b>12,500</b>		<b>\$71</b>	<b>\$890,000</b>

### Power Play Center Financial Analysis

The Power Play Center demonstrated widely different results based on most likely, pessimistic and optimistic scenarios. In the most likely scenario, the attendance was modeled after the Discovery Zone, 150,000 visitors, while the admission charge was conservatively placed at \$5.50, between that of Discovery Zone and McDonalds Playland. Further, a rent of \$12.50 is used which offers flexibility for site selection. It is assumed that fitout costs could not be financed, and that \$500,000 dollars would be the equity required to create a Power Play Center. The results are strong with a return on investment exceeding 20% or a profit of \$104,000 dollars per year.

In the pessimistic scenario, the admissions were reduced to 100,000 visitors, the admission charge is reduced to \$5.00, and the rent increased to \$15.00. In this case, the project does not perform well and produced a negative return on investment of 27.3% or a loss of \$138,000 dollars per year.

In the optimistic scenario the attendance was raised to 200,000 visitors, admissions charge was increased to \$6.00, and rent was lowered to \$10.00. These admissions and attendance reflect numbers that exceed the performance of Discovery Zone. In this case, the project produced a whopping 74.0% return on investment or a profit of \$373,000 per year.

In assessing the risks and opportunities of the Power Play Center, two areas must be highlighted. First, the assumptions for the Power Play Center are based on Discovery Zone and

Mcdonald's Playland which are half its size. The effect of offering more space, a broader variety of activities, and changing attractions is bound to create an opportunity to surpass the performance of Discovery Zone. Second, the Power Play Center minimizes risk by bonding to a Toys R Us. Toys R Us will serve as an anchor and draw people to the Power Play Center. Since it was shown earlier that the Toys R Us in Northgate Plaza, a typical suburban Toys R Us, has between 200,000 and 300,000 sales per year. Although records are not available for the number of people that visit the Northgate Toys R Us, it can be estimated that it has at least 300,000 to 400,000 visitors. This family magnet will easily spin off a participation of 150,000 children to a neighboring Power Play Center. In addition, the synergy created by bonding the Power Play Center and Toys R Us would provide greater opportunities and the potential to achieve the returns shown by the optimistic scenario.

**MODEL 2, FAMILY ENTERTAINMENT CENTER**

<b>EXECUTIVE SUMMARY</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Project Size (SQFT)	77,350	77,350	77,350
<b>Equity Invested (Fit Out Costs)</b>	<b>\$1,933,750</b>	<b>\$1,933,750</b>	<b>\$1,933,750</b>
Profit (NOI-DS Cap Equip.)	\$203,578	\$885,318	(\$443,602)
<b>Rate of Return</b>	<b>10.5%</b>	<b>45.8%</b>	<b>-22.9%</b>
Project Value (Capped NOI)	\$5,849,636	\$12,047,273	(\$33,818)
Project Cost (Fitout + Cap Equip)	\$4,488,750	\$4,488,750	\$4,488,750
Revenues	\$4,920,000	\$6,750,000	\$3,210,000
NOI	\$643,460	\$1,325,200	(\$3,720)
Debt Coverage Ratio	1.46	3.01	-0.01

<b>ASSUMPTIONS</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
<b>Attendance Annually</b>	<b>650,000</b>	<b>800,000</b>	<b>500,000</b>
<b>Avg Admission Charge/Person</b>	<b>\$6.50</b>	<b>\$7.50</b>	<b>\$5.50</b>
Hourly Wages	\$5.00	\$5.00	\$5.00
Salary Wages	\$10.00	\$10.00	\$10.00
Interest Rate (Equip)	12%	12%	12%
Interest Rate Mortgage	11%	11%	11%
<b>Rent (NNN)</b>	<b>\$10.00</b>	<b>\$8.00</b>	<b>\$12.00</b>
Retail Space (SF)	8,000	8,000	8,000
Retail Lease out Rate	\$30.00	\$25.00	\$20.00
Restaurant Space (SF)	6,000	6,000	6,000
Restaurant Lease out Rate	\$30.00	\$25.00	\$20.00
<b>Daycare (rate/hr)</b>	<b>\$3.00</b>	<b>\$4.00</b>	<b>\$2.00</b>

**MODEL 2, FAMILY ENTERTAINMENT CENTER**

<b>REVENUES</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Admission Charges	\$4,225,000	\$6,000,000	\$2,750,000
Retail			
Lease	\$240,000	\$200,000	\$160,000
Sales			
Food & Drink			
Lease	\$180,000	\$150,000	\$120,000
Sales			
Video Games	\$80,000	\$80,000	\$80,000
Day Care (10% of Visitation)	\$195,000	\$320,000	\$100,000
<b>Total Revenue</b>	<b>\$4,920,000</b>	<b>\$6,750,000</b>	<b>\$3,210,000</b>

<b>OPERATING COSTS</b>	<b>MOST LIKELY SCENARIO</b>		<b>OPTIMISTIC SCENARIO</b>		<b>PESSIMISTIC SCENARIO</b>	
Rent	\$773,500	15.7%	\$618,800	9.2%	\$928,200	28.9%
Wages	\$1,476,000	30.0%	\$2,025,000	30.0%	\$963,000	30.0%
Property Taxes	\$147,600	3.0%	\$202,500	3.0%	\$96,300	3.0%
Maintenance	\$590,400	12.0%	\$810,000	12.0%	\$385,200	12.0%
Utilities	\$295,200	6.0%	\$405,000	6.0%	\$192,600	6.0%
Insurance	\$246,000	5.0%	\$337,500	5.0%	\$160,500	5.0%
Advertising	\$246,000	5.0%	\$337,500	5.0%	\$160,500	5.0%
Cost of Sales	\$246,000	5.0%	\$337,500	5.0%	\$160,500	5.0%
Arcade Prizes	\$59,040	1.2%	\$81,000	1.2%	\$38,520	1.2%
Security	\$49,200	1.0%	\$67,500	1.0%	\$32,100	1.0%
Other	\$147,600	3.0%	\$202,500	3.0%	\$96,300	3.0%
<b>Total Operating Costs</b>	<b>\$4,276,540</b>	<b>86.9%</b>	<b>\$5,424,800</b>	<b>80.4%</b>	<b>\$3,213,720</b>	<b>100.1%</b>

<b>NET OPERATING INCOME</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Total Revenues	\$4,920,000	\$6,750,000	\$3,210,000
Operating Costs	(\$4,276,540)	(\$5,424,800)	(\$3,213,720)
<b>Net Operating Income</b>	<b>\$643,460</b>	<b>\$1,325,200</b>	<b>(\$3,720)</b>
<b>Project Value = NOI/11%</b>	<b>\$5,849,636</b>	<b>\$12,047,273</b>	<b>(\$33,818)</b>
<b>Debt Coverage Ratio</b>	<b>1.46</b>	<b>3.01</b>	<b>-0.01</b>

<b>DEBT SERVICE</b>	<b>AMT FINANCED</b>	<b>PAYMENT</b>
Capital Equipment (100%) 10 yrs @ 12%	\$2,555,000	\$439,882
Building (75%) 30 Yrs @ 11%	\$0	\$0
<b>Total Debt Service</b>		<b>\$439,882</b>

CASH FLOW AFTER FINANCING	MOST LIKELY SCENARIO	OPTIMISTIC SCENARIO	PESSIMISTIC SCENARIO
Total Amount invested (Fitout Costs)	\$1,933,750	\$1,933,750	\$1,933,750
Total Revenue	\$4,920,000	\$6,750,000	\$3,210,000
Total Operating Costs	(\$4,276,540)	(\$5,424,800)	(\$3,213,720)
Net Operating Income	\$643,460	\$1,325,200	(\$3,720)
Total Debt Service	(\$439,882)	(\$439,882)	(\$439,882)
<b>Profit</b>	<b>\$203,578</b>	<b>\$885,318</b>	<b>(\$443,602)</b>
<b>Return Rate</b>	<b>10.5%</b>	<b>45.8%</b>	<b>-22.9%</b>

CONSTRUCTION COSTS	SQFT	\$/SQFT	COST
Shell Construction	77,350	\$0	\$0
Fitout for Main Area	43,500	\$25	\$1,087,500
Fitout for Retail & Dining	16,000	\$25	\$400,000
Fitout for Circulation	17,850	\$25	\$446,250
Roads, Parking & Landscaping	300,000	\$0	\$0
<b>GRAND TOTAL</b>	<b>77,350</b>	<b>\$25</b>	<b>\$1,933,750</b>

CAPITAL COSTS	AREA - SQFT	ITEM(S) COST	COST/SQFT	COST
<b>ENTERTAINMENT</b>				
Live Performance Areas	3,000		\$60	\$180,000
Motion Movie Cinema	3,000	\$400,000	\$133	\$400,000
Camaval Games	3,000	\$100,000	\$33	\$100,000
Kiddie Rides	5,000	\$400,000	\$80	\$400,000
Video Games (60)	2,000	\$100,000	\$50	\$100,000
Carrousel	2,500	\$250,000	\$100	\$250,000
<b>ENTERTAINMENT SUBTOTAL</b>	<b>18,500</b>	<b>\$1,250,000</b>	<b>\$77</b>	<b>\$1,430,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>43%</b>		<b>% OF TOTAL COST</b>	<b>56%</b>
<b>EDUCATION</b>				
Historical Exhibits	2,000		\$150	\$300,000
Interactive Computer Exhibits	2,000		\$200	\$400,000
Discovery Theatre	2,000		\$50	\$100,000
<b>EDUCATION SUBTOTAL</b>	<b>6,000</b>	<b>\$0</b>	<b>\$133</b>	<b>\$800,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>14%</b>		<b>% OF TOTAL COST</b>	<b>31%</b>
<b>RECREATION</b>				
Miniature Golf	10,000	\$100,000	\$10	\$100,000
Tennis & Batting Cages	6,000	\$100,000	\$17	\$100,000
Basketball	1,000		\$15	\$15,000
Bowling	2,000		\$30	\$60,000
<b>RECREATION SUBTOTAL</b>	<b>19,000</b>	<b>\$200,000</b>	<b>\$14</b>	<b>\$275,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>44%</b>		<b>% OF TOTAL COST</b>	<b>11%</b>
<b>RETAIL</b>				
4 Retail Spaces Leased to tenants	8,000		\$0	\$0
<b>RETAIL SUBTOTAL</b>	<b>8,000</b>		<b>\$0</b>	<b>\$0</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>18%</b>		<b>% OF TOTAL COST</b>	<b>0%</b>
<b>DINING</b>				
2 Themed Restaurants Leased to tenants	6,000		\$0	\$0
Party Room	2,000		\$25	\$50,000
<b>DINING SUBTOTAL</b>	<b>8,000</b>			<b>\$50,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>18%</b>		<b>% OF TOTAL COST</b>	<b>2%</b>
<b>CAPITAL COSTS FOR PROGRAM USES</b>	<b>43,500</b>		<b>\$59</b>	<b>\$2,555,000</b>

### Family Entertainment Center Financial Analysis

Similar to the Power Play Center, the FEC demonstrated widely different results based the on most likely, pessimistic and optimistic scenarios. In the most likely scenario, the estimated 650,000 attendance was modeled after the River Fair. The admission charge is set at the \$6.50, which approximates the average revenues from amusement at River Fair. Further, a rent of \$10.00 was assumed. The rent charged to FEC's ranges from \$8.00 to \$18.00,<sup>29</sup> depending on size and type. The small arcades pay the high end, while the large centers pay the low end. Since this concept is similar to a large FEC, it was assumed that the most likely rent would be \$10.00. It was assumed that fitout costs could not be financed, and that \$1,933,750 dollars would be the equity required to create an FEC. The results were moderate with a return on investment exceeding 10.5% or a profit of \$204,000 dollars per year.

In the pessimistic scenario, the admissions were reduced to 500,000 visitors, the admission charge or revenues from amusement were reduced to \$5.50, and the rent increased to \$12.00. In this case, the project did not perform well and produced a negative return on investment of 22.9% or a loss of \$444,000 dollars per year.

In the optimistic scenario the attendance was raised to 800,000 visitors, admissions charge or revenues from amusement

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<sup>29</sup>1990, Dollars & Cents of Shopping Centers, Urban land Institute, 1990.



sales were increased to \$7.50, and rent was lowered to \$8.00. These admissions and attendance reflect numbers achieved by top performing FEC's in the country. In this case, the project produced a solid 45.8% return on investment or a profit of \$885,000 per year.

In conclusion, the success of the child oriented MUD is dependent on ability to have low rents, high admissions, and high revenues. Locating the child oriented MUD in the right retail district or mall will determine success or failure. A critical factor in achieving success for the developer of a child oriented MUD is having either control of adjacent space that can be leased to restaurants and retailers, or the ability to sell retail items and food inside the establishment. Neither of these is likely in a mall; however, it is possible in an urban retail district.

### MODEL 3, EXPLORATORIUM

<b>EXECUTIVE SUMMARY</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Project Size (SQFT)	131,300	131,300	131,300
Equity Invested (Fit Out Costs)	\$3,799,428	\$3,799,428	\$3,799,428
Profit (NOI-DS Cap Equip.)	\$357,227	\$2,344,927	(\$1,074,473)
<b>Rate of Return</b>	<b>9.4%</b>	<b>61.7%</b>	<b>-28.3%</b>
Project Value (Capped NOI)	\$22,518,000	\$40,588,000	\$9,502,545
Project Cost (Fitout + Cap Equip)	\$20,207,710	\$20,207,710	\$20,207,710
Revenues	\$8,910,000	\$16,060,000	\$3,760,000
NOI	\$2,476,980	\$4,464,680	\$1,045,280
Debt Coverage Ratio	1.17	2.11	0.49

<b>ASSUMPTIONS</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
<b>Attendance Annually</b>	<b>1,000,000</b>	<b>1,500,000</b>	<b>500,000</b>
<b>Avg Admission Charge/Person</b>	<b>\$8.00</b>	<b>\$10.00</b>	<b>\$6.00</b>
Hourly Wages	\$5.00	\$5.00	\$5.00
Salary Wages	\$10.00	\$10.00	\$10.00
Interest Rate (Equip)	11%	11%	11%
Interest Rate Mortgage	11%	11%	11%
Rent Willing to Pay (NNN)	N/A	N/A	N/A
Retail Space (SF)	15,000	15,000	15,000
Retail Lease out Rate	\$25.00	\$30.00	\$20.00
Restaurant Space (SF)	15,000	15,000	15,000
Restaurant Lease out Rate	\$25.00	\$30.00	\$20.00
Daycare (rate/hr)	N/A	N/A	N/A

**MODEL 3, EXPLORATORIUM**

<b>REVENUES</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Admission Charges	\$8,000,000	\$15,000,000	\$3,000,000
Retail			
Lease	\$375,000	\$450,000	\$300,000
Sales			
Food & Drink			
Lease	\$375,000	\$450,000	\$300,000
Sales			
Video Games	\$160,000	\$160,000	\$160,000
Day Care (10% of Visitation)	\$0	\$0	\$0
<b>Total Revenue</b>	<b>\$8,910,000</b>	<b>\$16,060,000</b>	<b>\$3,760,000</b>

<b>OPERATING COSTS</b>	<b>MOST LIKELY SCENARIO</b>		<b>OPTIMISTIC SCENARIO</b>		<b>PESSIMISTIC SCENARIO</b>	
Rent	\$0	0.0%	\$0	0.0%	\$0	0.0%
Wages	\$2,673,000	30.0%	\$4,818,000	30.0%	\$1,128,000	30.0%
Property Taxes	\$267,300	3.0%	\$481,800	3.0%	\$112,800	3.0%
Maintenance	\$891,000	10.0%	\$1,606,000	10.0%	\$376,000	10.0%
Utilities	\$534,600	6.0%	\$963,600	6.0%	\$225,600	6.0%
Insurance	\$712,800	8.0%	\$1,284,800	8.0%	\$300,800	8.0%
Advertising	\$712,800	8.0%	\$1,284,800	8.0%	\$300,800	8.0%
Cost of Sales	\$178,200	2.0%	\$321,200	2.0%	\$75,200	2.0%
Arcade Prizes	\$106,920	1.2%	\$192,720	1.2%	\$45,120	1.2%
Security	\$89,100	1.0%	\$160,600	1.0%	\$37,600	1.0%
Other	\$267,300	3.0%	\$481,800	3.0%	\$112,800	3.0%
<b>Total Operating Costs</b>	<b>\$6,433,020</b>	<b>72.2%</b>	<b>\$11,595,320</b>	<b>72.2%</b>	<b>\$2,714,720</b>	<b>72.2%</b>

<b>NET OPERATING INCOME</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Total Revenues	\$8,910,000	\$16,060,000	\$3,760,000
Operating Costs	(\$6,433,020)	(\$11,595,320)	(\$2,714,720)
<b>Net Operating Income</b>	<b>\$2,476,980</b>	<b>\$4,464,680</b>	<b>\$1,045,280</b>
<b>Project Value = NOI/11%</b>	<b>\$22,518,000</b>	<b>\$40,588,000</b>	<b>\$9,502,545</b>
<b>Debt Coverage Ratio</b>	<b>1.17</b>	<b>2.11</b>	<b>0.49</b>

<b>DEBT SERVICE</b>	<b>AMT FINANCED</b>	<b>PAYMENT</b>
Capital Equipment (100%) 10 yrs @ 11%	\$5,010,000	\$825,433
Building (75%) 30 Yrs @ 11%	\$11,398,283	\$1,294,321
<b>Total Debt Service</b>		<b>\$2,119,753</b>

**MODEL 3, EXPLORATORIUM**

<b>CASH FLOW AFTER FINANCING</b>	<b>MOST LIKELY SCENARIO</b>	<b>OPTIMISTIC SCENARIO</b>	<b>PESSIMISTIC SCENARIO</b>
Total Amount invested (25% of Development Costs)	\$3,799,428	\$3,799,428	\$3,799,428
Total Revenue	\$8,910,000	\$16,060,000	\$3,760,000
Total Operating Costs	(\$6,433,020)	(\$11,595,320)	(\$2,714,720)
Net Operating Income	\$2,476,980	\$4,464,680	\$1,045,280
Total Debt Service	(\$2,119,753)	(\$2,119,753)	(\$2,119,753)
<b>Profit</b>	<b>\$357,227</b>	<b>\$2,344,927</b>	<b>(\$1,074,473)</b>
<b>Return Rate</b>	<b>9.4%</b>	<b>61.7%</b>	<b>-28.3%</b>

<b>CONSTRUCTION COSTS</b>	<b>SQFT</b>	<b>\$/SQFT</b>	<b>COST</b>
Preconstruction Site work	400,000	\$1	\$400,000
Shell Construction	131,300	\$55	\$7,221,500
Fitout for Main Area	71,000	\$35	\$2,485,000
Fitout for Retail & Dining	30,000	\$25	\$750,000
Fitout for Circulation	30,300	\$25	\$757,500
Roads, Parking & Landscaping	400,000	\$1	\$400,000
<b>GRAND TOTAL</b>	<b>131,300</b>	<b>\$92</b>	<b>\$12,014,000</b>

<b>DEVELOPMENT SOFT COSTS</b>	<b>% OF HARD</b>	<b>COST</b>
Architectural	4.0%	\$480,560
Permits and Fees	8.0%	\$961,120
Technical Consulting	3.0%	\$360,420
Legal & Accounting	2.0%	\$240,280
Developers Overhead	5.0%	\$600,700
Property Taxes during Construction	1.0%	\$120,140
Closing/Title	0.5%	\$60,070
Construction Financing	3.0%	\$360,420
<b>GRAND TOTAL</b>	<b>23%</b>	<b>\$3,183,710</b>

**MODEL 3, EXPLORATORIUM**

<b>CAPITAL COSTS</b>	<b>AREA - SQFT</b>	<b>ITEM(S) COST</b>	<b>COST/SQFT</b>	<b>COST</b>
<b>ENTERTAINMENT</b>				
Theater	2,500		\$100	\$250,000
Live Performance Areas	3,000		\$75	\$225,000
Motion Movie Cinema	3,000	\$500,000	\$167	\$500,000
Tilt & Whirl	3,000	\$500,000	\$167	\$500,000
Carnaval Games (50)	3,000	\$150,000	\$50	\$150,000
Kiddie Rides	6,000	\$600,000	\$100	\$600,000
Video Games (80)	3,000	\$120,000	\$40	\$120,000
Carrousel	3,000	\$300,000	\$100	\$300,000
<b>ENTERTAINMENT SUBTOTAL</b>	<b>24,000</b>	<b>\$2,170,000</b>	<b>\$100</b>	<b>\$2,395,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>34%</b>		<b>% OF TOTAL COST</b>	<b>48%</b>
<b>EDUCATION</b>				
Historical Exhibits	5,000		\$150	\$750,000
Interactive Computer Exhibits	2,000		\$200	\$400,000
Discovery Theatre	2,000		\$100	\$200,000
Corporate Interactive Expos	5,000		\$100	\$500,000
<b>EDUCATION SUBTOTAL</b>	<b>14,000</b>	<b>\$0</b>	<b>\$132</b>	<b>\$1,850,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>20%</b>		<b>% OF TOTAL COST</b>	<b>37%</b>
<b>RECREATION</b>				
Miniature Golf	16,000	\$400,000	\$25	\$400,000
Tennis & Batting Cages	12,000	\$100,000	\$8	\$100,000
Basketball	2,000		\$20	\$40,000
Bowlingo	3,000		\$50	\$150,000
<b>RECREATION SUBTOTAL</b>	<b>33,000</b>	<b>\$500,000</b>	<b>\$21</b>	<b>\$690,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>46%</b>		<b>% OF TOTAL COST</b>	<b>14%</b>
<b>RETAIL</b>				
8 Specialty Retail Spaces Leased to tenants	15,000		\$0	\$0
<b>RETAIL SUBTOTAL</b>	<b>15,000</b>		<b>\$0</b>	<b>\$0</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>21%</b>		<b>% OF TOTAL COST</b>	<b>0%</b>
<b>DINING</b>				
4 Themed Restaurants Leased to tenants	12,000		\$0	\$0
Party Room	3,000		\$25	\$75,000
<b>DINING SUBTOTAL</b>	<b>15,000</b>			<b>\$75,000</b>
<b>% OF TOTAL FLOOR SPACE</b>	<b>21%</b>		<b>% OF TOTAL COST</b>	<b>1%</b>
<b>CAPITAL COSTS FOR PROGRAM USES</b>	<b>71,000</b>		<b>\$71</b>	<b>\$5,010,000</b>

### Exploratorium Financial Analysis

The Exploratorium project involves constructing 130,000 square foot building at a cost of \$15 million dollars. The financial model explores the concept of a developer using 65 percent of the space for an indoor theme park and leasing the remaining 35% of the space to children's retailers and restaurants. The owner occupied section includes \$4.5 million worth of capital equipment for the 71,000 Square foot theme park. The equity required for the project was assumed to be 25% of construction costs or \$3.8 million dollars.

The Exploratorium demonstrated widely different results in the most likely, pessimistic and optimistic scenarios. Unfortunately, there are no close analogues to this concept for comparison. In the most likely scenario, the estimated 1,000,000 attendance was based on institutions that feature major attractions such as Sesame Place or the Museum of Science in Boston. The admission charge is set at \$8.00, which is on the high side for an FEC, but on the low side for a theme park. The lease out rate for retail stores and restaurants is set at \$25.00 per square foot. The most like scenario produces a 9.4 percent return on investment or a profit of \$357,000 dollars per year.

In the pessimistic scenario, the admissions are reduced to 500,000 visitors, the admission charge or revenues from amusement are reduced to \$6.00, and lease out rates are reduced to \$20.00 per square foot. In this case, the project does not

perform well and produces a negative return on investment of 28.3% or a loss of \$1,045,000 dollars per year.

In the optimistic scenario the attendance was raised to 800,000 visitors, the admission charge or revenues from amusement sales were increased to \$10.00, and lease out rate is increased to \$30.00 per square foot. In this case, the project produced a whopping 61.7% return on investment or a profit of \$2,345,000 per year.

Since the Exploratorium requires a significant equity contribution of \$3.8 million, there is significant risk involved. The success of the project will hinge on finding the right location, where the demographics will support such a project. Long Island was mentioned earlier as having the right demographics, but gaining approvals for the project may be an issue.

The ability to attract top quality retailers and restaurants will be critical to the success of this project. This must be done prior to initiating a project of this magnitude in order to bring success.

In conclusion, the Exploratorium concept offers the potential of good returns, but many challenges have to be met successfully to achieve solid returns.

## Chapter 6

### Conclusion

- . Comparison of three models
  - . Target market and competition
  - . Design and site acquisition
  - . Dependency
  - . Operations
  - . Political approval
  - . Financial risks and opportunities



## Conclusion

In this chapter the three models are compared in order to determine which concept is the most feasible. The analysis is accomplished by comparing each model in terms of target market and competition; design and site acquisition; dependency; operations; political approval; and financial risks and opportunities.

The target market for the Power Play Center is the youngest of the three models. The Power Play center focuses on families with young children who frequent toy stores such as Toys R Us. The FEC and Exploratorium focus on the entire family. The disadvantage of focusing on the children's market is that it is smaller than the FEC and Exploratorium markets. The advantage of focusing on the children's market is that it is increasing dramatically and there is less competition from existing institutions. The ability to corner the market and impede entry of substitute activities is most feasible with the Power Play Center.

Clearly all three models are dependent on having the right site in order to succeed; accordingly, the availability of sites for each concept must be examined in both the urban and suburban markets. The Power Play Center is the simplest design of the models requiring space that is commonly available; however, the ability to find sites in close proximity to a major toy store may be a challenge. Nevertheless, there are not many existing institutions that place a premium on being next to a toy store.

The FEC concept requires a site that is in a regional mall or downtown urban retail district; accordingly, there will be competition from other institutions who perceive value in these locations. The FEC may have an advantage over other potential tenants in a mall, if the developer perceives value in having an FEC. The Exploratorium requires a very specific site and building design in order to achieve success. Existing space for implementing this concept would be hard to find. Therefore, the project will require land development. Accordingly, site acquisition would be easier in suburban locations. Overall, the Power Play Center would be the easiest to implement in terms of site acquisition and design in either the urban or suburban environment, as there are more parcels available to choose from.

The dependency of each model is examined to determine self sufficiency. The Power Play Center is clearly dependent on a retail toy store as an anchor to draw customers. The advantage of this is the ability to launch off the success and existing draw of the toy store. The disadvantage to being dependent on a toy store is uncertainty of their permanence as an anchor. The FEC is dependent on the draw of a regional mall or retail district for its success. The advantage to this is access to the existing mall traffic; the disadvantage is limitations imposed by the developer on retail and dining within the FEC. Alternately, an urban FEC developer may be able to gain a lease hold position on adjacent space and benefit from these uses. The Exploratorium is self sufficient and therefore does not

benefit from traffic generated by existing uses. However, its independence provides the developer with the opportunity to control and benefit from retail and dining. In conclusion, the Power Play Center and Urban FEC benefit the most from dependency in that they both gain access to traffic generated by existing institutions, but they still have control over retail and dining.

The operations of each model is examined to determine feasibility. The operating costs as a percentage of revenues are lowest for the Power Play Center. The FEC requires more staff, insurance, and maintenance on a percent of revenue basis. The increase in insurance and maintenance is due to the number of rides offered. The Exploratorium is the most difficult and expensive model to operate due to the expanse of activities. The Power Play Center offers simplest operation to run and requires the least staff.

The method of charging admission is critical for success. The ability to use an upfront admission charge is widely accepted as the optimum system for generating the most revenues. The Power Play Center would be able charge an entrance in both the urban and suburban markets. Existing institutions such as Discovery Zone are currently doing this and succeeding. Suburban FEC's use a pay as you go system as they want people to move between the shops, food court, and FEC. This is the optimum condition for the mall owner, but it compromises the operator of the FEC. However, an urban FEC would be able to

effectively utilize an admission charge. The Exploratorium creates an internal conflict by using an admission charge; specifically, a system has to be in place that allows customers access to the retail without having to pay for admission. In conclusion, the Power Play Center and Urban FEC can most easily utilize an admission charge.

The political approval process required to do a Power Play Center or FEC in either the urban or suburban environments is significantly less than that required to develop an Exploratorium. The new construction would have to go through a full approval process and may be opposed by community members. Further, the complexity of integrating theme park activities with leased out retail and dining might require extensive approval and code conformance. Thus the Power Play Center and FEC concepts are at less political risk.

The cost of each project is compared to provide insight on funds required. The Power Play Center requires an equity contribution of \$500,000, compare to \$1.9 million dollars for the FEC, and \$3.8 million dollars for the Exploratorium. Clearly, it would be easiest to raise the equity required for a Power Play Center. Further, the amount of financing required for the Power Play Center is the lowest and involves no construction financing. The FEC is similar in this respect. But the Exploratorium requires construction financing, which may be difficult to obtain. Thus, the Power Play Center is the easiest to fund and finance.

Finally, the Power Play Center provides the largest percentage return on investment, 20.9%, based on the most likely scenario. The Exploratorium is second best with 10.8%, followed by the FEC at 10.5%. These computed returns are subject to the assumptions made for each project, and consideration must be given to how much equity is being contributed in comparing returns. For example, in the FEC financial analysis, it was assumed that the fitout costs could not be financed. Therefore, the equity required to do the project was nearly 50% of the total cost. The returns for the FEC might rival that of the Power Play Center if a portion of the fitout costs can be financed. Nonetheless, the Power Play Center shows the best return on investment based on available information and assumed methods for packaging a child oriented MUD.

In conclusion, the Power Play Center is the most practical solution for a child oriented MUD that fulfills the demand for children's activities. The Power Play Center offers the least risk and greatest opportunity. Subsequently, the urban FEC is worthy of consideration as it presents an opportunity to supply children's uses to a market that is truly neglected. Cities such as Boston, New York, and Los Angeles would readily absorb a properly located FEC. Finally, the suburban exploratorium is worthy of consideration in an area such as Long Island, New York, as the demographics are there to support the development. The final decision on which model is best will depend on location.

## Bibliography

**Note: Due to the unfortunate circumstances of my car (and thesis articles) being stolen during this study, a limited bibliography with incomplete information is presented.**

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