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# Preface

This book is the culmination, exploration, and celebration of a unique academic exercise. Over the course of two years, Donzetta Jones, Matthew Bihun, and J. Paul Krystyniak, engaged in a course of study focused on Community Development theories and practices. The Belle Isle Capstone Project is a direct product of that particular course of study. Because the following approach toward the rethinking of Belle Isle as a sustainable park has been strongly shaped and influenced by the approach that is embraced in the Masters of Community Development (MCD) program, it is appropriate and necessary to provide some background information.

All students in the MCD program take an interdisciplinary core curriculum. This curriculum includes courses solely dedicated to different areas of development that impact communities. One of those courses of study looks at the relationship between *Human Development* and community. Human Development is worth mentioning first because it is the central belief of the authors of this book that whenever one discusses changes to the natural and built environment, the impact on humans must be taken into consideration primarily and consistently. This theme is of extra importance to the following project because the location that is being discussed is a publicly owned asset.

Another concentration in the program, *Organizational Development*, focuses on themes of organizational structure and management, leadership, financial management, and team dynamics. Attention and consideration to all stakeholders, structures, responsibilities, and duties is an important element of community development. The reader will come to understand in the coming pages that a consideration of organizational relationships is an important piece of this project.





Aerial Photograph of Belle Isle

The third core area of focus of the MCD program is *Physical Development*. The courses dedicated to this subject consider the relationship between built and natural conditions and economic, environmental, and social conditions. Both this portion of the curriculum and this project as a whole pay special attention to the theme of sustainability. Even though true sustainability is much more comprehensive than just physical conditions, as will be explained later in the book, the focus on sustainability that is embraced in this project is heavily influenced by the theories that are explored in the physical development curriculum.

The fourth MCD area of concentration is *economic development*. The curriculum of the economic development concentration covers practices and tools for economic growth in communities. This process includes considering public-private collaborations, funding sources, as well as the roles of business, labor, and public financing. The desire to ensure that the approach taken in the project is realistic and implementable requires that special attention is paid to these practices throughout the entire process.

In addition to the four core concentrations, interdisciplinary study is consistently incorporated into the MCD curriculum. The idea of regionalism is an important theme in the MCD program. Theoretical subjects of economic, social, and environmental justice are explored extensively through a course specifically dedicated to their relationship to community development practices. The important reality of recognizing that all communities are made up of diverse, multicultural populations is incorporated into the program. The historical and future relationship between urban centers and surrounding suburbs is often discussed and debated throughout the entire MCD curriculum. All of these core concepts are instrumental in shaping the scope and approach of this project.

This Capstone Project is also significantly impacted by the context in which it is conducted. Embracing the MCD school of thought, the Capstone Team paid special attention to the physical setting of the project which is the City of Detroit and the surrounding metropolitan region. Like all urban areas, Detroit has a singular history and, as a result, unique circumstances. While there is always value in looking at comparable situations, there is equal value in realizing and evaluating Detroit's circumstances. Similarly, the project is also intended to take an approach that is focused for the current and future conditions of Belle Isle and the City of Detroit.



Scott Fountain

The Capstone Team's hope is that the reader understands this study of Belle Isle and Belle Isle Aquarium is through the academic and professional lens of a community developer. An economist, urban planner, historian, engineer, or politician would certainly approach the project differently. The intent is not to debate or discount any of these other disciplines. Because the discipline of community development is evolving it is important that the aforementioned distinction be made. Now that the approach to this project has been explained, the selection of the topic and a road-map of content of the project follows.

# Why Belle Isle?

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**B**elle Isle was selected as the topic of this project because of its importance to the people of Detroit. There is a sentimental connection with Belle Isle that exists in the Detroit community that encouraged the Capstone Team to select Belle Isle. There is also a sense that Belle Isle is an extremely important asset to the larger regional community as well.

Another reason that Belle Isle was selected is that it is organized and managed in a way that allowed the Capstone Team to work with a variety of stakeholders. The organizational involvement of both the public and private sectors presents an appealing challenge to the Capstone Team.



Detroit Skyline from Belle Isle



Belle Isle Aquarium Facade

The ability to incorporate practices and test theories of sustainability in the Park is an enticing element that exists in this project. The physical context of *green* space layered with historic buildings in a publicly owned setting presents an opportunity for development that is sustainability centered.



# Why the Aquarium?

It would be unrealistic to expect any “developer”, public or private, to have the resources to re-develop all the facilities on the entire island at one time. Local and national examples of similar publicly re-developed projects often occur in phases. Local examples that are similar to Belle Isle and are currently being redeveloped in phases include The Detroit Riverwalk, Eastern Market, and the Detroit Zoo. With the goal of being realistic, the Capstone Team selected the Aquarium as a pilot project.

There are many reasons that the team believed that selecting the Aquarium was the best place to begin the sustainable approach to the entire island. One reason is the Aquarium's recent closing. Another is the historic nature of the building. The physical location of the facility within the park also makes it a desirable project. The programming of aquatic life in this public facility also indirectly fits into the bigger picture of sustainability, especially when one considers the location of Michigan within the Great Lakes Region. The existence of a non-profit partner, the Friends of Belle Isle Aquarium, is also an important element. All of the Capstone Team's local case studies of public facilities that are currently being redeveloped included non-profit partners.

# Road Map

The following introduces the chapters that will be explored throughout this book.

Chapter One of this book defines and explains the sustainable approach that is used throughout the project. With the recent explosion of media and academic attention to the elusive concept of *greening*, it is important that the term “sustainable” is defined as it relates to this project. The definition of sustainability marries concepts of economic, social, and environmental sustainability.



Michigan Road Map

Chapter Two explores the existing conditions of Belle Isle. Over the years, complex organizational relationships have resulted in the Park evolving into a multi-lateral system. This chapter covers the history of how the Island became a Park, the context of Belle Isle as it relates to the rest of the City of Detroit and the surrounding area, the organizational structure of the Park, the current financing structure, the physical conditions, and a survey conducted by the Capstone Team.

Chapter Three concentrates on the Aquarium. Following a similar structure to the second chapter; the history, context, financing, and physical condition of the aquarium are addressed.



Douglass MacArthur Bridge



The Capstones Team's recommendations for the future of the Aquarium appear in Chapter Four. These recommendations include an in-depth proposal for management, programming, and financing.

In Chapter Five the scope is broadened to include elements of the physical layout of the island, funding options, organizational models, and programming; all with an emphasis on environmental, social, and economic sustainability.

Finally, Chapter Six is intended to bring the story full circle. Continuing to expand the scope, the goal of the last portion of this book relates the future of the Island to broader themes that are prominent in Detroit community development at the present time.



Belle Isle Park Signage



Summer Koi Transfer

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# Chapter One

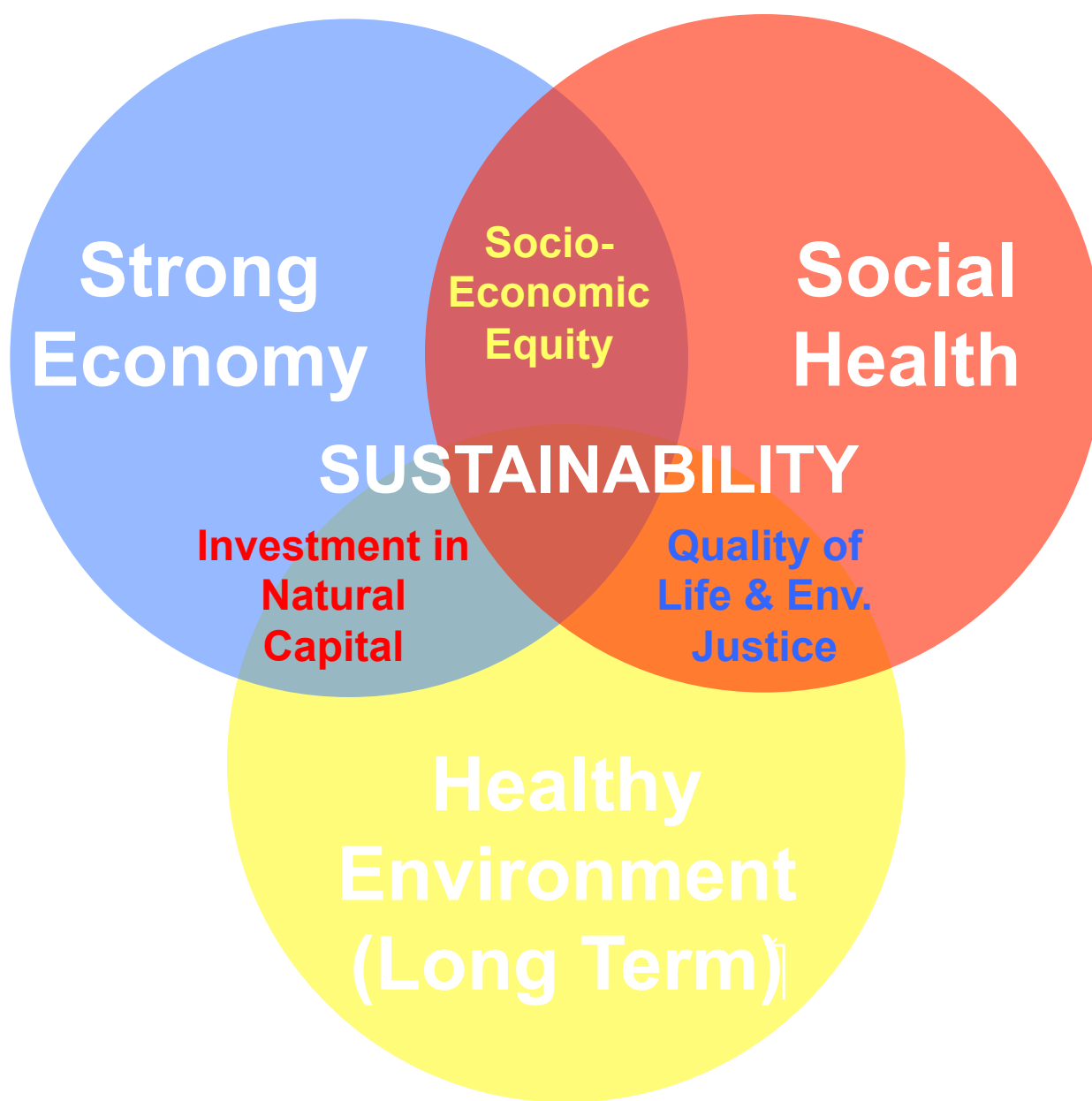
## The Importance of Sustainability

# Defining Sustainability

*Social sustainability* is one of the three components that comprise the triple-bottom line model of sustainability, the other two being *economic sustainability* and *environmental sustainability*. The triple-bottom line model argues that “true” sustainability incorporates both immediate and long-term needs of people, the planet, and the economic structures that promote commerce and growth. The prosperity of each of these three components is contingent upon the existence of the other two. As Grand Rapids Mayor George Heartwell puts it, “sustainability is all about balancing human needs and social equity with environmental concerns and economic concerns.” Mayor Heartwell offers this example: “You can't have a sustainable city, business or university if you don't pay attention to the human needs, the environmental needs and the economic needs of the citizens.”<sup>1</sup> The same can be said of public parks, especially Belle Isle.

Previous analyses of Belle Isle rarely focused attention on sustainability. Therefore, by placing an emphasis on the idea of sustainability, the Team is able to uniquely separate this project from previous projects. From the very beginning, the Team assigned itself the task of defining what social, economic, and environmental sustainability mean in the context of Belle Isle and the Belle Isle Aquarium.

In defining social, economic and environmental sustainability the following diagram illustrates how the three elements of sustainability are not separate even though they may be defined as such. It is the combination of a strong economy that represents socio-economic equity, a culture that is healthy because of quality of life initiatives and environmental justice efforts, combined with a healthy environment over the long term. The three elements of a sustainable community are socially, economically and environmentally intertwined and cannot be separated. Working to develop sustainability in any one of the areas has a direct impact on the other two.



# Social Sustainability

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The Team's definition of social sustainability is as follows: social sustainability is focused on the development of practices and policies that promote social interaction, education, and cultural enrichment; create opportunities for all populations; and celebrate socioeconomic diversity and the power of the human spirit. Most, if not all, of the recommendations put forth in this document are formed around the aforementioned tenets and values of social sustainability. The recommendations promote Belle Isle as a public space where people can come together, learn from one another, and benefit from experiencing recreation, nature, and culture. As an example the Team's programming recommendations are designed in a way that emphasize sustainable education and cultural enrichment.



Such opportunities have a positive and healthy influence on one's physical, emotional, and cognitive conditions. "Recent studies at Yale University have proven that urban nature areas reduce societal stress...in addition to creating neighborhood connectedness and improving quality of life." In The Public Value of Urban Parks, Chris Walker argues that parks are now being recognized for their broader potential. He sites examples of "helping youth choose rewarding paths to adulthood by offering programs and opportunities, helping residents improve their health, and helping citizens join together"<sup>2</sup> as contributions parks make to the community. The Team views Belle Isle as a destination for all people, from diverse backgrounds, to express their talents, and share their collective social capital.



View of Downtown Detroit

# Economic Sustainability

Among the three tenants of the triple bottom line approach to sustainable development the definition of economic sustainability may be the most straight forward. Economic sustainability is focused on the development of practices and policies that reduce or eliminate over-reliance on limited funding sources, create diverse revenue streams that are renewable and reliable, leverage local economic growth, and minimize operating costs. It is more apparent now than ever before that when operating in a capitalist economy there is a need for careful and meticulous financial projections. This is true for both single site development projects as well as entire community planning. Future economic forecasts also suggest that maintenance and holding costs be taken into consideration from the very beginning of the development process. It is also extremely important to secure multiple, diverse funding sources to finance both the initial project and the long term expenditures. While many of these concepts could be considered tested and true business practices they also have relevance in a sustainable public development project.

Additionally, if taken into consideration from the very beginning some of the aforementioned goals can be achieved through social and environmental practices. As the project will go on to explain in further detail in the second half of this book, environmental technologies can have significant long term economic benefits. Similarly, socially sustainable programming can result in long term economic sustainability by providing a steady cash flow. The definition of economic sustainability will also be illustrated in this project by examining how the past practices that have failed to work.



# Environmental Sustainability

Parks, civic spaces, urban nature- in a multitude of ways-significantly improve the quality of life of those who utilize them. Parks have positive and corollary effects on the environment, such as moderating temperatures, protecting water, mitigating soil erosion, and purifying air. These consequences are particularly desirable in an industrialized landscape like Detroit.

According to OFEE (Office of the Federal Environmental Executive) environmental sustainability can be defined as:

“The development of those concepts, strategies, tools, practices, and approaches that lead to environmental improvement in a manner that is sustainable over time, considers the long term effects as well as the shorter term, more immediate effects, and that contributes positively, even if indirectly, to the social and economic condition.”<sup>3</sup>

In the narrower context of our MCD Capstone Project, environmental sustainability actions would focus on reducing consumption, conserving resources, reusing physical structures, restoring natural landscapes, and environmental planning for future changes as they occur on the Island.

In defining social, economic and environmental sustainability the following diagram illustrates how the three elements of sustainability are not separate even though they may be defined as such. It is the combination of a strong economy that represents socio-economic equity, a culture that is healthy because of quality of life initiatives and environmental justice efforts, combined with a healthy environment over the long term. The three elements of a sustainable community are socially, economically and environmentally intertwined and cannot be separated. Working to develop sustainability in any one of areas has a direct impact on the other two.



Belle Isle Casino



Belle Isle Stables – Now a storage facility

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# Chapter Two

The Existing Conditions of Belle Isle

# The History of Belle Isle

The recorded history of Belle Isle Park cannot be discussed without looking at it in **its** context to the City of Detroit. Belle Isle serviced the city's population in many ways before it became the public park we know today. In fact, documentation of the island dates back to the late 1600's when French explorers encountered Native Americans in what would soon become the City of Detroit. Belle Isle Park has had the distinction of having many names throughout its history – Wahnabezze (White Swan), Isle aux Cochons, Hogs Island, Belle Isle after the daughter of Lewis Cass, and eventually Belle Isle Park. Just as Belle Isle had many names, ownership of the island was as varied. Throughout its history Belle Isle has been the property of Native Americans, as well as French, British, and eventually American settlers. Although ownership shifted, the Island was considered “common” ground used by ribbon farmers for the grazing of livestock. However, in February of 1879 Belle Isle was declared public property and plans by the city to purchase and designate the property as public parkland in Detroit began.<sup>4</sup>

The Parks Movement, a revolutionary social movement throughout the country during the mid to late 1800s and early 1900s, was the catalyst needed for the City to embrace the concept of public parklands and Belle Isle seemed to be the perfect location. The impact of the Parks Movement was undertaken in major cities throughout the country. From 1860 to 1889, sixteen premier parks were developed. Among them were New York's Central Park, Chicago's Lakeshore Parks, St. Louis's Forest Park, Boston's Emerald Necklace, and Washington D.C.'s The Mall. The intent of the movement was to develop public parklands that would create opportunities for nature experiences and scientific learning to residents who could not afford their own gardens. The Movement brought about the development of one of the country's premier parks and the only urban, public island park of its kind, Belle Isle Park.

Belle Isle Park not only enhanced the lives of its residents, according to Janet Anderson, author of Island in the City Belle Isle changed Detroit forever.

“Belle Isle redefined public space as something for all individuals to share; promoted culture, recreation and leisure on the island and in the region; supported development, especially distinctive residential instead of manufacturing; helped spur drive for local government and more local government control; promoted citywide planning by the beauty and order of the park design; elevated status of Detroit as a place with a high quality of life.”<sup>5</sup>

A special Committee on Statutes convened for Central Park in the 19<sup>th</sup> century and concluded that “the essence of a park must be in its landscapes”. Landscapes were defined by the committee and determined that they should include “active” spaces such as sports fields, and “passive” spaces which are either informal (such as meadows, lawns and shorelines) or formal (such as gardens). The Committee described the parks movement as one that created a special kind of public space. “These are the collective works of art of the community, and they display in some measure its history and its values to all.”



Historic Photograph of a Belle Isle Canal

When first designated as public park space, the Island was not quite 700 acres, much of which was wooded wetlands. It was the task of the City to design a park that would reflect its vibrancy and culture. Frederick Olmsted, designer and landscape architect of Central Park, was commissioned to develop a plan for Belle Isle. Artists were commissioned to create monuments and competitions launched to ensure the art of the park was representative of the city, the region and the state. Architecturally distinctive buildings such as the Aquarium, Botanical Conservatory, Detroit Boat Club, Detroit Yacht Club, the Remick Bandshell, and many others were constructed. Landmarks such as the 2<sup>nd</sup> Casino designed by Albert Kahn defined the status Belle Isle sought. The Island also contained a municipal golf course, and a zoo. The implementation of landfill and dredging techniques created Lakes Takoma, Okonoka, Muskoday, and Blue Heron Lagoon along with 230 acres of forested wetlands which cover half of the island's current 982 acres.



Historic Photograph of Belle Isle Stables

The impact Belle Isle had on the City was not merely social. It was economic and environmental as well. As the Island grew so did its programming. Outdoor concerts, boat races, family picnics, and an array of other events created a lucrative environment for vendors on and around the island. These events became marketing and public relations tools for the City as well. As the popularity of the Island grew, residential communities sprung up and community businesses thrived. Attendance on the island increased annually for many years. In many ways, the attendance was impacted by the environmental efforts made to keep the island as natural as possible. Manufacturing, in particular the automotive industry, became the economic force that maintained the city. Factories began to color the once farm covered landscape and Belle Isle became an escape back to nature for many of the city's residents. It became a place where man and nature could be in consort – and it was only a short distance away. Although the growth of the City and the advent of the automobile impacted the Island's infrastructure considerably, allowances were made and the environmental integrity of the park was maintained. The MacArthur Bridge was an example of how man, nature, commerce, and progress when combined could be used to support cultural enrichment. For many, crossing the bridge was the gateway to another world.



Belle Isle with its rich history, however, is part of an urban environment and is thus impacted by the social, economic and environmental changes that affect the City. Since the mid-1900s the City has faced drastic declines in manufacturing employment as well as a critical loss of population. Since development and maintenance of the Island was the responsibility of the City – as the City goes, so does the Island. There has been a loss of many of its architecturally significant structures. Others have fallen into disrepair. Both the Zoo and the Aquarium have been closed and the Flower House is open only for special events. There is evidence of shoreline erosion as well as damaged interior eco-systems and excessive flooding in some areas. However, organizations such as the Friends of Belle Isle, Friends of the Belle Isle Aquarium, Friends of the Detroit River, the Belle Isle Botanical Society, the Women of Belle Isle and other organizations are working diligently to bring the Island back to its former grandeur. Efforts are currently under way to create a conservancy comprised of the aforementioned organizations. One current re-development initiative is to re-open the Belle Isle Aquarium.

# Context of Belle Isle

The MCD program teaches that not only the immediate physical location or site is central to the development process; the surrounding communities have an impact as well. Because the Island is non-residential, there is not one specific community that is directly impacted by the development of Belle Isle. However, the Island is surrounded by diverse communities. One of its neighboring communities is historic Indian Village. It is directly across from Windsor Canada, a stone's throw from Downtown Detroit, adjacent to the Riverwalk, accessible by public transportation, bordered by several marinas such as the Harbor Hill and Erma Henderson Marinas, and is currently experiencing redevelopment of the Whittier and other noted structures in the area. There is ongoing development on the St. Jean side of the Island as well. Historic Pewabic Pottery, which had its first commission for the tiles of the Aquarium, sits at the foot of one of the oldest streets in the City, Grand Boulevard. There are various restaurants such as the Roostertail, Sinbads, and Roomers in close proximity to the Island. Many apartment complexes and office spaces are near the Island, such as the Friends of Belle Isle office which is located on Jefferson. There is also new housing being developed along Jefferson as well. The immediate area is peppered with churches and schools. The fact that Jefferson Avenue intersected by Grand Boulevard at the entrance of the Island is the main access roads to the Island serves as a benefit to those visiting the Island; and, Jefferson is a main thoroughfare that is a tributary from several main highways as well as neighboring streets.

The observations indicate that Belle Isle does not fully capitalize on its current market share in the Metropolitan Detroit region. Over 200,000 people can reach Belle Isle in less than a twenty-minute bike ride, a population that is approximately the equivalent of Lansing and Kalamazoo combined. Pedestrian and bicycle accessibility will no doubt increase as the recent the development of the Detroit Riverwalk and Dequindre Cut continues. Furthermore, based on U.S. Census Bureau data, approximately one million people can reach Belle Isle in less than a twenty-minute car ride. Another important statistic concerning Belle Isle's potential market is that it is also accessible to a regional and international population of over five million.<sup>6</sup>



Satellite Image of Metro Detroit



Public Art Installation

With proper marketing, a sustainable Belle Isle has the potential audience to support expanded and diversified programming and infrastructure improvements. If the reopened aquarium only markets itself to Detroit, it will have difficulty remaining reopened. If the reopened aquarium is marketed to the entire region, it will likely have a better chance to sustain as a thriving cultural institution. The redevelopment of Belle Isle should be undertaken in a manner that promotes economic and political regionalism.

# Organizational Structure

Although Belle Isle is owned by the residents of the City of Detroit, and operated primarily by the City's Department of Recreation, there are many ways that private, non-profit organizations have been integrated into the structure.

A significant amount of public departments are involved in the day-to-day and year-to-year operation of the park. The Detroit Recreation Department is responsible for some programming, landscaping, and maintenance. There are also seven other governmental entities that play a role in operation of the Island. The Office of the Mayor of Detroit manages the recreation department and develops a yearly maintenance budget. The Detroit City Council approves the Mayor's budget and as well as capital improvements and programming decision on the Island. A Detroit Police Department station is located in the middle of the Island, which provides a constant presence. The Detroit Department of Public Works implements infrastructure improvements. The newly created General Services Department collects trash and makes improvements to the built environment. The U.S. Coast Guard has a station on the Island and patrols international water. Finally, the Huron Clinton Metro Parks provides limited programming at the Belle Isle Nature Zoo.<sup>7</sup>



As the Island has evolved, non-profit organizations have become involved in almost every aspect of the Park. The Detroit Yacht Club (DYC) is an example of the private sector's presence on the Island. The DYC was founded on Jefferson in 1868 and became a permeating resident on the Island in 1891. The DYC built and continues to privately maintain their facility. The facility that now stands is the second structure built by the group. Membership dues have allowed for routine upkeep and renovations.<sup>8</sup>



Detroit Yacht Club

The Detroit Grand Prix recently returned to the Island. The event is sponsored by two organizations, the Detroit Belle Isle Grand Prix (DBIGP) and the Downtown Detroit Partnership (DDP). The DBIGP and DDP have taken responsibility for capital improvements on the Island. They have implemented numerous physical changes and have committed proceeds from the Grand Prix to future maintenance and upgrade of the Island. Through their efforts, these organizations bring thousands of visitors to the Island one weekend per year.<sup>9</sup>

The Detroit Boat Club, another non-profit organization, is committed to the sport of rowing. This organization is responsible for maintaining the Boat Club facility located near the MacArthur Bridge. The facility has not been maintained to the same level as the Yacht Club facility because it does not have the same amenities or resources.<sup>10</sup>



Detroit Grand Prix



Detroit Boat Club



Dossin Great Lakes Museum

Dossin Great Lake Museum, operated by the non-profit Detroit Historical Society, is responsible for the overall operations and management of the museum. Since the museum's opening in 1961, the Detroit Historical Society has operated the facility.<sup>11</sup>

The Detroit Zoological Society is a non-profit organization that has had a long, evolving relationship with the Island. At various points, they have been responsible for several different institutions on the Island. Belle Isle Aquarium and the Belle Isle Zoo were two facilities for which they were responsible. They presently operate the Belle Isle Nature Zoo.<sup>12</sup>



Over the past year, four non-profit organizations, The Friends of Belle Isle, The Belle Isle Women's Committee, The Friends of Belle Isle Aquarium, and the Belle Isle Botanical Society, have discussed with representatives from the City of Detroit the formation of an alliance among all the non-profit organizations. There is a growing trend throughout the nation for non-profit conservancy groups to administer the activities and operations of public parks. Currently, the "Belle Isle Alliance" is an informal structure that exists on the Island, meaning that they have no official umbrella designation but do collaborate to discuss strategies and long-term plans.<sup>13</sup>

The Friends of Belle Isle (FOBI) is unlike from the other private organizations that were discussed to this point because it does not narrow its involvement on the island to a particular area or facility. The organization "is a voluntary organization that promotes the preservation of natural beauty, restoration, and preservation of historical sites, and the adaptive use of existing structures on the island for the use and enjoyment of all people." In addition to promoting the park, the FOBI act as an advocacy group to ensure that decisions regarding the park are made in the best interest of the people. In discussions with the group's members the Capstone Team learned that prior to moving the Grand Prix back to the Park, the Downtown Detroit Partnership met with the Friends of Belle Isle Board of Directors. Even though the group does not have any formal authority over changes to the island they do have respect and influence with the City of Detroit. The Director of the Recreation Department is a regular guest at their meetings. When a group or individual is proposing a development or a program that impacts the island, it is customary for them to present the idea to the Friends of Belle Isle prior to starting.<sup>14</sup>

The Belle Isle Women's Committee is similar to the FOBI in that they are not affiliated with one specific facility on the island. In fact, the group has taken on the task of raising funds to support the work of other groups. The group is relatively new, formed in 2004. Specific information about their fund raising will be discussed in the next section of this chapter.<sup>15</sup>



Members of the Women's Committee

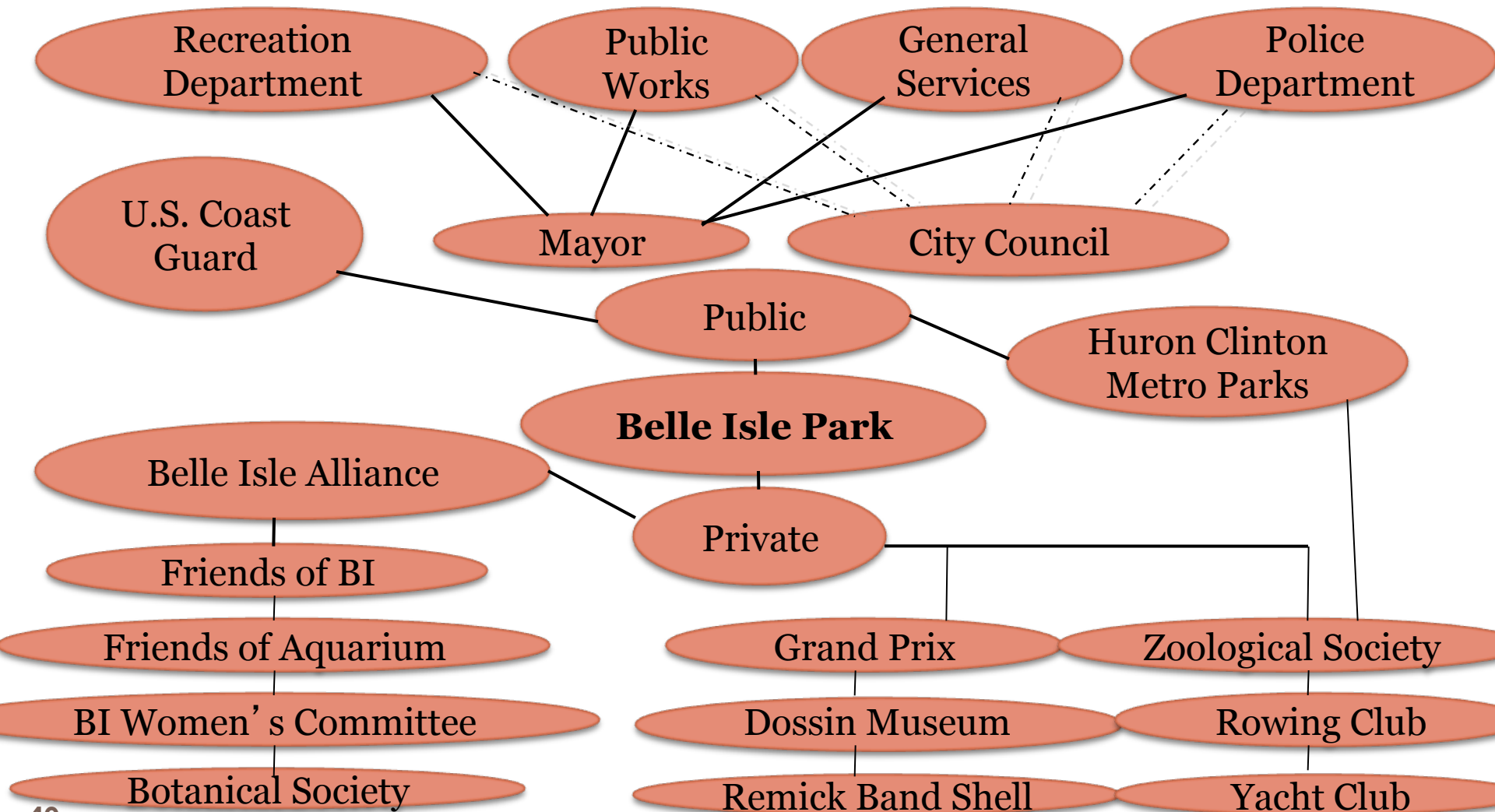
The third group of the alliance is the Belle Isle Botanical Society. The Botanical Society has taken responsibility for the Anna Scripps Whitcomb Conservatory, located in the central part of the Park. The facility is owned and operated by the City of Detroit Recreation Department. The Botanical Society's role is to raise funds for the building, assist in capital improvements, and maintain the indoor and outdoor gardens. The group was formed in 1988 and has continued their commitment to the island since.

The fourth group in the alliance is the Friends of Belle Isle Aquarium (FOBIA). This non-profit organization is committed to reopening the aquarium. FOBIA formed in 2003 when it was announced that the aquarium was going to close. Over the past six years, the group has remained active in raising funds, publicly promoting the aquarium, and engaging the City in discussions about reopening the facility. FOBIA Board of Directors meets monthly. The group has reached an agreement with the City to maintain the Koi, pond, and landscaping outside of the aquarium. During the winter the group moves the fish in to tanks in the basement of the aquarium, takes care of them, and returns them to the pond in the spring.<sup>16</sup>



Pond Separating Aquarium and Conservancy

# Organizational Chart of Belle Isle

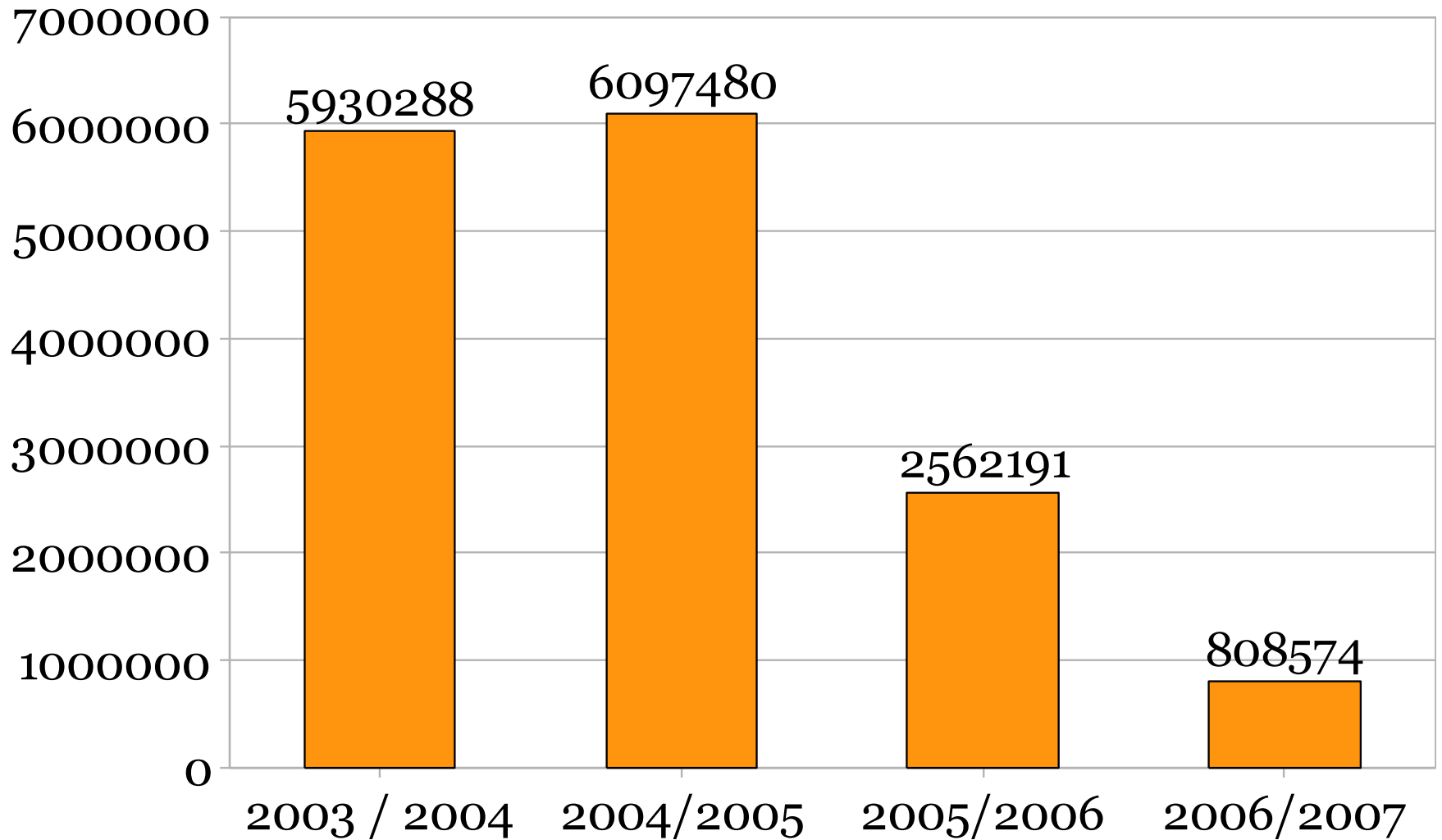


# Current Financing

In the beginning stages of this project the capstone team looked for a City of Detroit document that reported the annual budget of Belle Isle. It was assumed that some group or person was accounting for all the funds that were being spent on the upkeep and improvements on the island. Due to the complicated web of organizations and City departments that assist in the functioning of the island, it was difficult to portray an accurate picture of the amount of expenditures for the operations of the Park.

The City of Detroit Recreation Department is the primary entity responsible for maintaining the island. The Capstone Team reviewed City of Detroit budgets from the past ten-year to determine how much money the Recreation Department uses to operate the Park. There were drastic cuts in funding between fiscal year 2004-2005<sup>17</sup> and 2006-2007.<sup>18</sup> In the fiscal years 2003-2004<sup>19</sup> and in 2004-2005 the City of Detroit Recreation Department had a budget of approximately \$6 million per year solely dedicated toward maintaining Belle Isle (\$5,930,288 in 2003-2004 and \$6,097,480 in 2004-2005). In the 2005-2006 fiscal year the funding was drastically cut to \$2,562,191.<sup>20</sup> The most recent budget available to the public, 2006-2007, was under \$1 million (\$808,574). The budget cuts to Belle Isle are indicative of the overall declining tax revenues collected by the City of Detroit. The City of Detroit does not have resources that it once did to maintain the island.

# City of Detroit's Appropriations to Belle Isle : 2003 -2007



While the Recreation Department is the only department that is allocated funds specifically for Belle Isle, it is not the only City of Detroit department that uses funding to support the island. The Detroit Police Department, General Services, and the Department of Public Works do not specify what amount of their budgets are designated for the Park. The police department, for example, has officers stationed on the island at all times, but the department does not distinguish this cost from the cost of their other officers stationed throughout the city. This is an expense that is directly related to Belle Isle, but it is not a line item in Recreation Department's Belle Isle budget. Similarly, General Services and Public Works designate funds from their annual budgets to operate the island, this comes out of their own annual budget, not the Recreation Department's Belle Isle budget.<sup>21</sup> This structure makes it difficult to assess the exact amount of taxpayer money that is used to operate the island. Regardless of which department the money is coming from, a reality is that the City of Detroit's tax base has continuously declined in recent years and is projected to continue to do so. Because the City of Detroit's tax base is projected to continue to decline, the Capstone Team anticipates greater burdens in the future for the departments that are currently involved in the Park's operation.

Although the City of Detroit allocates public funding to operate the Park there are also examples of private funding. When the decision was made to bring the Grand Prix back to Belle Isle, the Downtown Detroit Partnership committed to financing capital improvements on the island.<sup>22</sup> In 2007 the Partnership contributed \$100,000 toward those capital improvements. In 2008 that amount was increased to \$125,000. Some of the other capital improvements were targeted toward changing the island to make it accessible for a large racecar event. These types of capital improvements included installing over 150,000 sq. feet of concrete on the island to build the track for the races. The rest of the funding was designated for improvements to the entire Park. These include repairing the lighting and drainage system, improving the Scott Fountain and the Casino facility, and installing a new play-scape. The Downtown Detroit Partnership agreed to incrementally increase their contributions toward capital improvements as long as the race is held on the island. Although the initial contract was for five years, the 2009 Grand Prix was postponed. Because the future of the race is questionable, Downtown Detroit Partnership funding may also be in jeopardy.<sup>23</sup>



The Belle Isle Women's Committee is another example of a private group that is significantly involved in the current financing of the island. The sole mission of this group is to raise money to support the island. Even though it is a relatively new organization, it has been very successful in achieving its goal. In the short amount of time that the organization has existed, it has raised over \$1.25 million dollars. This money has been invested in capital improvement projects such as the “Sunset Point” comfort station, as well as beautification and landscaping initiatives throughout the Park.<sup>24</sup>



Sunset Point Project



Boats at the Yacht Club

The previous examples of private financing are dedicated to improving the island as a whole but there are also examples of organizations that have taken fiscal responsibility for individual facilities. The Detroit Yacht Club, for example, has financed all of the capital improvements and operations of their facility. The Belle Isle Botanical Society has raised funds to finance improvements to the Conservatory. And, the Friends of the Belle Isle Aquarium have raised money that is dedicated toward reopening the aquarium.

# Current Physical Conditions

Much like the current financing on the Island, the physical conditions are extremely differentiated. Whereas some of the buildings are in excellent condition, such as the Yacht Club, others are in a moderate condition, such as the Casino, and some stand in an unfortunate state of continual deterioration, such as the Boat Club.

The Island's infrastructure shares three important characteristics. First, most of the buildings are uniquely designed and architecturally historic. Second, many of their physical features are naturally sustainable. They were built with thick walls to help control temperature, erected upon steady foundations, and constructed using local materials native to Detroit and Michigan. Most importantly, most of the buildings on Belle Isle can be rehabbed and retrofitted with sustainable technologies.

Another aspect of the current physical conditions of the Island is the utility infrastructure. Because the Park in essence is an island, the utility lines that run through it are all connected. The electrical service that supports the privately run Detroit Yacht Club on the eastern end of the Island is the same service that supports the publicly run maintenance facility on the western end of the Island. Thus, a succinct picture of the costs associated with public utility use cannot be differentiated one building from another.

The physical condition of the transportation infrastructure of the Island is diverse, but is primarily oriented toward auto traffic. The current lay out of the island is designed so that visitors can drive and park to every facility in the Park. As a result of this design automobile traffic dominates the park. While pedestrian and bicycle traffic is less common than automobile traffic both forms of transportation are popular in the Park. Despite the fact that the island nature of the Park would make it easily accessible by boat traffic this does not appear to be a fully utilized opportunity. The two facilities that include boat docks are the Detroit Yacht Club and the Belle Isle Boat House. The Yacht Club's docks are limited to club members and the Boat House's docks are strictly used as a launching point for the Detroit Rowers. There are no docks on the Island that are available for daily public use. The Detroit River and Lake Saint Clair are extremely popular waterways for recreational boating and fishing. If the Park equipped docks that were available for public use it could significantly increase attendance. Similarly increasing the transportation infrastructure designed for pedestrian and bicycle traffic, and separated from automobile traffic, is a similar opportunity for the Park to increase its accessibility to the public.

One could argue that the most popular activity on the Island is some form of sports activity. The Park is a built environment that was definitely designed for physical activity. The park contains beaches, baseball diamonds, soccer fields, a “giant slide”, several playgrounds with equipment, a hand-ball court, basketball courts, fishing docks, a full 9 hole golf course, and a 6 hole chipping course. In addition to having space specifically dedicated to the above activities, the Park also contains many open fields that allow visitors to get creative with their sporting activities such as kite-flying, cricket games, volley-ball games, and remote control car racing. The Team believes that this part of the Island’s physical condition is extremely important. The inexpensive upkeep of many sporting areas of the Island has afforded the City the opportunity to maintain these locations with little overhead. It is also important to point out that sports are excellent opportunities for exercise, which means they are socially sustainable activities.

Like the built environment, the quality of the ecological conditions on Belle Isle varies greatly. Some areas of the Island are in excellent condition. The east point of the Island, for instance, has experienced less human impact and therefore less physical deterioration. The more frequented areas of Belle Isle show noticeable signs of erosion, large quantities of trash/debris, and vandalism. Examples are overturned litter baskets, invasive plant overgrowth, disruption and deterioration of physical structures. Many parks across the country have initiated the reintroduction of native species as one of the key elements in their sustainability practices. Environmental sustainability is achieved when the built and natural environment are embraced as mutually beneficial and equally important.



Deterioration of the ecological landscape

# Belle Isle Survey

Many development projects are centered in livable communities. As such, the development process includes the residents of the community. The residents are major stakeholders in the overall outcome and success of the development process, making their input and opinions invaluable to the outside development team. Because Belle Isle is not a livable community but rather a regional destination, the importance of input by stakeholders is no less valuable. As such, the Team developed a survey to be distributed at random to individuals who might or might not utilize the Island and who lived in the City as well as surrounding regional areas. The intent was not to pursue statistical ratings or develop finite solutions, but to gain a more comprehensive sense of general attitudes toward the island. A survey about Belle Isle was developed and distributed to students at the University of Detroit Mercy, co-workers, family members, and anyone else willing to complete the survey. Approximately 100 surveys were distributed.

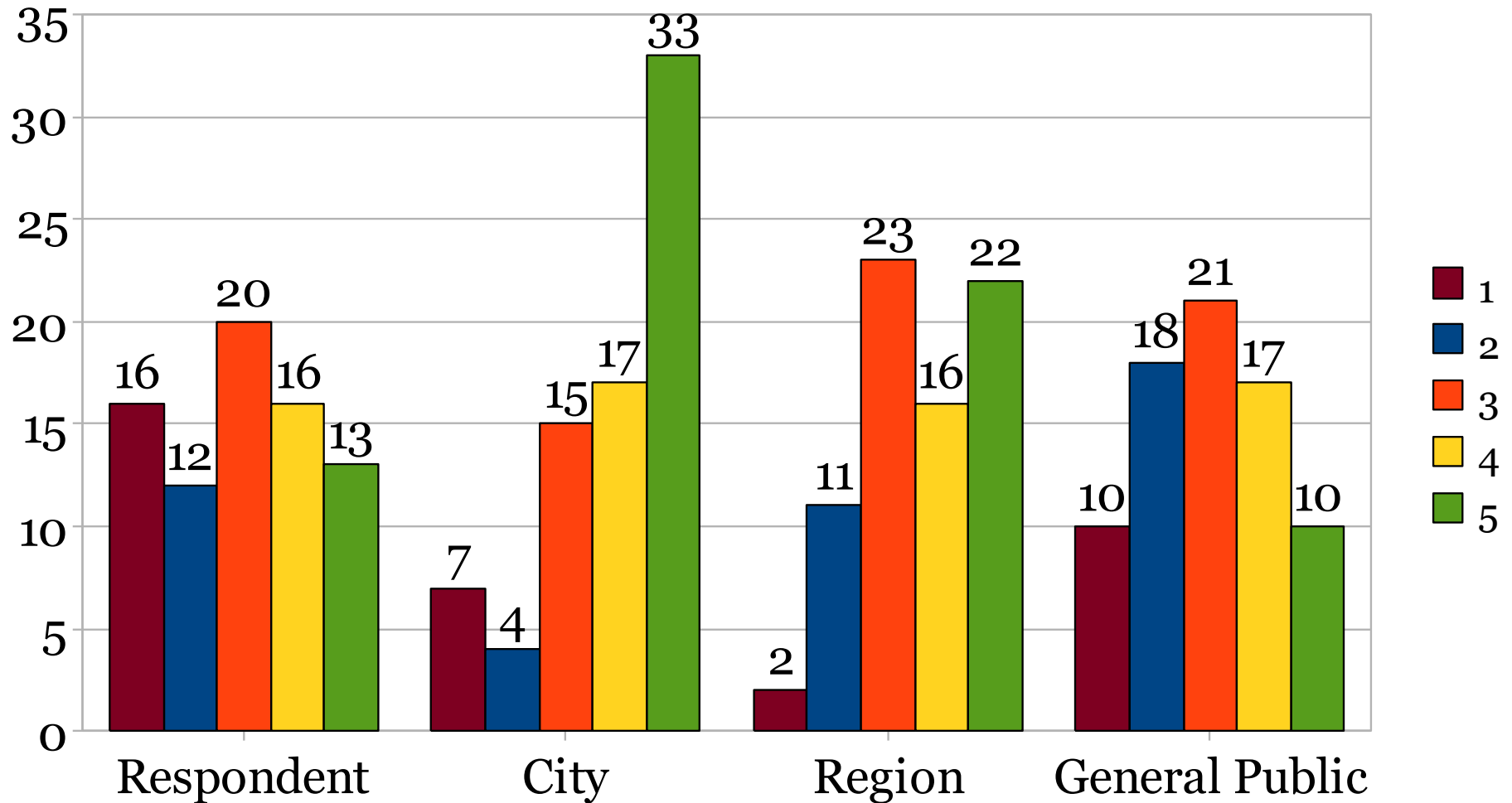


The following graphs represent the outcomes of the survey. The overall results indicated that the largest group of respondents was 18-25 years of age and female. When asked about the importance of Belle Isle to the respondent, the city, the region and the public, the overall response indicated that the Island was most important to the City. The majority of respondents, when asked if they had seen advertising about the Island, indicated that they had never seen an advertisement about the Island. A few respondents noted that they were more aware of the Island through public announcements about the Grand Prix which has been held on the Island. Although the Island has never had an admissions fee, the question of whether or not the respondents would be willing to pay an entrance fee to the Island, received an overwhelming “yes” response with some conditions. Many of the respondents who agreed that a fee would be appropriate qualified their answers by saying that the fee would be feasible only if the programming on the Island improved. When asked how often the respondents visited the Island, the largest group indicated they only visited the Island twice a year.



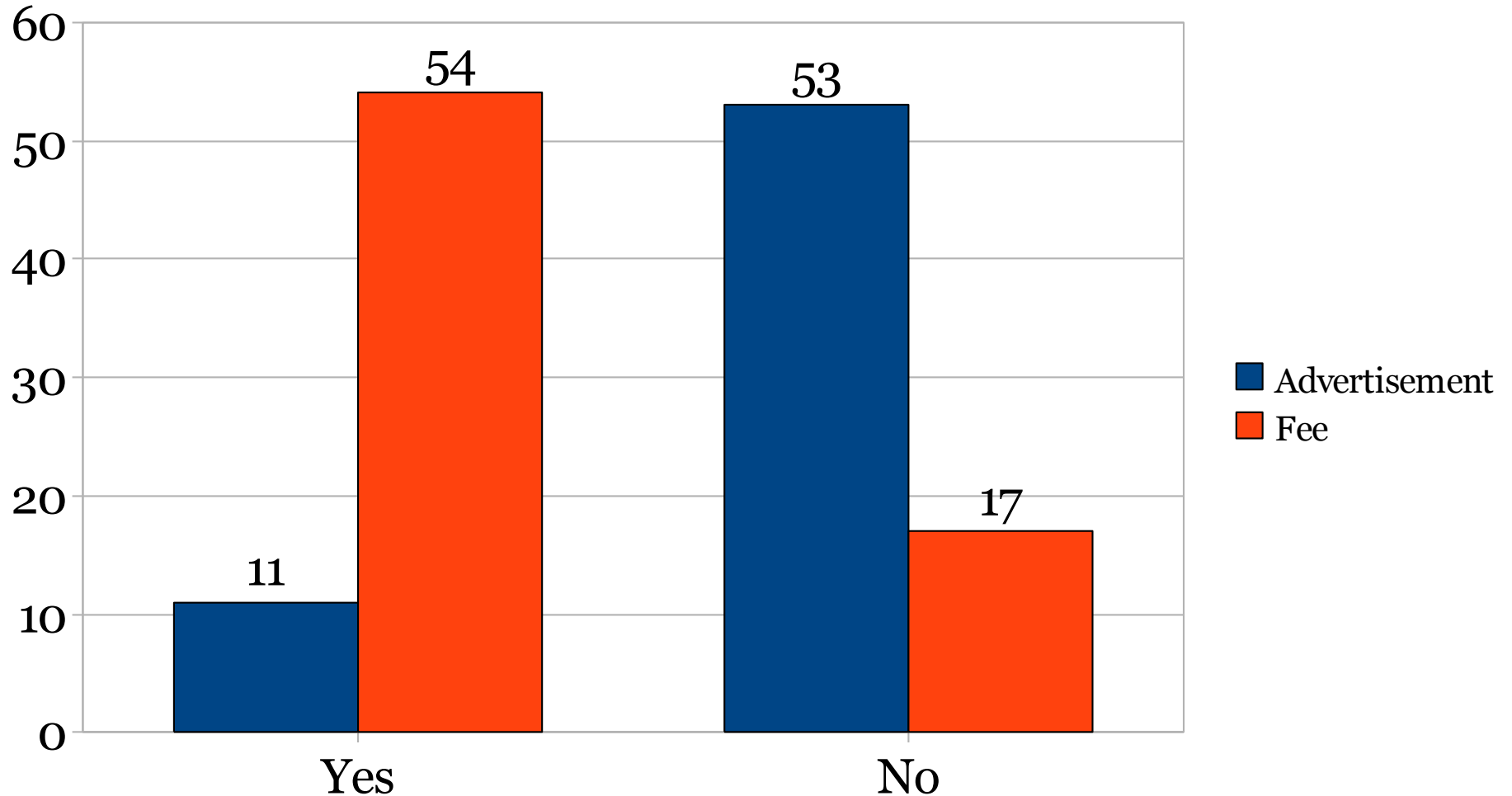
# How Important is Belle Isle to...?

53



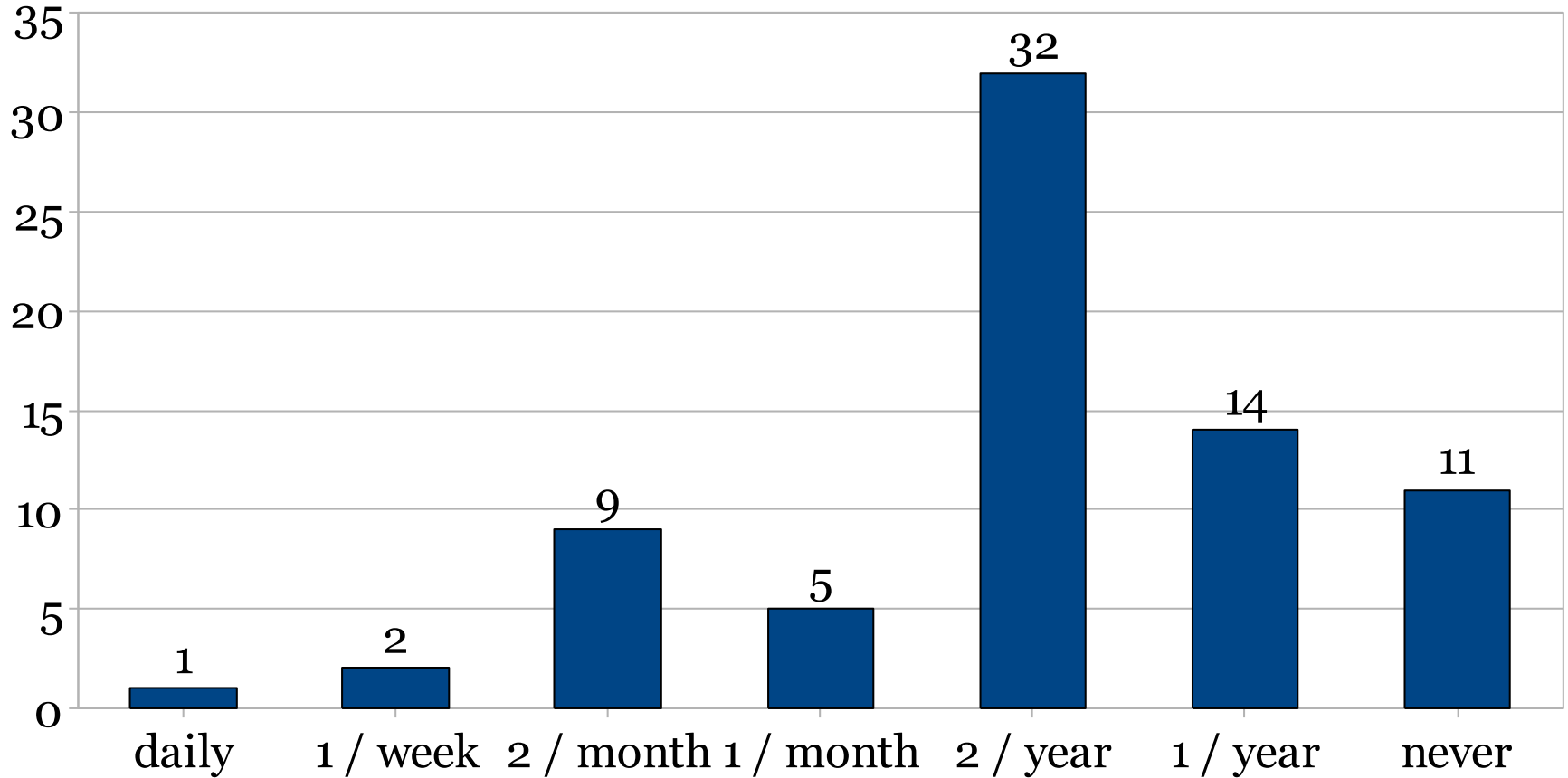
# Belle Isle Fees and Advertising

54



# Frequency of Visits

55



# Chapter Three

## The Existing Conditions of the Aquarium

# Aquarium History

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Designed by Albert Kahn, the Belle Isle Aquarium officially opened on August 18, 1904. It was the third largest aquarium in the world.

“The Belle Isle Aquarium was the first municipally funded aquarium in the United States. Following the lead of Detroit, Boston opened a municipal aquarium in 1912 and the Vaughn aquarium of Scripps Institution at La Jolla, California opened in 1916. Since then, many major American aquariums have been established.”<sup>25</sup>



Belle Isle Aquarium interior pictured in the 1920's

Although the Aquarium was a popular attraction for residents, it also served as both a regional and national destination. According to Island in the City, the Aquarium boasted attendance that was well over a million patrons per year. In 1904, the year the Aquarium opened, the attendance was 500,000. The following statistics were also recorded; 1929-1,682,000; 1934-1,738,375; and 1939-1,792,525. Initially the Aquarium had exhibits of both salt and freshwater fish. In 1941 the Aquarium was taken over by the Zoological Society. By the mid-1900s the Aquarium was in much need of repair. The process of remodeling began and the Aquarium was reopened in 1955, “The emphasis on salt-water displays was greatly reduced and the major exhibit effort was to make the Belle Isle Aquarium one of the best displays of fresh water life in the world.” The Aquarium was free until 1995 when an admission fee was charged in an effort to keep the Aquarium open. A continued decline in attendance, the City’s eroding tax base, and a significant loss in population led to the closing of the aquarium in 2005.<sup>26</sup>

# Past Financing

The City's financial hardship was the primary reason cited when the aquarium closed. Examining the budget from fiscal year 2002-2003, the year before the aquarium closed, sheds light on the circumstances leading up to the closure of the Aquarium. At the time of its closure, the Aquarium was owned and financed by the City of Detroit, but operated by the Detroit Zoological Society. In addition to operating the Aquarium, the Zoological Society also operated three other facilities owned and financed by the City of Detroit; The Detroit Zoo in Royal Oak, the Belle Isle Zoo, and the Belle Isle Nature Zoo. During the 2002-2003 fiscal year the City of Detroit appropriated over \$13 million to the Zoological Society to operate those four facilities. Of the total allocated to the Zoological Society, just over \$11 million was used to operate the Detroit Zoo in Royal Oak and just under \$2 million was used to run the three facilities on Belle Isle. Out of the \$2 million used on Belle Isle, just over \$600,000 went to operating the Aquarium.<sup>27</sup> In addition to City of Detroit taxpayer money, there was also revenue generated from admission fees. Attendance records from that year indicate that around 56,000 people visited the aquarium.<sup>28</sup>

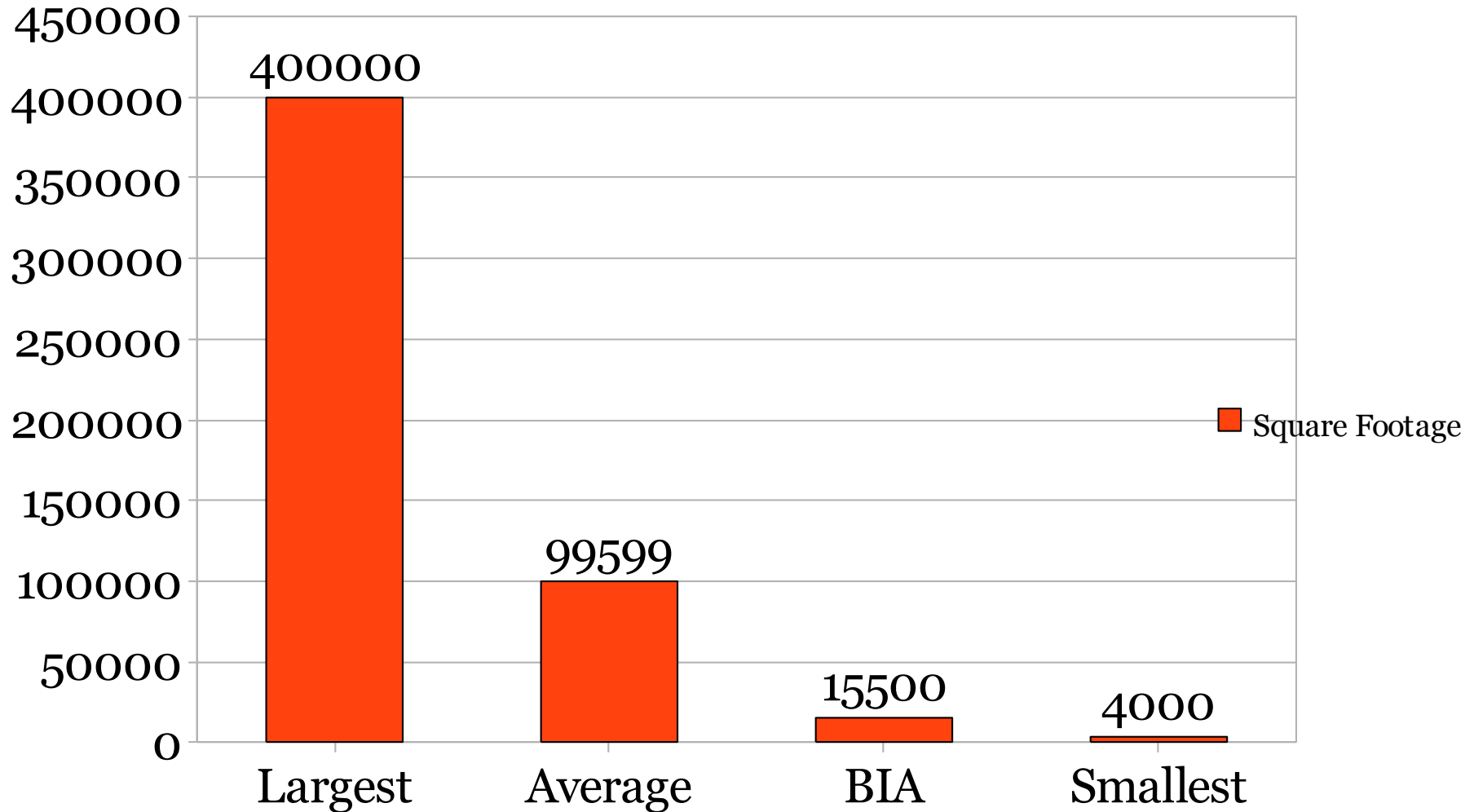
# Aquarium Comparables

Any proposal to reopen the Belle Isle Aquarium should take into consideration comparables from across the United States. Research indicates what has worked best in respect to thriving aquariums throughout the nation. The average size of the nation's aquariums is 95,999 square feet. At 15,000 square feet, the Belle Isle Aquarium is much smaller than the national average; however, the Team believes its size provides several identifiable advantages.<sup>29</sup> Administrative and operational expenses are less, which makes the operation of the building more economically sustainable. Furthermore, construction, rehabilitation, and sustainable retrofitting costs would be considerably less expensive than if the Aquarium was 400,000 square feet and held eight million gallons of water, like the nation's largest aquarium, the Georgia Aquarium.<sup>30</sup>



# Aquarium Comparables: Size

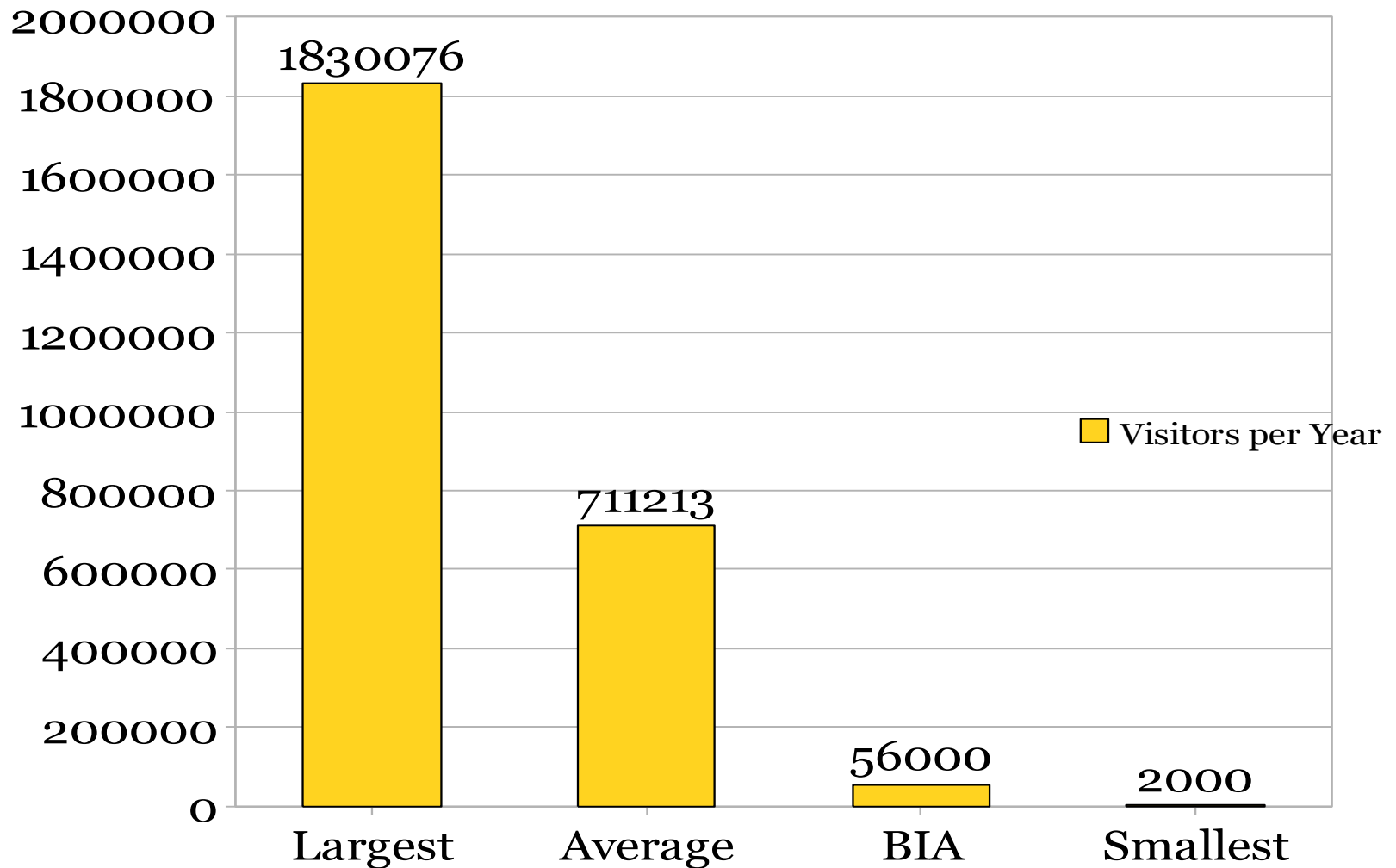
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In 2005, the attendance at the Belle Isle Aquarium was 56,000, or approximately 1/14 the national average of 711,213.<sup>31</sup> While it seems that it would be difficult to justify the reopening of the Belle Isle Aquarium with such modest attendance, the Team believes that the combination of upgraded facilities, innovative programming, and aggressive marketing could drastically increase the annual attendance. For instance, the Monterey Bay Aquarium supports a sundry of programs, including Young Women in Science and Oceanography Clubs, weekend games and activities, and educational films that they claim helps to maintain steady attendance.<sup>32</sup> Because of its relatively small size, a reopened Belle Isle Aquarium would not have to match or exceed the gate numbers of larger aquariums to operate a positive budget.

# Aquarium Comparables: Attendance

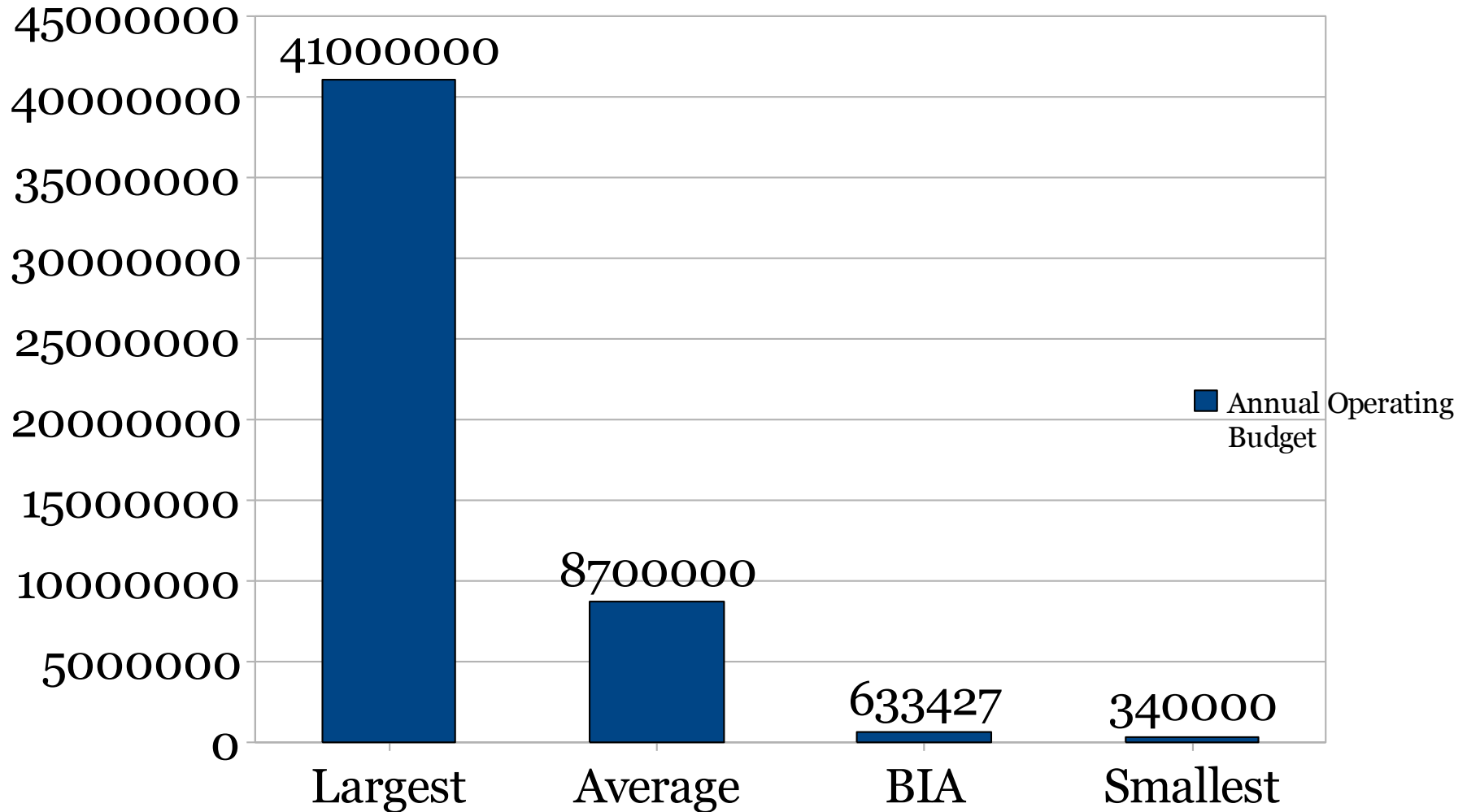
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Finally, at its time of closing in 2005, the Belle Isle Aquarium budget was approximately \$600,000. Comparatively, that is 1/17 the national average.<sup>33</sup> The Belle Isle Aquarium's budget, although small, is proportionate to its square footage and attendance. At the time of closing, the main difference between the Belle Isle Aquarium and other national aquariums was that other aquariums rely upon diversified financing beyond strictly revenue and government financing. Examples include charitable contributions, foundation support, and public grants.

# Aquarium Comparables: Budget

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# Physical Conditions of the Aquarium

The Belle Isle Aquarium is in remarkable condition, especially considering that it has not been operating as an aquarium for the past five years and that it was built over a century ago. Designed by famed architect Albert Kahn, many of the building's physical features have allowed it to pass the test of time. The aquarium's interior, although designed to give the visitor an "underwater" sensation, utilizes cypress tank-lined walls and jade green tiles. The Belle Isle aquarium has always been well preserved and maintained. In the 1950s, the aquarium was rehabilitated to incorporate a more modern tank and lighting system.

Since its closing in 2005, the Friends of Belle Isle Aquarium have made significant investments in the building, including replacing the roof and maintaining the exterior landscaping. The Friends of Belle Isle Aquarium continue to keep Koi in the aquarium's basement, which they transfer to the outdoor pond during the summer months. (Some argue that the Koi's presence make the Belle Isle Aquarium the oldest operating aquarium in the United States).

In order for the Aquarium to be reopened to the public, it is likely that much of the equipment, including tanks, heaters, and filters, would have to be replaced. Furthermore, a large amount of the building's utilities, particularly those that directly service the tanks (water, heat) would have to be entirely replaced or significantly rehabbed. Because the entire island runs off of one utility grid, the Aquarium's electricity and heat have never been shut off, which has also effectively preserved the physical integrity of the building.



Main Display Room



Aquarium Tank



# Chapter Four

## The Reopening of the Aquarium

# Organizational Models

There are three prevalent organizational structures for aquariums in the United States. Most are publicly owned and privately operated, such as the Shedd Aquarium in Chicago, Illinois and the Monterey Bay Aquarium in Monterey, California. These aquariums are owned by governmental entities and managed by independent non-profits. The Shedd Aquarium is headed by President/CEO Ted A. Beattle and guided by a 60-plus member Board of Trustees.<sup>34</sup> Like most non-profits, the Shedd Aquarium's Board of Trustees functions in a decision-making capacity by setting policy and directing long-term planning. The Shedd Aquarium is funded through admission fees, charitable contributions, private foundation support, and is further subsidized by municipal dollars. The Shedd Aquarium's organizational and financing structure is typical of the publically owned, privately operated model. Municipal or state dollars can be in form of millages, bond initiatives, and other special taxation. Local examples of publicly owned and privately operated cultural institutions are the Detroit Zoo and the Detroit Institute of the Arts.

A less common organization structure is one that is publicly owned and publicly operated, such as the North Carolina Aquariums. They are operated as a subsidiary program of the North Carolina Department of Environment and Natural Resources.<sup>35</sup> The Belle Isle Aquarium, prior to the Zoological Society taking control in 1941, was representative of this type of organizational model. One of the potential downsides to this organizational structure is that the governmental entity, whether local municipality or state, if forced to make difficult decisions about how tax revenue is spent during periods of economic decline. These aquariums depend almost entirely on tax dollars as their secondary funding source after general revenue.





Photo: Illinois Bureau of Tourism

Shedd Aquarium; Chicago Illinois

The least prevalent organizational structure in the United States is one that is privately owned and privately operated. Examples include Underwater World in Bloomington, Minnesota, the Dallas World Aquarium in Dallas, Texas, or any of the three Sea World locations (San Diego, San Antonio, and Orlando). These venues tend to be more tourist-oriented destinations as opposed to serving the local populations.

The Capstone Team's proposed organizational structure for a reopened Belle Isle Aquarium would be publicly owned and privately operated. The Team believes that it is unlikely for the City of Detroit to relinquish ownership of the facility. The City, however, may be willing to sign an extended lease whereby another entity is given operational authority of the Aquarium. The Team contends that the reopened Aquarium would be most sustainable if operated by a non-profit entity. Because of their long-term commitment and continued dedication, it is logical for that organization to be the Friends of Belle Isle Aquarium. Management by a non-profit would have multiple benefits, including the solicitation of private contributions and grants, the guidance of a diverse Board of Directors, and leadership from skilled administrators, knowledgeable staff, and committed volunteers.

# Funding Options

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When discussing the economic sustainability of a reopened Belle Isle Aquarium, the Capstone Team developed a budget for both capital improvements and year-to-year operations. The capital improvement budget includes funding options for green technologies as well as alternative gap financing. The operating budget includes diverse revenue streams. Both budgets are highly integrated and were developed simultaneously.



Belle Isle Aquarium

# Funding: Capital Improvement Budget: Sources

Federal Historic Tax Credit (20%)	\$873,140
State Historic Tax Credit (5% @ .85/\$1)	\$185,542
Brownfield Tax Credit (10% @ .70 /\$1)	\$305,599
Geothermal Tax Credit (10% of \$200,000 @ .90 / \$1)	\$18,000
Solar Tax Credit (30% of \$175,000 @ .90 / \$1)	\$47,259
New Market Tax Credit (27% @ .85 /\$1)	\$1,001,928
Grant	\$1,000,000
Loans	\$934,231
<b>Total</b>	<b>\$4,365,700</b>



# Funding Capital Improvement Budget: Soft Cost Uses

Title Insurance	\$1,500
Legal Fees	\$50,000
Construction Insurance	\$30,000
Accounting	\$10,000
Architect (7% of HC)	\$210,700
Developer Fee (20% of HC)	\$602,000
Soft Cost Contingency (15%)	\$451,500
<b>Subtotal</b>	<b>\$1,355,700</b>

# Funding : Capital Improvement Budget: Hard Cost Uses

Roof	\$160,000
Electrical	\$160,000
ADA Modifications	\$130,000.00
Sewer lines and plumbing	\$190,000.00
Exterior Brick	\$75,000.00
Geothermal Heat System	\$200,000.00
Air Conditioning	\$85,000.00
Windows	\$30,000.00
AIA Contingency	\$75,000.00
Interior Connectivity to Conservatory	\$25,000.00
New Restrooms	\$350,000.00
Landscaping	\$50,000.00
New Tanks	\$300,000.00
Underground Viewing Pool	\$560,000.00
Security System	\$20,000.00
Renovation to Pond	\$150,000.00
Solar	\$175,000.00
Hard Cost Contingency	\$275,000.00
<b>Subtotal</b>	<b>\$3,010,000.00</b>

The Capstone Team developed a preliminary budget. The capital improvement budget is chart 1. There are three references used to develop the budget. The Capstone Team reviewed a capital improvement budget that was developed by the Friends of Belle Isle Aquarium Board of Directors.<sup>36</sup> It served as a useful tool because it identified the extend and estimates of hard costs. The Team learned, for example, that the roof was in need of moderate repairs and would cost an estimated \$160,000.

The second reference used was a comparable capital improvement budget from the recently renovated Oddfellows Hall in Southwest Detroit.<sup>37</sup> Both buildings are approximately 15,000 square feet, incorporate green technologies, and are designated historic buildings. Finally, the Oddfellows Hall project was completed by a non-profit/for-profit partnership. This model is attractive because it makes the project eligible for additional funding. The soft costs for the two projects are similar because they both involve tax credits and grants, the use of which increases legal and consulting fees.



The third source that was used to develop the capital improvement budget was the Team's academic advisor's consulting firm, Zachary and Associates. The firm specializes in economic consulting for large development projects. Their expertise was useful in gauging the accuracy of estimated costs.



The final budget developed (Chart #1) totaled \$4.4 million. Based on discussions with City of Detroit employees and other interested parties, it was affirmed that this figure was realistic. While it is not necessary to provide a line-by-line analysis of the budget, it is necessary to discuss specific items in greater detail. One example is the installation of a geothermal heating system. This cost was not included in the original FOBIA budget but was added for this project because it reduces heating costs, lowers energy consumption, and reflects a cross section of economic and environmental sustainability. Similarly, a “green technology contingency” was added as a line item in the budget to allow for the inclusion of other improvements that would achieve the same goals as a geothermal heating system.

The capital improvement budget designated funds to the construction of a corridor connecting the interior of the Aquarium to the interior of the adjacent Conservatory. This idea was originally proposed in the FOBIA plan. Although the two buildings are currently connected to each other, a public passage between them does not exist. A physical link between the two buildings would promote the social connection between the programming of both institutions. This is an opportunity for physical design to promote social sustainability. Unanticipated costs usually arise in development, and therefore hard and soft cost contingencies were included in the budget.

After the budget for the project was developed, the Team began identifying potential funding sources. Traditionally, for-profit developers fund capital improvements primarily through loans provided by financial institutions. Because for-profits developments are revenue-generating projects, they structure in cash flow to pay back loans. Due to the current economic downturn and real estate crisis facing the City, development within its confines requires subsidized financing. To fill these financial gaps, funding from foundations and government entities is necessary. The three sources of gap financing proposed by the Team are tax credits, grants, and individual contributions. It is economically sustainable to have diverse funding sources because the elimination or reduction of a single source would not necessarily prevent the project from occurring.

Tax credits are a tool that the government offers to encourage particular types of development projects that are important but not economically feasible. For example, tax credits are used as incentives for projects that involve historic renovations because it is important that historically significant sites are preserved yet costly to rehabilitate. The Team identified several local and national tax credits for which the Aquarium would be eligible.

The Aquarium project would need to include a for-profit partner in order to receive the identified tax credits. To fulfill this requirement, a for-profit partner can have a minimal (as low as .01%) amount of ownership. This allows for the project to be eligible for the tax credits while being controlled by the non-profit partner. This ownership structure is modeled after the Oddfellows development.

The aquarium is definitely eligible for historic tax credits because of the historic nature of the Albert Kahn design. The building is already listed on both the local and historic registry which is the primary qualification. Both the State of Michigan and the U.S. Federal government have tax credits available for project for qualifying historic projects. Federal Historic tax credits will cover 20% of the budget.



While State and Federal Historic tax credits were the primary resource used on the project there were also several other tax credits that the Team deemed eligible resources for the project. New Market Tax Credits are part of a federal program that is designed to assist in the financing of commercial projects in low-income census tracts. To be eligible for New Market Tax Credits a project must be at least 20% commercial. The Team believes that by including a gift shop in the redeveloped aquarium the project could achieve this requirement. New Market tax credits are an extremely important part of the financing resources because they can add an equity infusion of at least 27% of the project costs.<sup>38</sup>



The Team also identified State of Michigan Brownfield Business Tax Credits as a potential resource for this project. This resource is available to projects where either the building is functionally obsolete, where there are environmental issues present, or when the property has been tax reverted to the City.<sup>38</sup> The Team believes that the Aquarium meets the requirement of being functionally obsolete because even though the City has maintained the building it still could not be used for its original use without a renovation. Interior tanks are broken and utility systems are in need of an upgrade.

The final tax credit resource that was used on the project were New Energy Tax Credits. This is a relatively new federal resource that will give a 30% tax credit for projects that include technologies that reduce the building's energy consumption such as wind turbines, geo-thermal systems, or solar panels. The 30% credit only applies to the cost of the eligible technology not the entire cost of the entire project.<sup>38</sup>

# Funding the Reopening: Operations

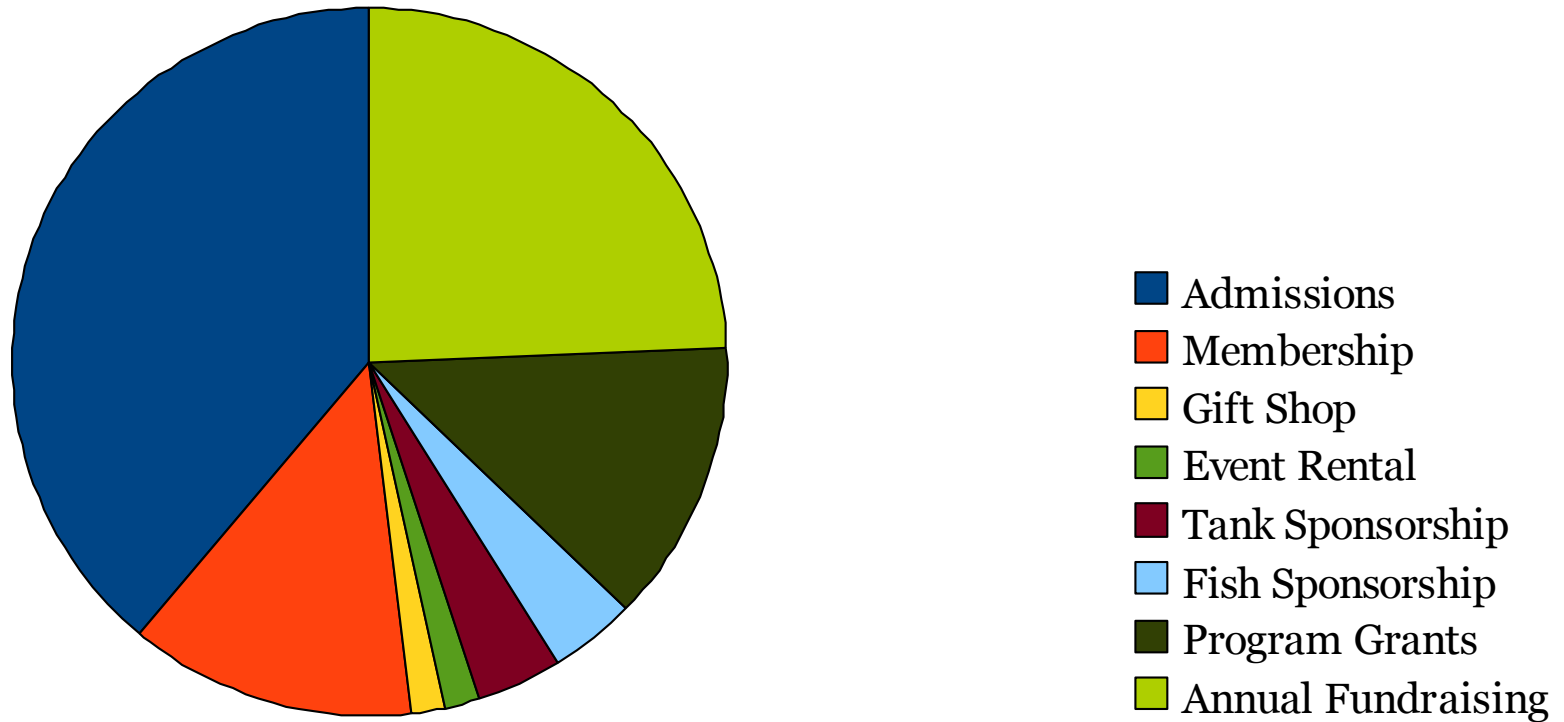
It was mentioned above that the primary goal of developing an operating budget was to make sure that the aquarium was not reliant on the City of Detroit for operating funds. A second related goal was to ensure that the sources of funds were diverse so that the aquarium was not reliant on any one source for operating funds. There were several resources that were used to develop the operating budget of the reopened Aquarium. The primary source was past City of Detroit budgets that roughly indicated what the cost of running the aquarium was prior to the time that it was closed. A secondary source that was taken into account was an operating budget that was developed by the Friends of Belle Isle Aquarium. Finally, the team also reviewed annual reports from the Shedd Aquarium in Chicago and the Detroit Zoological Society to gauge a reasonable level of annual charitable contributions from individual donors. The Team arrived at final annual revenues and expenses that total about \$750,000. The Team was confident that this was a realistic budget for the facility. The budget is much smaller than many aquariums throughout the U.S. but is proportionate when the size the Belle Isle Aquarium is considered. The annual revenue and expenses are higher than when the aquarium closed, which the team feels is appropriate because facilities will be upgraded and programming will be expanded.

# Funding : Operating Budget (Revenue)

Admissions (60,000 @ \$5 / visitor)	\$300,000
Membership (1,000 members @ \$100 / year)	\$100,000
Rent to Gift Shop (\$1,000 /month)	\$12,000
Event Rental (2 rentals per month @ \$500)	\$12,000
Corporate Tank Sponsorship (15 tanks / \$2,000 )	\$30,000
Individual Fish Sponsorship (20 fish / \$50)	\$10,000
Program Grants	\$100,000
Annual Fund Raising	\$177,917
<b>Total</b>	<b>\$741,917</b>

# Operating Budget (Revenue)

86



# Funding : Operating Budget (Expenses)

Loans ( \$934231.00 20 year loan at 7%)	\$86,917
Staff	\$450,000
Security	\$50,000
Fish Food Supplies	\$60,000
Maintenance	\$5,000
Marketing	\$50,000
Petty Cash / Contingency / Supplies	\$40,000
<b>Total</b>	<b>\$741,917</b>

# Sustainable Technologies

As the world has become more aware of the negative environmental impact historic uses of natural resources have created, research and development of technologies that support energy conservation and the search for renewable energy sources have impacted the culture not only environmentally but socially and economically as well. The expanse of eco-technological research and development is a worldwide process with new and innovative products and concepts emerging on a daily basis. The term “green” has become a household word and environmental support organizations have sprung up in mass as well.

The concept of incorporating sustainable technologies on the Island would only serve to support the original intent for the Island – a place where man and nature can commune in harmony. Redeveloping the Island and incorporating sustainable technologies seems a given conclusion considering the project’s focus on social, economic and environmental sustainability. There are numerous possibilities for sustainable incorporations on the Island. The introduction of photovoltaic energy sources which use the rays of the sun to produce electricity, waste-water reuse (gray water reuse) which is a process of recycling rainwater, wind power which is a source of electrical power generation, compost toilets which requires little if any water consumption, tankless water heating systems that reduce energy consumption used to heat water, natural landscaping such as planting wildflowers, as well as geothermal technologies are all feasible for the Island.<sup>39</sup>



Wind Turbine



Wildflowers

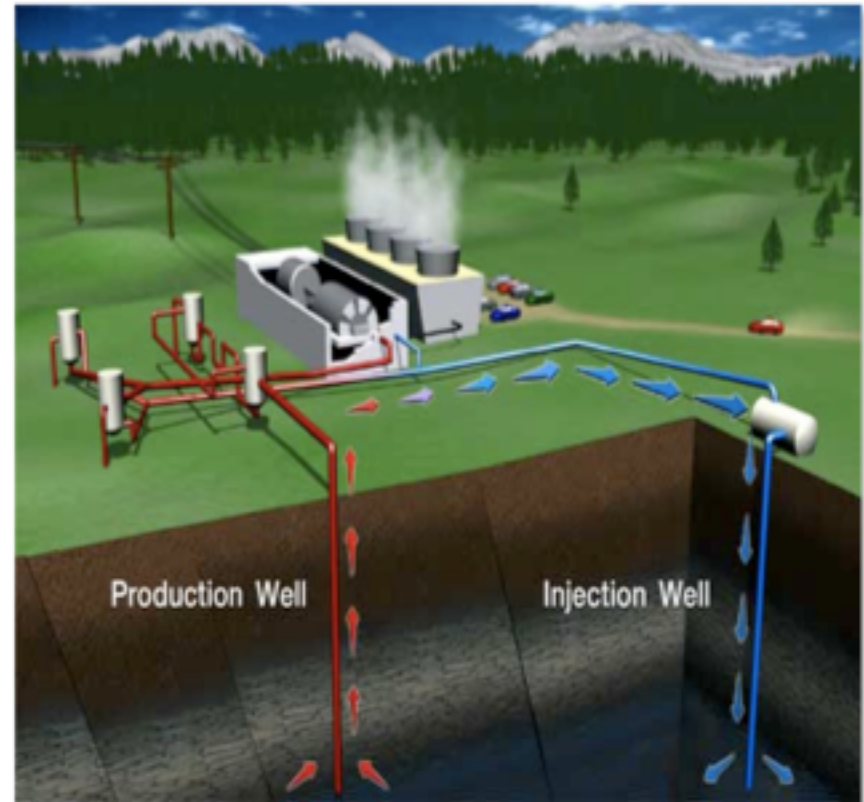


Photovoltaic



Tankless Water Heater

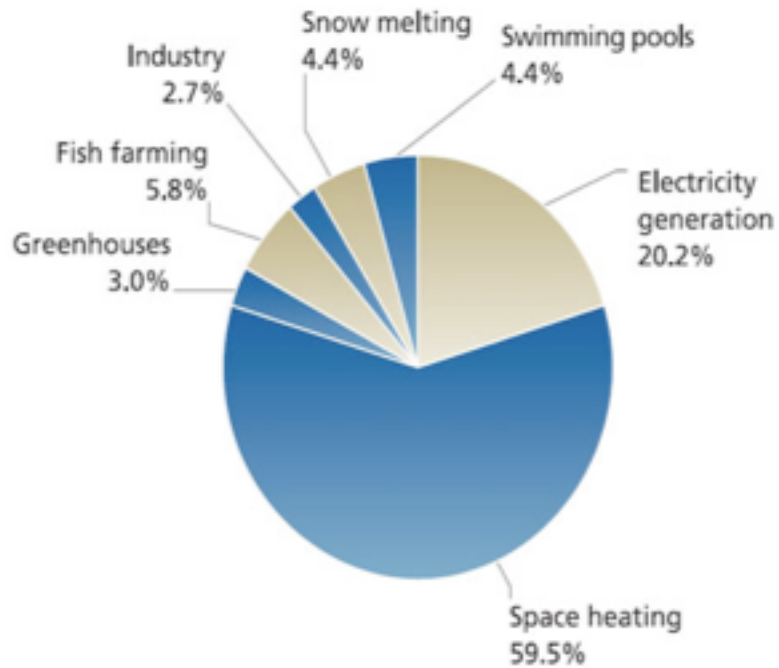
One example of sustainable technologies, and one that is specifically applicable to the Aquarium, is geothermal energy. While conducting research, the Capstone Team was fortunate to have the opportunity to consult, on-site, with geothermal expert Lawrence Muhammad. Mr. Muhammad concluded that a geothermal energy system could easily be installed in the Belle Isle Aquarium. In fact, Mr. Muhammad suggested that if a geothermal system were to be incorporated into the Aquarium, it would be logical from a physical and economic standpoint to construct it so that it also services the neighboring Conservatory.



Geothermal Heating System  
[academic.evergreen.edu](http://academic.evergreen.edu)



## Utilization of geothermal energy 2005



geoberg.de

Geothermal energy can be utilized for many purposes besides simply regulating temperatures. In the case of the aquarium, geothermal energy could additionally be used to heat the fish tanks and supply electricity to the heaters and filters.

Geothermal energy is a clean, renewable resource. Unlike coal or oil, geothermal energy has existed since prehistoric times and is projected to last indefinitely. “Hidden costs, including land degradation, dangerous air emissions, forced extinction, and destruction of animals and plants, as well as health impacts to humans, are nonexistent with geothermal energy production.” On average, geothermal energy has a payback period of seven years. There are numerous funding resources for geothermal energy including public and private grants, tax credits, and special low-interest loans.

Perhaps the most convincing argument for geothermal energy is that it is more reliable than other basic renewable energies. Whereas wind power is only reliable 25%-40% of the time and solar power is reliable 22%-35% of the time, geothermal energy is reliable 90% of the time.<sup>40</sup>

# Programming

Programming for any major venue is a crucial aspect of its success. The Aquarium offers many opportunities to continue some previous programs as well as introduce new possibilities. The concept of programming is centered in the human aspect based on what activities or presentations will attract the most patrons. The opportunities for exploration are endless when considering not only the Aquarium with its aquatic life but also the Detroit River and the possibilities for joint programming. Some of the programming would not be new to the Aquarium or the Island. School field trips have long been one of the main attractions at the Aquarium and upon its reopening would continue to be as important. The introduction of new exhibits that explore aquatic life in a more ecological context is another programming possibility for the Aquarium. Exhibits that examine local aquatic life and its impact on the surrounding eco-systems are but another prospect for future programming. The Aquarium could become the perfect backdrop for community classrooms as well as educational opportunities for students and non-students alike.

Because of the intense efforts being put forth to address environmental concerns, the Aquarium could enhance its programming opportunities by partnering with colleges and universities in Michigan as well as throughout the country to develop research opportunities. With fresh water being the second most threatened natural resource, second only to fossil fuel, the possibilities of partnering with other institutions through internship opportunities is also very feasible.

Interesting and unusual events such as seining, dragging a net and examining what the contents are and exploring how those contents can be beneficial or detrimental to water and aquatic life, can be introduced as part of an ongoing developmental process of “each one teach one.” The concept is centered around educating young people about the importance of water, aquatic life, and its overall environmental impact on man. A commitment by the participants to teach at least one person what they learn during their experience at the Aquarium is a concerted effort to create a sustainable teaching cycle. The outcomes could be endless, literally.



Monterey Bay Aquarium



Belle Isle Koi Transfer



North Carolina Aquarium Gift Shop

Lastly, what would a fun-filled day at the Aquarium be without a souvenir to remember all the things you learned and enjoyed? A gift shop provides the opportunity not only to preserve memories; but, it could be the center for book signings, special activities and other events as well. It is also could provide a revenue stream that supports the concept of economic sustainability. The programming options described above are certainly not all the possibilities that could enhance the programming aspect of the Aquarium. However, it is indicative of what the future of programming for the Aquarium could be.

Although programming can become costly, funding possibilities are available that could support in full or part many of the options previously described. As examples, the concept of “each one teach one” could be developed and supported by funding from the Skillman Foundation, an organization dedicated to education. The Mott Foundation has grants dedicated specifically to freshwater research and development such as “seining” and eco-research. The Kresge Foundation also provides funding for educational as well as environmental programs. Summer internships can be funded in part by the sponsoring colleges and universities through scholarships or fellowships.



# Chapter Five

## The Future of Belle Isle



# The Cultural Campus

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In the Hamilton Anderson Master Plan there was an element that the Capstone Team believed was appropriate for the goals of this project; the idea of developing a “cultural campus” in the middle of the island.<sup>41</sup> With the goal of social sustainability in mind the objective of re-developing some of the buildings around the Aquarium to represent a cultural campus is going to be spelled out in this chapter. The idea being that the value of the overall campus could be much greater than the sum of its individual facilities.



Belle Isle Floral Clock



# The Cultural Campus

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A strong foundation for a cultural campus already exists in the center of the island. The campus would be anchored by three existing facilities that are already with 200 yards of each other: The Anna Scripps Conservatory, Dossin Great Lakes Museum, and the Belle Isle Aquarium. Assuming that Aquarium is reopened, all three facilities could combine their marketing efforts to advertise multiple cultural activities. The Conservatory already has an impeccably maintained display of plant life. Programming for this facility could embrace the “green” approach by adding placards that explain the link between human activity and natural organisms. Dossins Museum has strong historic exhibits that celebrate the local populations use and enjoyment of the Great Lakes. This programming could be expanded to related to the plant and aquatic programming of the other two facilities. Finally, it has already been discussed that one model of social sustainability that should be embraced by the aquarium is the programming. The aquarium could complete the picture by explaining the relationship between aquatic life, the Great Lakes, and surrounding plant life. By incorporating cross-facility programming the cultural campus could establish social sustainability for all the facilities because visitors who are drawn in by interest in one particular facility would be more likely to visit other buildings.

In addition to programming there could be physical improvements that would create visual indicators that this portion of the island is dedicated to cultural attractions. Public Art installations already have a strong presence on the island. If this tool of beautification was increased and concentrated on the cultural campus it would make all of the individual facilities more appealing. Another physical improvement that is commonly used in community development, especially in commercial “main street” development, is signage. If there were signs on the perimeter and street lights that drew attention to the cultural campus and its amenities it would draw in visitors who already frequent the park. Landscape architects have also become very important in promoting sustainability. A new and enhanced landscape plan for the cultural campus could be a simple measure that helps achieve the triple bottom line goal. One example of this that was discussed by the team is the planting of native, perennial wild flowers in areas that are now covered by grass. The aesthetic beauty of the flowers is socially sustainable. The elimination of the need to use gasoline powered mowers to cut the grass is environmentally sustainable. Finally, not having to pay to cut the grass is more economically sustainable.



There are also organizational benefits from approaching all the individual facilities in a uniform manner. For example, if the organizational structure of the island changed and the City of Detroit was no longer responsible for providing utilities to the individual buildings it would be in the economic interest of aquarium, the conservatory, and the green houses to collaborate on developing solar, wind, and geothermal approaches to providing energy for all their facilities.

# Organizational Models

Over the past several decades, Conservancies have become a widely popular organizational model for parks across the nation. The Buffalo Olmstead Parks Conservancy in upstate New York became the first non-profit organization to manage an American park. On July 1, 2004, the City of Buffalo, Erie County, and community stakeholders signed into a public-private agreement with the Buffalo Olmstead Parks Conservancy, which had been serving as a non-profit, membership-based community organization since 1978. According to their website, the mission of the Conservancy “is to broaden awareness of, appreciation for, and investment in Buffalo’s Olmstead Park System in order to enhance, restore, and maintain this cultural treasure for the benefit of current and future generations.” The Conservancy, in conjunction with community participants, has produced a 20-year Management and Restoration Plan, which focuses on the conservation of undeveloped land, the protection of wildlife and the natural environment.<sup>42</sup>

The formation of a conservancy for Belle Isle could be a critical piece to the future success of the Park. Fortunately, this is not an original thought. Currently, there is a movement between Belle Island activists and stakeholders to form an overarching organization based on the conservancy model. The leadership of the Conservancy is negotiating a Memorandum of Understanding with City Council and various Detroit department heads.

# The Central Park Conservancy

The Central Park Conservancy is an example of the development of a successful non-profit conservancy. Central Park is one of the most famous and heavily trafficked public spaces in the United States. It is estimated that more than 25 million people visit the 843-acre Manhattan Park on an annual basis. Besides being New York City's top tourist destination, Central Park also serves the City's population as a nearby source of leisure, recreation, exercise, arts, and cultural attractions. The Central Park Conservancy was founded in 1980 by a group of passionate citizens responding to the disturbingly steady decline of the Manhattan's crown jewel. Central Park in the early 1980s was, in many ways, similar to the current state of Belle Isle. Like Central Park of two decades ago, Belle Isle has been negatively impacted by a declining tax base, decreased public appropriations, limited resources, and overall de-prioritization.



The Central Park Conservancy is a private, non-profit organization that operates under a contractual agreement with the New York City Department of Parks & Recreation. The Conservancy is comprised of a 60-member Board of Trustees that includes influential stakeholders such as the Parks Commissioner, the Borough President of Manhattan, five appointees of the Mayor, and an diverse group from the business and philanthropic communities. Since its inception, the Conservancy has raised over \$450 million, most of which was derived from the charitable contributions of individuals, corporations, and foundations. The Conservancy provides more than 85% of Central Park's \$27 million annual operating budget. The Conservancy's organizational status as a non-profit has significantly advanced its fundraising efforts.

A 1988 contractual agreement awarded to the Central Park Conservancy ensured the organization with continued authority over the park's maintenance, public programming, and capital restoration. The terms of the agreement state that the Conservancy shall receive an annual fee from the City based on a formula that requires the Conservancy to raise and spend a predetermined amount of private funds on the Park. The contract was renewed for another eight years in 2006.

According to the organization's official website, the Conservancy is charged with the full responsibility of maintaining both the built and ecological landscape. Conservancy crews "aerate and seed lawns; prune and fertilize trees; plant shrubs and flowers; maintain ball fields and playgrounds; conserve monuments, bridges and buildings; care for water bodies and woodlands; prevent erosion; maintain the drainage system; protect over 150 acres of lakes; and control pollution, siltation, and algae."



Central Park



Under this agreement, the City of New York retains authority in three distinct ways. First, all capital improvements undergo public review and are subject to the advice and consent of the Commissioner of Parks and Recreation. Secondly, events that are hosted on the Park's grounds are under the discretion of Parks and Recreation. Finally, revenue generated from the Park's concessions is deposited in the City's general fund. Comparatively, New York City has far less control and influence over Central Park than most other American conservancies.

The Central Park Conservancy exemplifies the “bottom-up” approach by engaging community residents and encouraging them to sit on Advisory Boards charged with tackling park-specific issues. Such Boards include the Upper Park Community Advisory committee, the Great Lawn Advisory Committee, the Central Park Recreation Roundtable, and the Public Programs Community Advisory Committee, among many others.<sup>43</sup>

# The Pittsburgh Parks Conservancy

The City of Pittsburgh, Pennsylvania is home to a diverse collection of 19th century parks. Pittsburgh's four largest parks, Frick, Schenley, Highland, and Riverview, are considered Regional Parks and therefore qualify for funding through the Allegheny Regional Asset District. Like Belle Isle, Pittsburgh's Regional Parks "have suffered from years of neglect, deferred maintenance, inappropriate interventions... crumbling infrastructure, conflicts between users, and general deterioration." The newly formed partnership between the City of Pittsburgh's Department of City Planning and the Pittsburgh Parks Conservancy has led to a cooperative, public-private effort to restore the Parks to meaningful civic spaces. This public-private organization has commissioned the Pittsburgh Parks Master Plan and intends on moving their agenda forward with a specific emphasis on design, planning, maintenance, preservation/conservation, and management. Furthermore, the Master Plan places "intense interest on issues of sustainability, green development, and the need to capitalize on the "green assets" of the landscape setting of the City."

Whereas the public arm of the partnership implements projects and manages initiatives, the private sector shapes policies and guides the future practices. For example, the Pittsburgh Park Conservancy monitors tangible improvements to ensure that they are executed according to general principles set forth in the Master Plan. Such principles include the integration of uses, interconnectedness of the physical to the ecological, promotion of sustainable infrastructure and landscape, guidance of appropriate recreational uses, and the establishment of new design standards.<sup>44</sup>



Frick Park, Pittsburgh



One of the main advantages of a public-private partnership is that the organization can more easily generate viable funding sources. The Pittsburgh Regional Park system serves as an excellent example of how charitable contributions are used to support the financing of capital improvements, sustainable technologies, administration, and long-term planning.

# Funding Options

While it would be impossible to lay out a detailed financial proforma for every facility in the cultural campus and on the island the Capstone Team believes that the financing the aquarium could act as a pilot for the remainder of the island. For example, if the Park embraced the cultural campus idea and developed the campus using ecologically friendly technology this could provide a model for other facilities on the island. The Belle Isle Nature Zoo, for example, is physically separated from the facilities that could make up the cultural campus. But if the cultural campus was successfully developed in a phased process it could help leverage resources to develop a facility like the Nature Zoo. The Zoological Society would be able to demonstrate their own redevelopment as financially feasible by using the cultural campus as comparable case study.

The model of using diverse, alternative funding sources could also be embraced by other facilities. Some of the funding sources that The Team proposed for capital improvements to the aquarium, like historic tax credits and new energy tax credits could be used by all facilities on the island.

There are other aspects of the financing of the aquarium, which could be duplicated throughout the entire island. Ultimately, the island as a whole's best chance to be economically sustainable is to implement socially and environmentally sustainable practices. For example, the socially sustainable practice of implementing attractive, marketable programming all throughout the island would lead to economic sustainability. The programming itself could generate revenue in the short term. Also attractive programming would likely increase the amount of annual visitors to the Park that in turn would result in an increase in attendance of the cultural facilities, sales of concessions, and overall charitable contributions. Similarly, implementing environmentally sustainable practices that reduce energy consumption for the entire island would lessen the accompanying costs and result in economic sustainability.

# Programming

The possibilities to increase the amount and quality of programming on the island are endless. While the current programming on the island is diverse there are many opportunities to attract more visitors to the Park by expanding the scope of activities. The best possible way for the Park to fulfill its potential is to take each individual facility and program through a “brainstorming” process as the Team has done for the Aquarium. In order for the Park as a whole to be truly socially sustainable it is important to continuously evaluate the various uses and activities. Although there are certain activities associated with the park that have time-less appeal, such as laying on the beach and riding a bicycle, there are also areas of the island that need up to date programming to remain relevant. The Belle Isle Golf Course, for example, is one of the most underutilized public golf courses in the region. This facility would benefit from upgraded marketing, youth lessons, and adult leagues. These small changes would all be socially sustainable practices because they would improve the connection between the physical landscape of the golf course and the people who utilize it. The changes would also indirectly make the golf course economically sustainable because they could generate revenue. Similarly, those socially sustainable practices would promote the environmental sustainability of the golf course because more funds would be available for landscaping. All programs and facilities on the island have an opportunity to be socially, economically, and environmentally sustainable.

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# Chapter Six

Sustaining the Future



# Sustainable Parks

The Leadership in Energy and Environmental Design (LEED) rating system promotes sustainability by evaluating buildings based on their incorporation and continued use of green and energy efficient technologies. Unfortunately, no such universal system exists for assessing the sustainability of public parks. It is critical that our society promotes sustainability in parks. The rapid development of land, increase pollution, and technology that limits an individual's interaction with nature and recreation threatens future social, economic, and environmental sustainability.



Brooklyn Bridge Park

Park sustainability can also have significant, long-term economic, social, and environmental benefits. Parks require means for remaining economically sustainable when national trends show that “funding sources are decreasing and park departments face increased pressure to provide cost effective benefits to park users on a tighter budget.” Likewise, park design and planning should encourage social and environmental sustainability so that it strengthens one’s relationship with nature, recreation, and community.<sup>45</sup>

Many parks and civic spaces across the country are evolving with a sincere recognition of and adherence to sustainability. Parks are moving toward site-specific initiatives that conserve resources while mitigating waste and spending. Such projects include strategically planted trees to reduce energy consumption, protect buildings, harvest rainwater, design efficient irrigation systems, use local building and recycled materials, and promote non-motorized transportation. Other popular sustainable practices use native plants, organic mulch, fertilizers, compost, avoid invasive species, and replace lawns with alternatives to reduce mowing. Trends that support social sustainability include providing ADA access, designing gathering spaces that encourage community and human interaction, creating bicycle and pedestrian paths, and the installation of public art.<sup>46</sup>

The Brooklyn Bridge Park has set the ambitious, yet feasible, goal of becoming economically sustainable. The objective is to reach a developmental stage where the Park is completely independent from government funding. In order to achieve this level of economic autonomy, the Park has planned several adjacent commercial and residential developments that will ultimately finance the maintenance and operation of the public space. Furthermore, the Park plans to implement sustainable technologies that will reduce utility expense and eliminate overhead. This represents an example where the marriage of the three areas of sustainability, economic, social, and environmental, have been embraced and implemented.<sup>46</sup>

Over the past decade, the Central Park Conservancy has emerged as a leader in promoting sustainable practices. All of the Conservancy's capital projects are executed in a manner that helps create a healthier, more sustainable landscape. Horticultural practices emphasize a green ecological network. Native species are introduced to strategically combat invasive species. Physical improvements are implemented so that they conserve natural resources, such as permeable playground surfaces, grey-water drainage, and energy-absorbent canopies. "100% of Central Park's organic waste including logs, branches, shrubbery, and leaf litter is recycled to produce top quality compost."<sup>47</sup>

Seattle's Parks and Recreation Department "has taken the principles guiding sustainable building from the vertical (building-focused) to the horizontal (landscape-focused), resulting in improved environmental performance, greater community benefits, and reduced cost of ownership." In response to the absence of a LEED rating system for parks, Seattle has created its own method for measuring the sustainable objectives while encouraging systematic program implementation. After conducting several focus groups with residents, engaging key stakeholders, and consulting with experts, Seattle's Parks and Recreation Department defined sustainable development as a "process for integrating design approaches, construction methods, project characteristics, technologies, and materials that concurrently promote environmental quality, enhance social benefit, and reduce the cost of ownership." The *Lifecycle Assessment*, as it has become known, gives extra points for programming that enhances social capital through various techniques such as adaptive re-use, pedestrian connectivity, and the creation of functional gathering and activity spaces.<sup>48</sup>

# Ripple Effect

While the Belle Isle Aquarium is a key piece of this project, it would be naïve to think that the reopening of one cultural institution within the City will, by itself, change the fate of the region. However, it is the belief of the Team that this particular project plays a critical role in our region's revitalization. As the Team has described, the reopening of the Aquarium will act as a catalyst of revitalization for the Park. Stepping back and viewing the project with a broader lens, the Team also believes that an improved Belle Isle fits into a rethought, improved metropolitan Detroit, and Michigan as Midwestern America repositions itself in the global economy.

To begin the case for the Aquarium fitting the model of the future rather than the past, the Team would like to begin by examining the direction that the City of Detroit is headed. It is clear that the metropolitan Detroit region is at a historical turning point. The long, intertwined history of Detroit and the U.S. automobile industry suggests that the current struggles of the big three domestic auto companies will negatively impact the local economy. While there are definitely a garden variety of opinions about the exact way that this impact will materialize, one dominant thought is that the region has to transform into a leaner, greener, economically diverse society. The Team strongly believes that this approach to reopening the Aquarium and developing a sustainable Cultural Campus supports and celebrates a forward-thinking direction for the City of Detroit and the region as a whole.

One area where the Team's approach to the redevelopment of the Aquarium supports the future direction of the City is in the platform of the City of Detroit's new administration. Within the past six months the new administration led by Mayor Kenneth Cockrel, Jr. created the "Office of Energy and Sustainability." The mission of this office is "To collaborate with City departments, business groups, nonprofit organizations, and other agencies to protect, enhance, and promote Detroit's sustainability, livability, and energy efficiency. The purpose of this office is to inform and inspire individuals and organizations, both within and outside City government, to help make Detroit a model of healthy, ecologically sustainable urban living." The overall emphasis sustainability that has been engrained in this project from the beginning directly embodies the above mission. The desire of the team to integrate the sustainable approach by utilizing non-profit organizations, private business structures, and public departments directly correlates with the direction that the Office of Energy and Sustainability is deemed with taking the City.<sup>49</sup>

Another aspect of the Team's approach to this project that relates to a bigger picture is the idea of leveraging future local development. There are multiple local examples of recent public and private investment that have leveraged future development in their immediate surrounding context. One of these examples is the investment in the Detroit Riverwalk. In recent years the non-profit organization, the Detroit Riverwalk Conservancy, has used over \$100 million of public and private dollars to acquire and redevelop water-front property along the Detroit River into a large public park.<sup>50</sup> As a result of their initial investment, the group has been able to leverage \$3.4 million to redevelop the Dequindre Cut into a subterranean walking and bike path that feeds into the east Riverwalk.<sup>51</sup>



Detroit Riverwalk



Detroit Riverwalk

In addition to leveraging public investment, the Riverwalk has also encouraged the creation of private businesses. Accompanying the opening, the Riverwalk has new residential development, retail, and entertainment venues. This public investment in a civic project that resulted in both future public and private development supports the Capstone Team's strategy about the Aquarium as a centerpiece for future development on the island.<sup>51</sup>



The Team's approach to reopening the aquarium also has national relevance in terms of future direction, especially in the context of the Midwest. For example, the City of Chicago recently spent over \$475 million dollars to renovate Grant Park into a new Millennium Park. Because the amount of tax-payer dollars used by the project was initially heavily scrutinized, the City of Chicago commissioned a private consultant to assess the economic impact of the new park. The findings of the study demonstrated that the development leveraged by the investment in the park and the amount of tourists attracted by the park generate much more tax revenue than the initial expense. The study indicated that over \$1.4 billion in residential development will occur as a result of the investment in the park. Although making investments in Belle Isle may not leverage the same amount of financial backing, it is reasonable to believe that investment in the Island could leverage a considerable amount of investment and development.

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Finally, the Team believes that there are several changes occurring on a national level that are creating a climate that would welcome a project of this sort. The new local leadership is comparable to the new federal administration in the prioritization of sustainability. The new administration has also made a serious commitment to investing tax-payer money in public improvement projects.

# Quality of Life

“Daily living enhanced by wholesome food and clean air and water, enjoyment of unfettered open spaces and bodies of water, conservation of wildlife and natural resources, security from crime, and protection from radiation and toxic substances. It may also be used as a measure of the energy and power a person is endowed with that enable him or her to enjoy life and prevail over life’s challenges irrespective of the handicaps he or she may have.”<sup>53</sup>

Although the above definition may in some ways seem simple, it summarizes what the Team considers to be the key elements of the quality of life. It would be arrogant of us to profess to have all the answers as to how to improve the quality of life for everyone. However, we do believe that public spaces such as Belle Isle and the Aquarium are places that can and do enhance the quality of life for its visitors.

It is our contention that the development of initially the Aquarium and eventually the entire Island as a self-sustaining public space can only serve to enhance the quality of life for the residents of the City, suburbs, region, state, as well as internationally with Canada being one of our closest neighbor. In researching the history of the Island, we discovered that Belle Isle was spawned from a social movement that was intended to improve the quality of life for those less affluent. To bring man, nature, art, and culture together was and is still the intent of the Island. Taking what has been and improving on it can only serve to perpetuate the spirit in which the Island was initially created.

Bringing back to life those structures that can be salvaged and at the same time modernizing them through environmental technologies marries the old with the new. Increasing and improving the programming, reopening the Aquarium, supporting the efforts of a conservancy to address shoreline issues, upkeep, and other crucial concerns can only lead to a maybe not new but much improved Island. Although Belle Isle has had better times economically, socially, and environmentally, it is still considered a gem of the City. That which is good if made better can only serve to enhance the quality of life for those who embrace it.

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# Acknowledgements

Janet Anderson – Author Island in the City, FOBI Board Member, Financial Analyst – City of Detroit

Julio Bateau – Nailah, LLC Owner, Developer

Libby Blume – Professor U of D Mercy, Co-Director MCD Program

Friends of Belle Isle Board

Friends of Belle Isle Aquarium Board

Lawrence Muhammed – Hardin Geotech, Inc.

Harriet Saperstein – Community Developer, Member of MCD Capstone Advisory Board

Will Wittig – Professor U of D Mercy, Co-Director MCD Program

Kim Young – City of Detroit, General Services Department

Ernie Zachary - Zachary and Associates, Inc., Member of MCD Capstone Advisory Board

# Notes on the Team's Process

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- Decision to work as a Team on our Capstone Project
- Decision on doing a regional project
- Selected Belle Isle and the reopening of the Aquarium as our Capstone Project
- Decision to focus on the incorporation of sustainable development in the project
- Development of possible contacts for project research
- Met with Janet Anderson, Island in the City, City of Detroit-Finance Dept.
- Met with FOBI Board to describe our project and get their input
- Consulted with Harriett Saperstein, FOBIA about project
- Met with FOBIA Board to describe our project and get their input
- Met with L. Muhammad, Hardin Technologies, on Belle Isle at the prospective “Cultural Campus” to discuss feasibility of the introduction of various eco-technologies to the Aquarium and Island
- Met with Julio Bateau regarding geothermal possibilities for existing structures on the Island, in particular the “Cultural Campus”

- Met weekly as a team to discuss research and contact information as well as plan next steps prior to presentation
- Met with, e-mailed and conferred with Will Wittig relative to procedural aspects of the Capstone process
- Assigned specific parts of the process to each team member
- Contacted City officials to get financial history of Aquarium and Island
- Contacted City officials to get Hamilton Anderson Master Plan
- Met with and contacted our advisor, Ernie Zachary, via phone, e-mail and in person
- Attended meetings relative to greenway development, financial development and community development as individual team members when all three were not available
- Researched policy relative to the City and sustainable development
- Volunteered and worked with Friends Of Belle Isle Aquarium at the Belle Isle Grand Prix
- Attended Aquarium Koi transfer

- Sponsored Green Tea event on “Sustainability”
- Created, disseminated, and evaluated Belle Isle Survey
- Met multiple times weekly prior to and after Capstone Presentation
- Presented to our advisory group
- Research, research, research
- Made Capstone Presentation
- Compiled thesis book