THE PARALLEL WORLDS OF PARK MASTERPLANNING: A CASE STUDY OF THE DEVELOPMENT OF BELLE ISLE, DETROIT, MICHIGAN

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ABSTRACT

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This research explores the history of Detroit's city park Belle Isle and its development in relationship to the City of Detroit, nation wide transportation, planning and park development. Belle Isle Park has been a public park since 1879, when it was purchased by the City of Detroit. For over 100 years, it has generated great vibrancy in social life and activities to the citizens. Many great designers and professionals were also involved in creating master plans for the park, including renowned landscape architects Frederick Law Olmsted and Dan Kiley. But the development and existing conditions of Belle Isle share minimal similarity with the master plans proposed for the park.

This thesis aims to explain the story behind why master plans were not carried out as blue prints for Belle Isle Park over the years, and identifies the possible forces that may have led to shift of interests in park development. Case study method is used in this research, which allows in-depth investigation of the causes and effects over a long period of time. This research is analyzed in a chronological order. Findings of the research examine both the content of each Belle Isle's master plans as well as the connection between the different forces that led to the transformation of Belle Isle.

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CHAPTER 1: INTRODUCTION TO BELLE ISLE

Belle Isle is the gem of Detroit, and has served the population since it became a public park in 1880. The first landscape architect of record for the design of Belle Isle was Frederick Law Olmstead, the father of American Landscape Architecture. The vision of Olmstead was to see Belle Isle preserved as a public park with invaluable natural resources and recreational opportunities available to all citizens. But the second year after his master plan was approved by the Detroit City Council, Frederick Law Olmstead resigned, therefore his vision was never fully implemented. Over the years, the City of Detroit has hired several other landscape architects or design firms to create masterplans for Belle Isle, including renowned landscape architect Dan Kiley in the 1970s, Hamilton Anderson Associates in 2005, and others. Ironically, none of the approved masterplans have ever been realized to their full extent. Through this research, I will be able to have a better understanding of the stories of Belle Isle, its relationship with the people, and its role as a city park.

In order to fully understand and explain the current situation of Belle Isle, a thorough research of the City of Detroit has to be established. For Detroit, as one of the prominent metropolitan cities in the U.S., both the development and decline of the city have greatly impacted its citizens and local industries. Belle Isle as a city park was administered by the Parks and Recreation Department of Detroit until it became a state park in 2013. Ever since it was acquired in 1879, the transformation of Belle Isle has been a reflection of the city's decision making, national economy, and national park movement.

The review of literature focused on three distinct but indivisible tracks: transportation development, urban planning theories and the park planning movement from

1850 to the present. The information and facts inform the national trends that influenced many major cities. Detroit being the fourth largest city in the U.S. in the 1920s, and the leading industrial city in the Midwest, also experienced these evolutions. The literature has provided clear evidence showing the connections, which establishes part of the theoretical basis for the city's evolution. In reality, most of the city's actual decisions were made and executed at the local level. Therefore, a closer look at the history of Detroit is necessary.

The 'parallel worlds' refers to two different implications. As in English, parallel has a meaning of similar, where in context, the development of Detroit and Belle Isle share parallel tracks with the development of major cities and urban parks. The second interpretation, as in the mathematical world, parallel means two lines that never intersect with each other. In the case of Belle Isle, the development of the park has not followed the designs of the park masterplans, which has led to a parallel continuation of two worlds that never intersects.

Problem Statement

The goal of this research is to try to answer the proposition, why did masterplanning not work on Belle Isle? Since Belle Isle was acquired by the City of Detroit as a public park in 1879, the city had approved several major master plans that were developed specifically for Belle Isle more than 100 years ago. But the degree of implementation as addressed in the master plans is very minimal. This research is designed to examine and identify the possible causes, which could help us to better understand the current situation of Belle Isle.

This is a qualitative research conducted by using the case study method, which grants the ability to have an in-depth investigation of the matter. Due to the long history of Belle

Isle Park, the text will be analyzed in a chronological order to examine the connection between the different forces that led to the transformation of Belle Isle.

CHAPTER 2: HISTORY REVIEW IN THE CONTEXT OF TRANSPORTATION ERAS

In order to understand and examine the complex nature of Belle Isle within the span of over 120 years since the creation of park, a comprehensive review of literature in areas that greatly influenced park development is necessary. As a city owned public park, Belle Isle and many other public parks in major cities across the nation were created between 1850 and 1890 (Anderson, Island in the City: Belle Isle, Detroit's beautiful island, 2001). The urban landscape of the U.S. and many European countries experienced overwhelming geographic change in response to the industrial revolution. What also emerged was a new way of living and working. The following sections will explicitly talk about the fundamental urban planning theories that shaped the American cities where the majority of population resides. The theories include: 1) the development of public urban parks in order to improve the living conditions of urban dwellers caused by pollution, congestion and sanitary issues and 2) urban transportation development in the Western world, especially in the US. Where there are many ways to frame an historic review of urban park planning, transportation is selected because it is a fundamental driver of urban change (Hanson, 1995). These sections will be discussed in chronological order to illustrate the transformative process.

As one of the dominant metropolises in the Great Lakes region, Detroit shares very similar urban progress with other large cities in the U.S and around the world. The timeline of literature review parallels with the time span of Belle Isle Park from the early development in the 1800s to the present day. The four transportation eras are defined by urban geographer Peter O. Muller (Muller, 1995):

1. Walking-Horsecar Era (1800-1890)
2. Electric Streetcar Era (1890-1920)

3. Recreational Automobile Era (1920-1945)
4. Freeway Era (1945-present)

The development of and dependency on transportation modes create both possibilities and limitations on travel distance, social activities, working opportunities, information exchange, as well as living conditions (Hanson, 1995).

From 1800 to 1890: Walking – Horsecar Era

The transportation mode during this era was mostly foot traffic, with the wealthy class having access to horsecars to travel a little farther. The geographic pattern of urban development was very concentrated and based on an agricultural economy. People tried to locate as close to the urban center as possible, to have a short walking distance to every amenity. The price of land used to decrease as distance increased. Prior to the development of the Industrial Revolution, England had gone through the Enclosure Movement, which set the possible stage for industrial activities to happen. The Enclosure Movement was a process of grouping individual farmer's land into a larger mass, where great amounts of land could be operated and managed together. As a result, the production output significantly increased and required fewer people to be engaged in agricultural activities. Usually farmers who didn't have enough money to sustain their farms had sold the land to other developers. Later these former farmers became the first labor in the industrial working class (Marzec, 2000). As the Industrial Revolution took place, large factories were in need of thousands of people on the production line to keep them running and producing. Due to the limitations of the methods of transportation, goods were imported or exported using water transportation or railroads. But the industrial factories had to locate in the center of cities, where the working

force was able to access them. The contrary development in loss of agricultural land and need for industrial production led to tremendous population increases in large metropolitan areas. The urban dwellers made up almost half of the English population in the 1850s. Vast cheap housing developments were built to accommodate basic living for the new coming working class. Sanitation that degraded living conditions became a major issue. Air and water pollution from industrial factories made the city an undesirable place to live and disease was prevalent. The wealthy had the ability to move to the countryside for a better living environment, but the general public did not (Muller, 1995).

While working six days a week and sharing room with three or four families in a tiny space, the quality of life changed dramatically (Garvin, 2011). As described by Charles Dickens, "Wretched houses with broken windows patched with rags and paper; every room let out to a different family, and in many instances to two or even three… filth everywhere-a gutter before the houses, and a drain behind-clothes drying, and slops emptying from the windows; … men and women, in every variety of scanty and dirty apparel, lounging, scolding, drinking, smoking, squabbling, fighting, and swearing" (Dickens, 1837, p. 184). It was about the same image of slums everywhere in metropolitan cities around the world. The need for natural environment and green space for recreational opportunities came about in the early 19th century, when large parks in London primarily served for the leisure of royal families. Some of the royal parks in London or Paris started to become available to the general public on certain days, but remained private the rest of the time. British Parliament was one of the first Western governments that recognized the need for public green space for the working class: "It is of the first importance to the health of the working classes on their day of rest to enjoy fresh air, and to be able (exempt from the dust and dirt of the public thoroughfares) to

walk out in decent comfort with their families; if deprived of any such resource, it is probable that their only escape from the narrow courts and alleys (in which so many of the humble classes reside) will be drinking-shops, where, in short-lived excitement, … they waste the means of their families, and too often destroy their health" (Parliamentary Paper, 1833, p. 20)

The first publicly owned park that could be freely enjoyed by people was the Birkenhead Park, located a short distance from the industrial city of Liverpool. It was designed by Sir Joseph Paxton in 1832 (Garvin, 2011). Based on the topography of the land on which it was situated, the park was developed into two sections, an upper park and lower park. The outskirts of the park were assigned for real estate development. The design of Birkenhead Park resembles the picturesque and naturalistic landscape of English gardens. The park was not significant in its design or development, but more influential as the first park purchased by local government for the enjoyment of the general public. The renowned American landscape architect Frederick Law Olmstead came to Birkenhead Park in 1850, while he was a young journalist. After the visit, Olmstead recorded "this magnificent pleasure-ground is entirely, unreservedly, and forever the people's own. The poorest British peasant is as free to enjoy it in all its parts at the British Queen" (Olmsted, Walks and Talks of an American Farmer in England, 1852, p. 93). At the time, it was one of the big news events in the industrial society. As word spread, citizens' demand for public parks arose drastically throughout the Europe and America. A couple years later, Olmsted and his partner Calvert Vaux were selected as the chief designers for Central Park in New York City. While neither of them had much experience associated with landscape architecture, much of their vision provided the park an ideal, desirable image of the park's future (Garvin, 2011). The major

metropolitan cities all responded to the public park movement before the turn of the century. Many cities hired Frederick Law Olmsted to be the landscape architect of their public park project. Notable works of Olmsted after the Central Park were, the Prospect Park in Brooklyn (1866), Delaware Park in Buffalo (1869), South Park in Chicago (1871), Belle Isle in Detroit (1881), Arnold Arboretum, and the "Emerald Necklace" park system in Boston, etc. (Beveridge, 1995).

The historical roots of urban planning in Europe and the U.S. can be traced to the early Roman Empire, when the first set of streets and blocks were laid out in maps according to the requests of the Emperor. Much of the planned activities were dedicated to the conquest of new land or spatial arrangement for military uses (Zanker, 2000). The influence of Roman cities can still be seen today. But due to travel limitations, cities or centers of human activities around the world developed within walking distance. In terms of modern planning theories in the western world, the industrial revolution greatly modified the pattern of cities. The first planning activity occurred while people felt large metropolis cities contained many problems that were not ideal for daily life, such as pollution, congestion, high price of housing, poor living conditions, etc. The concept of Garden City was proposed to solve all the problems of living in a city, envisioned by Ebenezer Howard, an English stenographer, who referred himself as "inventor" in terms of the first group of people conducting planning activities (Fishman, 2003).

Howard's book, *To-morrow: A Peaceful Path to Real Reform* (1898) was the most influential to the later planning development across European and American countries. Howard was not the first person who had an imagination about the utopian society, nor the only one who had concerns about the cities people resided in. The book *Looking Backward*

by the American writer Edward Bellamy inspired him to action. The book has a series of descriptions that depicts the image of a future ideal city from social, economic and environmental perspectives. Thoughts were surging in Howard's mind after reading the book. At the time, it was not yet published in London. By persuading local firms to publish the book, Howard began to talk and spread the ideas of Bellamy with people who shared similar beliefs. Some basic ideas of the Garden City can be traced to Bellamy's words. Howard built upon the ideology of Bellamy and designed it with his own vision and hope. "He envisaged his Garden City as a tightly organized urban center for 30,000 inhabitants, surrounded by a perpetual 'greenbelt' of farms and parks. Within the city there would be both quiet residential neighborhoods and facilities for a full range of commercial, industrial, and cultural activities" (Fishman, Urban Utopias, 2003, p. 40). Instead of having dense metropolitan cities dominate one area, Howard's idea imagined life in a decentralized small town, which simplifies the anatomy of large cities. In Howard's opinion, the major social conflict was one of land ownership. The working class could not afford a better living condition since all the land was privately owned by the rich people. In Garden City, all the land will be public owned where all residents only pay rent to enjoy their individual family house and green space. They would never have to pay taxes; rent would be able to sustain the required operation of the city's public infrastructures. Howard did not want the idea to just stay on paper, he made considerable efforts in actualizing it. Letchworth and Welwyn were the only two Garden Cities built by Howard and his supporters, and were the first designed for working class people. The cities grew slowly to attract people and industries to come. In the United States, the concept had a strong influence over many town and neighborhood planning efforts. The "Greenbelt Cities" policy in 1930s was inspired by the

model of Garden City. Many other post-World War II suburban towns were also planned and built following the similar principles (Fishman, Urban Utopias, 2003).

From 1890-1920: Electric Streetcar Era

The first streetcars were powered by steam engines or cables before the use of electricity. In 1888, the electric traction motor was invented by Frank J. Sprague, which was later mass produced in his railway system: Richmond Union Passenger Railway (Middleton, 1967). The employment of electricity in streetcars was soon adopted by many large cities in the United States. The average speed of streetcars increased to more than 15 miles per hour granting great mobility to people's choice of where to live and work. A city's limits were able to stretch several miles beyond their original footprint, which allowed people to live in outlying areas as long as they were close to the trolley lines. Residential developments expanded to the fringe of cities. But the new housing opportunities were first available to the middle class who could afford the higher price of better quality homes. The lower income population had less mobility to move farther away from the industrial factories in the center of cities. But the utilization of elevators supported the ability of constructing taller buildings, which increased urban density vertically to produce more housing opportunities. According to Peter Muller, "the widest impact of the streetcar was on the central city's social geography, because it made possible the congregation of ethnic groups in their own neighborhoods" (Muller, 1995, p. 36). The human nature of staying with people who share similar social class or alike backgrounds started to show its geographic pattern in cities development. The subway and electric elevated in New York and Chicago were constructed in the 1890s. The invention of electric streetcars triggered mass transit development (Muller, 1995).

Daniel Burnham and Frederick Law Olmstead, Jr. were the core designers for the Chicago World's Columbian Exposition in 1893, which had about 26 million visitors and had an enormous impact in the later trending City Beautiful Movement across the country (Levy, The History of Planning: Part I, 2009). The aesthetic appearance of the Chicago Expo had a similar connection to the previous Municipal Art Movement, which after pursuing the utilitarianism of city functions, beautification became vital. Since the public did not have control over private land, most transformation took place in public spaces, municipal buildings and streets. The direct by-product of the City Beautiful Movement was the creation of the Plan of Chicago, which was one of the first comprehensive city planning efforts, commissioned by Daniel Burnham in 1906. The first city planning activities were mostly conducted by private planning firms or consultants, since the role of planning in the government was not mentioned until this time. The City of Chicago soon formed a Planning Commission to implement the plan. With accomplishments, skepticism was soon dissolved (Levy, 2009). "By its very impressiveness, both as a document and a real accomplishment, the Plan of Chicago defined for a long time the planner's and perhaps also the informed citizen's view of what a plan should be. In particular, a plan should be comprehensive, and it should have a relatively long time horizon." (Levy, Contemporary Urban Planning, 2009, p. 44)

While the role of comprehensive plan showed its capability, the empowerment of zoning was substantial to the growing importance of urban planning. Zoning ordinances were first adopted in 1916 by New York City. The primary focus was to regulate the use of private properties for only the purposes they permitted. The act, for example, protects residential neighborhoods from having a factory located in the same area. In the 1920s, the

Zoning Enabling Act was developed and adopted by basically all states in the U.S. to different extent (Nolon & Salkin, 2006). Zoning ordinances are generally organized on top of the land use plan or comprehensive plan at the local and regional level. The state ordinances add another layer of requirements or prohibition to the use of land, usually for the purpose of natural preservation or conservation, since they cannot be analyzed based on political boundaries.

"In city after city, planning was institutionalized with the establishment of a planning commission" (Levy, Contemporary Urban Planning, 2009, p. 46). The adoption of zoning and the influential practice of comprehensive masterplanning established a fundamental role of planning in the government sector. A major task in laying out the master plan and zoning ordinances was to identify the provision of open space in urban areas.

The focus of the Park Department shifted to more specific needs of park users. The great parks designed before the turn of the century are described as "*the pleasure ground*" (Cranz, The Politics of Park Design: A History of Urban Parks in America, 1989), where green promenades, picturesque landscaping, and scenic waterways were the major elements of parks. Besides the parks designed by Olmstead and Calvert, most city parks served the interests of the middle or upper classes rather than the poor. The roads were built wide to accommodate private riders, and public transportation was unaffordable to low income families. The original intent of public parks was to serve people who didn't have access to open space and recreational opportunities. The demand to reform was there, and people needed organized activities within a closer distance to their homes. Streets and alleyways in neighborhoods were places that attracted children the most, with many different excitements going on each day. Reformers of children's play encouraged the use of

playgrounds in parks for safety and supervision, including Teddy Roosevelt who also wrote against play on the streets: “City streets are unsatisfactory playgrounds for children, because of danger, because most good games are against the law, because they are too hot in summer, and because in crowded sections of the city, they are apt to be schools of crime” (Letter from Theodore Roosevelt in Howard Braucher, 1942, p. 2). Playground parks were developed in small lots of land between residential neighborhoods. The playground structure at the time was not what we perceive today. It was much simpler, with organized activities and instructors watching or leading the youth on the playground. The supervision was for both the purpose of safety and social behavior (Cranz, 1989).

At the beginning of the 1900s, people had shorter working hours, longer weekends, early retirement, more income, and more time to spend outside of work. Nevertheless, the park had not yet offered enough activities for the spare time. Park designers and administrators noticed the trend and attempted to bring more activities to the park. Compared with indoor facilities like the YMCA and dancing halls, there was an obvious limitation on park uses in bad weather or in the dark. Due to the need of the general citizen, major metropolitan parks adopted sports, including tennis, baseball, gymnasium and golf, into park programming. Once swimming and bathing were introduced into parks, they soon became some of the most popular activities. People who didn’t have access to private baths were encouraged to take a bath at the park for hygiene. Due to their popularity, some swimming baths would open all night in the summertime or have restrictions on how long each group could stay. Dancing, gardening, concerts, painting and libraries all became activities available in public parks (Cranz, 1989).

From 1920-1945: Recreational Automobile Era

This era depicts the time when the automobile was no longer a luxury only shared by the upper class. Henry Ford pioneered mass production of the Model T, which was sold at a very low price, and cars became affordable to the working class. The private car ownership soon increased to over 2 million by 1916. The total reached to 23 million in the 1920s (Muller, 1995). Road construction was first focused on the rural area, where farmers needed direct access to the city center for services and markets. Cars in the city were primarily used for recreational purposes, driving mostly on the scenic parkways. During this era, the U.S. went through three major events, World War I (1919-1923), the Great Depression (1929-1933), and World War II (1938-1945), which had vast social and economic impact on the country's development. In the 1920s, prosperity flourished in the cities. Practices of planning and zoning at different level of government emerged. Planning Commissions were instituted. Howard's idea became influential in the U.S. after a couple of the Garden Cities were successfully built in the Great Britain (Levy, 2009).

In 1929, the crash of the stock market initiated the Great Depression. The unemployment rate reached 25 percent in 1933, and still held as high as 15 percent a decade later (Smiley, 2008). The geographic urban pattern stretched even further at the time. New housing developments were built in the 1930s. The housing price and condition was also much more affordable compared to those in the inner city. "The federal government moved into the provision of low-cost housing, an area in which it has remained in one way or another ever since. The motivation was twofold. First was the obvious goal of improving the housing of the poor. The second goal was expansion of construction as a way of stimulating the economy" (Levy, Contemporary Urban Planning, 2009, p. 60). Other than these, the

Urban Renewal and the Federal Highway Act were also developments first initiated during the Great Depression.

Not only did the residents gradually move out of the central city, so did businesses. Factories and firms chose to locate in the outer fringe of the cities for better land prices. Thereby, the travel distance of employees may vary greatly depending on where they resided (Muller, 1995). With the side effects of unemployment and change in the commuting method, work weeks were shortened from 6 to 5 days. In addition, the daylight saving time and shorter work hours made the hours outside of work more than ever. "What Shall We Do with This New Leisure?" was written in the Parks and Recreation in 1934 (Brown, 1934, p. 363). The new leisure would be the extra time to spend on recreation and entertainment (Cranz, 1989).

In responding to the social and economic change, the Park Departments turned from reform to service demanded facilities. Reducing budgets in park services was also vital in determining what kind of services could be provided by parks. Certainly the employment at park and recreation departments also experienced a great reduction. Only the necessary staff were retained to keep up with programming and activities. The funding parks needed for operation was mainly dependent on government. As the economy tightened, the park administrators had to look for external sources from other municipal departments or agencies (Cranz, 1989).

The World War II era suddenly pulled people out from the depression into a national level emergency that redirected the problem from internal to external. The increasing patriotism stimulated many other uses for public parks, and they became very active in accommodating the need of military services. Park programming also shifted the focus from

leisure to recreation services with a sense of patriotism. For sports and physical activities, people tended to train harder during the war time. Handicraft programs were popular during the Depression, where people were encouraged to make things that could sell. Large communities gathered and recycled materials to develop creative and useful products. The craft making process also helped release tension during the war time (Cranz, 1989).

Freeway Era (1945-present)

During the Post World War II period, many veterans, mostly young men, came back from the war. Limited housing in the cities and poor housing conditions were not able to support the massive population and the coming baby boomer generation. The mortgage aid directed by the Federal Housing Administration (FHA) and the Veteran's Administration also added strong support for new developments in the suburbs. The economy was no longer in depression. The war cities, especially in Germany and Japan, that needed supplies for rebuilding, also brought economic prosperity to the U.S. The suburbanization continued to grow, while the central cities kept declining. The decline of the inner city persisted, and people who stayed were mostly the poor and minorities. Property values decreased as well as the city's tax base. In response to this situation, the federal government initiated the Housing Act of 1949, referred as the Urban Renewal program, which was intended to clear out the old slums and build public housing in the central city (Levy, Contemporary Urban Planning, 2009).

The Federal Highway Act of 1956 was one of the most important factors that facilitated suburbanization. Massive expressways and interstate highway systems were constructed in 1960s and 1970s to serve the needs of commerce, personal mobility, and

national defense. As a result of highly convenient access, not only people and businesses moved away from the city, but also services like shopping, restaurants, grocery stores and other necessary functions. The suburbs were no longer a bedroom community but more of an independent city, just like Howard's Garden City, or Frank Lloyd Wright's Broadacre City (Muller, 1995). The new towns laid out with services specified in certain area, rather than a mixed use of space like the traditional city form. "With massive auto transportation, people have found a way to isolate themselves... a way to privacy among their peer group… they have stratified the urban landscape like a checker board, here a piece for the young married, there one for health care, here one for shopping, there one for the swinging jet set, here one for industry, there one for the aged… When people move from square to square, they move purposefully, determinedly… They see nothing except what they are determined to see. Everything else is shut out from their experience" (Schaeffer & Sclar, 1975, p. 119). The highway system and growing transformation of suburbs also led to changes in business location. Instead of having a physical downtown, the major highway intersections became primary locations for 'downtown' businesses.

The Urban Renewal program in the metropolitan cities took on large scale clearance of slums, and 'Eminent Domain', another planning instrument, was used widely in obtaining the land. As of now, this power grants the government the right of taking private land and converting it to public use. But at the time, eminent domain was often used by government in terms of Urban Renewal, selling the property to private developers at a below market rate. The federal intention of this program was to improve the housing conditions and provide more housing opportunities in the city for the existing residents as well as attracting people back to the city. But it may not be the same goal at the local or regional level. Most of the

time, the old residents could not afford to live in the new development. And because of redlining, a practice where neighborhoods with low social or financial standing were restricted from local financial institutions in receiving FHA mortgage for better housing options, housing opportunities for the poor and minorities in urban area were very limited.

The planning and design side of Urban Renewal was greatly influenced by the concept of 'the Radiant City', a theory developed by French architect Le Corbusier. His idea of The Radiant City was evolved from the Garden City, but instead of expanding horizontally on ground level, Le Corbusier proposed residents, especially the syndicalism, live in high rise buildings clustered in the same block or district. Each building is called a 'unité', where it's not just a place for living, but facilities like gymnasiums, handicraft workshops, meeting rooms, cafés, restaurants and open space would also be allocated within the building. Le Corbusier had a deep empathy for the working class, who had to work eight hours a day with no time to enjoy life (Fishman, Urban Utopias, 2003). He traveled to the United States in 1935, where he appreciated the metropolis but, "My own thinking is directed towards the crowds in the subway who come home at night to dismal dwellings. The millions of beings sacrificed to a life without hope, without rest – without sky, sun, greenery" (Corbusier, 1937, p. 280). The Radiant City was the representation of Le Corbusier's utopian society.

The physical movement in the Radiant City is dominated by automobiles, where nobody needs to walk. Roads and cars would take people safely to any destination. As Urban Renewal took place, the Radiant City had a huge impact on the U.S. cities and was used as the basic blueprint of urban planning. Massive urban redevelopments were proposed to build high rise buildings, for both public housing and luxury apartments. Robert Moses, one of the most powerful and controversial men in New York City's modern history, had led numerous

projects during the Great Depression and post-war era to stimulate New York's economy and brought it to the status of a global city. Much of the city's park system, roads, tunnels and expressways were manipulated by Moses. The Urban Renewal program in New York City, carried out by Moses, identified ten neighborhoods as slums which would be demolished. One of the neighborhoods, Greenwich Village located on the west side of Lower Manhattan, where many artists and writers reside, was known for its bohemian style. The later influential writer and thinker Jane Jacobs, a mom of three kids who lived in Greenwich Village, protested strongly against her neighborhood being swept clean (Alexiou, 2006). Jacobs argued the Urban Renewal project was not for the wellbeing of the ordinary citizen, but as a tool used by political and business groups to make a profit without thinking about people who live there. Several arguments were stated by Jane Jacobs about how cities really work, whereas the nice appearance may only look like a good order but doesn't provide the natural services formed by cities. Elements like streets, sidewalks, city parks, and diverse housing and business opportunities are all important in making a viable city. As she observed from Urban Renewal development, "But look what we have built with the first several billions: low-income projects that become worse centers of delinquency, vandalism, and general social hopelessness than the slums they were supposed to replace…Cultural centers that are unable to support a good bookstore. Civic centers that are avoided by everyone but bums, who have fewer choices of loitering place than others. Commercial Centers that are lackluster imitations of standardized suburban chain-store shopping. Promenades that go from no place to nowhere and have no promenaders. Expressways that eviscerate great cities. This is not the rebuilding of cities. This is the sacking of cities" (Jacobs, 1992, p. 4)

In 1961, 'The Death and Life of the Great American Cities' was written by Jane Jacobs and published in order to support the movement in New York, which evoked nationwide or even worldwide repercussions over city planning. The Urban Renewal project was terminated in 1973 with public opposition overflowing. Federal funding of over $13 billion, which is about $100 billion in today's money value, was expended. Additional amounts were expended by private developers (Levy, 2009).

Even the huge effort paid by Urban Renewal was still not capable of attracting a migration back to the city. Most cities that weren't able to stop redevelopment suffered from social upheaval. The housing condition of the lower class, where most are people of color, became even worse. The Vietnam War exhausted the sense of security in the nation. The idea of a concentrated urban environment that could easily be targeted for bombing also constrained people from living in cities. The last straw of urban life exploded after the assassination of Martin Luther King Jr. in a series of riots that took place in major metropolitan cities in April 1968. All these factors made cities become a place of danger, pollution and corruption.

Planning theories practiced after the 1960s took public participation into part of the planning process. The highway system and new developments alerted people to think about the natural environment. The growing number of working women and single family households led to an even greater increase in automobile ownership. Congestion became an issue at the major highway nodes and the time people spent in traffic each day in urban areas was tremendous. The 1973 OPEC oil embargo caused an oil shortage and the price increased from $3 per barrel to nearly $12 in early 1974. At some area, people lined up at gas stations

in some cities for hours in order to travel (Office of the Historian, Bureau of Public Affairs). The idea of commuting shifted slightly after that.

The change of urban patterns manipulated the setting of public parks. Park facilities had previously accommodated people's needs well. But the urban crisis in the 1960s with the middle class leaving the city left parks unattended. "The middle class was no longer seeking park services; to the contrary, they conspicuously avoided parks, now considered so unsafe that they were part of the urban crisis rather than its cure" (Cranz, The Politics of Park Design: A History of Urban Parks in America, 1989, p. 137). The term 'open space' was used frequently in this era, which indicates the new demand of linking the whole city into an interconnected green system. Green space could be filled wherever there was land available for it. The size and functions did not follow the same principle as the traditional public parks. New activities like performances, festivals, art workshops, marathons, triathlons, and educational tours were added to public parks. Roadways in the parks not only accommodated automobiles, but other activities as well, where everything could be mobilized and transported around. In the 1980s, society became tired of mass standardized production, which also included parks. The employment of innovative design and advanced technology was encouraged as the trending ideology. Modernism finally kicked into public park design. Incorporating modern architecture and design elements brought freshness to the park and the users. Traditionally, park developments only practiced the standard design that was proved to be safe and pleasant to the major population, which lacked diversity and uniqueness. Innovative designs encouraged different parks to be unique based on its own characteristics.

CHAPTER 3: BRIEF HISTORY OF DETROIT

This section will provide the background of the City of Detroit in order to understand the context that may be influential to the transformation of Belle Isle. The text will talk about Detroit's general history, the evolution of the city's landscape, economic structure and the underlying social fabric. These different perspectives will help render a three dimensional story of the city.

Pre-industrial Period

Detroit, located in the southeast region of the Michigan, sits on the north shore of the Detroit River, across from Windsor, Canada. The great geographic location of the land was the primary reason for its settlement by the French during the colonial period. The Detroit River, as a connecting channel between Lake Erie and Lake St. Clair, brought trade and prosperity through water transportation. It was also a strategic location for defense and military purposes of French officer Antoine Laumet de la Mothe Cadillac, who established and named Detroit in 1701 (Dunnigan, 2015). Prior to industrialization, the major economic activities in Detroit were agriculture and fur trading. The soil was adequate for growing crops like wheat and maize. Since the city was subject to several attacks by Native Americans in the 1700s, the development of Detroit was mostly confined within the fortification. In 1805, a great fire destroyed the majority of buildings in Detroit, since most of them were made of wooden structure. Hence, the old city pattern of Detroit is hardly recognized in the contemporary urban form.

19th Century

During the 19th century, industrialization swept through the major US cities, including Detroit as a major city in the Great Lakes region. Shipbuilding, water transportation to other large cities, inland railroads and manufacturing all contributed to the growth of the city, which attracted more people to reside in Detroit. The current street layout of downtown can be traced back to the Woodward plan, which was abandoned by the city in 1818 (Bekkering & Liu, 2015). The Woodward plan followed a similar geometric pattern of the plan for Washington, D.C., designed by Pierre-Charles L'Enfant. The Woodward plan lost the essence of hierarchy, which made way finding very difficult. But the wide boulevards accommodated the later needs of industrialization (Sugrue, The Origins of The Urban Crisis, 2015).

20th Century

As Henry Ford started business in Detroit in 1903, his company was one of the 125 automobile companies in the region (Sugrue, Motor City: The Story of Detroit). His innovative product Model T assembly line quickly made the Ford Company become the top in the auto industry both in Detroit and the nation. Also, the 8 hours a day, 5 days a week policy with the promise of high paying jobs attracted people from all around the country to Detroit for better jobs and living. Since then, Detroit has grown to be a global automotive hub with the Big Three: Ford Motor Company, General Motors and Chrysler, all located in the city (Sugrue, 2015). Several plants were built in the city along major streets or rail lines. The locations chosen for new manufacturing sites were primarily because of convenient transportation into and out of the city. There were rail lines built specifically for the ease of collecting raw materials and auto parts and delivering them to the assembly line. The

factories at the fringe of the city were built in a linear fashion to achieve high efficiency of industrial production. Housing for workers was also built along with the factories. This can be explained by the Linear City theory developed by Le Corbusier (prior to the Radiant City theory) or Miliutin in the 1930s (Fishman, Detroit: Linear City, 2015).

The city's population continued to grow to over 1.8 million in the 1950s. During the Second World War (1939-1945), instead of car production, the automobile assembly lines quickly turned to production for military needs. The city earned its name of the "Arsenal of Democracy", where the assembly lines produced and assembled aircraft and tanks (Sugrue, 2005). The impact from the Great Depression in the 1930s caused a great turnover in Detroit due to the need of wartime manufacturing. Since the major working force of young men left to join the war, job opportunities were open to minorities and women who were previously excluded from the high paying manufacturing jobs. "Between 1940 and 1943, the number of unemployed workers in Detroit fell from 135,000 to a mere 4,000" (Sugrue, The Origins of The Urban Crisis, 2015, p. 19). This was also when the first riot in Detroit took place. Prior to the wartime, blacks were mostly excluded from working with whites at production lines. Due to the shortage in the work force, some plants hired blacks as blue collar workers. Where whites resisted working along with the African Americans, many protests occurred and small conflicts were constant. White neighborhoods also placed restrictive covenants on properties to forbid blacks from moving into their neighborhoods. As early as 1925, when an African American middle class family purchased a home in the white community, some existing white neighbors couldn't stand it and started a violent fight trying to expel the family. The clear racial conflicts resulted in a massive riot between young people that took place on Belle Isle in 1943, which lasted for three days and resulted in "17 blacks were shot to death

by the police, no whites were. Over the course of three days, 34 people were killed, 25 of them blacks. 675 suffered serious injuries, and 1,893 were arrested before federal troops subdued the disorder" (Sugrue, 2015, p. 29). There was the same social tension in every major American city during this period of time, but it was perhaps most intense in Detroit.

Detroit prospered among auto and housing industries with the return of veterans in the post war era. Federal policies, including the Housing Act of 1949 and the National Defense Highway Act of 1956, were influential to Detroit. The housing shortage was very severe in the city, especially for the blacks. Since the 1920s, the Great Migration brought large numbers of black people to the north to escape from the Jim Crow laws in the south for promised equality and a better future. With limited mobility, the growing population was confined to the downtown area, where people could have access to things within walking distance. The practice of redlining - restrictions on lending mortgage to African Americans – greatly limited the available housing opportunities. At the same time, many of the traditional white neighborhoods had strict restrictions which prohibited blacks from moving in. The only housing options were the old, deteriorating houses in the downtown region. Due to the severely imbalanced supply and demand of housing, blacks were charged much more in rent by the landlords than were the whites. While the black families did not have access to high paying jobs, they had to spend more on housing. The result was multiple black families packed into one unit to share the rent. Much of the old housing stock was transformed to boarding houses, so that landlords could make more money from the properties. For some landlords, the rents were even divided into weekly payments. If one family did not pay their rent on time, they would be removed immediately. Since the waiting list was so long, the owner never worried that houses would be vacant. Since the rent was so high, houses that

blacks resided in were often in need of maintenance, the people did not have money to maintain them. In the long run, the black neighborhoods would keep deteriorating. Some whites and real estate developers feared having blacks living in the same neighborhood, for the reason that it would degrade the property value of their houses (Sugrue, The Origins of The Urban Crisis, 2015).

With the help from federal housing policies and highway developments, not only did the housing stock migrate to suburban areas, industrial factories and job opportunities did also. The post war economic restructuring and automation deepened the loss of factory jobs. Several major automotive plants consecutively shut down and moved to nearby suburbs. The tax base continued to decrease in the city. Jobs for the urban poor became even more limited, since they did not have car access to work at locations farther away. The City of Detroit discontinued the electric streetcar running on Woodward Avenue in the 1950s. There were very limited rail and public bus services available in Detroit. Other cities which had similar population or economic status as Detroit usually had more transportation alternatives. The situation worsened due to Urban Renewal, where all the designated slums were where the urban poor lived. The city used this program to clear out slums and it put minimal effort into assisting the former residents with finding other housing options. The city's intention was to attract the white middle class back to the city by expelling the poor people. But the result was more blacks lost homes and weren't able to afford the higher price of rent, had no access to more job opportunities, and became homeless people constantly wandering on the streets. Especially for the young blacks, who had fewer access to education and job opportunities, many were left with nothing to survive except committing crimes.

With the loss of tax base and job opportunities in the city, and global competition in auto industry, Detroit continued to decline in both its economy and population. The percentage of white population kept dropping more than 10% every year since the 1967 riots. People who had greater mobility, including the black middle class, fled the city as soon as they could. The projects led by the city or federal government in later years were mainly a continuation of the Urban Renewal program, including the Model Neighborhoods (1960s), the Community Development Block Grants (1974), the Neighborhood Opportunity Fund initiated from the CDBG fund, and the federal EZ (1994-2013), which was a ten-year program that provided $100 million to cities including Detroit over a period of ten years to help with distressed neighborhoods. Despite many efforts being made, these projects did not save the city from filing for bankruptcy in 2013 (Thomas, 2015, pp. 58-65). At the same time, the State appointed an Emergency Manager to oversee the city's government operation and finances. Belle Isle, as the most valuable public asset of Detroit, was in severe need of maintenance and financial support to keep operating and providing services to the citizens. As part of the process, the City of Detroit signed a 30-year lease to transfer the operation and management of Belle Isle Park to the Michigan Department of Natural Resources in 2013.

CHAPTER 4: METHODOLOGY

Research Question

The goal of this research is to try to answer the proposition, why did masterplanning not work on Belle Isle? Since Belle Isle was acquired by the City of Detroit as a public park in 1879, the city had approved several major master plans that were developed specifically for Belle Isle over more than 100 years. But the amount of implementation as addressed in the master plans is very minimal. This research is designed to examine and identify the possible causes, which could help us to better understand the current situation of Belle Isle.

Research Site

Belle Isle Park is located in the Detroit River, connected to the City of Detroit by the MacArthur Bridge. The island was acquired by the City in 1879, developed and opened to public in 1880. The island itself contains rich natural resources, important cultural and historic characteristics which could be shared by both individuals and the collective population. Over the years of transformation, Belle Isle has become an essential asset for the city, the residents and the state of Michigan.

Case Study Method

This research will use the case study method in order to answer the research question oriented in the context specifically about Belle Isle. As defined by Robert K. Yin, "a case study is an empirical inquiry that: investigates a contemporary phenomenon in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (Yin, 2014, p. 17). Belle Isle and the City of Detroit are two

entities that are closely bound together. The evolution of Belle Isle's current situation cannot be explained without a thorough understanding of the context of Detroit.

The case study method as a kind of qualitative research method, has growing recognition in the area of social science studies. It is often practiced to interpret social or human behavior that can be hard to explain, depending on statistical numbers, especially in the field of psychology, education, social work and community based issues (Yin, 2014). Instead of using other research methods including survey, experiments, history or archival analysis, the case study method has strong advantages if the research discusses current events and has no control over the context (Yin, 2014, p. 9). The history and contemporary issues of Belle Isle need information from large background content in order to be fully understood.

The case study research offers multiple approaches, single case design and multiple case design. As in the context of Belle Isle, there are no exact cases that share the same or similar phenomena, so a single case design would be ideal. It also requires attention in observing and analyzing the situation of Belle Isle. The use of imagery, maps, charts, etc. is recommended (Yin, 2014, p. 183). Case study research also receives a great amount of criticism due to its 'lack of robustness' (Zainal, 2007). Researchers have concerns over the case study method due to its rigorousness, generalization, and unmanageable level of efforts (Yin, 2014, p. 21). These common concerns raise awareness and require researchers to be fair and precise while conducting research. Nevertheless, the case study method would still be the best choice for the needs of this research. Belle Isle has distinct characteristics that cannot be totally explained by general theories. It is not only historically significant, its unique geographic location and relationship to Detroit and its citizens made Belle Isle very

special on its own. Typical quantitative or qualitative methods cannot fully explain the intricate stories of Belle Isle, which involve more than human behavior, but also political decisions, economic impact, etc. Only the case study method allows researchers to fully dive into the complicated context and navigate through the relative resources to find out the answers.

These are three types of case study research as defined by Robert E. Stake, the intrinsic, instrumental and collective (Stake, 1995). The differentiation among the three is the intrinsic has a focus on a specific case or small geographic area, whereas the instrumental and the collective are applicable to a larger sample size, or geographic region. In the case of Belle Isle, a type of intrinsic case study would be used to test the existing context. Also, case study research can be categorized as exploratory, descriptive and explanatory (Yin, 2014). Most social scientists considered the case study method as only accountable for doing exploratory research, whereas other methods may provide a more holistic view and reliable data in doing descriptive or explanatory research. According to Yin, there is also successful descriptive and explanatory research using the case study method that achieved a high reputation (Yin, 2014). With the extent of information known about Belle Isle prior to conducting this research, the proposition has been defined. The case study aims to connect information that helps to answer the possible questions raised by the proposition. Since the approach of this case study was well structured with a clear focus, an explanatory case study would best describe the nature of this research.

Data Collection

As stated previously, the long history of Belle Isle and its close relationship with the City of Detroit made the situation very complicated to explain using general qualitative or quantitative research methods. The real world issues require broad background information to explain the current conditions. Five categories have been identified to provide data and identifiable facts that would help in interpreting the complex condition of Belle Isle:

- Transportation development
- National park movement
- History of Detroit
- History of Belle Isle
- Development of physical structures on Belle Isle

All data are collected from published books, scholarly journals, records from the Michigan Department of Natural Resources (MDNR) central office, and the site. The five categories will be identified in a chronological manner, following the same pattern of the literature review. By generating a descriptive timeline, the contrast and comparison could be made and ready for discussion.

An early personal understanding of Belle Isle began with living in Detroit during the summer of 2016. This was an intense working experience with the park staff on a design project for the 'cultural campus' area on Belle Isle. The project aimed to develop several possible visioning scenarios for the future of the activity core in the park. This project allowed me to explore Belle Isle from a different perspective than simply being a tourist. Knowledge and understanding of the park's history and background were needed in order to generate viable design ideas. Later I interned at MDNR's central office in Lansing, Michigan

during the fall of 2016, which gave me a great opportunity to gain direct knowledge about Belle Isle. The main task of the internship was to develop the supporting analysis for Belle Isle as part of MDNR's general management plan. The great advantage of working in the office was that I had access to not only abundant information, but also the opportunity to talk with professionals and park staff who were directly engaged with park development. The analysis included possibly every aspect of the park, from its history to the demographics, natural environment, recreational opportunities, legal mandates, historic and cultural resources, education, and park use statistics. Through the collection and organization of information for the analysis, I have gained great insight about the authentic characteristics of Belle Isle, which could not be achieved with only site visits or web based research.

CHAPTER 5: DISCUSSION

Walking Horsecar Era (1850-1890)

Year	Transit	Detroit History	Belle Isle History	Belle Isle Development	Park Movement	Planning Development
1850	Mostly foot traffic, horsecar for upper class	1805 Woodward Plan; water transportation and commerce hub	Private land named after Governor's daughter		The pleasure ground: Central Park designed by Olmsted	Sanitary reform; need for open space
1860		Rise of manufacture		White house was built	Prospect Park 1865	Housing reform
1870			City purchased the island as public park in responding to the national park movement		National park movement; promote spontaneous activities	
1880			Olmsted was hired 1881; resigned 1885; city council sold the island and purchased small parcels around the boulevard in 1886	1884 ferry dock pavilion; 1886, 1st casino built; 1887 Michigan Yacht clubhouse; 1889 steel swing bridge built		
1890	Railway system and electric streetcar, car was first introduced to Europe and America		1889, dredged marsh into lake. 21 of 30 park building improvements in 1899. Most construction took place in 1890s	1891 1st Detroit boat clubhouse; 1893 police station house and stable; 1894 1st bathhouse, skating pavilion; lakes dredged between 1893-1894; 1899 athletics field and pavilion built	A sense of rustic in use of park material; Chicago World Fair 1893	City Beautiful Movement

Table 1. Walking Horsecar Era (1850-1890)

The Walking – Horsecar era, from 1850 to 1890, was a period of time when industrialization swept through America. The primary transportation mode was on foot, which determined the general sizes of cities were within walking distance. The rapid development of machinery soon replaced the employment of physical labor. At the same time, factories in cities were in need of workers to keep the production running. People were attracted to urban areas for the better pay jobs. The geographic location of Detroit allowed convenient transportation access to both inland cities and other major port cities by railroads and waterways, which made the city a manufacturing hub in the Great Lakes region in late 19th century. Although the mode of transportation was still limited to foot traffic and horsecars, cities became much more dense as people migrated to urban areas. Sanitary, pollution and housing conditions quickly became the main issues that worsened the residents' quality of life. The need for sanitary and housing reform as well as recreational opportunities outside of extensive factory working hours grew into strong public demands. The opening of Central Park in New York, a park that could be completely enjoyed by all people, was inspirational and led to the nationwide park movement.

The purchase of Belle Isle Park was a response to the national park movement by the City of Detroit. Whereas all world class cities had acquired a great public space for its citizens, the acquisition of Belle Isle could further dignify the status of Detroit. But the purchase of Belle Isle was very controversial. The island sitting between Detroit and Windsor yielded great profitable interests from some businessmen and government officials. Local entrepreneurs wanted to convert the island to be a major railroad connection for trade between Canada and the U.S. There were also other voices for the selection of park location. At the time, Belle Isle was only accessible by boat or ferry from the mainland. The public had

suggested locations within the city which were more accessible to the general public, especially the working class. But as population grew over time, the city was concerned with the provision of fresh water facilities. The city engineer suggested a fresh water intake to be built on the island. Eventually, the purchase of the island to be a public park was passed by Detroit City Council in 1879, for the price of $200,000 paid to the previous owner of the island (Rodriguez & Featherstone, 2003). The city hired the renowned landscape architect Frederick Law Olmsted as the chief designer for Belle Isle. The masterplan prepared by Olmsted was a fairly simple one, which was set to better preserve the natural beauty of the island. But due to personal and political reasons, Olmsted resigned from the project before his contract expired. The only things that were implemented from his design included the Central Avenue, a canal system, thinning of the woods and preservation of the natural forest.

Aside from the Olmsted's masterplan, vast development and transformation took place on the island (as listed in the timeline and in the appendix). Buildings and clubhouses were erected on the island, where many of the properties were leased to private interests for commercial usage or rented by city restaurants. The park commissioners of Belle Isle attempted to generate revenue from every source on the island: timber harvested from thinning of the forest, ice harvested in the winter for use as refrigeration and providing coolness in the warm season, leasing of properties to private clubs, canoe rental, etc. Before the first bridge was constructed, the ferry to Belle Isle cost 10 cents from Woodward Avenue in Detroit, whereas it only cost 5 cents from the same location to Windsor, Canada (Rodriguez & Featherstone, 2003).

The park movement at the national level was strongly opposed to commercial activities in public parks. Especially during the pleasure ground era, from 1850 to 1890,

parks were designated for unorganized activities, scenic landscaping and passive usage. The national park movement was influential to some aspects of the development of Belle Isle. Many parks at the time shared a similar sense of naturalness, which was a kind of nostalgia of the past life around the countryside. At Belle Isle, the harvested timber was also used to make park furniture and bridges, which illustrated a touch of rusticity consistent with the surrounding natural setting. Music and concerts were frequent events in parks. Central Park in New York or Golden Gate Park in San Francisco often hosted concerts and orchestras during summer time. It became so popular that the parks had to modify the roadways so that people could enjoy the music while roaming in the park (Cranz, The Politics of Park Design: A History of Urban Parks in America, 1989). It was the same situation in Belle Isle; the park hosted weekly concerts given by the Detroit Opera House Orchestra. The band shell at the time was a pavilion built over a bridge, where seating was provided along the banks of the canal. People could also row a canoe and watch the concerts from the canal (Rodriguez & Featherstone, 2003, p. 39).

Electric Streetcar Era (1890-1920)

Year	Transit	Detroit History	Belle Isle History	Belle Isle Development	Park Movement	Planning Development
1900		Population was about 265,000; Detroit engaged Edward Bennett to create a plan for the city	Park had over 14 total miles of landscaped driveway by 1900; 5 miles of foot walk	1902 Detroit boat clubhouse; 1904 aquarium and conservatory; 1908 2nd Casino; 7 baseball diamonds	Start of reform park period. Need for structure and playground; auto rules in parks adopted with restrictions; social behavior and moral was being supervised	Plan of Chicago in 1909, the first comprehensive master plan; 1901 Tenement House Act; Ebenezer Howard's Garden City theory
1910	Ford Model T, mass production in 1907	Ford plant in 1910; Fordism, minimum of $5/day	200 acres of fill from downtown Detroit added to the area of Scott Fountain; modern problems crept onto the island	Picnic shelters, bath houses and comfort stations built; 1910 Detroit Zoo	Swimming baths introduced to park; extended hours of park activities. Skiing and ice skating became popular	
1920	By 1916, over 2 million cars on the road, and increased to 23 million during 1920s	Automobile assembly and associated manufacturing	1920 complaints about weekend congestion were a constant; oil leak caused beach closures	Golf course; Detroit Yacht Club, Scott Fountain Memorial, General Arthur Bridge	Craft making; response to military use; hold concerts; neighborhood parks formed due to urban sprawl	Land use control and zoning ordinances; establishment of planning commissions; practice of master planning

Table 2. Electric Streetcar Era (1890-1920)

The Electric Streetcar era was between 1890 to 1920, when the electric traction motor was invented and applied to streetcars. The city pattern and new developments expanded to where the streetcar could reach. Automobiles were also introduced to the U.S. at the turn of the century, but remained a luxury toy for the upper class until the mass

production of the Ford Model T in 1907. The city beautiful movement originated from the Chicago World Fair in 1893, which was very influential to architecture and urban design. Local municipalities looked up to the ideal arrangement and beautification at the World Fair and employed similar practices to municipal buildings and streetscape. The *Plan of Chicago* was produced after the Expo in 1909 by the same architect, Daniel Burnham, who was also one of the chief designers of the World Fair, and Edward Bennett, as the chief planners. The *Plan of Chicago* was later referred to as the first comprehensive masterplan and the Chicago planning commission was established thereafter. Following the success of masterplanning in Chicago, many major cities responded to this new trend by instituting planning commissions at the local level. The City of Detroit also hired architect Edward Bennett to produce a preliminary plan for Detroit in 1915, together with a new proposal for the Belle Isle bridge before the existing bridge was accidentally burned (Detroit City Plan and Implement Commission, 1915).

The manufacture of affordable cars and Ford's minimum of $5 a day wage policy attracted many more people to seek job opportunities and better life in Detroit. It was later referred as Fordism by economists, where Ford basically created a business cycle by granting better wages to the employees with extra hours outside of work. People had the money to buy an affordable car and time to enjoy other entertainment. The population of Detroit was about 265,000 at the turn of the century, and the number reached one million in the 1920s. Detroit was not yet one of the top 10 most populous cities in 1900s. But it became the fourth largest city in the nation during the 1920s. The city was packed with people, while the basic infrastructure and old housing stock began to deteriorate. Expansion of the urban landscape went outward as Detroit annexed nearby villages in order to increase its tax base.

Major automobile plants were first built in the downtown area, and then moved farther away for larger lots and cheaper land prices. The city kept growing both in size and population.

With the invention of the elevator, buildings were able to grow vertically. Several skyscraper projects in downtown Detroit were initiated. Part of the fill from the downtown construction was used to enlarge the area of Belle Isle. Since 1887, several man-made lakes were created on Belle Isle by draining the marsh land. About 200 acres of fill were added to the Western tip of the island when the city received a donation of the entire fortune from James Scott, a local real estate speculator who had a bad reputation related to his business and personal life. By accepting the fortune, a memorial statue of James Scott was required to be placed in the park. The case was first very controversial, however the city accepted the money and went on with construction. Many local entrepreneurs and dignitaries wanted to donate sculptures or statues to be placed on the island. The park commission agreed to only placing statues along the Central Avenue, which would not be too much of intrusion on the park's natural environment. Contrary to local perception, most of the park designers or commissioners were very much against the placement of statuary in parks. It was partially due to the resemblance to the European aristocratic style gardens and its appropriateness for different classes of people (Cranz, The Politics of Park Design: A History of Urban Parks in America, 1989, p. 56).

As the population increased, Belle Isle became very popular for leisure and recreation. The athletic pavilion and fields were constructed in 1899, when baseball became popular nationwide. The athletic pavilion was originally used as a bicycle pavilion with the first floor for rental of bicycles and recreational equipment, second floor for seating and refreshments. Many of the roads were dedicated to pedestrians and bicyclists at the time. There were also

bicycle races held on the island once a year. Ice skating was also one of the most popular activities that were held in public parks. The skating pavilion, located north of Lake Takoma, was built in 1893. It was used as a canoe rental facility in the warm season and became a skating pavilion when Lake Takoma froze and became a skating rink in the winter.

There were a couple bath houses built on the island. The first one was completed in 1894 and later burned in the 1900s. Many of the first structures on the island were burned due to the lack of fireproof protection. The second bath house was erected in 1909. It was one of the best bath facilities in the nation and had 800 dressing rooms, and could accommodate 1000 people at once (Rodriguez & Featherstone, 2003, p. 53).

The aquarium and conservatory were built in 1904, both designed by Albert Kahn, a renowned local architect who was also the designer of Ford's Highland Park plant. The erection of the aquarium and conservatory added strong educational and cultural interests to the island. "At its peak in attendance, around 1940, the Aquarium hosted upwards of two million visitors per year" (Rodriguez & Featherstone, 2003, p. 50). The zoo on Belle Isle was first formed as a deer park. As the Detroit Zoo officially moved to Belle Isle in 1909, it became a popular destination for kids and families. In contrast, Olmsted actually warned about having such facilities in parks like Belle Isle because of the required great investments and costly maintenance (Rodriguez & Featherstone, 2003, p. 47).

Many other major city parks across the nation held events and activities that were similar to Belle Isle. Parks in New York, Chicago and San Francisco all accommodated these needs at various scales. The conservatory in Golden Gate Park, San Francisco, shares a very similar architectural appearance with the one in Belle Isle, although pure park advocates were opposed to the erection of buildings and facilities which would detract from people's

interest in enjoying the pleasure ground and naturalness. The government officials recognized the needs of the public about having more organized activities and educational components open to citizens. Many local park commissioners were supportive in making such arrangements, “if we can give people information in a playful way in the park, it will be a good thing to do” (Lakey, 1869, p. 689).

Recreation Automobile Era (1920-1945)

Year	Transit	Detroit History	Belle Isle History	Belle Isle Development	Park Movement	Planning Development
1930	27.3 million cars registration	Population reached 1.3 million, total area of 139 sq. miles	More fill for the eastern end for Livingstone Memorial; Nancy Brown sunrise service	Levi Barbour memorial fountain, Formal Garden, Carillon built	The recreation facility; more indoor and outdoor facilities; Great Depression, parks used as places to spare time	Great Depression; Establishment of state and regional planning agencies; The New Deal; Le Corbusier's 'Radiant City'
1940	Increasing car ownership led to suburbanization; Urban Renewal	World War II, production of automobile ceased, factories used to build war supplies; Arsenal of Democracy; Urban Renewal 1949		U.S. Coast Guard station on island; skating pavilion razed, replaced by Flynn pavilion; Detroit Zoo moved to Royal Oak, old zoo demolished and Children's Zoo was built	The open space era, park as service demand facility; patriotism, providing military services; handicraft programs	Post war period; Urban Renewal; Provision of mortgage by FHA and VA; Insufficient housing in urban area

Table 3. Recreation Automobile Era (1920-1945)

The Recreation Automobile era refers to the period of time from 1920 to 1945. As automobiles became more affordable to the general public, the ownership of private cars reached 23 million in the 1920s. The Great Migration also brought a large number of African Americans from the South to the North and Midwest for better living conditions and freedom. As the population kept growing in Detroit, the inner city was no longer capable of holding such density, and people were not able to afford the high price of urban housing. Many of the new developments started to migrate to the suburbs. Not only did the housing move, but many auto factories also relocated to the outer fringe for better tax rates.

The first bridge to Belle Isle burned in 1915, and soon a temporary bridge was built to accommodate public needs. The present bridge was constructed in 1923 at a cost of $3 million (Rodriguez & Featherstone, 2003, p. 72).

As the Great Depression swept through the country and the unemployment rate reached over 25 percent in 1933, the federal government established the "New Deal" program, which was aimed at providing employment through public funding programs. Many of the large scale public developments took place at that time. The low income housing program was also initiated and built many housing developments in the outer fringe of the city in order to stimulate the economy.

As the U.S. declared war on Japan and officially entered the second World War in 1941, the war suddenly pulled people out from the depression into a national level emergency. It was especially significant for Detroit. The city's auto factories soon stopped producing automobiles and switched to producing parts for aircraft and tanks for the war. The "Arsenal of Democracy" soon helped Detroit adjust from the depression, and was in need of massive employment. With many of the young working force joining the military, job opportunities were opened to minorities and women. Belle Isle was also used as a military base at the time just like many other public parks in the country.

The work that was previously only available to whites was now available to the black residents, especially with the massive flow of migration from the South. Many whites were worried about the loss of job opportunities and resisted working along the same production line with blacks. The first major riot in Detroit took place on Belle Isle, on a hot summer day of 1943. The riot involved young blacks and whites and lasted for 3 days, resulting in 34

people being killed, 25 of whom were blacks. Belle Isle as a public place, where all classes of people could find comforts, was also the scene of conflicts.

Freeway Era (1945-present)

Year	Transit	Detroit History	Belle Isle History	Belle Isle Development	Park Movement	Planning Development
1950	National Defense Highway Act of 1956	Post war era, automobile industry prospered; Woodward streetcar discontinued; 1958 city first master plan; population reached 1.85 million	Last ferry boats to Belle Isle	Remick Bandshell; Great Lake Museum; renovation of conservatory	Small neighborhood parks; park departments working with other municipalities for funding; use of fencing and signs	Highway planning; suburbanization
1960	Massive highway system built, vehicles reached over 60 million	1967 race riot, caused white flight; lots of buildings razed		More picnic shelters; second bathhouse demolished	Major cities planned for green space system; master planning came in, deconstruction in cities; urban crisis; Jane Jacobs	Environmental planning; statewide planning; Major metropolitan cities experienced race riots in 1967
1970		Public school segregation	1972, Huron Clinton Metropark Authority proposed a masterplan; 1975, Dan Kiley's masterplan	More picnic shelters built; Nature Zoo visitor's center	Designs and uses for automobile; festivals, gatherings, events in park	Urban Renewal ended; public participation in planning process; incremental planning
1980		Continuous white flight; factories moving out of Detroit; global competition in auto industry		Safari Zoo opened; reconstruction of General Arthur Bridge	Small size parks developed throughout major cities	Local economic planning
1990		Population down to 1 million, where only 20% are white		More picnic shelters	Emergence of modern architecture and design elements in parks	Smart growth planning

Table 4. Freeway Era (1945-present)

Table 4 (cont'd)

Year	Transit	Detroit History	Belle Isle History	Belle Isle Development	Park Movement	Planning Development
2000		Population down to 950,000	2005 masterplan by Hamilton Anderson Associates was approved by the City of Detroit	Nature Zoo closed		
2010		Population down to 713,000; 2013 city filed bankruptcy	2013 Belle Isle became state park			

The Freeway Era represents the period of time from 1945 to the present. The Urban Renewal program of 1949 enacted large slum clearance projects in major metropolitan cities. The National Defense Highway Act of 1956 also facilitated large scale urban sprawl. Even though Detroit's population reached its peak of 1.8 million in the 1950s, the racial distribution was already shifting. Most of the designated slum neighborhoods hosted large numbers of black residents. The practice of redlining in financial loans restricted lending money in black neighborhoods. As a result, minorities with low income were trapped in the worst housing stock in the city. When the city used eminent domain to remove them without compensation or assistance to find other housing options, people became homeless on the streets. As in the 1960s, most of the white residents in Detroit lived around the outer fringe of the city or nearby suburbs. Downtown and inner city transitioned from white to black neighborhoods as the African Americans gained more rights and support with the help of elite African Americans, liberal whites, worker unions and the government.

The race riot of 1967 was often considered a turning point in Detroit's history. The riot took place in the black neighborhood near the downtown region, where the fight ignited between local police and the blacks in an after hour bar. There were not many white residents involved, since most of the white population had moved to the outer fringe of the city. The incident was devastating; similar riots happened in other cities during the same year, which completely changed the image of urban life in the eyes of Americans.

The downfall of Detroit's auto industry started since 1950s, when major automobile plants shut down in the city and moved to the suburbs. The development of automation replaced some of the need for labor and layoffs in the auto industry were more than 300,000 (Sugrue, The Origins of the Urban Crises, 2015, p. xvi). The flight of jobs significantly reduced the tax base of the city. People who had the ability to move, fled immediately out of the city regardless of race and ethnicity.

Reduction in the budgets of public sector works was often the first thing came after economic decline. The skating pavilion located north of Lake Takoma was replaced by the Flynn Pavilion in 1950. The Detroit Zoo moved to Royal Oak in 1956, and the previous Belle Isle Zoo was renamed the Children's zoo and downsized. The ferry service to the island was terminated in the 1950s because of a lack of customers, in contrast to the great ferry that could host a thousand passengers in the 1900s (Rodriguez & Featherstone, 2003, p. 87).

Several major structures on the island were in disrepair due to the lack of maintenance. The aquarium was closed for several years and has now reopened with the help from MDNR and local nonprofit organizations like Friends of Belle Isle, Belle Isle Conservancy, etc. The zoo, golf course and driving range were closed with no plan for

reopening. The Boat House was originally an elegant clubhouse, which is now deteriorating and vacant, and a similar condition applies to the Athletic Pavilion.

The city hired the Huron Clinton Metropolitan Park Authority to create a redevelopment plan in 1972. The local friends' organizations hired Dan Kiley, an American landscape architect, to generate a new masterplan for Belle Isle in 1976. The plan proposed major changes in transportation modes for getting to and around the island, as well as recommendations for the maintenance and upgrading of existing park facilities. Only minimal changes were implemented by the city based on Kiley's recommendation. In 1996, the city hired a Detroit-based landscape architecture firm, Hamilton Anderson & Associates, for a redesign of the park. The plan was approved by the city, but was never adopted. In 2013, the city signed a 30-year lease for Belle Isle with the Michigan Department of Natural Resources. The park is now the 102nd state park in Michigan.

CHAPTER 6: CONCLUSION

The goal of this research was to answer the question raised from proposition: Why did masterplanning not work on Belle Isle? Through the in-depth review of literature, history of the site, and other relative conditions, the question would be answered by examining the conditions associated with each of the masterplans that were created. There are also fundamental reasons that led to the decline of Belle Isle, regardless of the design proposed by each individual masterplan.

First Masterplan by Frederick Law Olmsted (1881)

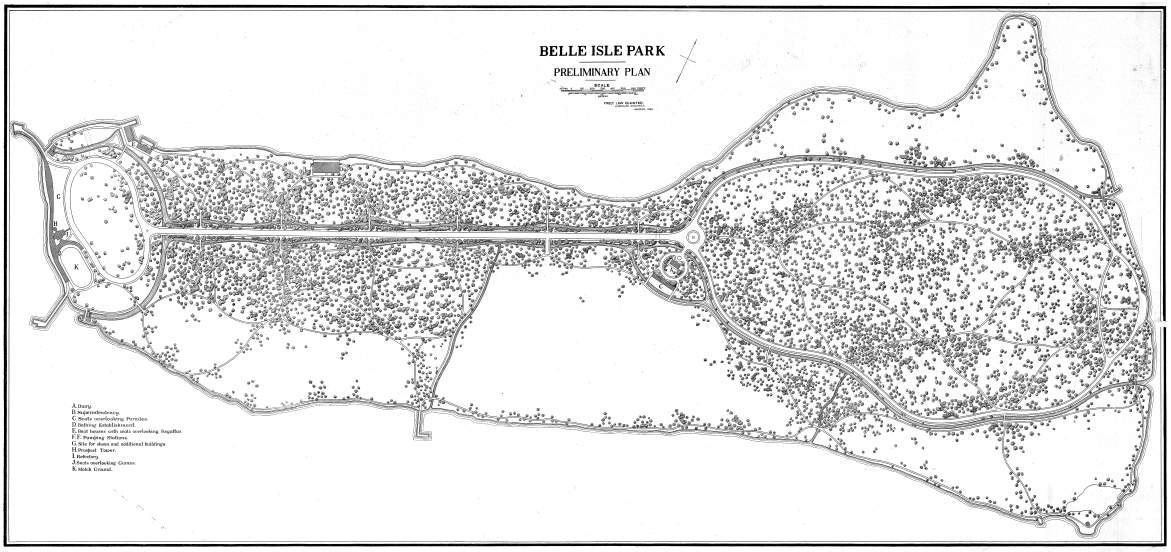


Figure 1. Master plan by Frederick Law Olmsted (Image credit to Michigan DNR archive files)

In 1881, the City hired Frederick Law Olmsted, the renowned landscape architect, to create a masterplan for Belle Isle. It had been over 20 years since Olmsted designed Central Park and many other prominent parks thereafter. And it had not been an easy collaboration for Olmsted with the City of Detroit since the early stage of his appointment. He observed the city's financial difficulty in allocating funding sources for the park. The plan proposed by Olmsted, "was more of a plea than a blueprint" (Rodriguez & Featherstone, 2003, p. 26).

The design he proposed included a ferry dock, a pavilion spanning the west end of the island, a parade ground, and a central boulevard. To Olmsted, the natural old growth forests were the most precious assets of Belle Isle, which he insisted be preserved. The plan was initially approved by the city, but after a year, the idea of having a "gallery" that connects to the dock and spans the west end of the island was rejected by the city. "It is a place of rest, and of cooling, after a ramble; it is occupied for the enjoyment of the view, and of the breeze from over the water; it is a rendezvous for meeting friends; and when not too crowded, it is constantly used as a promenade. It is a place for all visitors to whom rest in the open air is more desirable than prolonged exercise. It is common to serve coffee, tea, and ices upon it…" (Olmsted, 1884, p. 14) Olmsted tried to seek support from local dignitaries and government officials by convincing them the gallery would be necessary for future use to accommodate needs from all people and for all purposes. This was the only major structure he proposed on the island. Other components of his plan suggested passive park usage. Olmsted had urged that if this part of the plan was not accommodated, it would very likely result in a more burdensome expenditure for other park accommodations in the future.

Despite all the efforts Olmsted tried to convince the city council and park commissioners, they had not listened to what he had suggested. Olmsted resigned from the project in 1885, even before the expiration of his contract. Later when he was asked about the stewardship of Belle Isle, he said 'I know nothing of that place' (Rodriguez & Featherstone, 2003, p. 26). His idea of creating a canal system on the island was accepted, but the city wanted more canals to be drained, which later incorporated in the plan suggested by Michael Dee, a Detroit News reporter. The only elements of Olmsted's plan implemented were Central Avenue, thinning out of the woodland, clearing of the underbrush to prevent from

breeding of mosquitos, and a pavilion which inherited part of the gallery idea (Anderson, Island in the City: How Belle Isle changed Detroit forever, 2001, p. 32).

Figure 2. Drawing of Pavilion by Frederick Law Olmsted (Image credit to Michigan DNR archive files)

The gallery is shown on the bottom of the drawing. It is the structure that stretches along the west end of the island, where all major activities would be oriented in close proximity to the gallery.

Masterplan by Huron Clinton Metropolitan Park Authority (1972)

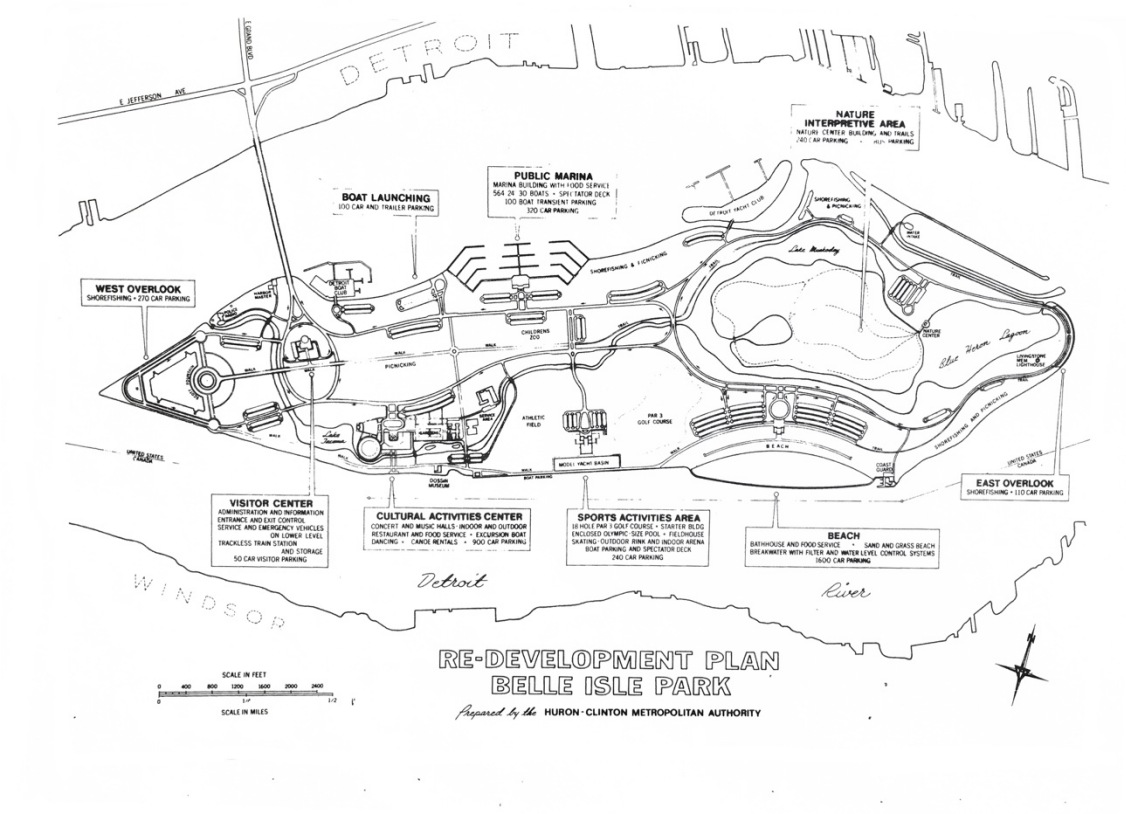


Figure 3. Master plan by Huron Clinton Metropolitan Park Authority (Image credit to Michigan DNR archive files)

In 1972, the city was about to transfer the authority and management of Belle Isle to the Huron Clinton Metropolitan Park Authority (HCMA). The plan proposed by HCMA asked for a large sum of investment, approximately $40 million, which required a half-mill increase in tax. The request was rejected by a large margin of voters. It was argued that development of HCMA parks was based on a large share of Detroit's tax base from the start, but all of their parks were not within the city, and not accessible via public transportation (Zanen, 1972).

Masterplan by Dan Kiley (1976)

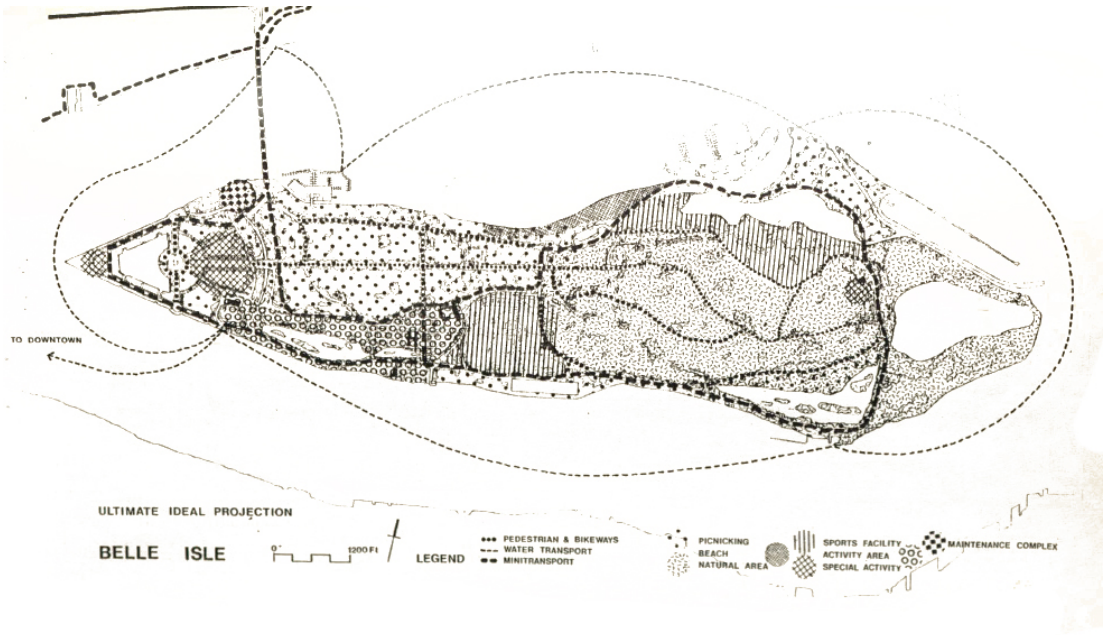


Figure 4. Master plan by Dan Kiley (Image credit to Michigan DNR archive files)

In 1976, the Friends of Belle Isle, the Junior League of Detroit and the Junior League of Birmingham hired landscape architect Dan Kiley to develop a schematic design for Belle Isle. The work was paid for by the above organizations in the sum of $50,000, instead of the City of Detroit. The plan called for a ban on automobiles on the park property when it was first initiated, which caused enormous public opposition. In the following year, Dan Kiley was not insistent with the idea on banning automobiles. He provided a phasing plan, which was more of a return to Olmsted's original idea by accepting the existing condition. The plan introduced alternative transportation options including bus, water taxi and ferries. The phases could help the park and the users to gradually adapt to public transportation, instead of relying solely on cars. There were also many recommendations made about park maintenance, but only a few were implemented based on the plan, including the renovation of the back of the Casino. The reason was possibly due to the city's financial difficulty.

Masterplan by Hamilton Anderson & Associates (1999)

Figure 5. Master plan by Hamilton Anderson Associates (Image credit to Michigan DNR archive files)

In 1996, the City of Detroit's Department of Parks and Recreation worked together with Hamilton Anderson & Associates in creating a comprehensive masterplan for Belle Isle along with a technical assessment report. The plan was presented to the City Council in 1998, and delivered to the neighborhood for public participation in 1999. An update of the masterplan was presented to the city in 2005, with information regarding changes in recent years. However, the plan was never adopted by the City of Detroit, possibly because of the large cost that would be required to implement the plan, which was about $180 million in the late 1990s (Gallagher, 2013).

Principle Conclusions

Through the research of past literature and history about the development of Belle Isle and its relationship with Detroit, several factors seem to be influential to the development of the park.

First as examined, could be the location of Belle Isle in relation to its economic value. Parks are usually selected within an accessible distance to nearby neighborhoods or properties. People love to live around parks, where they have open space and recreational opportunities nearby. Often, once a park is built, the real estate close to the parks will increase in property value, and commercial businesses will generate more income as people visit the park. The increase value in income and property would lead to growth of the city's tax base, which can be used to pay off the investment and maintenance in the park. This does not apply to the case of Belle Isle because it is isolated from all other city developments and typical social atmospheres. The island was first only accessible by ferry, and there is no housing development on the island with the exception of one private unit. There is no possible business or real estate development that can be located near the island and share the services provided by this facility. There would be no income generated from the spillover effects, where the nearby property value and tax base would increase because of being located close to a natural area or green space. Such income could later offset the city's early investment in park and maintenance cost. The lack of spillover effects of Belle Isle resulted in many public and private interests in developing parts of the island.

This was already noted when Olmsted first engaged in the project. He was very concerned with the economic difficulty the park experienced. Identification of a funding

source was very hard in the first years. The city raised money by selling bonds, which was not quite successful. The city officials were afraid that Olmsted's plan would cost a huge amount of money. As Olmsted proposed, it would cost $1 million for the park to develop in the long run. Although his plan was not being implemented, the city had spent much more than Olmsted had projected.

The second reason that resulted in lack of implementation of the masterplans would be excessive private interests and political decisions made by the City of Detroit. At the turn of the century, "dignitaries and city businessmen often had as much or more influence in government affairs than the city's highest-ranking official" (Rodriguez & Featherstone, 2003, p. 21). This suggested that the decisions made by the city may be determined because of how profitable it is to the dignitaries in the city, rather than considering the health and welfare of the general public. This is especially reflected in the developments of Belle Isle, from the Detroit Yacht Clubhouse, to the Boat House, Casino, and Scott Fountain Memorial. It is obvious that they were not intended to serve the ordinary people. Evidently, every park may share this similar experience of having too many private interests. Even in Central Park, Olmsted had fought so hard with the government and private entities to keep the private development outside of the park boundary. He even stood up against the politicians from Tammany Hall (French, 1973).

The other strong impact in the shift of Belle Isle's development were the trends of other major city parks. As suggested previously in the discussion, the designs of buildings and architectures around the 1900s share very similar appearance. Meanwhile, the activities introduced into Belle Isle were also the same as what was popular in the nation. The developments other than what was implemented based on Olmsted's plan, were all very

similar to those in other parks in the nation. The zoo, aquarium, conservatory, golf course, baseball fields, and bath houses were all responding to the need of the public, or the national trend in the early 1900s.

However, this trend discontinued when the auto industry started to decline. In the late 1960s, the Urban Renewal program aroused public indignation, especially in New York, where projects in Lower Manhattan were terminated by public protest efforts. Jane Jacobs' theory about urban places was proved to be very influential in the planning field nationwide or even worldwide. Advocacy planning and public participation became main stream in urban planning theories after the 1970s. But from examining the large scale public developments that took place in Detroit following Urban Renewal, this new planning approach did not seem to have much effect on the city. After the program was terminated in the 1970s, funds received from the Model Neighborhoods or EZ program were still used to continue the same Urban Renewal projects, which tried to attract the white middle class back to the city, rather than taking care of its own residents. Belle Isle at the time, was no longer on the list that would have an immediate return to the city. The cut in public works budget not only led to the lease of Belle Isle, but also many other city parks and public facilities were forced to shut down.

Through research, I've come to the conclusion that the developments of Belle Isle, no matter of its rise or downfall, transformation was mainly made by the forces of public and private interests, the national park influence and the city's economic situation. The changes made by different masterplans were very minimal. By discussing and analyzing the history of Belle Isle and its relationship with Detroit, I have learned several key components that

may lead to a better park masterplanning development and implementation. The components include location, purpose, economic condition, public and political support.

As in the traditional economy, the choice of location has a direct relationship to successful businesses. A park as a service facility requires engagement with people and social activities. Therefore, the location of parks would be very influential to the accessibility of different groups of users. Belle Isle as an island park, with its location and distance from the city, was not accessible to the general public in the early times. The park's economic condition has a direct relationship to its location as well, such as the spillover effect as mentioned earlier. The purchase of Belle Isle as a public park did not involve any voice from the public in 1879, and was managed entirely by the city officials. The purpose of purchasing Belle Isle would be questioned as many of the early developments and structures were reserved for private members of certain groups, including the Boat Club, Detroit Yacht Club, and Casino. The Casino was always leased to local restaurants and used as a place to hold private events. However, the fundamental purpose of a public park and its masterplan is to better serve the ordinary citizens, which contradicts some of Belle Isle's developments.

The park as a public asset has a direct linkage to the economic condition of the city in which it resides. A stable financial budget for the operation and maintenance of parks is essential to the implementation of long term masterplanning. Lack of funds would lead to improvident park investments. Gaining public and political support is also beneficial in implementing masterplans. The first couple masterplans for Belle Isle had barely involved any public participation, and neither was known by the citizens. The later ones started to hear the opinions from the public but did not gain much support from the citizens. Having strong public support and participation will create a sense of ownership to the ones who are

involved in the process. This will not only ensure the plan is made right for the people, but also keeps the plan constantly on stage with attention from the general public.

Limitations and Future Research

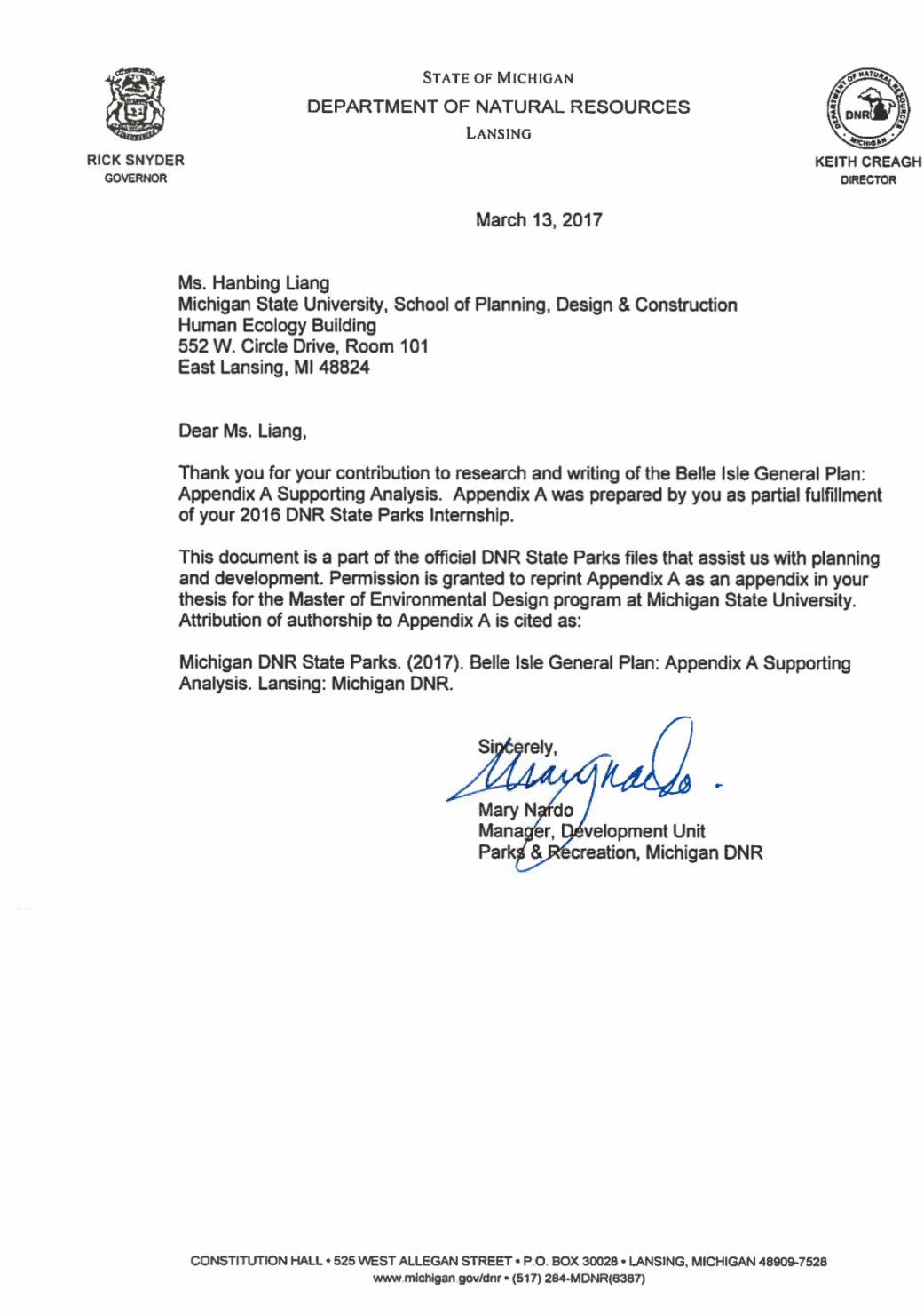
The limitations of this research would be the finite timeframe, which led to gaps that were not discovered in this matter. Also, due to the long history of the park, some of the park information may be in conflict from different sources. Some of the opinions found from historical papers may not be truly objective or scientific; this may also lead to bias in the research. As a case study research, it carries a certain constraint that is inevitable, such as lack of scientific data or support.

The gap or question that I have not been able to answer would be, since the city did not have the money for public works, then why did they keep hiring other design entities to create masterplans for them? Especially the cost of generating a masterplan was not small.

Possible future research could be conducted by examining the relationship between other major cities' parks and their masterplans. It would be interesting to see how much implementation has been done to parks based on the masterplans. Also, it would be great to compare and contrast a park that fully carried out a masterplan versus a park that failed to do so. The approach of masterplanning for parks could also be questioned in the next phase, whereas if another planning or design approach will work better for parks and the users.

APPENDICES

Appendix A: Permission of Copyright from Michigan Department of Natural Resources



STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LANSING

RICK SNYDER
GOVERNOR

KEITH CREAGH
DIRECTOR

March 13, 2017

Ms. Hanbing Liang
Michigan State University, School of Planning, Design & Construction
Human Ecology Building
552 W. Circle Drive, Room 101
East Lansing, MI 48824

Dear Ms. Liang,

Thank you for your contribution to research and writing of the Belle Isle General Plan: Appendix A Supporting Analysis. Appendix A was prepared by you as partial fulfillment of your 2016 DNR State Parks Internship.

This document is a part of the official DNR State Parks files that assist us with planning and development. Permission is granted to reprint Appendix A as an appendix in your thesis for the Master of Environmental Design program at Michigan State University. Attribution of authorship to Appendix A is cited as:

Michigan DNR State Parks. (2017). Belle Isle General Plan: Appendix A Supporting Analysis. Lansing: Michigan DNR.

Sincerely,

Mary Nardo
Manager, Development Unit
Parks & Recreation, Michigan DNR

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Appendix B: Belle Isle General Plan: Appendix A Supporting Analysis

A.1 PARK SETTING

Park Profile

Area: 985 *(Acres)*
County: Wayne County
Township: City of Detroit, Michigan
Latitude: 42°20′25″N
Longitude: 82°59′12″W

Address: 2 Inselruhe Drive, Detroit, MI 48207
Phone #: 844-235-5375

Figure 6. Location of Belle Isle Park

Belle Isle is the largest city-owned Island Park in the nation. It was purchased by the City of Detroit in 1879 and opened to the public in May, 1880. The renowned landscape architect Frederick Law Olmsted was hired to develop the preliminary plan for the island, and although the plan was not followed in its entirety, his influence can still be seen today. Belle Isle has served as a city park to the residents of Detroit and nearby regions ever since.

The island is rich in culture, history and natural resources. The growing demand for open spaces and recreational opportunities for city residents led to a variety of development on the island over the years. Visitors come to Belle Isle for the scenic landscape, the beach, fishing and water sports. The historic attractions on the island, including Belle Isle Aquarium, Anna Scripps Whitcomb Conservatory, Belle Isle Nature Zoo, James Scott Fountain and Dossin Great Lakes Museum, provide rich educational value and strong cultural identity to the park as well as the City of Detroit.

Belle Isle became Michigan's 102nd State Park in 2014 and is currently managed by the Michigan Department of Natural Resources (DNR) under a 30-year lease agreement with the City of Detroit. The DNR is supported in in its role by many volunteer and non-profit organizations such as the Belle Isle Conservancy.

Location & Community

This 985-acre island park is situated in the Detroit River between the United States and Canada. The island is connected by the MacArthur Bridge to the mainland Detroit on Jefferson Avenue. The park is easily accessible by car from I-75, I-94, I-96 or U.S. 10 (Lodge Freeway), all major arteries through the City. Detroit Department of Transportation offers a bus service to the island via the #12 Conant route.

The park is integral with the revitalized riverfront area, which encompasses the Detroit Riverwalk, William G. Milliken State Park and Harbor, the Outdoor Adventure Center and the Renaissance Center. The city skylines of Detroit and Windsor on both side of the river generate beautiful scenery and unique experiences that differ from those seen from the

mainland. Residents and visitors of Detroit have valued this large area of open space in the urban environment for over 135 years.

A.2 DEMOGRAPHICS

The U.S. Census Data demonstrates comparative information for the City of Detroit, Wayne County and the State of Michigan.

People	Detroit city	Wayne County	Michigan
Population			
Population estimates, July 1, 2015, (V2015)	677,116	1,759,335	9,922,576
Population estimates base, April 1, 2010, (V2015)	713,862	1,820,641	9,884,129
Population, percent change - April 1, 2010 (estimates base) to July 1, 2015, (V2015)	-5.1	-3.4	0.4
Population, Census, April 1, 2010	713,777	1,820,584	9,883,640
Persons under 5 years, percent, April 1, 2010	7.0	6.5	6.0
Persons under 18 years, percent, April 1, 2010	26.7	25.4	23.7
Persons 65 years and over, percent, April 1, 2010	11.5	12.7	13.8
Female persons, percent, April 1, 2010	52.7	52.0	50.9
White alone, percent, April 1, 2010 (a)	10.6	52.3	78.9
Black or African American alone, percent, April 1, 2010 (a)	82.7	40.5	14.2
American Indian and Alaska Native alone, percent, April 1, 2010 (a)	0.4	0.4	0.6
Asian alone, percent, April 1, 2010 (a)	1.1	2.5	2.4
Two or More Races, percent, April 1, 2010	2.2	2.4	2.3
Hispanic or Latino, percent, April 1, 2010 (b)	6.8	5.2	4.4
White alone, not Hispanic or Latino, percent, April 1, 2010	7.8	49.6	76.6
Health			
With a disability, under age 65 years, percent, 2010-2014	16.0	12.3	10.2
Persons without health insurance, under age 65 years, percent	21.4	12.2	7.1

Table 5. Demographics of Detroit, Wayne County, and State of Michigan

The City of Detroit experienced a population decline of 5.1% from 2010 to 2015, compared to a decline in Wayne County of 3.4% and a 0.4% increase in the State of Michigan. The racial makeup of the city is predominantly Black or African Americans, who make up 82.7% of the population. In comparison, the county has about 40.5% African Americans, and the state has about 14.2%. The data on health shows that the city has a

high percentage of people without health insurance in comparison to the county and state. The City of Detroit also shows a higher percentage of the population for persons with a disability.

Families and Living Arrangements	Detroit City	Wayne County	Michigan
Households, 2010-2014	254,197	667,553	3,827,880
Persons per household, 2010-2014	2.69	2.65	2.52
Living in same house 1 year ago, percent of persons age 1 year+, 2010-2014	83.7	85.6	85.3
Language other than English spoken at home, percent of persons age 5 years+, 2010-2014	9.8	12.8	9.1
Housing	Detroit City	Wayne County	Michigan
Housing units, April 1, 2010	349,170	821,693	4,532,233
Owner-occupied housing unit rate, 2010-2014	50.7	63.9	71.5
Median value of owner-occupied housing units, 2010-2014	$45,100	$83,200	$120,200
Median gross rent, 2010-2014	$756	$797	$780
Education	Detroit City	Wayne County	Michigan
High school graduate or higher, percent of persons age 25 years+, 2010-2014	77.8	84.4	89.3
Bachelor's degree or higher, percent of persons age 25 years+, 2010-2014	13.1	21.6	26.4
Income and Poverty	Detroit City	Wayne County	Michigan
Median household income (in 2014 dollars), 2010-2014	$26,095	$41,421	$49,087
Per capita income in past 12 months (in 2014 dollars), 2010-2014	$14,984	$22,643	$26,143
Persons in poverty, percent	39.8	24.1	15.8

Table 6. Income, Housing and Education of Detroit, Wayne County and State of Michigan

The median value of owner-occupied housing units in the City of Detroit is about $45,100, which is only about half of the median value for Wayne county and about one third of the state value. The median household income is also considerably lower. The poverty rate of the city almost reaches 40% of the population, whereas the rate of the state is only 15.8%. The information above shows a significant difference in income and housing conditions compared with the county and the state. The education attainment for residents of the City of Detroit is low compared to the county and state level, most notably for the attainment of bachelor's degree or higher.

Geography	Detroit city	Wayne County	Michigan
Population per square mile, 2010	5,144.3	2974.4	174.8
Land area in square miles, 2010	138.75	612.08	56,538.90

Table 7. Population of Detroit, Wayne County and State of Michigan

The population within the city is very dense compared to the State of Michigan, with high rise buildings and apartments providing much of the accommodation rather than single family houses.

A.3 REGIONAL RECREATION RESOURCES

The following large recreation resources have been identified in the region surrounding Belle Isle Park.

Federally Owned Resources

- Wildlife Refuges

  - Detroit River International Wildlife Refuge: the only international wildlife refuge in North America, located along the 48 miles of Detroit River and Western Lake Erie shorelines. The refuge is made up of almost 6,000 acres of islands, coastal wetlands, marshes, shoals, and waterfront lands. In 2001, the Detroit River International Wildlife Refuge was established as a result of binational efforts from politicians, conservation leaders, and local communities to build a sustainable future for the Detroit River and western Lake Erie ecosystems.

State Owned Resources

- State Parks and Recreation Areas

  - William G. Milliken State Park and Harbor: the first urban state park in Michigan, located along the waterfront of downtown Detroit. The park has become a popular destination for Detroiters for walking, biking and group gathering. Much of the site was originally a brownfield site, which is being reclaimed to restoration wetlands.

  - Maybury State Park: located in Northville, which is about 35 miles west of the City of Detroit, in northwest Wayne County. The 944 acre park offers a variety of day-use recreational options including hiking, biking, cross-country skiing, equestrian riding, picnicking and fishing.

  - Sterling State Park: located about 40 miles south of the City of Detroit, on the shoreline of Lake Erie. The park is about 1,300 acres in size and offers over one mile of beach area for water sports including swimming, boating, and shore fishing. The site also has a modern campground. Hiking, biking, metal detecting, wildlife viewing and swimming are popular activities in the park.

  - Bald Mountain Recreation Area: located about 40 miles north of Detroit. The park consists of 4,637 rolling acres with some of the steepest hills in southeastern Michigan. The park offers rustic cabins for overnight accommodation. Hunting, hiking, swimming and fishing are some of the recreational opportunities available at the park.

- State Wildlife/Game Areas

  Pointe Mouillee State Game Area: consists of 3 sections along and on the Detroit River, located about 40 miles south of Belle Isle. Mallards, ring-necked pheasant, white-tailed deer and wood duck are available species in the gaming area. The wildlife refuge is also located within the gaming area in Berlin Charter Township.
- State Trails

  Iron Belle Trail: designated to be the longest trail in the nation starting from Belle Isle and continuing to Ironwood in the Upper Peninsula, with a set of two trails for biking and hiking. The total length of the hiking trail will be 1,259 miles long and the biking trail will be 774 miles long, which connects many existing local and state trails.

- Outdoor Adventure Center
  Located on Detroit's riverfront in the historic Globe building, the Outdoor Adventure Center presents an “Up North” experience in downtown Detroit. The center opened in 2015 and provides hands-on activities, exhibits and simulators to introduce visitors to different outdoor experiences that can be found throughout Michigan.

Huron Clinton Metro Parks

Huron-Clinton Metro Parks is a series of thirteen parks located throughout Southeast Michigan. Five of them are within the proximity of Belle Isle and the City of Detroit. The rest of the metro parks are located around the outskirts of Metro Detroit.

- Lower Huron Metro Park: located about 35 miles southwest of Detroit consists of 1,258 acres of mature woodlands, and grassy meadows alongside the Huron River. The park offers biking, camping, canoeing and kayaking, fishing, swimming and ice skating in winter. It also includes a golf course, sports court, and an aquatic center.

- Willow Metro Park: located in close proximity to the Lower Huron Metro Park is also a natural scenic area developed along the Huron River. The park is 1,531 acres in size and offers a 24-hole disc golf course, sports courts, and swimming. Activities like ice skating, sledding, and cross-country skiing are available in winter.

- Oakwoods Metro Park: also located approx. 35 miles from to Belle Isle. About 400 acres of the park have been preserved as natural study area, where a nature center is located. Horseback riding, boating, and fishing around the nature trails are activities available in the park.

- Lake Erie Metro Park: located 35 miles south of the city, and north of the Pointe Mouillee State Game Area. The park is approximately 1,607 acres in size, with natural environment that supports a variety of wildlife and waterfowl. The site features include picnic shelters, a wave-action swimming pool, and a child-size town play area.

- Lake St. Clair Metro Park: the park is about 25 miles northeast of the City of Detroit along the shoreline of Lake St. Clair. The shoreline is over 1 mile long with a 1,600 foot boardwalk. The park has recreational facilities for boaters, swimmers and fishermen. There is also a nature center in the park for educational purposes.

City of Detroit

- Dequindre Cut Greenway: a 2.6 miles long trail, which was formerly an abandoned rail line and later redeveloped to an urban recreational walkway located along the Detroit Riverfront. The trail provides pedestrian connection between the East Riverfront, Eastern Market and the neighborhood in the area.

- Detroit River Walk: the walk is about 3.5 miles along the waterfront of Downtown Detroit, where residences and visitors can enjoy the spectacular view of the Hart plaza, city skyline and Detroit River.

- The City of Detroit also offers a variety of city parks located throughout the city. The larger city parks offering a range of recreational opportunities are listed below:

  Palmer Park, City of Detroit, 280.2 acres
  Rouge Park, City of Detroit, 723.9 acres
  Eliza Howell Park, City of Detroit, 251.3 acres
  Chandler Park, City of Detroit, 202.4 acres

In addition, the City features a range of public, non-profit and private arts, cultural and sporting venue attractions.

A.4 HISTORY OF BELLE ISLE PARK

Below is a chronological description of major events in the history of Belle Isle Park.

Figure 7. Nautical Chart of Belle Isle, 1796 (Image credit to Michigan DNR archive files)

Prior to European Settlements, the island was part of the Ottawa and Chippewa territories. The earliest name of the island in recorded/written history was Wahnabezee (Swan Island), because it was used as the resting place for migratory swans. It was first established as farms by French settlers. The name was changed to Hog Island in the 1700s, since pigs were shipped to the island from Detroit to prohibit them from damaging crops on the mainland. On July 4th, 1845, in honor of Miss Isabella Cass, daughter of Governor Lewis Cass, the name of the island was changed to Belle Isle. The island remained in private ownership until the purchase by the City of Detroit in 1879. Despite some opposition by those claiming it is inaccessible from Detroit, the purchase was finalized in the amount of $180,000, making Belle Isle a public city park in 1880.

Frederick Law Olmsted, the renowned American landscape architect, was appointed to be the designer of Belle Isle. His vision was to preserve the woodland forest, which was viewed as the most unique asset of the island. Olmsted's plan included a proposed ferry dock for boats coming to the island, a central promenade, and a man-made canal for pleasure boating. Unfortunately, Olmsted resigned in 1885 due to personal and political factors, and only some of his design elements were implemented. The *Detroit News* editor, Michael Dee, offered an alternative plan of the island, which was later adopted and carried out. The principles of Olmsted's design have always influenced Belle Isle even though the island has been constantly changing and transforming. The layout of a formal zone, an active zone and a natural zone has been respectfully retained.

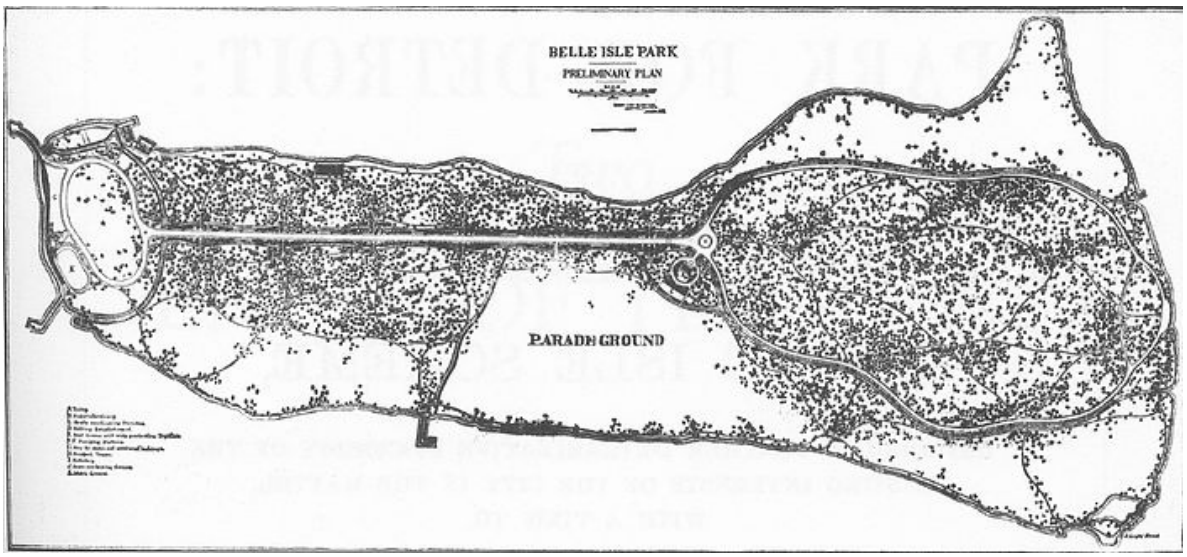

Figure 8. Masterplan of Belle Isle by Frederick Law Olmsted (Image credit to Michigan DNR archive files)

The current island is nearly 300 acres larger in size compared to its original state. Dredging of manmade lakes, including Lake Takoma, and Lake Muscoday, provided soil that was needed for expansion. Other extensions of the island used landfill and soil excavated from downtown Detroit's construction sites. Most of the shoreline and land developments were finished in the late 1930s.

The ferry dock pavilion proposed by Olmsted was completed in 1884. Following that the first Casino was built in 1886, designed by architects Van Leyn and Schilling (conflict information with the historical building session). It was the first enclosed building structure on the island to be used for gathering and social activities. The construction of the first steel swing bridge with wooden planks in 1889 attracted increasing number of visitors to the island and allowed more development to occur. In April 1915, the bridge was decimated by fire caused by ash falling from a hot coal truck, which quickly destroyed the wood floor suspension. The modern bridge was designed and constructed in 1923, with reinforced concrete floor and 35 feet wide roadway, including capacity for streetcar tracks and two 12 feet sidewalks. The name was changed to General MacArthur Bridge in 1953, and was reconstructed in 1986 (*Island in The City*). The Aquarium, Conservatory and the formal garden were built in 1904, designed by Albert Kahn, known as the architect of Detroit. The sports field complex, including a baseball diamond, running track, handball courts and a soccer field, were developed beginning in 1883. The Belle Isle Zoo was opened in 1909 as the location of the official Detroit Zoo with over 150 animal residences in an area of 32 acres. By the 1950s, Belle Isle had become a popular destination for family and group gathering.

Over the years, many of the structures and buildings built in the early 1900s went through inevitable damages and natural hazards that required major renovation, rebuild or relocation.

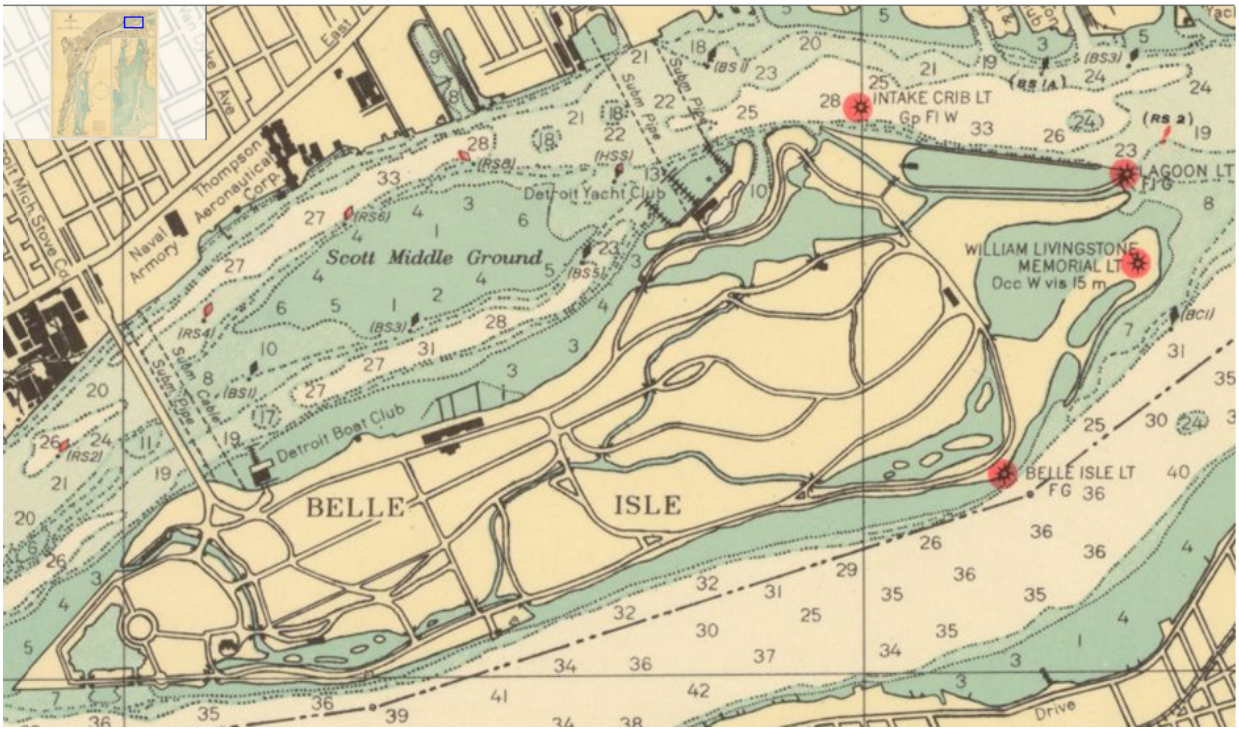

Figure 9. Nautical Chart of Belle Isle, 1936 (Image credit to Michigan DNR archive files)

The island's first casino was abandoned and razed. The present Casino was designed by Albert Kahn, completed in 1908. In 1956, the zoo had to close due to permanent relocation of the Detroit Zoo to Royal Oak. The Belle Isle location was later taken over by different operators and the name changed to Safari Zoo in succession to Belle Isle Children's Zoo. Due to financial factors, the zoo was permanently closed in 2002 and the Nature Zoo was opened on the opposite side of the island.

As a city park, the growth and prosperity of Detroit was reflected in the wellbeing of Belle Isle. The decline of manufacturing industries and urban growth led to a deficit budget in park management and maintenance. The Detroit's Recreation Department hired Hamilton Anderson Associates and Zachary Associates to develop a long-term comprehensive master plan for Belle Isle in 1995. The plan was finally approved by the city in 2005. Only some of the issues addressed in the report have been solved. The design was never fully carried out. In 2013, the city signed a 30 year lease with Michigan Department of Natural Resources to operate and manage the park, by which Belle Isle became the 102nd state park in Michigan. With the enhanced resources of the state, the park is being revitalized and visitor numbers are increasing again.

A.5 LAND OWNERSHIP

The island was purchased by the City of Detroit in 1879 to be used as a public city park. The city, entered into a lease agreement with the State of Michigan, Department of Natural Resources, in September of 2013. The lease was initiated for a period of 30 years with two renewal periods that occur automatically unless either party gives notice at least one year prior to the expiration of the applicable term. Under the agreement, the Department of Natural Resources will continue to enhance the operation, maintenance, and management of Belle Isle Park for the benefit of the city and the general public. The Park will be operated as a state park, subject to the rules and regulations of the Department of Natural Resources regarding state parks. A copy of the lease agreement is located in Appendix __.

Figure 10. Land Ownership on Belle Isle (Image credit to Michigan DNR archive files)

Other Land Ownership on Belle Isle

A. Coast Guard Station
Belle Isle Station is primarily a search and rescue unit, operating within the geographic area. The unit is located on the southern edge of the island, owned by the U.S. Coast Guard. The property (1 ¼ acres) was purchased on April 6, 1881

from the City of Detroit, but the current coast guard station was not constructed until 1942.

B. City water intake
   The city water intake station is a separate piece of land located on the north east corner of Belle Isle, connected to the island by bridge.
C. Detroit Yacht Club
   The club is located on a separate piece of land owned by the Detroit Yacht Club. It is accessible from Belle Isle or through water transportation.
D. Greenhouses
   The group of greenhouses adjacent to the White House on Inselruhe Avenue is owned by the City of Detroit, which supplies plant needs in the city.

Leases

- The boat house is currently operated under lease agreement between the State of Michigan and the Friends of Detroit Rowing
- The Dossin Great Lakes Museum

Easements

List acquired and granted easements associated with the park

A.6 LEGAL MANDATES

For all park General Management Plans, all legal mandates are identified that serve to further guide the development of the General Management Plan and subsequent Action Plans. For our planning purposes, the term "Legal Mandates" refers to not only to federal and state law, but also the administrative tools of "Policy" and "Directive" of the Natural Resource Commission, the Department, and the Parks & Recreation Division. Examples include Orders of the Director, Park and Recreation Areas State Land Rules and all other laws, commission orders, and rules or directives that apply to the park.

Specific to Belle Isle, the following legal mandates have been identified.

FEDERAL STATUTE

ENDANGERED SPECIES ACT, 1973
The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the act.
NATIONAL HISTORIC PRESERVATION ACT, 1973 AS AMENDED
This is the primary federal law governing the preservation of cultural and historic resources in the United States. The law establishes a national preservation program and a system of procedural protections which encourage the identification and protection of cultural and historic resources of national, state, tribal and local significance.

Table 8. Federal Statute

STATE STATUTE

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (NREPA) AND AMENDMENTS	
PA 451 of 1994, Part 5	Gives the DNR authority to make rules to support its mission. This includes State Land Rules, Land Use Orders, Wildlife Conservation Orders, Fisheries Orders and Watercraft Control.

Table 9. State Statute

Table 9 (cont'd)

PA 451 of 1994, Part 31 Water Resources Protection	Provides authority to DEQ to require a permit for any occupation, construction, filling, or grade change within the 100-year floodplain of a river, stream, drain, or inland lake.
PA 451 of 1994, Part 301 Inland Lakes and Streams	Requires a permit from the state (DEQ) to undertake certain activities relating to inland lakes and streams, such as dredging, fill, marinas, structures, alteration of flow, etc.
PA 451 of 1994, Part 303 Wetlands Protection	Requires a permit from the state (DEQ) to undertake certain activities in regulated wetlands, such as, dredging, fill, construction or drainage.
PA 451 of 1994, Part 325 Great Lakes Submerged Bottomlands	A permit is required for all filling, dredging, and placement of permanent structures (i.e., docks, piers, pilings, etc.) below the "ordinary high water mark" and on all upland channels extending landward of the "ordinary high water mark" of the Great Lakes.
PA 451 of 1994, Part 741 State Park System	The department shall create, maintain, operate, promote, and make available for public use and enjoyment a system of state parks to preserve and protect Michigan's significant natural resources and areas of natural beauty or historic significance, to provide open space for public recreation, and to provide an opportunity to understand Michigan's natural resources and the need to protect and manage those resources.
PA 35 of 2010, Part 741 Recreation Passport	This act amended the Michigan Motor Vehicle Code to provide for a State Park and State-operated public boating access site "Recreation Passport" that a Michigan resident may obtain by paying an additional fee when registering a motor vehicle.
PA 451 of 1994, Part 761 Aboriginal Records and Antiquities	The state reserves the exclusive right and privilege to all aboriginal records and other antiquities including those found on the bottomlands of the Great Lakes.

PUBLIC HEALTH CODE	
PA 368 of 1978, Part 125, Campgrounds, Swimming Areas and Swimmers' Itch	Established to protect and promote the public health by establishing health code requirements and regulations that all public (including DNR) and private campgrounds must meet. Includes permitting, licensing, inspections and rules regarding sanitation, safety standards and public health. Also covers testing and evaluating quality of water at bathing beaches, safety and rescue equipment.

Table 10. Public Health Code

ORDERS

The following Orders apply to Belle Isle Park

Land Use Orders of the Director

5.2 Possession or consumption of alcoholic beverages in certain state parks and recreation areas, prohibited conduct.

Order 5.2 A person shall not do any of the following:
(9) Possess open intoxicants, without written authorization of the department
(a) Belle isle SP
Latest revision posted Feb. 19, 2014.

5.12 Certain state parks and recreation areas, requirements for use, certain conduct prohibited.

Order 5.12. The following conduct shall apply to use of Michigan state parks and recreation areas:

Belle Isle Park, prohibited conduct.

(24) A person shall not do any of the following at Belle Isle Park.
(a) Enter and remain or park a vehicle of any type on the premises of the Belle Isle Park, between the hours of 10:00 p.m. and 5:00 a.m., without permission of the department.
(b) Erect a canopy larger than 9 feet by 9 feet, and have more than 2 canopies per group unless with written permission of the department.
(c) Erect a canopy that is not open on two sides of the structure.
(d) Erect a canopy unless someone of 21 years of age or older is supervising.
(e) Ska te, bicycle or use any similar contrivances on buildings or structures not otherwise developed for this purpose.
(f) Feed geese, gulls, and other bird species.

(g) Possess a grill of any type in and around playscapes, giant slides or next to buildings

(h) Operate a snowmobile, or other motorized snow contrivance without written permission from an authorized representative of the department.

Latest revision posted Dec. 14, 2015.

5.16a Entry, use and occupancy of certain state parks, recreation areas and scenic sites, prohibited conduct.

Order 5.16a (1) A person shall not do any of the following:

(a) Enter any of the following state-owned lands with a motor vehicle unless a valid Michigan recreation passport has been purchased and affixed to the vehicle:

(8) Belle Isle SP, Wayne County.

Special Local Watercraft Controls – Wayne County

DETROIT RIVER, ROUGE RIVER, AND WATERS WITHIN CITY LIMITS - WC-82-97-001.

(A) WORDS AND PHRASES. All words and phrases used in this section shall be construed and have the same meaning as those words and phrases defined in the natural resources and environmental protection act, as amended, being MCL 324.101 et seq.: MSA 13A.101 et seq.

(B) PROHIBITIONS. On the waters of the Detroit River and the Rouge River, and those canals and channels connected thereto, located within the city limits, the following provisions apply:

(1) It shall be unlawful for the operator of a vessel to exceed a slow-no wake speed when within two hundred (200) feet of any shore, except:

(a) It shall be unlawful for the operator of a vessel to exceed a slow-no wake speed on the Detroit River when within four hundred (400) feet of any shore, from the western city of Detroit corporate limits to the St. Aubin marina.

(b) It shall be unlawful for the operator of a vessel to exceed a slow-no wake speed on that part of the Detroit River between the mainland shore and the north shore of Belle Isle, commencing from the St. Aubin marina to a line from the most eastern point of Belle Isle to Conners Creek extended.

(c) It shall be unlawful for the operator of a vessel to exceed a slow-no wake speed on that part of the Detroit River when within four hundred (400) feet of any shore, from Conners Creek extended to the eastern city of Detroit corporate limits.

It shall be unlawful, at any time, to operate a vessel at a speed in excess of forty (40) miles per hours (64 kilometers per hours).

History: Eff: January 5, 1998

State Land Rules

Parks and Recreation Areas – State Land Rules are issued by authority conferred on the Michigan DNR by Section 504 of 1994 PA 451 MCL 324.504. The rules cover entry, use and occupation of state lands and unlawful acts.

A.7 NATURAL RESOURCES

Overview

Belle Isle Park is a 982 acre urban park with natural features of statewide or greater significance. This park contains the following exceptional natural features recognized by the Michigan Natural Features Inventory (MNFI):

- 1 exemplary natural community, the 200-acre wet-mesic flatwoods forest
- 12 species (12 occurrences) of endangered, threatened, or special concern plants. Many of these have not been observed on the island since early 1900s.
- 25 species (31 occurrences) of endangered, threatened, or special concern animals. The majority of the animals are mussels or fish documented in waters of the Detroit River just offshore of the island.

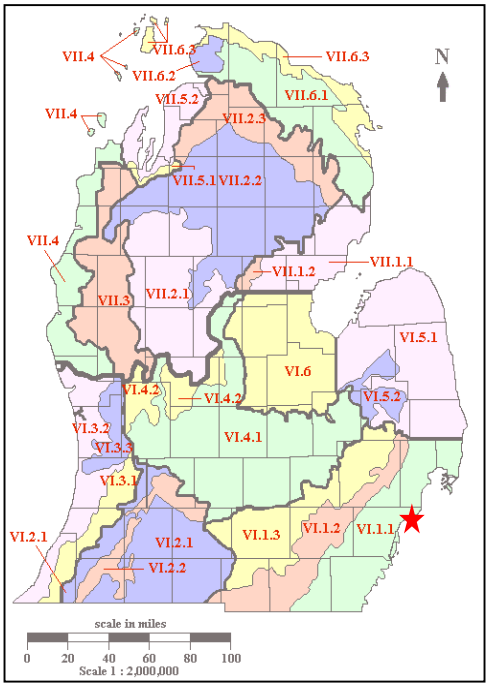

Figure 11. Natural Communities in Michigan (Image credit to Michigan DNR archive files)

Landscape Context

A regional landscape ecosystem classification has been developed for Michigan, which distinguishes major landscapes based on macroclimate, physiography, soil and vegetation. Belle Isle is located in the Maumee Lake Plain within the Southern Lower Michigan Ecoregion (Section VI.1.1).

Climate

The climate of Belle Isle in generally moderated by Lake St. Clair and Lake Erie with a longer growing season that ranges from 150 to 180 days. The temperature in winter can go as low as -26.5 F to -18.5 F. Snowfall in this ecoregion ranges between 30 inches to 50 inches and average annual precipitation ranges from 30 to 32 inches.

Water Resources

The island is surrounded by the Detroit River water body, as part of the Great Lakes Connecting Channel (EPA). The Detroit River sources from Lake St. Clair in the north, flowing to Lake Erie in the south and forming the boundary between Detroit and Windsor, Canada for 24 nautical miles.

On Belle Isle, there are three manmade lakes, one lagoon and a complete canal system connecting all the water sources. The waterways used to be very popular for boating activities before the canals were disconnected and became unnavigable. The lakes were created by dredging the original marshes and wetlands that once existed. The land surrounding Blue Heron Lagoon on the east end of Belle Isle was formed by fill dirt transported from the construction of basements and foundations for buildings within downtown Detroit. This lagoon provides important fish habitat and recreational fishing opportunity. The lagoon also provides significant habitat for migrating and wintering waterfowl.

The chronological order of when the significant water bodies on Belle Isle were formed is as follows:

- 1883 – Construction of the Loop Canal at the upper end of the island began. It was 5 feet deep and 50 feet wide built at a cost of $11,000.
- 1884 – Marsh Run Canal was built and lasted until 1930 when it was filled in.
- 1887 – Lake Takoma was formed.
- 1889 – Lake Okonoko was formed
- 1890 – Nashua Creek was completed
- 1893 – Muskoday Lake is formed
- 1930 – Blue Heron Lagoon was completed.

Detroit River Area of Concern, Environmental Protection Agency

The Great Lakes Water Quality Agreement of 1987 established objectives and criteria for the protection, restoration and enhancement of water quality in the Great Lakes system. The Detroit River Area of Concern (AOC)s a binational AOC in which 75 percent of the total land area of the watershed is in Michigan. The Detroit River runs 32-miles connecting Lake St. Clair and the upper Great Lakes to Lake Erie. Along the way, the river passes through a heavy industrialized landscape of more than 80 political jurisdictions that exist within the river's 711.97 square mile watershed, including the cities of Detroit and Windsor. The area was considered highly degraded because of urban and industrial development, combined sewer overflows, municipal and industrial discharges, storm water runoff and tributaries. In order to restore the Detroit River Area of Concern, a specific delisting of Beneficial Use Impairments has been identified. This involves multiple restoration projects to be undertaken on Belle Isle including Belle Isle Forested Wetland Restoration, Lake Okonoka Restoration with River Connection, and Blue Heron Lagoon Restoration. The project of Lake Muscoday Restoration has been completed.

Topography

The natural state of the island was about 300 acres less than the present area. Much of the construction and filling was done before 1930s. The island is relatively flat with a maximum elevation of only 2 feet, which assures a high water table.

Soils

The soils within the wet-mesic flatwoods are "typically medium to slightly acid sandy loam to loam and overlay mildly to moderately alkaline sandy clay loam, clay loam, or clay. An underlying impermeable clay lens is often present, which allows for prolonged pooling of water. Seasonal water level fluctuations lead to mottling of the mineral soil layers." (MNFI)

The rest of the island is mostly made up with urban soil. Some of the soil was fill dirt from Downtown Detroit and transferred to form extensions of the island.

Geology and Mineral Resources

Circa 1800's Land Cover

The General Land Office land survey (ca 1800's) recorded the island as being dominated by beech, sugar maple, basswood and red oak with Great Lakes Marsh around the southwest perimeter.

The island prior to European settlements was once covered entirely by wetland forests. A memoir from 1718 stated, *"A league from the fort of Detroit is an island called Ile aux Cochon, which is a league in length. It has the finest timber in the world and prairies without end."*

Prior to the purchase by the City of Detroit in 1879, the island was privately farmed and grazed by the owner.

Current Vegetation

The natural community identified on the island is wet-mesic flatwoods. According to the Michigan Natural Features Inventory, the wet-mesic flatwoods occurs mostly on poorly drained glacial lake plain in southeastern Lower Michigan. It is dominated by a highly diverse mixture of upland and lowland hardwoods. This type of natural community has been greatly disturbed by agriculture activities and urban developments. (MNFI)

The current land cover is mostly urban land with large area of lawn. About 200 acres of the old forest remnant is located in the central area of the island. There is also a small area of prairie (native grasses and forbs) known from the north side of Blue Heron Lagoon.

Rare Flora and Fauna

The following notable and rare plants and animals have been documented by the Michigan Natural Features Inventory and the Natural Resource Stewardship Plan for Belle Isle prepared by the MDNR.

Rare Flora		
Scientific Name	**Common Name**	**State Status**
Aristolochia serpentaria	Virginia snakeroot	Threatened
Asclepias sullivantii	Sullivant's milkweed	Threatened
Cerastium velutinum	Field chickweed	Extirpated
Euonyums atropurpurea	Wahoo (burning bush)	Threatened
Euphorbia commutate	Tinted spurge	Threatened
Fraxinus profunda	Pumpkin ash	Threatened
Lactuca floridana	Woodland lettuce	Threatened
Lycopus virginicus	Virginia bugle weed	Threatened
Phaseolus polystachios	Wild bean	Extirpated
Quercus shumardii	Shumard oak	Special Concern
Sisyrinchium hastile	Blue-eyed-grass	Extirpated
Smilax herbacea	Smooth carrion-flower	Special Concern
Strophostyles helvula	Trailing wild bean	Special Concern
Zizania aquatica var. aquatic	Wild rice	Threatened

Table 11. Rare Flora Species on Belle Isle

Rare Fauna		
Scientific Name	**Common Name**	**State Status**
Cincinnatia cincinnatiensis	Campeloma spire snail	Special Concern
Cyclonaias tuberculata	Purple wartyback	Threatened
Emydoidea blandingii	Blanding's turtle	Special Concern
Ligumia nasuta	Eastern pundmussel	Endangered
Pantherophis gloydi	Eastern fox snake	Threatened
Sistrurus catenatus	Eastern massasauga	Special Concern
Sterna forsteri	Forster's tern	Threatened
Sterna hirundo	Common tern	Threatened
Villosa iris	Rainbow	Special Concern

Table 12. Rare Fauna Species on Belle Isle

The eastern massasauga is also listed as a federal threatened species. It likely once occurred on Belle Isle but was eradicated from the island, possibly by the hogs that were

historically present prior to the land becoming a park. The Blanding's turtle is currently under review as endangered by the U.S. Fish and Wildlife Service.
There are many listed and rare aquatic species, especially mussels, known to be present in the Detroit River offshore of Belle Isle, but these aquatic areas are outside the jurisdiction of the park, and are therefore not listed here.

Fisheries

The fishery is very diverse and fish commonly available to anglers in the Detroit River would include:

- Largemouth Bass
- White Bass
- Great Lakes Muskellunge
- Yellow Perch
- Bluegill
- Redhorse Suckers
- Spotted Sucker
- Common Carp
- Lake Sturgeon
- White Perch
- Freshwater Drum
- Smallmouth Bass
- Walleye
- Northern Pike
- Rock Bass
- Pumpkinseed
- White Sucker
- Bigmouth Buffalo
- Channel Catfish
- Bullheads
- Black and White Crappie

There are also many small, forage type fish species such as minnows, shiners, darters, chubs, shad, etc. that comprise a large portion of the rest of the fish community, but are not normally caught by anglers.

A.8 RECREATIONAL RESOURCES

Attractions

Attractions on the island cover a wide range of interests.

- **Dossin Great Lakes Museum**
  Open year-round Friday through Sunday.
  Dedicated to showcasing the story of the Great Lakes, with a special emphasis on Detroit's role in regional and national maritime history. Managed by Detroit Historical Society.

- **Belle Isle Nature Zoo**
  Open daily from April-October and November-March: Wednesday through Sunday.
  Provides a variety of educational programs and the opportunity to meet deer face-to-face in Deer Encounter exhibit. Managed by Detroit Zoological Society with a mission to bring the wilds of Michigan to the heart of Detroit.

- **Belle Isle Aquarium**
  Open Friday, Saturday and Sunday year-round.
  Contains 118 species, more than 1,000 fish and an extensive collection of Belle Isle memorabilia in the oldest aquarium in the United States. Designed by famed architect Albert Kahn. Managed by Belle Isle Conservancy.

- **Anna Scripps Whitcomb Conservatory**
  Open Wednesday-Sunday year-round.
  The oldest continually running conservatory in the U.S., boasting 13 acres, a formal perennial garden, seasonal floral beds, a lily pond garden and five sections of flora: Palm House, Tropical House, Show House, Cactus House and Fernery.

- **Golf Range**
  This nine-acre, 30-bay full-length driving range includes three putting greens, two chipping greens and four sand traps.

- **Athletic Fields**
  Fields are provided for softball, baseball, football, soccer, rugby, track and handball/racquetball. Leagues are managed by Come Play Detroit.

- **Giant slide**
  Open June 8-Labor Day 2016
  Ride for just $1.

- **James Scott Memorial Fountain**
  The fountain is located on the western end of the island. The fountain was

dedicated to the island in 1925 built by the fortune left from James Scott, who was a very controversial Detroit real estate speculator.
The fountain is operated from June through September.

- **Livingstone Memorial Lighthouse**
  Located at the north end of Belle Isle, this is the only light in the nation constructed of marble. It was built in 1929 with private donations as a memorial to William Livingstone, who was the president of the Lakes Carriers Association from 1902 to 1925. The light is currently not open to the public.

- **Vendors and concessions**
  Bike/watercraft/snow sport rentals… Flynn Pavilion
  A number of concessions is available on the island including bike, watercraft and snow sport rentals. Beach equipment, carriage rides and food services are also available.

Recreation Activities & Facilities

Many people access the island to enjoy the open space and scenic views or to watch the passing ships. Specific recreation activities and facilities are described below.

- **Picnic Shelters**
  20 picnic shelters are available for use on a first come first serve basis or by reservation. Shelters occupancy ranges from 25 to 225. In addition, there are numerous grills and picnic tables around the island for use by visitors.

- **Disc Golf**
  An 18 holes disc golf course is located on the north side of Belle Isle, along the edge of the woodland forest. It has been closed since 2015

- **Fishing**
  There are three existing piers located along the shore of the island for fishing on the Detroit River. There are also fishing opportunities on the inland lakes on Belle Isle.

- **Geocaching**
  Events and activities are promoted by Geocaching organizations or individuals on the island. Participants navigate to a specific set of GPS coordinates and then attempt to find the geocache (container) hidden at that location.

- **Playgrounds**
  Two playgrounds are available on the island for kids and families. One is located next to the Giant Slide. Another recently constructed playground sits adjacent to the Nature Zoo

- **Hiking**
  The existing hiking trails within the island are located along the forest and the Blue Heron Lagoon. The proposed Iron Belle trail will provide connection of hiking and biking routes from Belle Isle to Ironwood in the pper Peninsula.

- **Biking**
  Standard bike lanes are available along the roadways of the island as well as the MacArthur Bridge connecting from the mainlnd.

- **Paddling**
  Accessible boat launches are located at certan spots on the Detroit River and Lake Okonoka. Paddling within the canal and inland lakes is popular during warm seasons, although not all areas are currently navigable.

A.9 HISTORIC AND CULTURAL RESOURCES

In1973, the island of Belle Isle, was successfully enlisted on the National Register of Historic Places (NRHP). The island was selected because of “its collective entirety, the continuity in visual imagery and its historic consistency”. The recognition by NRHP highlights the significance of Belle Isle, not only to the city, but also at a national level. There are 59 structures and buildings on the island listed. The list below provides a brief description of the federally significant historic and cultural resources on Belle Isle.

- **Scott Memorial Fountain**

  In 1915, the western end of the island was expanded by 200 acres with fill from downtown Detroit building sites providing a location for the fountain and lagoon. Construction on the James Scott Memorial Fountain was completed in 1923 with its dedication on May 31, 1925. The basin’s circumference is 510 feet with a series of Vermont White Marble bowls topped with a receptacle from which water can be projected 40 feet into the air. 109 water outlets in the shape of lions, turtles, Neptune figures and artistic horns project smaller jets from the base of the fountain, and 16 bas-relief panels depict early Detroit life.
  James Scott was a Detroit real estate speculator and developer. He was known as a scoundrel of his days. The acceptance of his contribution by the city to construct the fountain and his life size statue on the island was very controversial.

- **General Douglas MacArthur Bridge**

  The present bridge was built in 1923, after fire burned down the first bridge in 1915. The bridge is nearly ½ mile long and 35 ft. wide. It is a reinforced concrete cantilever arch bridge on spandrel columns, with 19 spans of maximum 30 ft. height. It is the longest concrete deck arched bridge in Michigan. In 1942, the bridge to Belle Isle was renamed in honor of WWII General Douglas MacArthur. In 1984, the bridge was badly in need of repairs. The reconstruction took three years to complete.

- **Casino**

  The first casino on the island was built in 1887, which was a 3 story wood-framed structure. It was the first enclosed building on the island and soon got popular and overcrowded. Construction began on the current Casino building in 1906. It is a grand, two-story Beaux-Arts building designed by architect Albert Kahn with ornate towers framing the building's four corners, and encircling verandas providing picnickers with shelter. It was designed to provide views of the Detroit River and Canada and to be an eating-place where patrons would be cooled by breezes in the era before air conditioning. The present building opened to the public in 1908. The first casino was abandoned in 1907 and razed in later years.

- **Nancy Brown Peace Carillon Tower**

  The Carillon Tower is located on Loiter Way at Picnic Way across from the Anna Scripps Whitcomb Conservatory gardens. It was built in 1940, in dedication to

peace in the name of the much loved columnist writer Nancy Brown from the Detroit News. The tower is 85-foot tall and consists of 49-bell carillon. It was designed by architect Clarence E. Day, in Neo Gothic style and built by Harlow A. Amsbary.

- **Anna Scripps Whitcomb Conservatory**

  The conservatory is one of the oldest continually running conservatories in the United States. It is located on the south west side of the island. The building was designed by Detroit architect Albert Kahn, and after two years of construction, the conservatory opened to the public on August 18th, 1904. The conservatory hosts a wide variety of plant species sourced locally and around the world. In 1936 the lily pond was added to the courtyard between the aquarium and the conservatory. Mrs. Anna Scripps Whitcomb bequeathed her 600-plant orchid collection to the City of Detroit. In grateful appreciation for the Scripps family generosity, the conservatory was named for her in April of 1955.

  In the early 1950s, the conservatory went through a major renovation, replacing the wooden structure with iron and aluminum. The building consists of an 8.5-foot-high dome, two wings extending to the north and south, and a show house on the east side. The structure standing today is built with steel and glass with original wood gingerbread trim.

- **Aquarium**

  The aquarium, also designed by Albert Kahn, was opened the same day as the conservatory on August 18th, 1904. The Belle Isle Aquarium is the only aquarium in the state of Michigan and the longest continuously running aquarium in the country. At the time of its opening, it was among one of the six largest aquariums in the world. The architecture features an elaborate Baroque style entrance with carvings of two spitting dolphins and a grotesque of Neptune, the Roman god of water. The grotto ceilings were lined with shiny, jade green, opaline glass tiles, providing a feeling of being in an underwater cavern. Magnificent pillars compliment the arched ceilings, three stories high in the center of the building. Under the domed ceiling at the center of the building was a deep pool that was encircled by several small tanks.

- **White House**

  The White House is thought to be the oldest standing structure on the island. The front half of the house was built in 1873 by Walter Schweikart, a German stonecutter when he rented the house, and he named it “Inselruhe”, [in-sill-rue-ah], which in German means Island Rest. In the 1890s it was known as the “Dairy Lunch”, where ice cream and refreshments were sold. In the early 1900s, the house became the home for the Park Manager. It later became the island administration building and is currently being used by the DNR park administration and Michigan State Police.

- **Athletic Pavilion**

The Athletic building was designed by Detroit architect Edward A. Schilling and built in 1898. The Victorian structure is adorned with conical turrets, wood detail and a tile roof. The pavilion was originally designed as a bicycle pavilion when motors were not accessible to the island. The first floor was used as rental and storing bicycles, and second floor as a place for refreshment and rest. At one time there was a barbeque restaurant on the first floor, but the building has been unused for several years.

- **Athletic Fields**

  The 36-acre island athletic field has facilities for softball, baseball, football, soccer, rugby, tennis and track. Handball/racquetball courts are located across Vista Way next to the Nature Trail. The field was originally used as a large parade venue. Children's Day parades were held there in the early 1900s. Today, in mid-July, Metro Detroit Youth Day is held there.

- **Livingstone Memorial Lighthouse**

  The memorial lighthouse was erected in 1927 in honor of William Livingstone, a prominent and popular Detroit resident whose accomplishments included banking, publishing and Great Lakes transportation. It was donated by the City of Detroit, with donation from Lake Carriers' Association and the citizens of Detroit. As described by the U.S. Lighthouse Service in 1930, the lighthouse has a 47-foot art deco fluted shaft of white, Georgia marble rising from an octagonal marble platform flanked by wide steps on all sides. The shaft is about 11 feet in diameter at the base, tapering to about 8 feet at the top, where it is surmounted by a bronze lantern of irregular octagonal shape reaching a height of 80 feet. There is a heavy bronze door at the base, and bronze inscriptions placed to indicate the purpose of the memorial. A circular interior staircase, of the usual lighthouse construction, provides access to the lantern. The structure was designed by architect Albert Kahn with ornamental reliefs designed by Hungarian architect and sculptor Giza Maroti. A bronze bas-relief portrait of Mr. Livingstone is on the lakeside of the structure and a bronze tablet inscribed with its dedication. Inside the lantern is a fourth order lens fitted with an electric light, giving a candlepower of approximately 11,500 and visible for 15 miles. The 3 foot 40 pound brass light was handcrafted in Paris.

- **Belle Isle Police Station**

  The first Belle Isle Police Station was built on the island in 1889 and was a small wooden-frame structure. In 1893, architects George D. Mason and Zachariah Rice designed a building that would fit with the wooded surroundings of the island. This fieldstone structure blending earth colors and natural materials for use as a Police Station and Harbor Master was located on Inselruhe between Riverbank Road and Central Avenue. It merges the Richardsonian Romanesque style with the shingle style of the era and the look of a Norman farmhouse.

- **Greenhouses**

The greenhouses located adjacent to the White House have been in service since 1899. Currently there are twenty greenhouses in the complex, and nine of them were built between 1899 and 1911. The greenhouses are generally 20 feet wide by 100 feet long by 12 feet high linear glass structures. The original structure of the greenhouses was wood and glass construction with masonry foundation walls.

- **Coast Guard Station**

  The property was purchased on April 6th, 1881 from the City of Detroit. Belle Isle Light house was constructed and a light was first shown on May 15, 1882. The light keeper's dwellings were built the succeeding year along with a surrounding retaining wall and a boathouse. (The building no longer exist). In 1942, an official Coast Guard Station was completed, which is the one presents today. The station had most advanced facilities obtainable at that time.

- **Rain Shelters**

  There are seven remaining rain shelters on the island with distinct Victorian architectural style. Most of them are in good condition and built with attention to human scale. The existing shelters include: Newsboy rain shelter, Playground rain shelter, Graystone rain shelter, Police field rain shelter, Pony field rain shelter, Inselrue fishing dock and rain shelter, and Schiller rain shelter.

- **Comfort Stations**

  The five existing comfort stations on the island were all built around the same time but are surprisingly dissimilar in design. They reflect the particular attention that was given to architectural detailing at the turn of the century. Comfort stations, while not being in themselves historically significant, gain historical significance when considered in context to one another and to the character of the rest of the island (NRHP). The comfort stations are: Muse Road comfort station, Graystone comfort station, Aquarium comfort station, Police comfort station, and Strand comfort station.

- **Pump House**

  The 55-foot diameter rusticated stone pump house, much in character with the early 1900s utility houses found near cities on the Great Lakes, is a vital part of the unusual water system on Belle Isle. It generates a constant, invigorating change and flow of water through the island's canal system. (NRHP)

- **Bridges**

  Due to the canal system on the island, numerous bridges were built to accommodate pedestrian and vehicle use. The early bridges were generally wooden structures, most of which deteriorated at the turn of the century. New bridges soon replaced the old ones and reconnected the circulation system. Some of the bridges still stand today, incorporating cast iron and reinforced concrete to ensure durability and to accommodate high volume use.

- **Loop Canal Bridge (Central Avenue)**

  Built in 1893, Loop Canal Bridge is one of the two oldest bridges on the island. The stone foundations of the bridge support a reinforced concrete and iron bridge with a span of approximately 50 feet. Of particular interest are the ornate cast and wrought iron railings and side ornamentation. (NRHP)

- **Memorials & Monuments**

  Belle Isle has become a common site for many memorials, fountains, and tributes to various people and groups. The earliest memorial is the 1892 Newsboy Drinking Fountain. There was a steady increase of these memorials on the island. The fact that Belle Isle has been designated as an accepted site for monuments and memorials by the City of Detroit Planning Commission is evidence of the city's belief in the historical nature of the island. (NRHP)

Potential Archaeology Sites

Belle Isle is listed on the National Register of Historic Places (NRHP), but the island's archaeological significance has yet to be evaluated. The State Archaeological Site Files (Michigan State Historic Preservation Office) show that archaeological sites have been identified on Belle Isle, and that the potential is high for the presence of additional sites that have yet to be discovered. Archaeological resources have the potential to provide information on early Native American use, early European settlement, and later transformations of the island into various incarnations of an urban park. A comprehensive archaeological survey of the island has not been conducted. Only a small portion of the island - approximately one-third acre - has been surveyed. Belle Isle has undergone extensive physical modifications. Despite this, there is the potential for the presence of intact archaeological deposits.

A.10 PROGRAMMING AND EVENTS

Belle Isle Park hosts a number of events, programs and activities that appeal to a wide range of interests.

Events

- Detroit Grand Prix: The Detroit Grand Prix race moved from downtown Detroit to Belle Isle in 1992. After challenging economic times delayed the event after the 2008 season, the Grand Prix returned in 2012. The event takes place on the first weekend of June every year (Friday through Sunday).
- Belle Isle Aquarium Koi Wrangle: The annual koi transfer takes place every year when fall comes. This event engages children and parents to help move the fish from the outdoor lily pond to the aquarium basement to prepare them for winter.
- Shiver on the River: On the first Saturday in February each year, the Friends of the Detroit River hosts the event. The Shiver is a family oriented event, designed to bring people down to the river and to Belle Isle Park, and to educate people about the importance of the river and the need for effective stewardship.
- Annual Ford Firework Show: July 4th fireworks on Belle Isle.
- Mega March for Animals: A march held by the Michigan Humane Society to help homeless pets.
- Metro Detroit Youth Day: The largest youth event in Michigan started in 1980 and has drawn over 700,000 youngsters over the years. The event is not only fun-filled, but also serves a meaningful and educational purpose.
- Belle Isle Art Fair: The art fair was held in August, 2016 near the Scott Fountain.

Programs

- Come Play Detroit: Activities and events are held on the athletic fields through Come Play Detroit.
- Summer Nature Camp: Belle Isle Nature Zoo Summer Nature Camp is a day camp divided into two groups for students 5 to 7 years old and 8 to 12 years old. It is a free week-long camp takes place through June to August.
- Senior Programming

Music

- Charivari Detroit: An electronic dance music festival presenting an assembly of Detroit based electronic dance music artists. The event was held on Belle Isle once a year in 2015 and 2016.
- Once Around Belle Isle (OABI): A one day event involves music, party, race and paddling in the summer on Belle Isle since 2012.

Races

- Detroit Triathlon
- Escape to Belle Isle: 5K and 10K and Kid's Fun Run on Belle Isle in July.
- American Home Fitness Detroit Women's Half Marathon
- Life Walk and Run
- Fifth Third Bank Annual Belle Isle New Year's Eve Family Fun Run/Walk

Fundraisers

The Belle Isle Conservancy and other non-profit organizations organize many fund raising events on the island. Some of the more popular events are described below.

- Polish the Jewel, Belle Isle Legacy Luncheon: The Belle Isle Conservancy for 12 years has hosted Polish the Jewel Belle Isle Legacy Luncheon.

- Grand Prixmiere Gala: Held on the race track with the Scott Fountain as a backdrop, the Grand Prixmiere is a spectacular fundraising event.

- Sunset at the Scott: Sunset at the Scott supports the Conservancy's efforts to restore and repair damaged Pewabic Pottery tiles on the James Scott Memorial Fountain.

- Garden Party on Belle Isle: Organized by leaders of the Grosse Pointe area's garden club communities, the Garden Party raises funds for various projects that specifically benefit the Anna Scripps Whitcomb Conservatory.

A.11 PARK USE STATISTICS

The total number of visitors to Belle Isle from August 2015 to September 2016 is estimated to be 3,322,022. Use numbers generated by a counter measuring vehicles crossing the MacArthur Bridge multiplied by a factor to represent the average number of people per vehicle.

- Fall Use Season – defined by the months of September through November. About 25% of park use happens in this season.
- Winter Use Season – defined by the months of December through March. About 13% of the total park use occurs in this season due to the diiferent weather and outdoor conditions.
- Spring Use Season – From April to May, the attendance increases to 20% when weather turns warmer.
- Summer Use Season - defined as the three-month period of June through August. Summer is the busiest season of the year, making up 42% of the total attendance.

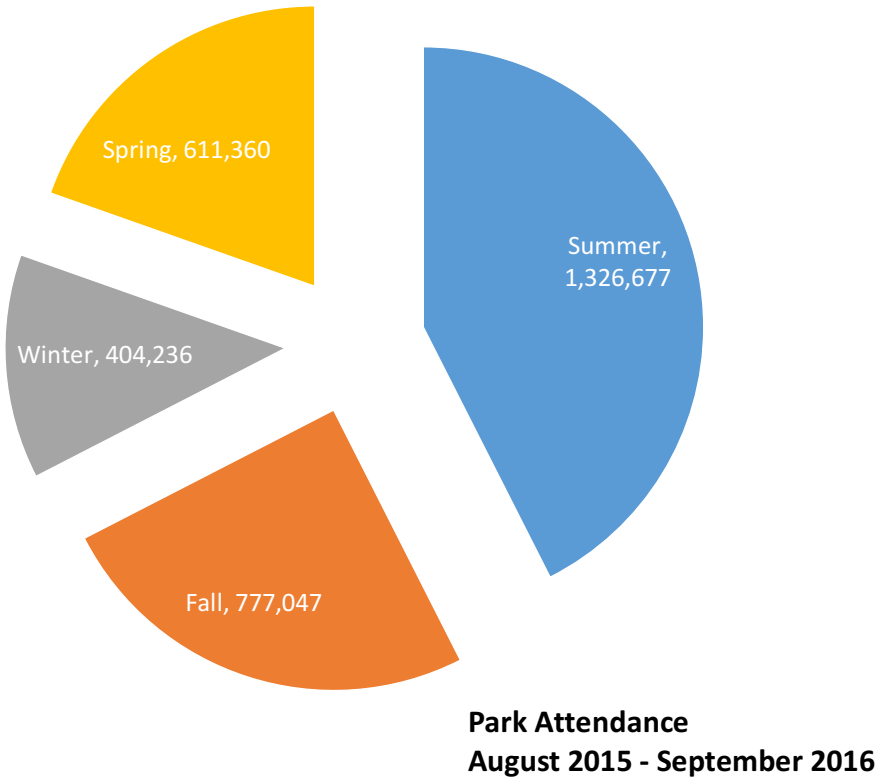

Figure 12. Park Attendance of Belle Isle (2015-2016)

The attendance at island attractions has seen a significant increase from 2013 to 2014, when the Department of Natural Resources took over the management. Below is a chart demonstrating the number of visitors to major island attractions from 2013 to 2015.

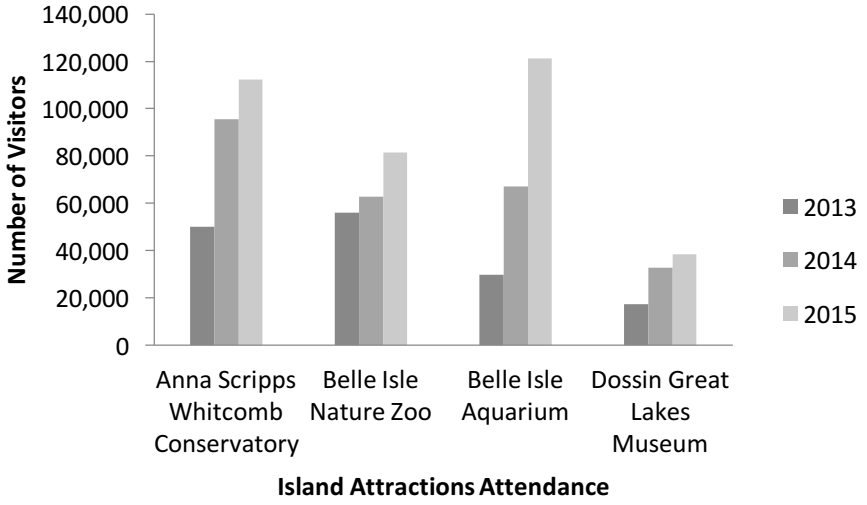

Figure 13. Island Attractions Attendance (2013-2015)

Park attendance overall has increased by 32% from 2014 to 2015 during the summer months. In addition the participation in the Recreation Passport has tripled in the Detroit area since February 2014, and continues to show a steady increase since then.

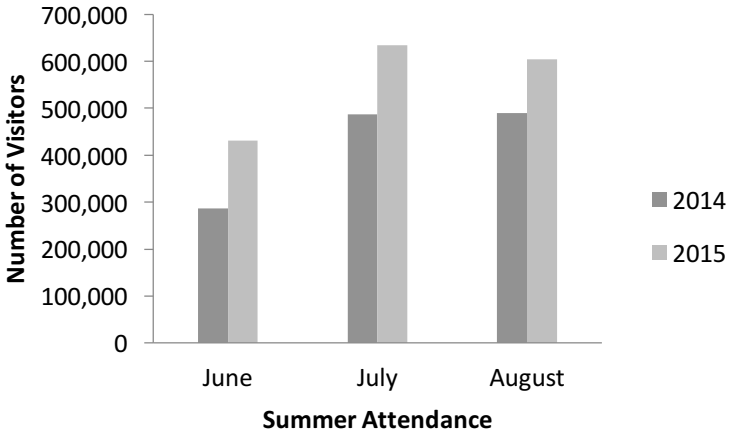

Figure 14. Summer Attendance (2014-2015)

- June – August 2014: 1,263,886 Visitors
- June – August 2015: 1,668,633 Visitors
- 32% Increase from 2014 -2015 for the 3 Summer Months

Park Revenue
The total revenue generated by the park in 2016 was $934,737. Park revenue was generated through use permits for shelter and facility rentals, event fees, food and service concession contracts, and giant slide tickets.

- Total Revenue since 2014: $ 1,964,402 (as of September 13th, 2016)
    - FY 2014 $361,355
    - FY 2015 $799,559
    - FY 2016 $934,737

The 2015 season included 5 vendors of food concession contracts and 6 vendors of sevice concession contracts. Rental services on the island during peak season also had a great increase from 2014 to 2015.

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