

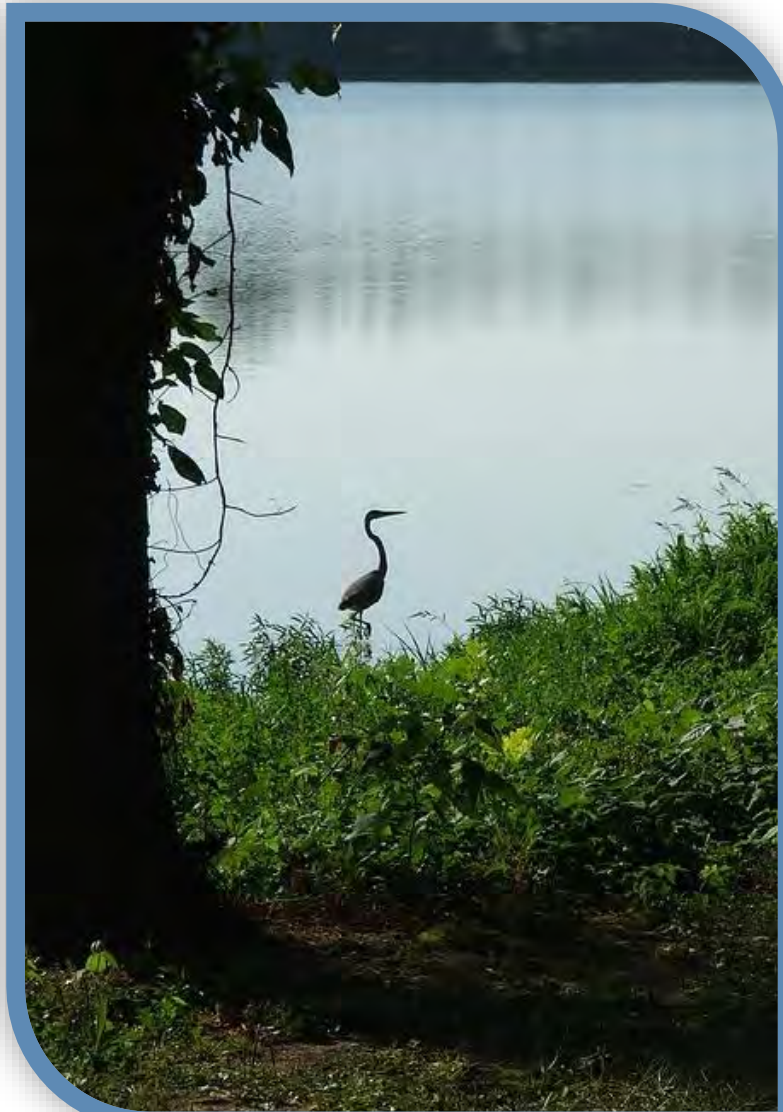
Five Rivers MetroParks



Huffman MetroParks

Master Plan

2018



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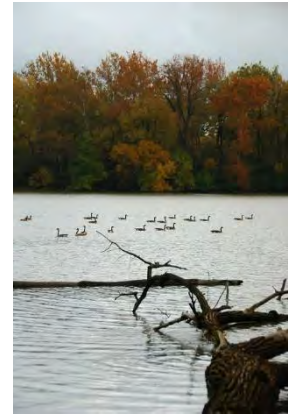
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SECTION 1: EXECUTIVE SUMMARY

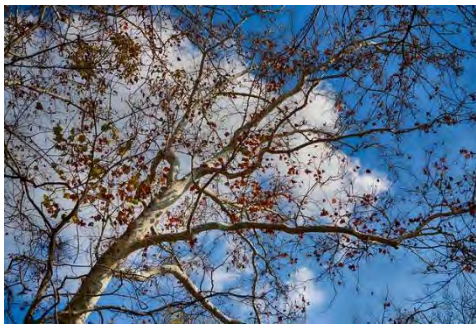
1.1 BACKGROUND AND PURPOSE

In 2016, Five Rivers MetroParks (FRMP) completed a [Comprehensive Master Plan](#) (CMP) to guide the agency for the next ten years and beyond. The plan included extensive staff and public feedback from intercept and online surveys, focus groups, public meetings, individual interviews with community leaders and a formal statistically valid survey. Studies were conducted to benchmark FRMP to other outstanding park agencies across the country. The resulting plan included several tools to guide FRMP including new park typology, level of service standards, and a detailed implementation plan. One of the primary recommendations in the implementation plan was to update or develop new master plans for each MetroPark.



In 2016, FRMP began developing site plans for several parks and conservation areas as the first step in developing master plans for each location. These plans ensure the organization's three pillars, conservation, education, and recreation, were foregrounded and interconnected. To support the planning process, a comprehensive set of [Planning Guidelines](#) were developed to help ensure the integration of the three pillars. The park master plans consist of several components that will guide planning and implementation of the parks' functions that support the world-class amenities and services provided to the region:

- Conservation, preservation, maintenance, programming, interpretation, and business planning
- Capital investment and phasing
- Operational impacts and budgets



1.2 MASTER PLANNING PROCESS

Development of the Huffman MetroPark Master Plan began with the development of the site plan. A core team of about 15 FRMP employees whose work is key to the success of the park was formed to provide direct input to the process. The planning staff from FRMP led the planning process for the master plan. A full two-day work session gathered input from staff, volunteers, the public, and key stakeholders and visited key areas to gain a detailed understanding of the park and the Huffman Prairie Conservation area. Two public meetings were held during the two-day session to gather input and understand the needs and interests of park users.

From this two-day work session, planning staff developed a park program which directed the evolution of the site plan. After the core team provided input on the program, planning staff prepared a series of site plan alternatives to explore how the program elements could be incorporated into the park. The core team evaluated the alternatives and provided direction toward a preferred site plan. This preferred site plan was reviewed by the core team and the public and revised to reflect their comments, and a cost estimate was developed.



As part of the park master planning process and in conjunction with the site plan development, a variety of other plans for Huffman MetroParks were developed or updated: conservation, interpretation, programming, maintenance, alternative revenue, and land protection plans. These five plans along with the planning guidelines, and a historic and cultural resources plan yet to be completed, will provide comprehensive guidance in the evolution of the park. Referencing those plans and the CMP, staff identified a list of priority capital projects for the next ten-

year period. Staff then developed the operational costs and revenue estimates for those priority projects to reflect the comprehensive resources required to implement the plans' recommendations. This information will be incorporated into the agency's ten-year Capital Improvement Plan (CIP) along with capital projects for other parks to chart a course of continual evolution of the parks toward the community's needs and interests.

This park master plan will be reviewed and updated in five years. After ten years, FRMP will determine whether a new park master plan is needed or a second update to this plan will be adequate to provide direction for the park's future.

1.3 RECOMMENDATIONS

Strategic Recommendations:

Several components of the site plan (See [Appendix 4.7](#) for the complete site plan) include projects that respond to some of the highest priorities in the CMP, including taking care of existing assets, providing access to amenities, and increasing trail and nature play opportunities:

- Make improvements to the MetroParks Mountain Biking Area (MoMBA) area including facilities for non-riders and families. Continue to improve and add skill features for riders
- Add restrooms at Main Park
- Create multi-use trail connections between Main Park and MoMBA
- Provide a pedestrian bridge over the Mad River
- Provide the opportunity for fitness activities on Huffman Dam

Major Recommendations:

The site plan proposes several transformational elements for the park. Until the opportunity exists to implement these projects wholly, FRMP should pursue iterative improvements to evolve toward these larger visions.

- Establish a new park entry and use area opposite Kauffman Road to facilitate better park access for populations to the south of the park including Wright Patterson Air Force Base and Wright State University
- Improve road access east of the Mad River for hikers and mountain bikers

- Utilize the triangular parcel at the intersection of Union Road and Lower Valley Pike as an advanced mountain bike skills area. The historic cemetery on this parcel will be preserved and protected
- Maintain the areas around Huffman Lake as a recharge area for passive recreational uses such as paddling, bird watching, and picnicking
- Work with Wright Patterson Air Force Base to communicate Huffman Prairie gate closing to park users and ensure the access point is maintained to allow park visitors to have non-vehicular access to Huffman Prairie and Flying Field
- Improve MoMBA Use Area with the addition of a multi-purpose shelter and operations facility to support special events, camping, and skills development. Add a pump track and make improvements to the tot track
- Modify the trail system in the main park area to ensure easy navigation by park users
- Create a formal connection to the end of the paved trail on the dam to the Redtail Use Area
- Work with the Ohio Department of Transportation (ODOT) to improve the vehicular access off of State Route 4



SECTION 2: THE PLAN

2.1 PARK POSITION DESCRIPTION

Huffman MetroPark is a 402-acre park that lies predominately in the retention basin east of Huffman Dam, one of Miami Conservancy District's (MCD) five flood control dams. Wright Patterson Air Force Base (WPAFB), the state's largest employer, wraps around the park from the south to the northeast, and the park is tied to the Huffman Flying Field within the Base, where the Wright Brothers learned to fly. The park is divided by the Mad River and State Route (S.R.) 4, creating four distinct areas of the park. The first is the Main Park Area, which includes two use areas and the lake which lies in the center, between S.R. 4 and the river: The Main Park Area includes the Redtail use area that provides a picnic shelter, and the only permanent restroom in this part of the park. The second distinct area includes the MetroParks Mountain Biking Area (MoMBA) that is located west of S.R. 4. It includes a restroom, parking area and a network of mountain bike only trails. The third distinct area is located east of the river and is home to the park's operations facility and approximately a third of the park's land area and features a connection to the Huffman Prairie located on WPAFB. The fourth distinct area is a small section of property east of Lower Valley Road where it crosses S.R. 4. This seven-acre parcel is currently not accessible to the public and includes a historic cemetery referred to as the Kneisley Cemetery in "Ohio Cemeteries 1803-2003" compiled by the Ohio Genealogical Society.

Based on the 2016 FRMP Comprehensive Master Plan, Huffman MetroPark's typology is classified as a nature park, reflecting its wide variety of experiences and balanced blend of ecosystem versus human services. The most significant nature feature of the park is Huffman Lake in the Main Park Area. The lake provides habitat for waterfowl and a fishing spot for anglers, and though not a large lake, it is sometimes used by paddlers. The lake will ultimately silt in, as Englewood Lake has, and transition to wetland habitat. Thick woods and undergrowth separate the Main Park Area from the river, and periodic flooding restricts uses in the lower elevations of the Main Park Area. Likewise, MoMBA is closed as required to preserve the trails and surrounding natural areas in wet conditions. Picnicking is hosted at the Main Park Area (Sometimes historically referred to as Lake View), which is linked to the Red Tail Use Area by trails. The inlet from the river to the lake prohibits a loop trail. MoMBA offers the only public mountain bike trails serving Montgomery County and draws regionally from a multi-county area. All experience levels are accommodated in the trail system, including toddlers. The Mad River Bikeway enters the park from the south and crosses the dam, providing access to the Main Park area via Lower Valley Pike. The trail also provides access to the Wright Brothers – Huffman Prairie Trail in Fairborn (maintained by Greene County Parks and Trails), the Huffman Prairie Flying Field Interpretive Center (maintained by the National Park Service), part of the Dayton Aviation Heritage National Park, and Huffman Prairie (managed by WPAFB with assistance from Five Rivers MetroParks) via the Wright Patterson Air Force gate beyond the operations facility.

Visitors at Huffman MetroPark fall into three distinct user categories: 1) cyclists use of the paved bikeways; 2) mountain bikers at MoMBA; and 3) visitors to the Main Park Area that tend to be anglers, birders, picnickers, and hikers. Though there can be a strong contrast between high-energy mountain biking and more meditative uses, these two do not conflict because the use areas are so strongly divided by S.R. 4. Though the park is highly accessible to the region via S.R. 4, access is more difficult for nearby residents. The most densely populated area of residents and work force surrounding Huffman MetroPark lies to the east and south, yet these people must take a circuitous route to reach the park entrance. Similarly, neighborhoods to the north and west are required to travel little-used roads to reach the park. The east area of the park, closest to many users, offers few amenities and vehicular access is very difficult. Despite this, Huffman falls in the middle of the nature parks and all the MetroParks in terms of attendance. The Main Park use area typically hosts two-thirds of the visitors. The Main Park Area users appreciate the fauna and seclusion around the lake; the cyclists take advantage of the connection to the regional bikeway network, and MoMBA has a reputation as an excellent mountain bike facility. Though the use types are quite different, all three provide value to park visitors.

Huffman MetroPark's Main Park Area and MoMBA are very different in character and use, but each offer quick access to nature because of how quickly much of the region's population can drive to the park. The Main Park area offers quieter experiences like bird watching and fishing. MoMBA provides high-quality mountain biking trails that serve the full range of skill levels and the entire family. Serving niche audiences along the range of nature experiences, Huffman MetroPark is an easily accessible getaway from urban and suburban life in the greater Dayton area.



2.2 PARK HISTORY

The Mad River Valley is home to a variety of wetland and grassland habitats, forming and changing during thousands of years. About 6,000 years ago, the climate in Ohio became hotter and drier. Plants and animals of the western tallgrass prairie migrated to Ohio. The climate shifted again, becoming what we are familiar with today - moist and cool. Grasslands gave way to hardwood forest. Prairies were limited to areas where grasses and forbs could out-compete trees due to extremes in temperature or moisture and fires set by Native Americans.

Prairies survived in these places until the arrival of European settlers. The Huffman Prairie extended over what are now Huffman MetroPark and the adjacent land that is part of WPAFB. The acquisition of land for flood control by the MCD, along with the construction of the Huffman Dam and later establishment of the Wilbur Wright Field, which later became Wright-Patterson Air Force Base, saved this area from modern agriculture and development that destroyed most of Ohio's prairies.

Between 1827 and 1830 a portion of what is now Huffman MetroPark was developed and became known as Kneisley Station. It was settled by John Kneisley, who eventually owned about 1,200 acres, much of which became part of the Huffman Prairie land. The family's history book shows John had a daughter, Catherine, and son, George, both of whom died in 1828 and were buried in the family cemetery on land now within the park known as the Kneisley Cemetery.





On July 28, 1838, the first and largest company of Mormon pioneers to migrate west camped along the Mad River near what is now Huffman MetroPark. Known as Kirtland Camp, the 515 members of The Church of Jesus Christ of Latter-day Saints (Mormons) appeared as a train of 59 covered wagons and 189 head of livestock stretching a distance of 9 miles. They were heading to Missouri from Kirtland, Ohio. The migrants fled religious persecution and sought new homes and religious freedom. They sought respite here during the journey. To earn money, the Mormon pioneers accepted various jobs. These included building dykes and levees, and a half-mile section of Springfield-Dayton Turnpike. The Mormon pioneers resumed their trek on August 29, 1838. The bodies of 5 children who died during the encampment on the Mad River are buried in the historic cemetery (It is assumed that it is the Kneisley Cemetery as it is the only known one on the property- There are no headstones or records of the exact location)

When the Wright brothers returned to Dayton after their historic first flights at Kitty Hawk in 1903, they looked for a suitable flying field closer to home. Dayton banker, Torrence Huffman, allowed the brothers to use his pasture, which was located eight miles northeast of Dayton adjacent to Huffman MetroPark on WPAFB, rent-free. It was here in 1904 and 1905, through a series of unique experiments, that the Wright brothers mastered the principles of controlled, powered flight and developed the world's first practical airplane.

The Wright brothers returned to Huffman Prairie Flying Field in 1910. The field was used by their new business, The Wright Company, as a testing ground, flying school, and home to their exhibition team. The Wright Company ceased use of the flying field in 1916.



Part of this same field is the Huffman Prairie that, due to ownership by MCD and the Air Force, was never farmed or developed and was allowed to remain as natural prairie. Through significant efforts by many, including MetroParks staff, this prairie has been restored using proper management techniques. MetroParks currently partners under a formal license with WPAFB to coordinate in the implementation of restoration practices at the Huffman Prairie to ensure this high-quality habitat is preserved into the future.

After the great flood of 1913, MCD constructed 5 regional dams to protect the Miami Valley from future flooding. The construction of the earthen Huffman Dam across the Mad River began in January of 1918 and was completed in December of 1921. Just upstream from the dam, was the original location of the town of Osborn. About 200 wood frame homes were moved to higher ground in 1922 to make way for MCD's Huffman Dam required flood plain. The town of Osborn merged in 1950 with neighboring Fairfield to become Fairborn.



The land around Huffman Dam, which was part of the Mad River flood control system owned by MCD would eventually become known as Huffman MetroPark. MCD had been working with the park district since it was formed to plan recreational use of their lands once needed for the dam construction process. In a 1964 study, it was suggested that Huffman would be an ideal location for picnicking, hiking and nature study while maintaining flood control. The 30-acre lake (which was created by removing earth for the construction of the dam) offered opportunities for fishing, small boats, and ice skating in winter. The Montgomery County Park District (now Five Rivers MetroParks) negotiated a lease with MCD in 1966, not only for the Huffman land, but for land surrounding the dams at Englewood, Taylorsville, and Germantown. These nature reserves became four of MetroParks' anchor park locations. Huffman Reserve was opened to the public on April 1, 1967.

The park district maximized the leased land, adding picnic areas, fishing, and a boat launch on the eastern portion of the land in the Mad River flood plain. The relatively flat land was a mixed cover of woody vegetation and mowed grass areas perfect for Frisbee, volleyball, and picnics.

Bisected by a busy S. R. 4, the areas to the west of Huffman Lake consisted of relatively steep and swampy topography. This portion had been set aside for the motorcycling community by MCD in 1966. When the district leased this area, the use was in conflict with the natural habitat preservation philosophy. A park district ranger counted over 800 motorcycles in the Huffman reservoir area in a single day in that first year. The motorcycles left mud holes, deep ruts, and damaged vegetation, along with creating noise and air pollution. Because of the elevation, this portion of the park offered some of the most spectacular views – something the park district wanted to share and protect, along with a fine stand of oak, maple, and hickory trees.



In 1969, the Board of Park Commissioners voted to approve reducing the area available to motorized off-road vehicles to the area west of S.R. 4 to preserve the natural habitats around the lake for day camping, nature walks, and interpretation. Motorcyclists, dirt bike users and other off-road vehicles continued to use portions of this land until 1987 when a new master plan for the park was developed and adopted. In this plan, these uses were barred due to the soil erosion, siltation of Huffman Lake and encroachment on adjacent private property that the activity was causing. This land rested until 2007 when it was re-opened as MoMBA, which was built with the help of more than 60 volunteers who put in close to 3,000 hours working in the woods to build over 8 miles of sustainable trails for the kinder and gentler people-powered mountain bikes.

Today Huffman MetroPark is managed for natural diversity, from the wooded meadows to the river bottom lands to some old growth forest located in the MoMBA area of the park. The habitats draw many migrating birds including many species of ducks, gulls, herons, songbirds, woodpeckers, and birds of prey. Visitors to the park enjoy fishing, as well as places to hike, picnic, and mountain bike.

Additional improvements for the park included the 2013 completion of the Mad River Bikeway which connected Huffman MetroPark to the regional trail network and improvements to MoMBA. In 2007, MoMBA was expanded by a purchase of about 27 acres of land on Union Road which provided easier access for the public and open fields for additional trail improvements. The first phase of work included a new gravel drive and parking area, and the demolition of old structures on the site. A second phase, using an approximately \$150,000 Recreational Trail Program Grant, was completed in 2016. This phase added a vault restroom, a bike repair area and a new skills area which would become known as the Hilltop Flow Trail.



2.3 SITE PLANNING PROCESS

FRMP established a site planning process that was used to develop the site plan for Huffman MetroPark (the “park”). A core team consisting of cross-functional FRMP staff, led by Planning and Projects, was established to guide the plan throughout the process. The core team participated in a two-day kick off process to provide orientation and input and continued to be closely engaged throughout the development of the plan, providing feedback at each key decision point and engaging individually as various issues and opportunities arose that pertained to their work responsibilities. Core team members also gathered feedback from other staff, and additional staff members directly associated with the park had an opportunity to provide their ideas, insight, and issues.

The public had several opportunities to provide input into the development of the site plan. Two public open houses were conducted during the two-day kickoff session where attendees were able to talk to staff and the consultant team. Intercept surveys were provided to meeting attendees and were online for those who were not able to attend. An additional public meeting was held to present the pre-final concept plan and gather feedback. Stakeholders and attendees from the first open house were sent direct invitations to attend or to comment about the plans online.

FRMP also engaged key stakeholders in the project to collect input and feedback. Stakeholders included the neighboring jurisdictions of Fairborn, WPAFB, Wright State University (WSU), Greene County Park District, as well as the MCD. These meetings provided insight to the context around the park, identified opportunities and issues, and explored future partnerships.



Data and Analysis Summary

A previous master plan for Huffman MetroPark, completed by Robert W. Teater and Associates of Columbus, Ohio, in 1987, was consulted. Key recommendations of that plan included the following:

- Provide additional recreational and outdoor educational opportunities
 - Various proposed improvements were made including relocating the shelter and picnic area to Red Tail, the bikeway connection, and improvements to the boat launch
 - Proposed improvements that were not completed include proposals on land not owned by FRMP and not available for purchase. These included closing Union School House Road and adding trails, parking, and shelters
- Expand the existing land base
 - Most of the recommendations for land expansion did not occur due to lack of available land for sale; only 32 acres was purchased at MoMBA
- Project appropriate uses and land management requirements for the next 20 years (through 2007)
 - This recommendation proposed a land stewardship program which has been completed and is regularly updated as a part of the Natural Areas Management Guide



Input Summary

During the staff's two-day kick off process, several key high-level issues and ideas were raised that were considered throughout the planning process:

- Create connections between the various sections of the park
- Provide better access to the park near Kaufman Avenue for the populations located south of the park
- Tell the several key stories in the park, including the natural history, aviation history, and the history of the Huffman Dam
- Recreation in the park continues to evolve. Boating and fishing are changing due to the lake silting in, while birding, walking, hiking, and mountain biking uses are on the rise
- MoMBA should continue to evolve with updated features to avoid becoming outdated
- Invasive species including honeysuckle and lesser celandine are major problems in the park
- The Main Park Area around the lake should remain as a passive use area to support contemplative activities such as walking and birdwatching
- Connect to the major population centers south of the park including WPAFB and WSU



Site Plan Program

The site plan program was developed from input gathered from the public, stakeholders, and staff along with the physical data and analysis. The program provides a guiding framework and a set of overarching goals which should be met in the final site plan and ultimately the park master plan. The following highlights provide an overview of the park program that guided the development of the site plan.

Park-Wide Elements

- Huffman MetroPark consists of four distinct areas which need to be connected and unified into a cohesive unified park. The four areas include:
 1. Main Park Area
 2. Operations Area (Referred to as the Kaufman Road Primary Use Area Below)
 3. MoMBA Area
 4. Seven-Acre Area (Referred to as the Advanced Skills Area Below)
- Promoting and connecting the park to its significant neighbors should be a strong emphasis of the park master plan
- There are opportunities to enhance the park and the visitor experience by expanding recreational and interpretive amenities both in the park and by connecting with current and proposed amenities at WPAFB, National Park Service, and WSU
- The two primary users, mountain bikers and those who engage in more passive activities such as fishing, paddling, hiking, and picnicking, use the park in different and sometimes conflicting ways, primarily in the Main Park Area. These two uses need to be accommodated harmoniously
- The park has a unique opportunity to tell the story of the area including geologic, ecologic, and human histories significant in the park and the immediate surroundings
- An underlying theme of the park master plan should ensure that the natural experience is well maintained through sound conservation and restoration efforts

Connect the Park Internally and to the Region

- Explore adding mountain bike friendly routes and features to the park along the existing regional paved trail network
- Enhance connections to WPAFB, Wright Memorial National Park, WSU, Huffman Prairie, and Wright Memorial National Park
- Enhance connections to residential neighborhoods to the north/west of the park
- Create a user-friendly connection between the Main Park and MoMBA
- Explore opportunities to connect users to John Bryan State Park Mountain Bike Trails
- Enhance infrastructure opportunities for school field trips and group activities (i.e. restrooms, drinking water, shelter from sun, turn around area, etc.)

Tell the Story of the Park

- Construction of the dam
- The view from the dam to downtown to reinforce the protection provided by the dam
- The world's largest complete trilobite fossil at the time of its finding
- Explore options for the Kneisley Cemetery and its connection to the park
- Wright Flying Field/ Wright Brothers
- Inter-Urban and rail lines
- The only dam in the MCD system with a paved trail
- Well fields below the dam
- Huffman family and Huffy Corporation
- Huffman Prairie

Staff's role in the development of the Huffman Prairie

- Partnerships that allowed the prairie to happen
- Original discovery of the prairies on historical surveys
- Explore ways to tell the story to cyclists and runners
- Promote the opportunities at the park to Wright State students and base employees
- Explore more school and programming opportunities
- Explore stories for habitat creation (bats, unique birds, beaver)

Nature and Conservation

- Invasive species control: honeysuckle and lesser celandine
- Continue to expand bat habitat and housing
- Expand and enhance birding opportunities
- Explore opportunities to preserve the lake without dredging

Main Park- General

- Create a new front door off S.R. 444
- Address vehicular safety issues at both ends of the dam
- Address primarily East bound traffic on S.R. 4 exiting onto Lower Valley Pike
- Consider better signage or stop ahead signs
- Explore opportunities on the East side of the river
- Explore more picnic areas around the park

- Explore ways to connect the Red Tail Shelter area to the rest of the park beyond just a trail
- Improve use area facilities at the main lot including a restroom
- Maintain peaceful setting in the park
- Improve amenities for those using the park for contemplative experiences
- Create an improved take-out from the Mad River for paddlers
- Improve the boat ramp
- Explore camping opportunities
- Improve restrooms for large groups and year-round visitors

Main Park- Trails

- Create a better connection from the upper lot to the trail system
- Create mountain bike access to MoMBA from the regional trail on the dam
- Create a loop trail network
- Explore options to cross the Mad River and/or the opening between the lake and the river
- Explore ways to utilize the dam for exercise
- Explore opportunities for shade on the dam
- Develop a formal connection from the new bike trail on the dam to the shelter area
- Explore possible partnerships such as Miami Valley Mountain Bike Association (MVMBA) to develop and maintain trails

MoMBA Use Area

- Explore business opportunities such as food service or partnerships with MVMBA or vendor operated businesses
- Explore options for additional skill features, especially along the Hilltop Flow trail
- Explore opportunities for volunteer projects including improvements, monitoring, and maintenance
- Develop an area for classes and skills clinics
- Enhance the mowed perimeter trail for beginner friendly and non-bikers to utilize the facility
- Explore camping opportunities
- Improve the main use area including shade, picnic shelter, outdoor showers, changing area, and family friendly features (nature play features)
- Explore incorporating walking trails, a pump track, and a bike playground
- Explore expanded hours
- Improve the tot track
- Explore opportunities to add advanced features to existing trails that can be bypassed by less experienced riders
- Explore opportunities for walking trails and enhanced space for area gatherings at trail conjunction hubs
- Explore options for climate-controlled storage for equipment and a small office

Operational Issues

- Pavement needs to be improved
- Roadway in main park needs to be widened to accommodate larger vehicles that are there for training such as fire trucks and related rescue vehicles
- Explore options to prevent cars leaving the road right of way at the S.R. 4 end of the dam
- Explore opportunities to open views into the park/to the lake
- Improve vehicular accessibility to the park and from the park to Eastwood MetroPark



2.4 CONSERVATION PLAN

Based on the Natural Areas Management Guide, a series of park-specific goals have been developed as a part of the site planning process. These goals should be used as a guide during the implementation of the plan to minimize impacts to sensitive habitats and the wildlife that depend on these special places. The activation of spaces within natural areas that have not before been promoted for public use will require thorough assessment and a thoughtful approach to minimize impacts.

Huffman MetroPark contains bottomland hardwood habitat, a designated wooded meadow, a shallow lake, and frontage on both sides of the Mad River. Hebble Creek flows from WPAFB through Huffman MetroPark and into the Mad River. North of S.R. 4 lies MoMBA, which consists of upland hardwood forests and meadows.

The shallow Huffman Lake draws in abundant avifauna, as does the mature upland hardwoods. Invasive species are an ongoing threat to these habitats and the wildlife that uses them.

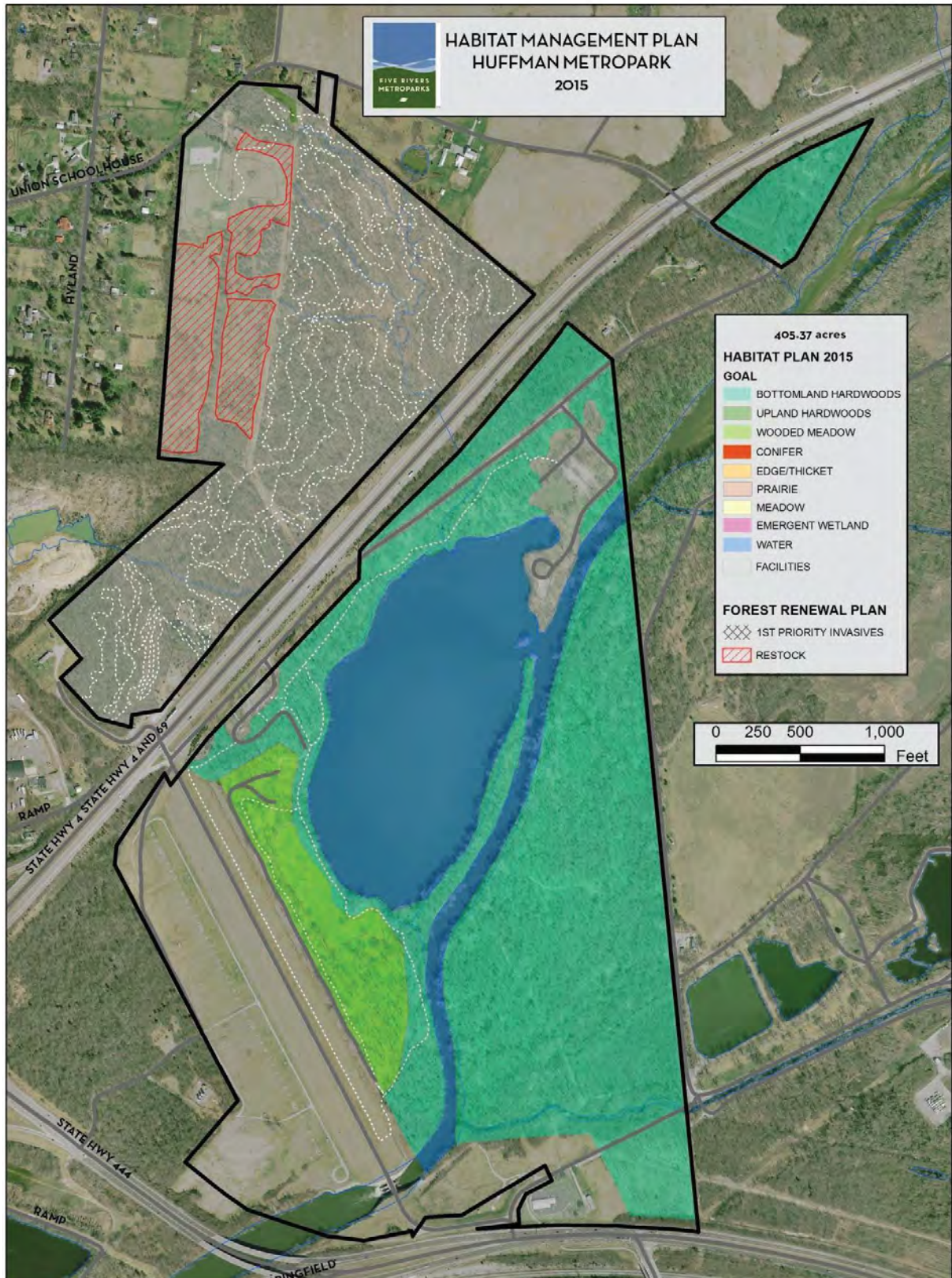
Huffman Lake is rapidly filling in due to the silt that is deposited after each flood. Dredging is currently not an option for the MCD engineers. As this continues to occur the lake will evolve into a bottomland floodplain forest altering conservation and recreation goals in the future.

Conservation goals for the site plan include the following:

- Preserve the existing mature woodlands throughout the park, particularly the riparian forest along the Mad River
- Manage honeysuckle and other invasive species in all habitats as designated
- Permit natural succession to occur in designated areas to maximize forest size and minimize edge effects within large tracts. Reintroduction and planting of native mast species in designated areas to augment succession and ensure a diverse future forest
- Maintain the lake for wildlife habitat and recreational fishing
- Manage meadow to maximize habitat for grassland nesting birds and the continuation of grassland ecological processes
- Design and maintain recreational trails to preserve the integrity of the habitats and associated wildlife

Huffman MetroPark Master Plan

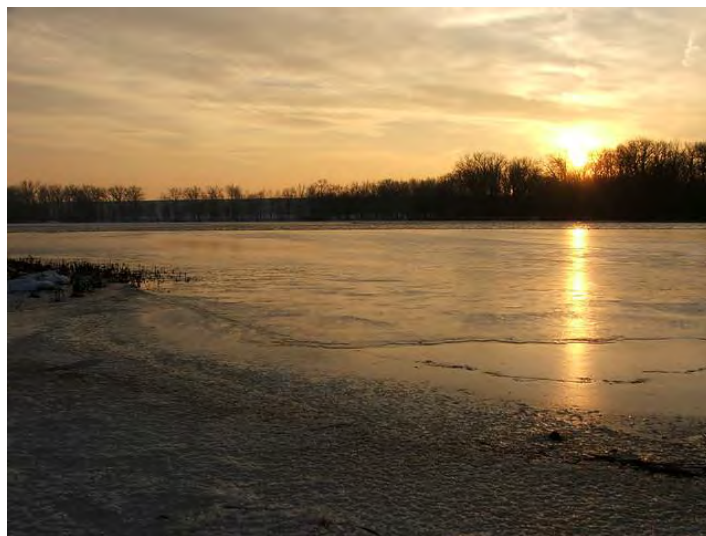
2018



2.5 INTERPRETIVE PLAN

Located in the west section of Greene County on the border with Montgomery County, Huffman MetroPark is 402 acres along the Mad River. Huffman dam is one of the five dams built to protect Dayton after the 1913 flood. Containing many different habitats, the park has examples of bottomland hardwood forest, wooded meadow, shallow lake, and frontage on both sides of the Mad River. The City of Dayton Water Department monitors groundwater quality in the forested area south and east of the Mad River. The section of the park north of S.R. 4 contains mature upland hardwood forest, successional forest, and meadow. This area is designated as MoMBA. Huffman Prairie is 112 acres of tallgrass prairie on WPAFB. It is part of what was once a larger matrix of fen and prairie. It is still one of the largest black soil tallgrass prairie remnants in Ohio. The Mad River Trail is a paved trail connecting Huffman MetroPark with Eastwood MetroPark and the larger Miami Valley Trail network, which connects to Huffman MetroPark at the Huffman dam. The Wright Brothers-Huffman Prairie trail extends north northeast, connecting to the Huffman Prairie conservation area and on to WPAFB and Fairborn, as well as the Miami Valley Trail system. The current park layout has multiple entrances: two into the Main Park section of Huffman MetroPark, one entrance into MoMBA, an entrance to the park service maintenance area, and an entrance to Huffman Prairie. Improved wayfinding and orientation would benefit park users. Addition of interpretive elements to communicate the history of Huffman MetroPark including the construction of the Huffman dam, Huffman bike history of Dayton, Wright Brothers history, along with natural history of Huffman MetroPark, and FRMP's' conservation efforts will be a benefit to park users once fully implemented.

Located in Dayton, Ohio, six miles from downtown, the park is within easy access from S.R. 4. There are multiple entrances to the park. Entrances are found on Lower Valley Pike. The main entrance into the park at 4095 Lower Valley Pike is at the lake. The Overlook entrance is at 4439 Lower Valley Pike, and MoMBA's entrance is at 4485 Union Rd. The Huffman Prairie entrance is from WPAFB gate 16 off S.R. 444.



Audience

After site visits and discussions with FRMP staff and stakeholders, the following by “Falk Visitor Types” identifies current and potential audiences, as well as activity which are defined below:

- Explorers: motivated by personal curiosity and seek to learn more about whatever they might encounter (i.e. life-long learners)
- Facilitators: motivated by sharing experience with other people and focus on their companions needs (i.e. a parent bringing a child)
- Experience-Seekers: motivated by the desire to see a place, often don’t stay long and get satisfaction from just visiting and desires photos of themselves with iconic resource (i.e. been there, done that; seeks a story to tell)
- Professional/Hobbyists: motivated by a high affinity for the site, they are highly knowledgeable about a site’s subject matter (i.e. the visitor that wants in-depth behind the scenes or occasionally a scholar researching a specific topic)
- Rechargers: motivated by a desire for a contemplative or restorative experience (i.e. sit or stroll)
 - *Note: The same person can have different motivation on different visits.*

Huffman Audience

- Rechargers
- Experience Seekers



Huffman User Groups

- Walkers (with or without dogs)
- Cycling (Mountain biking)
- Hiking
- Running/exercise
- Bird watching
- Picnicking/shelter
- Fishing
- Paddling



Intended Visitor Experience

Visitor experience provided for all visitor types and activities listed above:

- Nature immersion in woodland garden, high quality of spring ephemeral plants (an ephemeral plant is one marked by short life cycles), Ohio habitats old growth forest, prairie, meadows, wetlands, waterfalls, ponds, and river
- Basic needs are met, such as restrooms, water fountains, picnic, shelters, clear orientation/wayfinding & access

FRMP System-Wide Themes/Storylines

An interpretive theme is the overarching message. It is more detailed than a broad topic; it is a complete thought in one to two complete sentences. The theme may be used verbatim in signage or verbally in talks, or it may be unspoken, but guide the general feel the project aims to have for the visitor experience on site. A theme will help answer the “so what?” – “the moral of the story.” Themes connect tangibles: those things you can touch, see, feel, smell, and taste with intangibles, and those things that are symbolic or metaphoric

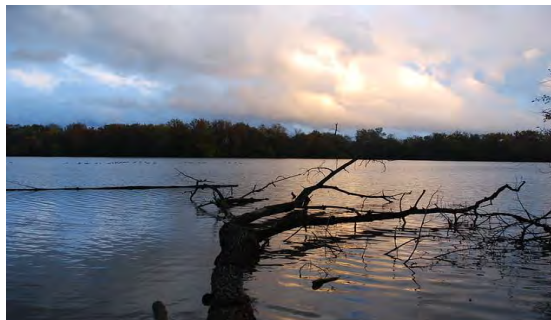
Theme: A succinct, central message about a topic of interest that a communicator wants to get across to an audience. (Ham, 2013)

Story Line: Part of the thematic hierarchy: theme, sub-theme, and storyline. Storylines are the details of the interpretive content.

Central Themes:

Each park within the FRMP system tells a story from the past

Active conservation efforts protect lands for future generations



Themes for the Park:

- The Huffman Dam provides protection for both nature and humans

Sub-themes:

- Each piece of land tells a story of how conservation touches people's lives
- The story of the area before it became a park ties it to the history of the region
- Rivers shape the MetroPark you see today
- FRMP is a conservation agency with roots to the 1913 Dayton flood

Storylines specific to Huffman MetroPark:

- The 1913 flood
- Building of the Huffman Dam
- Habitat management benefits both humans and wildlife
- Human recreational benefits, activities, and respite
- Huffman bike and bike trail history
- Beavers, bats, and migratory birds
- The Mad River is a connection to history and conservation
- Trilobite history

Storylines specific to Huffman Prairie:

- Wright Brothers and flight
- Wright-Patterson Air Force Base
- Habitats-prairie conservation
- Endangered species
- Birds
- Moths and butterflies found only at Huffman Prairie

Themes for MoMBA:

- Parks make our lives healthier and happier

Sub-themes for MoMBA:

- Outdoor family adventures create lasting memories

Storylines for MoMBA:

- Human recreational benefits, activities, exercise, and respite
- Protect natural areas, parks, and river corridors, and promote the conservation and use of these lands and waterways for the ongoing benefit of the people of the region



Interpretive Media Recommendations

Non-Personal

- Kiosks
- Welcome and orientation
- Wayfinding
- Trailhead
- Water trail along with bike and boat racks
- Bikeway trail
- Camping – leave no trace message

Exhibit self-guided

- Bird watching-viewing scopes or binoculars, bird blind



Wayside self-guided (signs or audionetics)

- History of dam
- Natural features
- Bird habitat
- Bat habitat
- Forest
- Prairie

Map and brochures

- Provide maps and brochures at Use Areas



2.6 PROGRAMMING PLAN

Current Programming

Outdoor Connections Programming will help visitors:

- Build comfort in the park and routinely visit as part of an active, healthy lifestyle
- Develop a sense of place and personal connection with nature
- Understand conservation processes for restoring and maintaining habitats
- Actively participate in activities that foster and build an appreciation for biodiversity

Five Rivers MetroParks currently engages visitors at Huffman MetroPark in a variety of ways. Programs predominately occur in MoMBA where audiences of all ages can learn mountain biking skills. Huffman MetroPark main park hosts programs such as bat viewing, forest ecology and kayaking. Audiences for those programs are detailed below.

Huffman MetroPark Programs

Youth & Teens

- Youth and teens develop their mountain biking skills and bike maintenance during a summer Youth Mountain Biking Camp



Families

- Year-round, Conservation Kids programming empowers children to become conservationists through a three-step program progression. Popular topics for Conservation Kids programming at Huffman MetroPark include forest exploration and bat conservation. Huffman MetroPark has earned the Miami Valley Leave No Child Inside's and Dayton Regional Green's "Connect to Nature Site Award". This award recognizes the facility for providing programs and access points to nature that enable the Ohio Children's Outdoor Bill of Rights to be exercised by youth

Adults

- Mountain biking programs for adults include Ride with a Guide and Mountain Biking instruction
- Kayak Exploration allows adults of all ages to experience the natural setting of Huffman Lake with an Outdoor Recreation professional



Multiple Audience

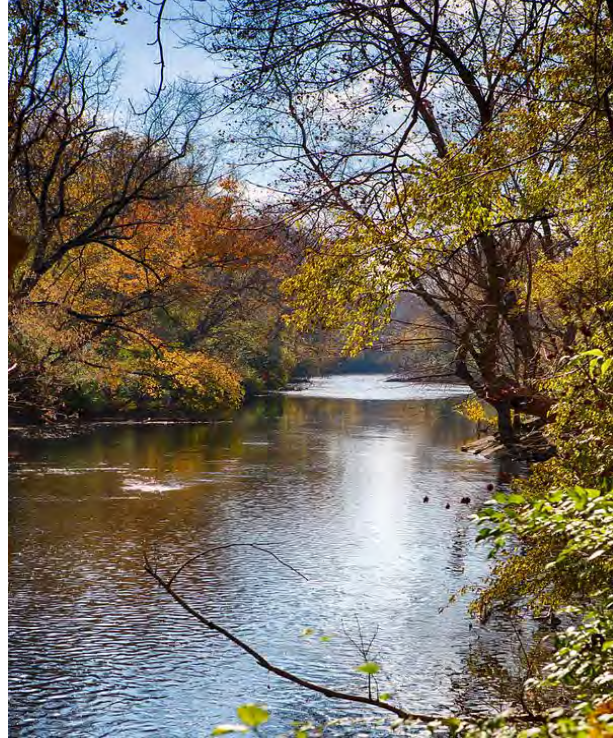
- Try Mountain Biking provides a free opportunity for participants of all ages to get their first mountain biking experience. Participants borrow a bike and helmet and ride the trails self-guided for 30 to 45 minutes

Current Interpretation

- An Ohio Historical Marker commemorates the 175th anniversary of the Kirtland's Camp encampment

Aspirational Programming

Improved amenities, the addition of another easy MoMBA trail and spectator connection, Mad River Trail Connector, off road trail connector, MoMBA camping area, Main Park Area restroom improvements, and water access will provide expanded Outdoor Connection opportunities. As programming, interpretive efforts and resources evolve, activation of the new amenities and creating a recreational and educational use culture in the parks, whether through interpretation, programming, or independent use, will be a primary goal. Along with programs that will be developed with community input during the park design process, the site plan improvements make the following programs possible.



Interpretative Opportunities

- Self-guided Wayside: focus on the topics below at various sites in Huffman MetroPark
 - Bat Habitat restoration and protection. Redtail Shelter Area
 - Geology including the discovery of the trilobite
 - Huffman Dam
 - Birds of Huffman Lake at the Main Park
- Kids in Parks: a national network of parks, encourages and supports active family engagement, increases trail use, introduces recreational opportunities available in parks, forests, and communities, and creates a network that offers an almost unlimited variety of experience. The disc golf course at Huffman MetroPark would be an ideal addition for the Kids in Parks program

Youth & Teens

- The skill features would provide additional opportunities for skill instruction and practice during Youth Mountain Bike Camp. The location being part of the multi-use loop and not the core trails will make repetitive practice and group instruction much easier

Family

- MoMBA camping area will provide the opportunity to host The Great American Campout, A National Wildlife Federation event. The Great American Campout celebrates camping as a way to connect with nature and wildlife. Families bring tents and sleeping equipment and enjoy a night of hotdogs, s'mores, and family activities such as a wildlife encounter with Animal Ambassadors, a night ride, and guided hikes. This program is currently offered at Possum Creek MetroPark. The addition of camping at MoMBA provides the unique experience to offer night rides during the event
- MoMBA Outer Loop Trail and Spectator Connector provides the addition of another easy trail that doubles as a walking path. This trail will extend the audience of Try Mountain Biking by appealing to parents with children learning to ride. The skill features would benefit parents and caregivers that are also riding or have children of differing abilities. There are limited opportunities for beginner riders or those lacking necessary skills to ride difficult trails



Adults

- MoMBA camping area will allow participants of Bike Touring 1 to apply skills they learned during Bike Touring 2, on an overnight trip. Participants will ride to the campsite while carrying much of the required gear. Additional equipment is staged at the campsite. Once at the campsite, participants learn other camping skills such as site selection, cooking, and Leave No Trace techniques. This project would provide an ideal location with amenities for the program. After completing the program, participants would have a familiar destination for future self-guided experiences
- Improved access to Huffman Lake allows for more lake paddling programs including Flatwater Floats, Kayak 1, SUP 1, and Kayak Exploring
- Mad River Trail and MoMBA connectors will provide the opportunity to offer Try Backpacking. This type of bicycle touring typically utilizes natural service, gravel, mountain bike trails as well as, paved, gravel, and dirt recreation trails
- The Redtail Shelter and Dam connector will provide a better user experience for participants of bicycle touring and bikepacking programs
- Mountain Bike 2 and 3 will be added with the addition of advanced skill features
- Enhanced hiking trails and restrooms in the Main Park Area will provide the opportunity to offer nature and wellness walks for adults 55 and over

Multiple Audiences

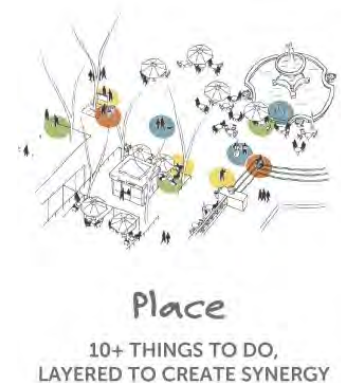
- The Shelter Area at MoMBA creates the opportunity for expanded events such as MVMBAs races, Interscholastic Races, and other regional events
- Partnerships with WSU, WPAFB, and the National Park Service would expand and enhance programs offerings will be identified during the public input stage of the park design process

2.7 SITE PLAN

Because Huffman MetroPark is divided, one of the top priorities of the site plan is to improve the accessibility of the park for the user. A series of use areas will help organize and orient visitors to the array of opportunities available for them to explore. The proposed new entry opposite Kauffman Avenue will become the front door to the park where new visitors will experience the park for the first time. As park users become familiar with the park, visits can begin at other use areas where basic amenities and unique and varied features, other amenities and activities are provided. These use areas will be connected by park trails, allowing users to create diverse experiences each time they visit. The use areas for the park have been redefined to include the following:

- Main Park Area
- Operations Area (Referred to as the Kaufman Road Primary Use Area Below)
- MoMBA Area
- Seven-Acre Area (Referred to as the Advanced Skills Area Below)

A second important factor driving the development of this and all FRMP site plans is the Power of 10+, a concept, developed by Projects for Public Spaces, to evaluate and facilitate place making at multiple scales. Places thrive when users have a range of reasons—ten or more—to be there. These might include a place to sit, playgrounds to enjoy, art to touch, music to hear, food to eat, history to experience, and people to meet. Ideally, some of these activities will be unique to that particular place, reflecting the culture and history of the surrounding community. The following activities were identified in the planning process as appropriate for this park:



- | | |
|-------------------------------|--|
| • Mountain Biking | • Picnicking |
| • Camping | • Learn and practice new paddling and cycling skills |
| • Kayaking | • Fishing |
| • Connecting with Nature | • River Access |
| • Fitness Walking | • Nature Play |
| • Visit the Kneisley Cemetery | • Learn Park History |

- Bird Watching
- Visit Huffman Prairie and Flying Field
- Hiking
- Take a Bike Ride
- Scenic Views & Features
- Trail Running

Key Site Plan Recommendations

With a foundation of the two concepts described above, key site plan recommendations were developed. Many of these recommendations have resulted in specific projects that are prioritized for the capital improvement plan in Section 2.1. The [full site plan](#) provides significant detail not provided here.

Park-wide Recommendations

- Tell the story of the park
 - History
 - Wright Brothers
 - Huffman Family
 - Kneisley Cemetery
 - Huffman Dam
 - Trilobite
- Continue invasive species removal
 - Continue to work with MVMBA volunteers to continue invasive work in mountain bike trail area
 - Look for ways to control lesser celandine primarily east of the river

- Continue to restore and enhance various habitats throughout the park with native plantings
 - Develop a habitat plan for the MoMBA portion of the park
- Open views of the lake especially along Lower Valley Pike and from the Redtail Use Area

Circulation Recommendations

Proposed Kauffman Road Entrance

Work with the Ohio Department of Transportation (ODOT) and other local municipalities to create a new signalized entry into Huffman MetroPark to allow for the large populations located south of the park to have direct access to the park and build awareness of the park's presence. Develop park identity signage to help build awareness of the park to vehicles using Kauffman Road and S.R. 444.

State Route 4/Lower Valley Pike

Work with ODOT to open the view and add signage to significantly reduce vehicles from overshooting the exit. Provide signage on S.R. 4 to identify the park entrance. Ensure a clear vehicular direction to Lower Valley Pike and not across the dam. Create a safe multi-user connection between the top of the dam and the Redtail Shelter area which provides protection from vehicles exiting S.R. 4.

Outer Trail Loop Improvements at MoMBA

Utilize and enhance the outer loop trail at MoMBA to allow for a variety of park users including young mountain bikers to ride with non-mountain biking parents. Novice skill features should be developed along the loop to allow for skill development and play.

Develop a gravel hardened or natural surface route for mountain bikes between the Mad River Trail at the Huffman Dam and MoMBA

Provide a loop option on the east side of the river utilizing primarily existing monitoring well roads and connect to the Main Park via a new bridge. When this section of trail is closed for flooding, riders can use the paved trail over the dam and connect to Lower Valley Pike to connect back to the bike trail connector at the Main Park entrance.

Enhance hiking trails in the Main Park

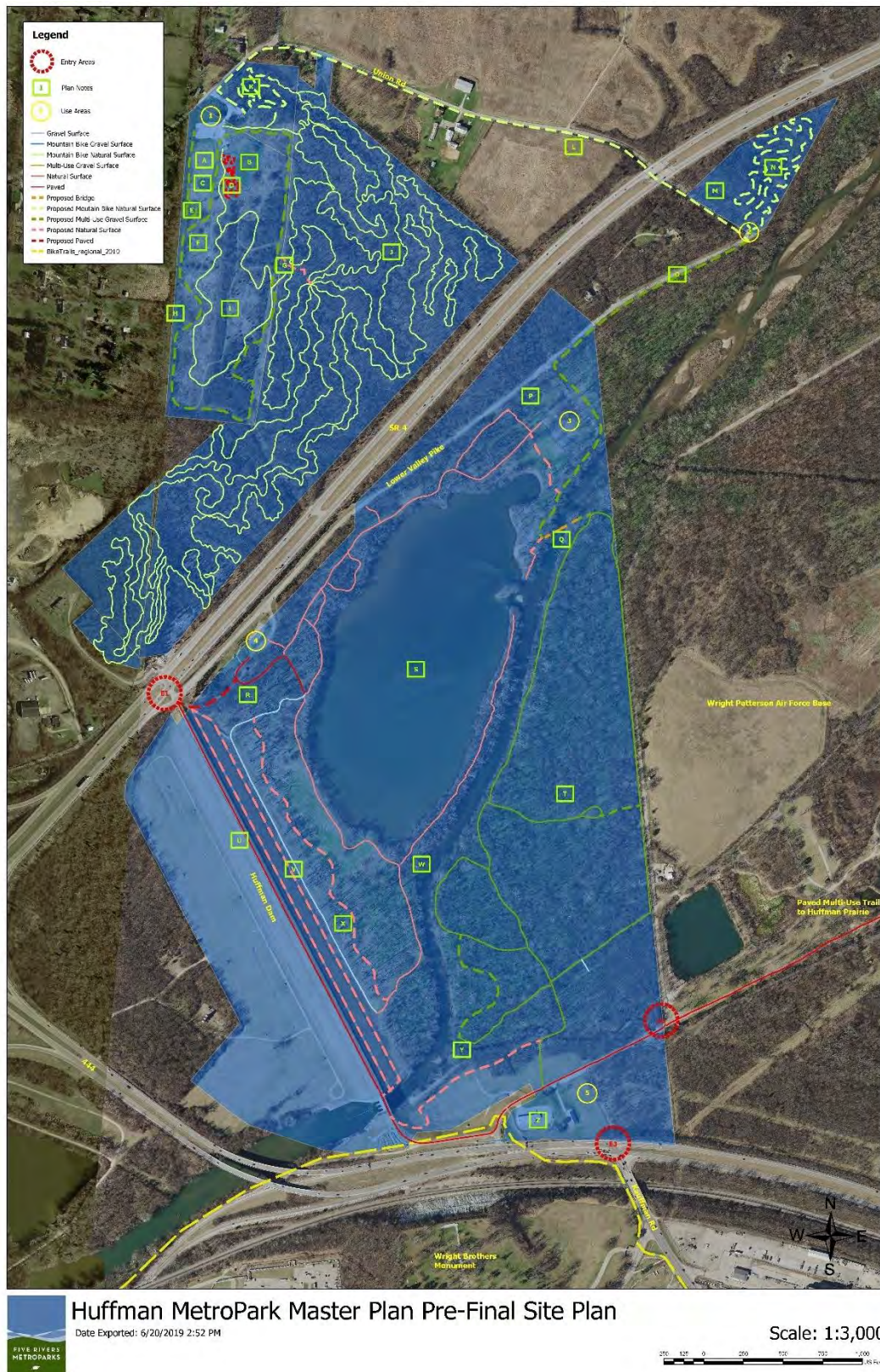
Continue to improve the visitor hiking experience including a new curvilinear trail through the prairie area below the dam.

The existing trail network will be modified by removing unnecessary sections of trail and adding sections to create intuitive and easy to navigate trails in the park. This will include new sections of trail from the Kaufman Road Primary Use Area and modifications to the network of trails in the Main Park Area. Creating a complete trail loop around the lake was deemed not practical due to erosive factors by the Mad River at the inlet to the lake.



Huffman MetroPark Master Plan

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Improve the Huffman Dam for Pedestrians

Utilize the existing level benches on the dam to provide exercise loops to runners and walkers. Install steps to connect between the top, middle and lowers benches.

Ensure Park Users are Directed to Huffman Prairie

Ensure users are directed along the paved pathway between Huffman MetroPark and Huffman Prairie. Work with WPAFB to notify park users when the access gate is closed.

Use Area Recommendations

MoMBA Use Area

Continue to improve the user experience including adding options for non-riders including picnic, nature play, and access to the multi-user loop for walking and jogging

Advanced Skills Use Area

This area is the home to the historic Kneisley Cemetery, an old general store, and a mobile home park. Stabilize and protect the cemetery. Repurpose the old foundations and built features to provide a unique mountain bike advanced skills area

Main Park Use Area

Reduce the overall parking area by about 50% to reduce maintenance efforts and long-term capital costs. Enhance the use area to ensure picnic style activities continue and ensure lake access is maintained and improved. Install a new restroom facility to support the use area

Redtail Use Area

Develop an accessible connection to the end of the multi-use trail on top of the dam. Maintain the view of the lake by removing invasive species. Expand bat habitat and bat support amenities along with interpretation improvements



Kaufman Road Primary Use Area

Develop a new park entrance which will become the primary use area and front door for the MetroPark. Create a low impact green parking lot for approximately 50 cars. Create a new trail head for activities offered in the MetroPark, along with directing visitors to Huffman Prairie, the Wright Brothers Memorial National Park Site, and the regional bike trail network. Develop a new restroom, trail head, trail loop, picnic shelters, and associated primary use amenities to promote increased use of the MetroPark. Screen the operations area from the park use area

Opportunistic Short-Term Recommendations

Some recommendations could be achieved at a relatively low-cost using staff resources:

- Ensure park users are directed to Huffman Prairie using wayfinding signage along the paved pathway between Huffman MetroPark and Huffman Prairie. Work with WPAFB to notify park users when the access gate is closed
- Stabilize and protect the Kneisley historic cemetery
- Redtail Use Area - Maintain the view of the lake by removing invasive species
- Redtail Use Area- Expand bat habitat and bat support amenities along with interpretation improvements
- Route 4/ Lower Valley Pike
 - Work with ODOT to open the view to the exit ramp and stop sign and add signage to significantly reduce vehicles from over-shooting the exit
 - Ensure a clear vehicular direction to Lower Valley Pike and not across the dam



- MoMBA Camping Area
 - Develop a central gathering area including a fire pit, firewood box, and picnic tables to support 5-6 individual primitive campsites surrounding the central gathering area (similar to back country sites)
 - Camping should be developed to allow for individual sites to be reserved or to allow for a large group to utilize the facility
 - Camping use should be limited to times that the trails are open and FRMP should retain the right to cancel camping activities when trail conditions require the area to be closed
- Enhance the Hilltop Flow Trail
 - Continue to expand skills areas along the trail where appropriate
 - Work with conservation staff to plant trees along the trail to help reduce weather impacts on the natural surface trail and to provide shade to users
 - Work with conservation staff to enhance the prairie areas in this area and provide interpretive opportunities to educate riders about the natural habitat

Level of Service Amenities

- The following amenities outlined in the Comprehensive Master Plan (CMP) are included in the site plan:
 - (2) Reservable Picnic Shelters (Small 1-25)
 - (1) Reservable Picnic Shelters (Large 51-100)
 - (1) Nature Play Playgrounds
 - (0.08) Paved Trails (Miles)
 - (2.2) Nature/ Hiking/ Backpacking Trails (Miles)
 - (2.8) Mountain Bike Trails (Miles)

2.8 LAND PROTECTION PLAN

FRMP's [Land Protection Plan](#) identifies priorities for land protection based on criteria addressing conservation, the park, and the user. Many land protection priorities for Huffman MetroPark focus on park criteria, particularly completing its natural boundaries and completing trail connections. Specific recommendations regarding land protection to achieve park needs and associated attainment strategies are listed below:

- As opportunities arise with willing landowners, acquire the six parcels of land along Union Road. Priority should be placed on the parcels on the south side of the road, however, most of the land on the north side of the road is tied to the parcel on the south.
- The two residential properties between Lower Valley Pike and S.R. 4 would be valuable to have as a part of the park, however, they are not critical land priorities at this time. If these parcels were to become available at no cost to FRMP, they should be acquired to establish natural park boundaries.
- The parcel located southwest of the MoMBA facility that is currently being mined could be considered for additional mountain bike trails. However, due to the degraded nature of the site, the right financial condition should exist for FRMP to take ownership.

Most of the proposed land protection for Huffman MetroPark is based on making better connections between the various parts of the park. The park is surrounded by WPAFB and the City of Dayton Recharge fields, so there is no opportunity for additional land protection on those sides of the park. The potential parcels mentioned above would allow for expansion of native habitats through restoration efforts as they are acquired.



SECTION 3: IMPLEMENTATION

3.1 INTRODUCTION

The [Huffman MetroParks Site Plan](#) identifies a comprehensive proposal and [cost estimates](#) for the improvement of this MetroPark. From those recommendations, it was necessary to prioritize the many proposed projects. Applying priorities established in the Comprehensive Master Plan, FRMP established [Capital Project Criteria](#) to identify projects that will be incorporated with other projects throughout the district into FRMP'S Capital Improvement Plan (CIP). To reflect total project costs of the prioritized projects, operational cost estimates were developed for conservation, maintenance, programming, interpretation, law enforcement, and businesses operations. Also included are estimates for revenue generation through earned income, such as program fees and rentals, and alternative revenue, such as donations, sponsorships, and endowments. These operational costs and revenue will be evaluated alongside the capital costs to identify the projects' placements in the CIP to identify year-by year investment.



3.2 CAPITAL IMPROVEMENT PLAN (CIP)

The proposed site plan represents the long-term vision for the park. The plan proposes a number of capital projects that will move the park toward that long-term vision. In this park master plan, specific improvement projects, as well as repair and replacement projects identified in the comprehensive master planning process have been identified as priority projects for the upcoming ten-year period. When applicable, the improvement projects include the furniture, fixtures, and equipment investments necessary to provide a complete project. These priority projects are listed below. Capital improvement projects and priorities will be evaluated on an annual basis to determine status of planned projects, funding availability, and potential changes to the park master plan and CIP schedule.

- New Kauffman Road Primary Use Area
 - Anticipated Budget: \$903,210
 - Develop a new park entrance which will become the primary use area and front door for the MetroPark
 - Create a low impact green parking lot for approximately 50 cars
 - Create a new trail head for activities offered in the MetroPark, along with directing visitors to Huffman Prairie, the Wright Brothers Memorial National Park Site, and the regional bike trail network
 - Develop a new restroom, trail head, trail loop, picnic shelters, and associated primary use amenities to promote increased use of the MetroPark
 - Screen the operations area from the park use area
- Improve and Enhance the Outer Loop at MoMBA
 - Anticipated Budget \$270,521
 - Utilize and enhance the outer loop trail at MoMBA to allow for a variety of park users including young mountain bikers to ride with non-mountain biking parents. Novice skill features should be developed along the loop to allow for skill development and play

- Spectator Connector
 - Develop a sustainable trail connector to allow non-mountain bikers to gain access to the Five Points Area to interact with users and watch mountain bike activities including both day to day activities and special events
- Mountain Bike Connector between Mad River Trail and Advanced Skills Area
 - Anticipated Budget \$753,894
 - Develop a gravel hardened or natural surface route for mountain bikes between the Mad River Trail at the Huffman Dam and MoMBA. Provide a loop option on the east side of the river utilizing primarily existing monitoring well roads and connect to Main Park Area via a new bridge. When this section of trail is closed for flooding, riders can use the paved trail over the dam and connect to Lower Valley Pike to connect back to the bike trail connector at the Main Park Area entrance
- Remove 50% of Parking in Main Park Area Parking Lot
 - Anticipated Budget \$108,092
 - In Main Park Area, reduce the overall parking area by about 50% to reduce maintenance efforts and long-term capital costs
- New Main Park Restroom
 - Anticipated Budget \$78,522
 - Install a new restroom in the Main Park Area
- Multi-Use Trail Connector from Dam to Redtail Use Area
 - Anticipated Budget \$46,368
 - Create a safe multi-user connection between the top of the dam and the Redtail Shelter area which provides protection from vehicles exiting S.R. 4

- Improve Main Mountain Bike Trail System at MoMBA
 - Anticipated Budget \$50,901.30
 - Continue to improve and maintain the existing trail system including the addition of more advanced skill element options in the existing system
 - Continue the work to remove invasive species and plant native species to improve the habitat in the trails area. Use plantings strategically to screen areas between trails to enhance both the ecosystem and the rider experience
- Off Road Trail Connector between MoMBA and Advanced Skills Area
 - Anticipated Budget \$246,178
 - Work within the existing right of way in this area to develop a mountain bike friendly side path to allow a safer connection between the Main Park Area and MoMBA
 - Explore the opportunity to allow the side trail to leave the right of way with the current landowners using easements or use agreements to create a better experience for users
- East Park Trails
 - Anticipated Budget \$293,250
 - Utilize and enhance the existing gravel access roads for the monitoring wells to provide multi-user access to this part of the park
 - Strategically add and remove roadway sections to create meaningful loops and a more curvilinear layout while still providing access to the wells
 - Explore opportunities for mountain bike skill features that can withstand frequent flooding
 - Control access to this section of the park using a gate at the stream crossing to inform users when this section of the park is inaccessible due to flooding

- Huffman Dam Paved Trail Enhancements
 - Anticipated Budget \$145,935
 - Enhance the new paved trail on top of the dam with shaded exercise stations at several locations where the trail curves and creates wider areas
 - Create an interpretive station on top of the spillway to educate users about the dam and the flood control system in the Miami Valley
 - Take advantage of the views to downtown Dayton from the dam

In addition, all pavement maintenance and repair work required in the parks will be covered by the district wide pavement management program plan. This 10-year plan includes all district-wide pavement work and will be funded through annual capital budgeting and grants.



3.3 PARKS AND CONSERVATION

The Parks and Conservation Department staff is responsible for the care and maintenance of facilities and natural areas within Huffman MetroPark. This work includes daily cleaning and inspection of areas, completion of general repairs, and completion of conservation tasks that protect the biodiversity of natural areas and are recorded and tracked in the Annual Habitat Action Plan (AHAP). The completion of the routine tasks outlined below ensure that all areas are maintained to FRMP standards for safety, cleanliness, and appearance and that park visitors have high quality experiences.

Current Primary Routine Tasks:

- Park Clean-up
 - Litter pick up
 - Bathroom cleaning
 - Shelter cleaning /checks
- Roadway/parking lot/paved trail blowing
- Mowing (excluding trails)
- String trimming
- Natural surface trail trimming/mowing/tree removal
- Currently ash tree removal/cleanup is routine
- Park Inspections
- Equipment/Vehicle repairs and service

Current primary special tasks:

Parks and Conservation staff also complete work tasks that may be completed annually or monthly and require more time and attention than some of the routine tasks. These tasks may be tied to weather events or special projects. In some cases, special tasks involve timing in relation to the weather or events within the facilities. Other considerations for this work could include scheduling to reduce negative impacts on plant communities or animal populations.

- Snow removal-hand and truck
- AHAP mowing
- Pressure washing shelters and bathrooms
- Park inspections
- Fixture maintenance
 - Plumbing repairs
 - Picnic table repairs
 - Trash can painting
 - Grill maintenance
 - Gate maintenance
- Structure repairs
- Hazardous tree removal
- Chemical (herbicide) application
- Roadside berming
- Clearing drainage tiles
- Tree planting/watering/mulching



Expected Increases to Primary Routine Tasks:

Upon review of the priority projects in the proposed site plan staffs projects a need of 623.60 labor hours to complete primary routine tasks. A breakdown of projected increases is outlined by project below and equates to .30 full time equivalent staff (FTE). The detail of these projections can be viewed in the costing spreadsheet that was produced as a part of the park master plan process.

Project	Projected Hours	FTE Equivalent
Kauffman Road Area	316.55	.152
MRT/Skills Area Connector	13.94	.007
MoMBA Trails	33.65	.016
Huffman Dam Paved Trail	2.34	.001
Huffman Dam Paved Trail Enhancements	21.667	.010
Huffman	194.197	.093
MoMBA Connector	17.411	.008
Huffman East Park	23.85	.011
Total	623.60	.30



Expected Increases to Primary Special Tasks:

Upon review of the priority projects in the proposed site plan, there is a projected increased need of 441.61 hours to complete special tasks. A breakdown of projected increases is outlined by project below and equate to .21 FTE. The detail of these projections can be viewed in the costing spreadsheet that was produced as a part of the master plan process.

Project	Projected Hours	FTE Equivalent
Kauffman Road Area	188.32	.090
MRT/Skills Area Connector	55.76	.027
MoMBA Trails	0	0
Huffman Dam Paved Trail	0	0
Huffman Dam Paved Trail Enhancements	20	.009
Huffman	28	.013
MoMBA Connector	30.28	.015
Huffman Park East	119.25	.057
Total	441.61	.21



One Time Tasks:

Plant surveys have been identified as a onetime task needed to support the implementation of the proposed site plan. This task would likely be required of Parks and Conservation staff as part of the construction of new amenities. These numbers are not included in the staffing projection that is included in the next section.

- Plant surveys- 83.61 total hours

Current Staffing Levels at Huffman MetroPark:

- Park Manager- Eastwood
- (2) Full-time Technicians-Eastwood
- (1) Full-time Trail Technician – MoMBA
- (1) Part-time Technician- Conservation Technician
- (1) Part-time Technician- Eastwood
- (1) Part-time Technician- Huffman
- (3) Seasonal Technicians- Eastwood
- (1) Seasonal Technician- MoMBA
- (1) Seasonal Technician – Conservation Technician
- Conservation support provided by the north parks and conservation team.

Summary of Operational Impacts:

- The tasks for each item in the park master plan have identified an estimated **1065.21** hours of additional annual labor that would be created. These operational requirements total **.51** FTE Technicians.

3.4 PROGRAMMING AND INTERPRETATION

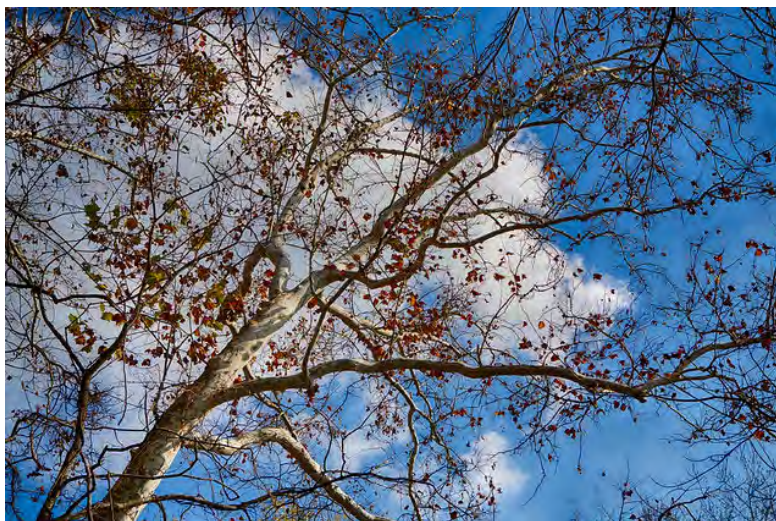
Programming and Interpretation Projection

The current lack of amenities and loop trails makes Huffman MetroPark an undesirable location for school groups and program participants with young families. The proposed new restroom and enhanced hiking trails in the Main Park and the network of nested loops in East Park, as well as improved interpretation will make Huffman MetroPark an ideal location for school tours, Teacher Trainings, Tike Hikes, and a Natural Adventure Box. Designating Heart Healthy Trails and working with doctors at the Veterans Administration and local hospitals to prescribe Huffman MetroPark as a Parks RX location make the park more usable for adults over 55 years. These three audiences are identified in the CMP as audiences to be better served by FRMP. More programs will be identified during the public input stage of the park design process.

- **Teacher Trainings:** Teachers are trained by staff on how to help meet standards using nature and MetroParks locations. Teachers are oriented to identified park amenities and trails and given training on nature activities and inquiry style explorations.
- **Tike Hikes:** Families with young children (two to four years old) can begin an active outdoor lifestyle with their toddlers in nature. Staff and volunteer guided short walks help new families become comfortable in nature and with natural settings.
- **Heart Healthy Trails:** Trails throughout Huffman MetroPark will be designated as Heart Healthy Trails. Heart Healthy Trails are trails that can be walked at a brisk pace in 30 minutes. American Heart Association defines a brisk pace as walking two and a half miles in an hour. Heart Healthy trails are easy to moderate, one to two and a half miles long and have clear wayfinding. Fitness programs and events are ranked third in the 2016 CMP Statistically Valid Survey.
- **Self-guided school and childcare visits:** Groups are encouraged to get youth outdoors with self-directed experiences. Staff schedule self-guided activities to help ensure groups and visitors are not overwhelmed.
- **Natural Adventures Box:** Natural Adventures Box will be installed on the west side of the park near the pond to provide youth groups access to a variety of naturalist's tools to explore the park during spring through fall. Supplies include insect nets, pond nets, field guides, magnifying glasses and more.

Proposed Programming Program Type	Area					Audience			
	Kaufman Road	Main Park	MoMBA	Redtail Shelter Area	Advanced Skills Area	Youth & Teens	Family	Adult	Multiple Audiences
Teacher Trainings		8						*	
Teacher Guided School and Childcare Visits		8				*			
Natural Adventures Box		1				*			
Tike Hikes		8					*		
Total Programs	0	25	0	0	0	9	8	8	0

Personnel	Total
Operating	\$9,007
Natural Adventures Box Installation and Supplies	\$824
	\$800



Interpretive Projection

The site plan proposes significant additions to interpretive elements throughout the park. The improvements outlined below focus on areas of the park prioritized for improvements.

- Wayside Self-guided are single-style interpretive media, such as an interpretive panel or other interpretation method that connects visitors to a park feature. Priority projects that include wayside self-guided sites include: Historic Cemetery Improvements, Redtail Use Area – view shed and bat habitat, and East Park Trails.
- Wayside Exhibit is an interactive experience that includes a variety of interpretive media and may include interpretive panels and interactive displays that are designed to provoke curiosity in visitors. A priority project that includes wayside exhibits is the Redtail Shelter and Dam connector.
- Kiosks are the first decision point for visitors in the park and are designed to welcome and orient visitors with trail and feature descriptions. New kiosks are identified for the New Kauffman Road Primary Use Area.



The site plan identifies capital costs for interpretive elements in priority project areas. Corresponding one-time personnel costs to develop these interpretive elements have been established below. Ongoing operational expense for the interpretive elements focus on periodic repair and replacement costs and the associated personnel costs. The capital and operational costs for these interpretive elements, matrixed by the individual project, is summarized in the table below.

Interpretation Priority Project Costs

Project	Capital Development Costs		Maintenance Costs	
	Materials	Personnel	Materials	Personnel
Improved wayfinding to Huffman Prairie along paved pathway	NA	NA	NA	NA
Historic Cemetery Improvements	*	\$3,513	*	\$500
Redtail Use Area – view shed	*	\$3,513	*	\$500
Redtail Use Area – bat habitat	*	\$3,513	*	\$500
Route 4/Lower Valley Pike	NA	NA	NA	NA
MoMBA Camping Area	NA	NA	NA	NA
Enhance Hilltop Flow Trail	NA	NA	NA	NA
New Kauffman Road Primary Use Area	*	\$3,513	*	\$500
MoMBA Outer Loop Trail and Spectator Connector	NA	NA	NA	NA
Mad river Trail and MoMBA Connector	NA	NA	NA	NA
Main Park Area Parking Reduction	NA	NA	NA	NA
Main Park Area Restroom	NA	NA	NA	NA
Redtail Shelter and Dam connector	*	\$7,030	*	\$500
Improve main Mountain Bike Trail System	NA	NA	NA	NA
Off Road Trail Connector	NA	NA	NA	NA
East Park Trails	*	\$3,513	*	\$500

*Included in the Capital Cost Spreadsheet as a line item.

3.5 BUSINESS OPERATIONS

In reviewing the Huffman MetroPark Master Plan as proposed, the list of assets (existing and new) that have potential to generate revenue. These assets include additional picnic shelters, camp sites, and a new support facility.

Shelters

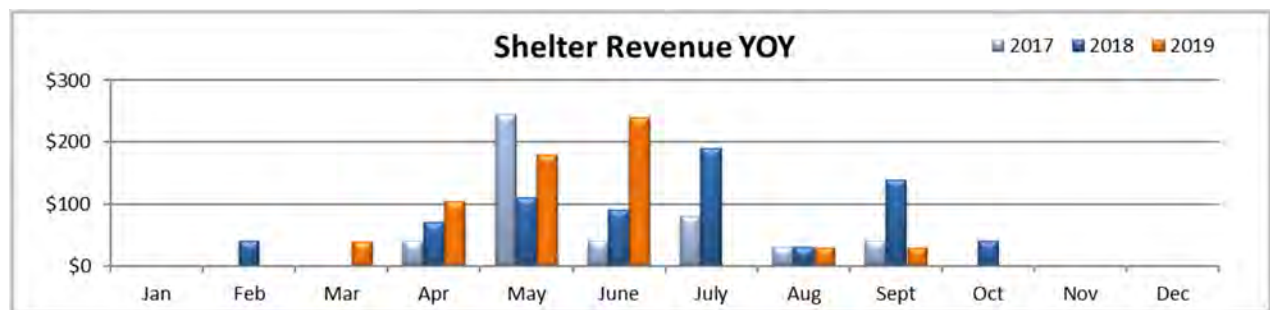
Enhance the existing Redtail shelter through restoration of the view via removal of invasive vegetation. Create two new tier 3 shelters near Kaufman Road entrance, with access to hiking and bike trails. Provide new MoMBA Support Facility with patio/shelter amenities and “three-season” versatility via overhead doors.

Camping

Introduce camping by offering primitive campsites at MoMBA, to accommodate individual or group camping options when park and trails are open.

Current revenue sources

The Redtail reservable shelter at Huffman MetroPark has experienced an average peak-season, weekend fill rate of 13.1% from 2017 through 2019. This ranks 12th out of 13 parks. Revenue in the past three years has totaled \$1,810.



Proposed Revenue Sources

With the improved paved and natural trail access to the Redtail shelter, as well as view enhancement, casual use of this shelter by bikers and hikers should increase. However, the addition of two small picnic shelters near the Kaufman Road entrance would present competition for reservable space. Consequently, Redtail would likely not show an increase in revenue.

The addition of two (tier 3) shelters, with capacity of 25 each, located near the Kaufman Road entrance would enhance the potential for increased revenue from park visitors and bikers. Based on a sampling of similar-sized shelters throughout the agency, an additional \$1,100 per year could be reasonably expected.

The planned MoMBA Support Facility presents an opportunity for additional revenue. Having a patio/shelter attached, with capacity for 100, would lend itself to post-ride gatherings, birthday parties, business outings, as well as a space for educational programming. Using pricing for a similar-size shelter, and given the limited season at MoMBA, annual rental revenue of \$1,250 could be foreseen.

The park master plan includes camping at MoMBA. Specifically, the plan includes five or six primitive (backcountry type) sites with a central gathering area, making the location versatile in terms of independent users or group outings. Given that the sites would only be used when MoMBA is open during warm weather months (roughly 16 weeks annually), this amenity could generate \$800 annually.



3.6 PUBLIC SAFETY

Implementation of the Huffman MetroParks Master Plan will have a moderate impact on the Ranger Division. Below are the considerations:

Current Patrol

- **Patrol Area** - Rangers are normally assigned a patrol area, or “beat.” The beats are identified as North, South, East, and Central. Huffman/MoMBA are part of the East Beat, along with Eastwood and Sugarcreek MetroParks.
- **Patrol Strategies** - Typically, the ranger assigned to a patrol beat will patrol the parks in his or her assigned beat several times during a shift at various intervals, being careful not to have a predictable routine in patrol times and methods. Rangers frequently make informal contact with park visitors and are especially encouraged to contact visitors who have reserved a shelter. Rangers look for anything suspicious and will make contact with people who may be involved in criminal activity. The rangers’ primary focus is preventing criminal activity, but they are encouraged to take enforcement action, including making physical arrests or issuing citations, when appropriate.
- **Patrol Time Estimates** – Rangers previously estimated the amount of patrol time spent actively patrolling in each park during a 10-hour shift while assigned to that area, not counting any drive-times from park to park, or other non-patrol time.

In a typical 10-hour workday, the estimated average time a ranger spends on active patrol in Huffman MetroPark and MoMBA is 100 minutes.



Anticipated Changes to Patrol

- Vehicular traffic and parking – Most patrol conducted by rangers is completed by driving through the park areas in a marked cruiser. The addition of a new entrance and parking area off Kaufmann Road will require addition patrol time, as will the addition of restrooms, shelters, and trails in this area.
- Improvements to and the addition of hiking trails will have a minor direct impact on the rangers' patrol time. Hiking trails are patrolled by rangers either on foot or on bikes. Although additional trails require additional patrol time, trails are not patrolled as frequently as main areas of the parks. Therefore, the impact will be minimal.
- Impact of additional structures/features – The installation of a new restroom in the Main Park Area and the proposed new bridge will require some additional attention from the Ranger Division. Both will require additional patrol throughout the day and will need to be locked each night. Enhancements to the top of the Huffman Dam is likely to significantly increase pedestrian traffic and the need for extra ranger attention.
- Changes made at MoMBA should only have a minor impact on the rangers' patrol of the park. The addition of a connecting trail and other trails around MoMBA will have to be patrolled and checked on occasion, but that will typically be done as time allows by rangers on bicycles. Also, MoMBA trail conditions are checked daily by Operations staff, which also assists with crime prevention and detection.
- Impact of additional activities/visitation – As a result of the proposed improvements, increased usage of the park is expected. The increased usage will likely have a moderate impact on the amount of patrol time rangers spend in the park. Whenever there is an increase in the number of people in a location, rangers generally see the potential for increased criminal activity. In this case, it may be likely that an additional occasional theft or vandalism may occur, but it is not expected that there will be a significant increase in crime as a result of the proposed changes.

Impact/Cost to Public Safety

- Based on the changes and additions proposed in the Huffman MetroParks Park Master Plan, it is estimated that an additional 20 minutes of patrol time per ranger, per shift, will be needed after the improvements are completed. This is based on the assumption that the improvements, especially the new bridge, restroom, shelters, additional parking lot, and trail enhancements on top of the dam, will require additional ranger time to patrol it consistently throughout the day and secure some of these areas each night. These improvements are also likely to increase the number of visitors to the park, thereby increasing the amount of time rangers are likely to spend interacting with or assisting visitors.
- An additional 20 minutes of patrol per shift x 3 shifts = 60 minutes of additional patrol per day x 365 days = 365 additional patrol hours per year.



3.7 ALTERNATIVE REVENUE

The addition of new trails, features and amenities proposed in Huffman MetroPark Park Master Plan provides excellent naming, sponsorship, and tribute opportunities. Additionally, as capital projects are identified they will be reviewed for possible partnerships within the community, grant opportunities and foundation support. Based on item descriptions and notes from the park master plan the following elements could generate alternative revenue:

- | | |
|--|--------------------|
| • MoMBA Spectator Connector (for events) | Sponsor |
| • Trails | Sponsor or tribute |
| • Camp Sites | Sponsor or naming |
| • Huffman Dam Exercise Stations | Sponsor or naming |
| • Huffman Dam Interpretative Area | Sponsor or naming |
| • Shelters and Benches | Naming or tribute |

All donation amounts will include an endowment for a pre-determined specific period of time (3 years to 10 years) with the opportunity for the donor or sponsor to renew.

