

# JEFFERSON COUNTY FAIRPARK MASTER PLAN UPDATE

University of Wisconsin - Madison  
Department of Urban and Regional Planning  
Professional Project Report



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SEP/30/2014



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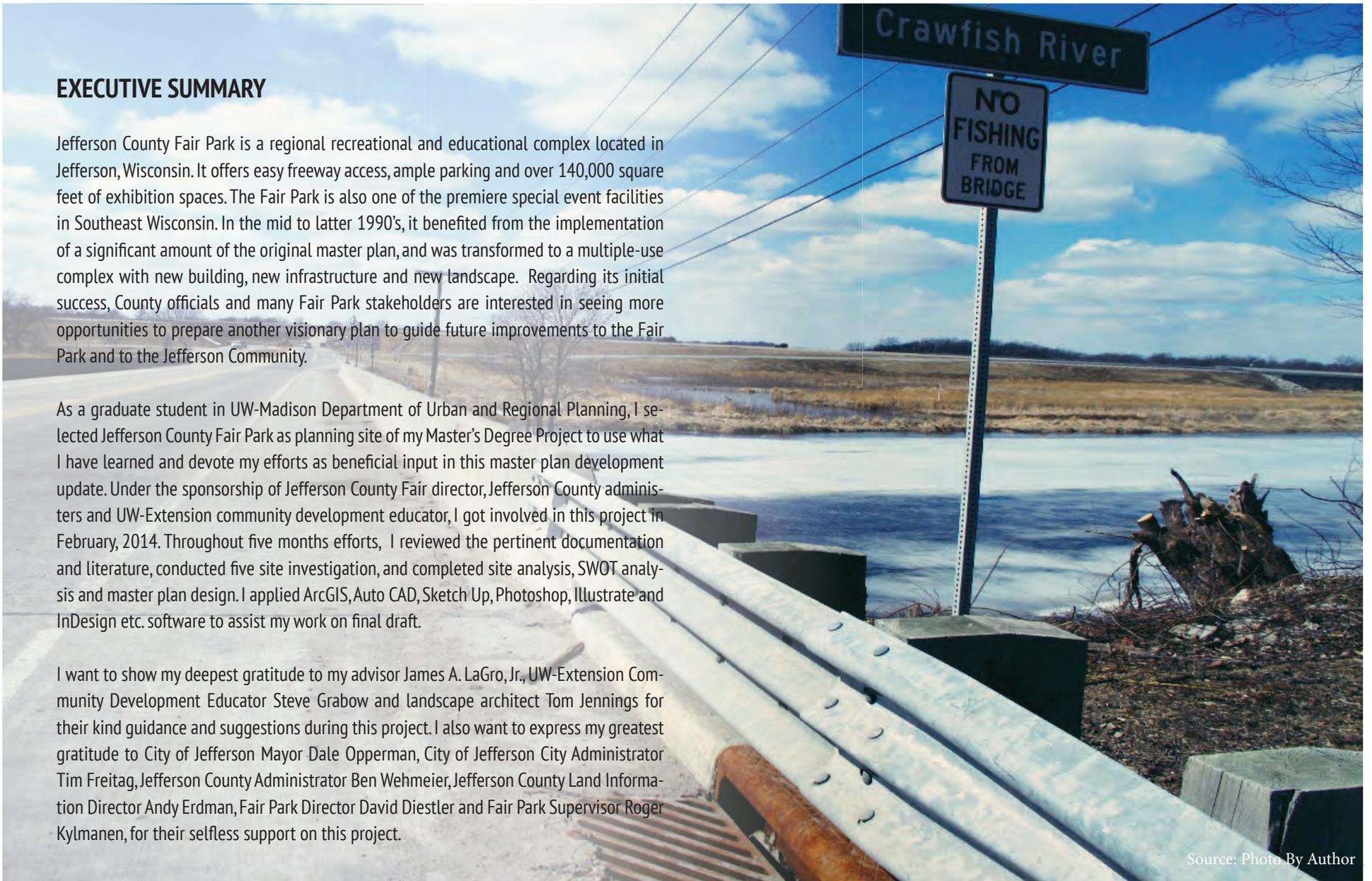
## EXECUTIVE SUMMARY

Jefferson County Fair Park is a regional recreational and educational complex located in Jefferson, Wisconsin. It offers easy freeway access, ample parking and over 140,000 square feet of exhibition spaces. The Fair Park is also one of the premiere special event facilities in Southeast Wisconsin. In the mid to latter 1990's, it benefited from the implementation of a significant amount of the original master plan, and was transformed to a multiple-use complex with new building, new infrastructure and new landscape. Regarding its initial success, County officials and many Fair Park stakeholders are interested in seeing more opportunities to prepare another visionary plan to guide future improvements to the Fair Park and to the Jefferson Community.

As a graduate student in UW-Madison Department of Urban and Regional Planning, I selected Jefferson County Fair Park as planning site of my Master's Degree Project to use what I have learned and devote my efforts as beneficial input in this master plan development update. Under the sponsorship of Jefferson County Fair director, Jefferson County administrators and UW-Extension community development educator, I got involved in this project in February, 2014. Throughout five months efforts, I reviewed the pertinent documentation and literature, conducted five site investigation, and completed site analysis, SWOT analysis and master plan design. I applied ArcGIS, Auto CAD, Sketch Up, Photoshop, Illustrate and InDesign etc. software to assist my work on final draft.

I want to show my deepest gratitude to my advisor James A. LaGro, Jr., UW-Extension Community Development Educator Steve Grabow and landscape architect Tom Jennings for their kind guidance and suggestions during this project. I also want to express my greatest gratitude to City of Jefferson Mayor Dale Opperman, City of Jefferson City Administrator Tim Freitag, Jefferson County Administrator Ben Wehmeier, Jefferson County Land Information Director Andy Erdman, Fair Park Director David Diestler and Fair Park Supervisor Roger Kylmanen, for their selfless support on this project.

Source: Photo By Author



## 1 Introduction

### 1.1 Regional Context



Figure 1. Zoom to Jefferson County Fair Park  
Source: Jefferson County Wisconsin GIS Reviewer

Jefferson County Fair Park is located in Jefferson, Wisconsin, in Jefferson County. Ideally situated between the metropolitan of Milwaukee and Madison, Jefferson County offers a pleasant mixture of urban and rural life for over 84,000 residents. Regional access to the Jefferson County is via Interstate 94 from the east and west and Jefferson Bypass 26 from the north and south, as well as US Highway 18 from the east. Jefferson County is contiguous to the counties of Dane, Dodge, Rock, Waukesha and Walworth Counties. The quality of life in Jefferson County is enhanced by the vibrant economy and strong tradition in farmland preservation. Guided by careful planning, the County strives for balanced growth while maintaining community livability. The County's park system, cultural sites, scenic roadways and quaint authentic downtowns, among other attractions, add to the quality of life while contributing to the economy. Jefferson County's location, economic diversity, and quality of life combine to create a dynamic area where to live, work, visit and do business.

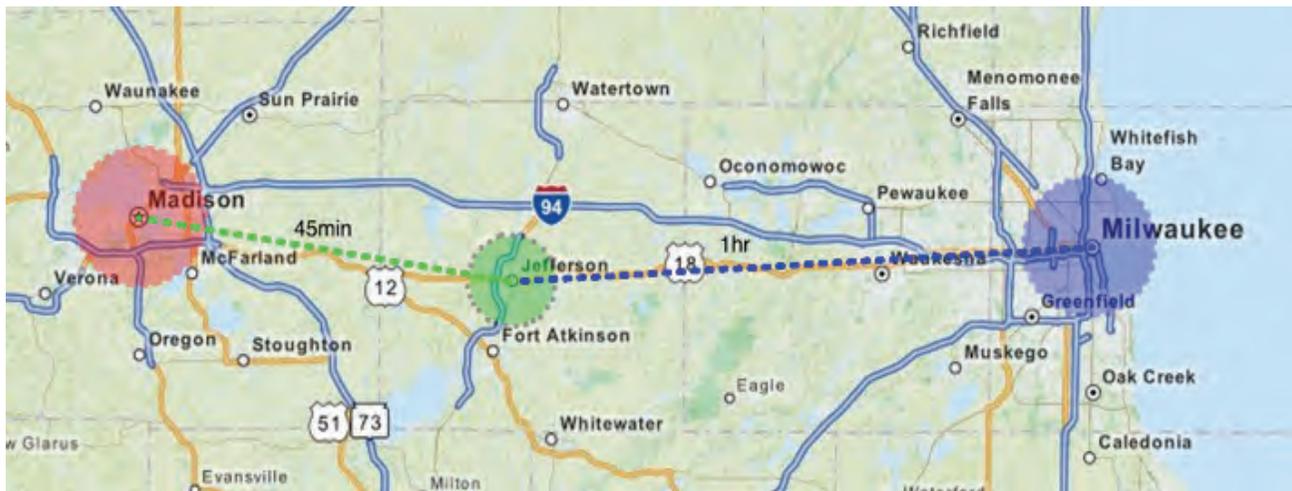


Figure 2. City of Jefferson regional location  
Source: Google Earth Map Edited By Author

The City of Jefferson is located in the central part of Jefferson County. Jefferson Fair Park is located in the northwest part of the City of Jefferson, on the east side of Jefferson Bypass 26, north side of US Highway 18 and west side of Crawfish River. The Fair Park is bordered with residential district from the east and southeast. Farmland is adjacent to the southwest, west and north sides of the Fair Park

Jefferson County Fair Park is made up of four land parcels with a total area size of 89 acres. The main facilities include exhibition building, activity center, animal barns, indoor and outdoor arenas, grandstand and campgrounds. All the year around, especially in summer time, tourists near and far are attracted here for all kinds of activities from animal shows, festivals to craft shows auctions and Madison Classics Car Shows for its prime location and fine facilities.



Figure 3. Project Approach  
Source: Created By Author

## 1.2 Project Approach and Time Line

In this project, firstly the pertinent reports are reviewed to predict the demand and use trend for the Jefferson County Fair Park in the future. In the meantime, a stakeholder workshop is held to share ideas about the possible land use and facility configuration in and around the Jefferson County Fair Park. Secondly, based on a summary of the related documents plus the suggestions and ideas from the stakeholder workshop in July 25, the Fair Park future demands and use trend are identified to determine the project scope and objectives. Thirdly, a site analysis is completed from two aspects: natural characteristics and social characteristics, emphasizing the existing facilities limitations in providing service for the future demands and use trend, namely, how the existing facilities meet the objectives we discussed before. After that, a SWOT matrix analysis is conducted as a product of comprehensive understanding and synthesizing of the site condition and future challenges. This analysis provides significant guidance in determining those requisite elements in the successive design, aiming to explore the possible improvement schemes to fill the gap between present and the future by using design practice accordingly. Last but not the least, based on the outcome of SWOT matrix analysis, a master plan concept together is completed. This master plan concept includes the Fair Park design concept, circulation and parking and equestrian community plan. It will be presented and explained to the Fair Park stakeholders including Jefferson County Fair director, Jefferson County administrators and UW-Extension community development educator for further view and discussion.

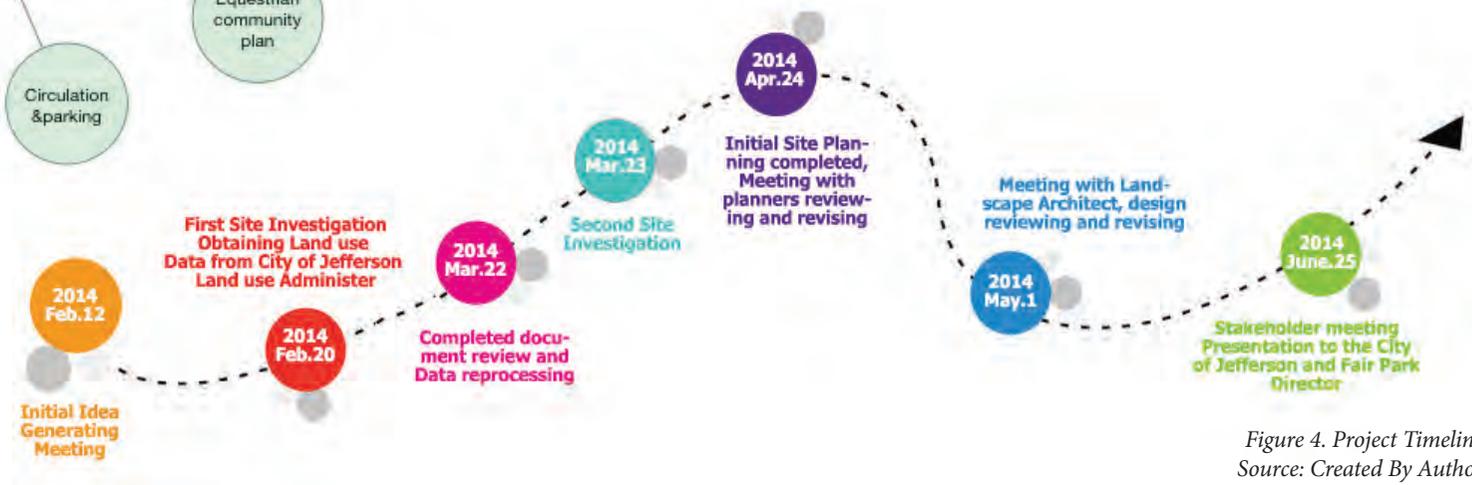


Figure 4. Project Timeline  
Source: Created By Author

### 1.3 Project Scope and Objectives

By reviewing and summarizing data and literature from a wide array of source about Jefferson County Fair Park, the following information reveal the future demands and use trend:

- Equine activities, Livestock/animal events, and festivals/unique events are the top three activities in the Fair Park that have the strong market potential, especially equine activities. In the future, we need to build facilities to accommodate these activities and events to meet the market demand.
- As part of the WIS 26 Corridor Expansion Project Janesville to Watertown, in Dodge, Jefferson and Rock counties. Jefferson Bypass is a 7.5-mile freeway to carry WIS 26 traffic around the west side of the city of Jefferson, in Jefferson County. It was completed in 2011, bringing changes not only to the

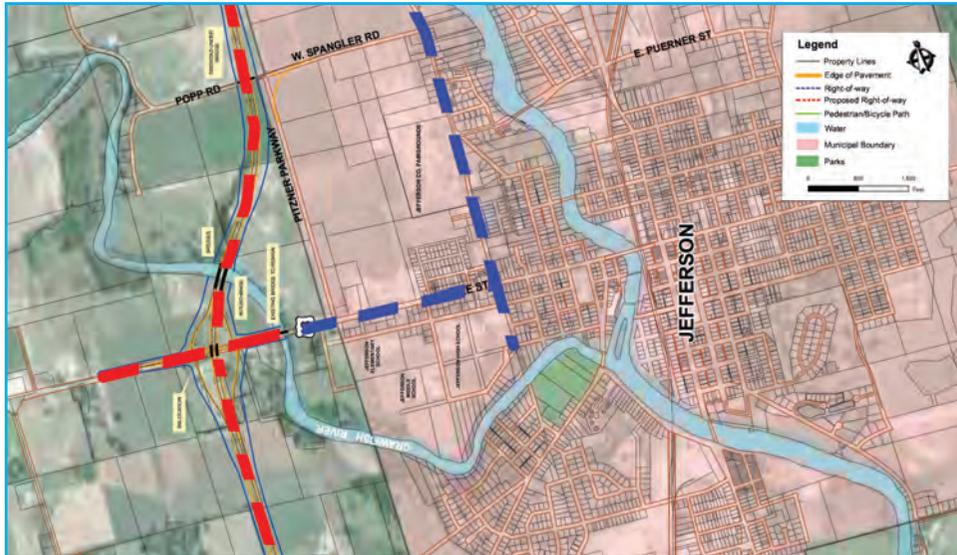


Figure 5. Jefferson Bypass Highway 26, Proposed and completed in 2011  
Source: Wisconsin DOT Plans and Project, Edited by Author



Figure 6. Landscape along the Crawfish River  
Source: Photo by Author

Fair Park itself but also to the whole Jefferson Bypass surrounding area with its function of increasing accessibility and attracting traffic flow (Shown in Figure 5). Taking consideration of this highway is necessary to better estimation of the current the traffic situation, thus to a better transportation planning.

- Current lodging operators and local employers (Tyson/Nestle) have identified market need for a new hotel near Fair Park in responds to the increasing traffic flow from Jefferson Bypass 26 and Highway 18. The City is also interested in a hotel to provide accomodation for the Fair Park visitors.

- Regional and local interests in equine activities, beautiful landscape along the Crawfish River and path winding along the river, those three make this area in great potential in building an equestrian-oriented community and horse trail.

Based on the above information and the discussion outcomes from the stakeholder meetings, this project scope includes the Fair Park Area as well as its vicinity area that has close relationship with the Fair Park and its future development. This scope of this project includes the Jefferson Fair Park area and its west side to the Crawfish River, including Jefferson Bypass 26, with a total area of approximate 1000 acres (Figure 7). The study area of this project is divided into two parts: Jefferson Fair Park On-Site Development and vicinity Off-Site Development.

The Jefferson Fair Park Development aims to achieve the following objectives:

- Build a new indoor exposition facility with emphasis in accommodating large horse shows to meet the future needs and use trend
- Develop relationship considerations and implications of the exposition facility and its surrounding buildings
- Take advantage of the proximity to the Jefferson Bypass 26, increase the connectivity of the Fair Park and its west side Pitzner Parkway, and to design characteristics promote its association with Fair Park
- Enhance parking and transportation circulation to promote the efficiency and convenient use of the Fair Park, especially in peak time.

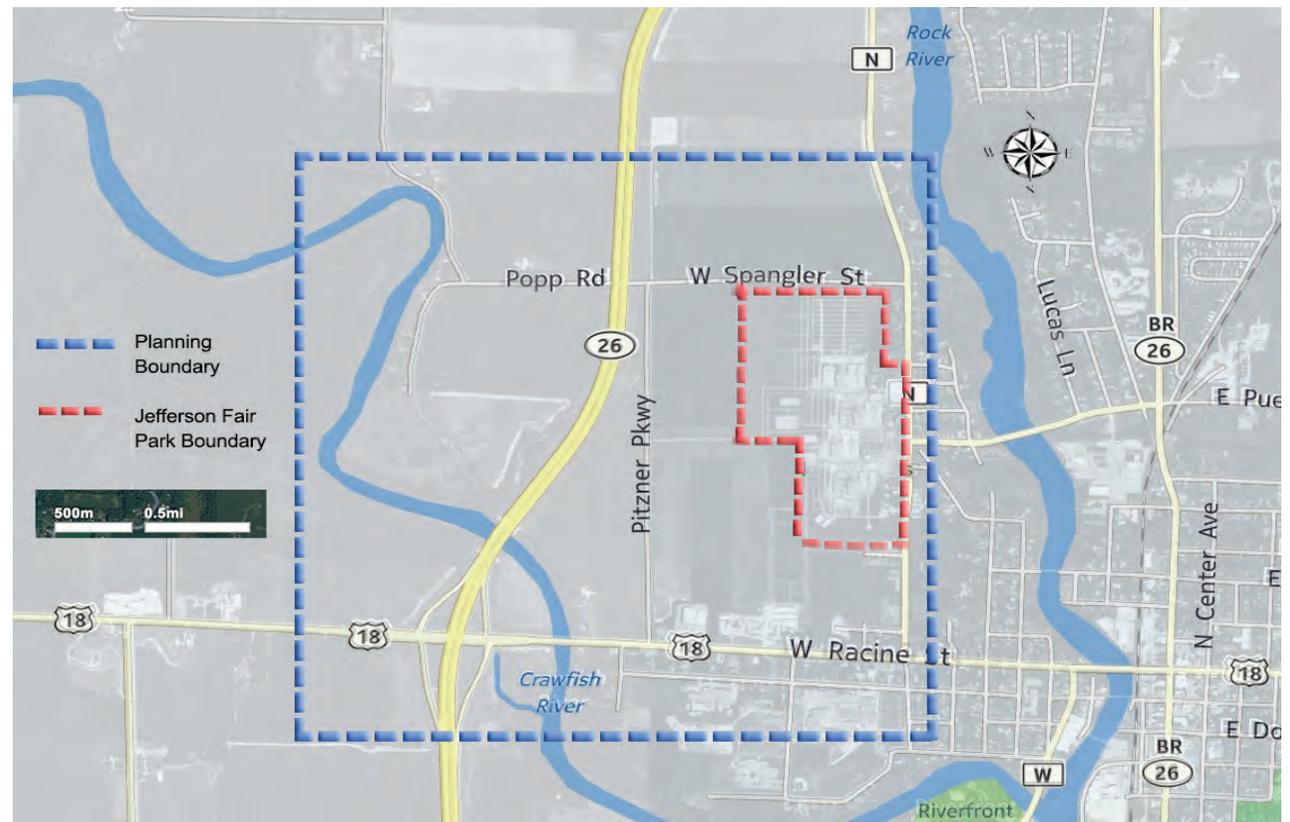


Figure 7. Project Scope  
Source: Google Earth Map Edited By Author

The vicinity Off-Site Development aims to achieve the following objectives:

- Facilitate the stakeholders' demand of new hotel, affirm its size location and program considerations
- Develop the idea of equestrian oriented community. The idea

should reflect the County and City's interest in sustainable community design and principles of community peacemaking, which are reviewed in the existing strategic and community plans

- Explore the possible horse trail to link the equestrian-oriented community, green corridor along the Crawfish river and the camping site in the Fair Park together

- Improve the parking and transportation circulation with emphasis in easy access to the Jefferson Fair Park, main roads and newly established facilities.

## 2 Site Analysis

### 2.1 Natural Characteristics

#### 2.1.1 Topography

Topography is important to reduce construction costs, minimize risks from natural hazard such as flooding and landslides, and to reduce the impacts of proposed development on natural resources such as soils, vegetation, and water systems.



Figure 8. 2 Foot Contours Topography Map  
Source: City of Jefferson Land use Information, Edited by Author



Figure 9. 10 Foot Contour Topography Map  
Source: Jefferson County Wisconsin GIS Reviewer

From the observation from 2 foot contours, 10 foot contours and DEM slope map, we can see the region of study area is relatively flat, with average elevation of 800 meters, especially the area close to the Jefferson Bypass. In most area, the slope is between 0-5°. This flatness makes this area ideal for the construction of building and dwelling. Yet to the east side of Crawfish River, near the Jefferson Bypass, around the pond, the slope is between 6°-10°, which indicates that this area is not suitable for construction. However it can be utilized as tourism attraction with its green space and countryside landscape. Despite storm sewers help divert the increased flow of water from impervious surface to Crawfish river, flooding downslope is still a problem. Although ideal for development due to its flat terrain, this area becomes increasingly flood-

prone as the watershed develops further. Thus a well-functioning sewer system is a critical concern in this area.

### 2.1.2 Soil

Soil investigation is necessary because the soil is the natural foundation that supports all structures and investment. Without soil investigation buildings can collapse or rendered non functional for intended purpose. Based on the web soil survey, we are able to get the soil information, while knowing the varying physical and chemical characteristic of soil. Then we can estimate the bearing capacity of

| Soil type                   | WvA                                       | Wa   | TuB                                      |
|-----------------------------|---|--|--|
| <b>Property</b>             | Wauconda silt loam, 0 to 2 percent slopes | Wacousta silty clay loam                   | Tuscola silt loam, 2 to 6 percent slopes |
| <b>Area (Acres)</b>         | 348.2                                     | 148.8                                      | 107.5                                    |
| <b>Percentage</b>           | 34.8%                                     | 14.8%                                      | 10.7%                                    |
| <b>Depth to water Table</b> | About 12 to 36 inches                     | About 0 inches                             | About 24 to 42 inches                    |
| <b>Origin</b>               | Terraces on lakebeds (relict)             | Depressions on lakebeds (relict), drumlins | Terraces on lakebeds (relict)            |

Figure 10. Table of Principle Soil Types in Study Area  
Source: Web Soil Survey Result Tabulated By Author

the soil which determine the load sustenance capability of the soil, rate of settlement of the soil and which directly relates to the rate at which any structure placed on it settles.

The table indicates that over 50% of the area has relatively low slope, flat, and have fair support for the structures. Based on the physical and chemical characteristic of soil, we are able to evaluate its suitability in building structures (Figure 11) and its risk of corrosion (Figure 12). The suitability in building facilities are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. The risk of corrosion means the potential soil-induced electrochemical or chemical action that corrodes or weakens concrete. After overlay of the rating maps, the result is the site that suitable for further development, which has high suitability in supporting structures and also low risk of corrosion (Figure 13). As I mentioned above, due to the overall flatness in this area, we need to pay more attention in construction good drainage system.

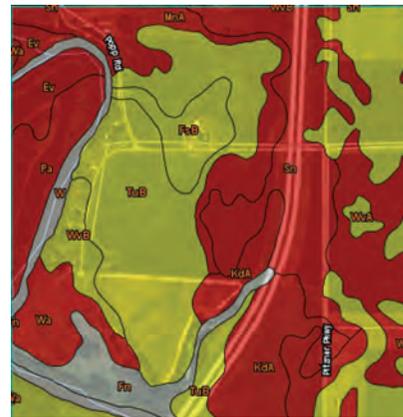


Figure 11. Rate of Suitability in Building Facilities  
Red color: unsuitable, Yellow color: suitable  
Source: Web Soil Survey Result



Figure 12. Rate of Risk of Erosion  
Green color: Low risk, Yellow color: medium risk  
Source: Web Soil Survey Result



Figure 13. Suitable Area for Further Development  
Green color: Suitable Area  
Source: Web Soil Survey Result, Edited By Author

### 2.1.3 Vegetation

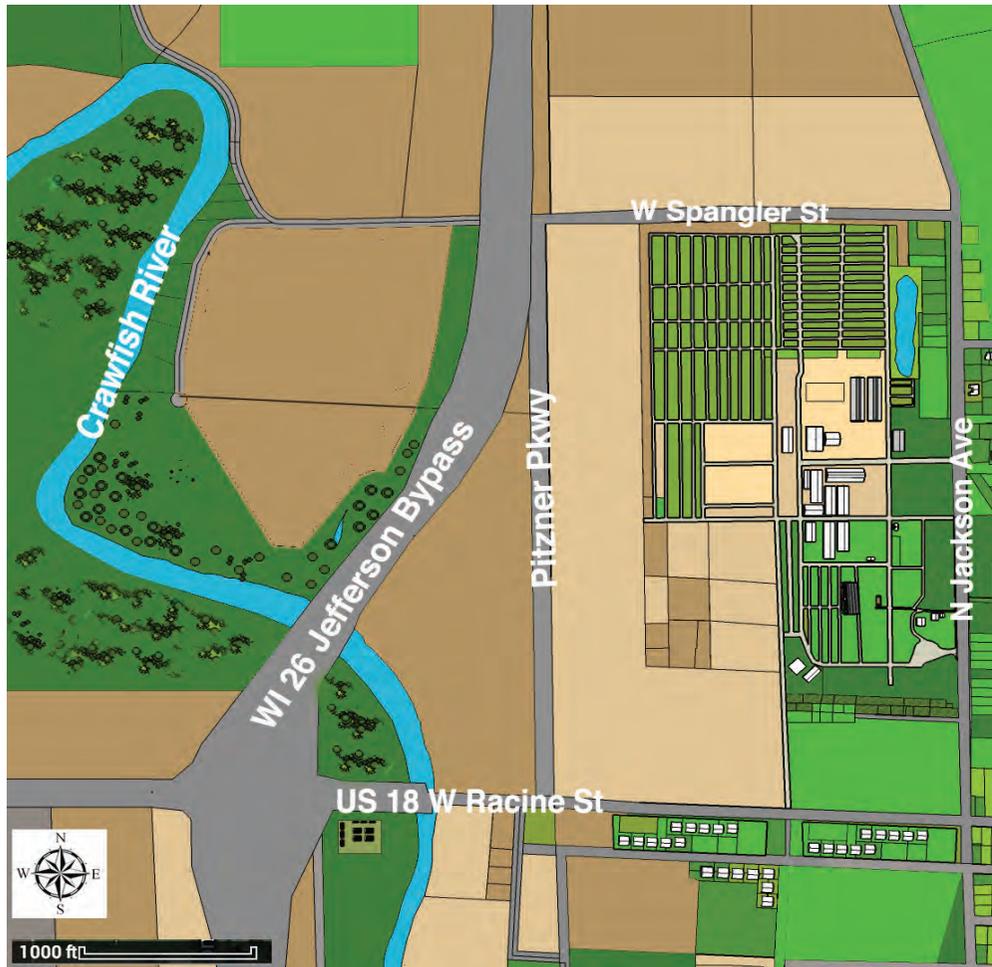


Figure 14. Vegetation Map  
Source: Created By Author

Vegetation comprises 437 acres, or 43.7%, of the total site (20.6% are lawn areas and 23.1% are wooded areas):

- Open lawn areas (light green)
- Wooded areas (dark green)
- Recreation lawns (light green crosshatch)

The patchwork character of the vegetation can mostly be attributed to the various site uses and topography of the Fair Park area.

The green corridor along the Crawfish river is a place to wander around and enjoy the beautiful riverside forest scenery. It has great potential to develop a horse trail along the way, while people have the opportunity to ride horses, enjoying an enchanting view of the natural scenery and relaxing under the sunshine.

## 2.2 Social Characteristics

### 2.2.1 Existing Facilities in Jefferson Fair Park

In Jefferson Fair Park, there are animal buildings, commercial buildings and exhibition buildings (As showed in Figure 15). Animal buildings include horse barns, indoor and outdoors arenas and other livestock barns and facilities such as sheep barn and beef barn. The horse barns, indoor and outdoor arenas compose the Horse Complex, which is one of the most frequent used facilities in Fair Park. Over 30 horse shows are held annually during summer time. There are 3 outdoor arenas at the Jefferson County Fair Park. They all have a sand surface with fencing and bleachers. The North Outdoor Arena has a covered announcer stand. There are two indoor horse barns. The one in the north side of the Fair Park was also built in 1999 and is identical to the Dairy Barn in its structure and appearance. During the summer months, 94 horse stalls (10' x 10') are erected in the Horse Barn for usage of horse groups for shows. Wash racks are located between the Horse Barn and the Dairy Barn. In addition to horse stalling, this structure is used during the spring and fall auto shows and llama shows. During the winter

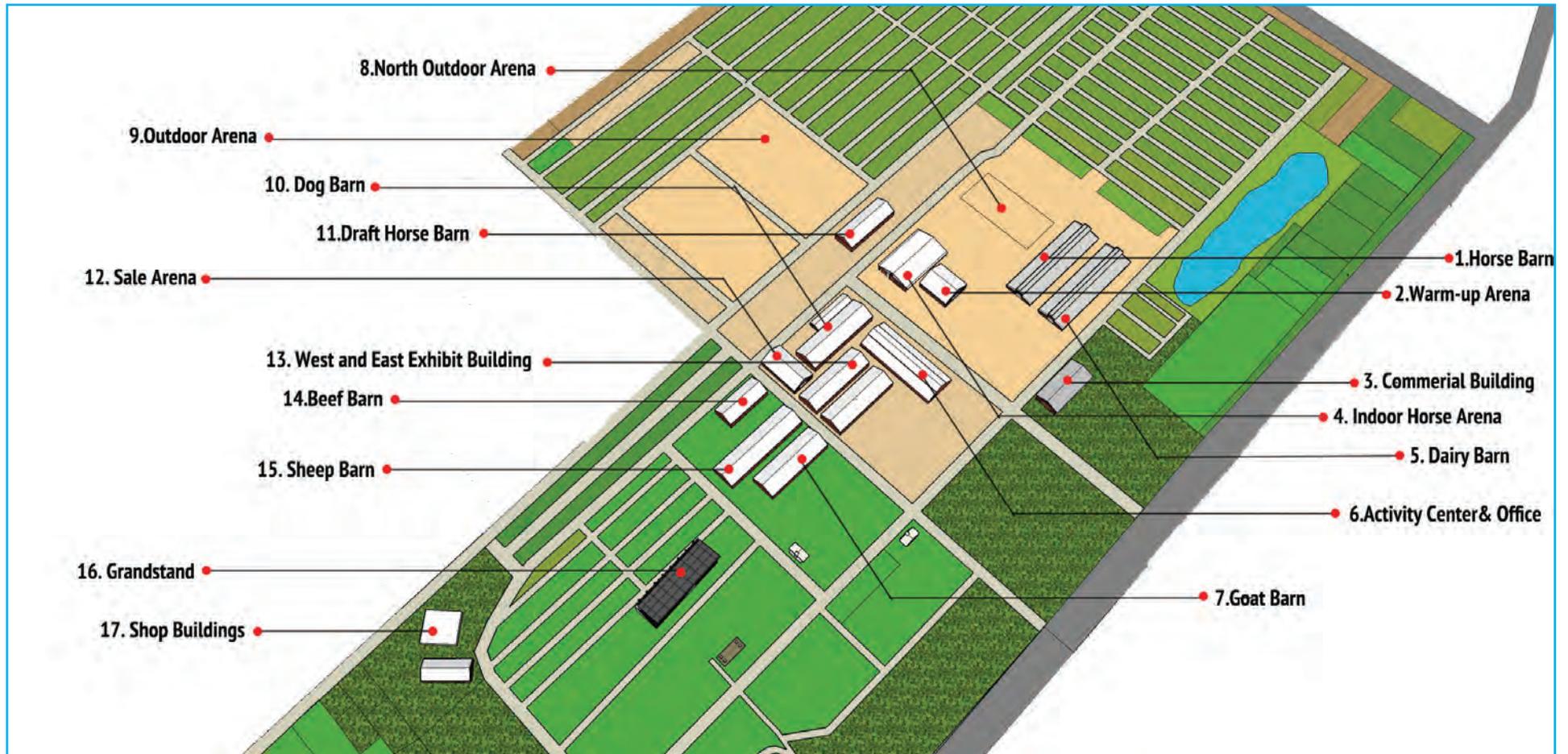


Figure 15. Existing Facilities in the Fair Park  
Source: Created By Author

months, the Horse Barn is used to store recreation vehicles and other items.

Commercial buildings include activity center, two food service buildings in both north and south side and commercial building. The Activity Center is a 16,800 square foot building located in the center of the Fair Park. The Activity Center is used for sales and auctions, consumer shows, conferences, banquets, fund-raisers, spectator and entertainment activities and a variety of other uses.

List of Existing Facilities in Jefferson Fair Park

|  | Name                  | Size and Capacity                        | Location            | Function  | Use frequency |
|--|-----------------------|--|---------------------|---|---------------|
| Animal buildings                                   | The Equestrian Barn   | 60' x 260'<br>10' x 10' stalls           | North               | Housing horses, exhibition, animal shows, storage   | High          |
|  | The Draft Horse Barn  | 50' x 150'                               | Northwest           | Horse stalling, storage   | High          |
|  | Outdoor Arenas        | 80' x 200'<br>150' x 250'<br>115' x 220' | North and Northwest | Horse playing field   | High          |
|  | Indoor Arenas         | 80' x 80'<br>105' x 150'                 | Northwest           | Horse playing field   | High          |
| Livestock Barns (sheep barn, beef barn, goat barn) |                       | 52' x 120'                               | Southwest           | Housing animal winter storage   | Median        |
|  | Dairy Barn            | 60' x 195'                               |                     |   |               |
| Commercial buildings                               | Dairy Barn            | 60' x 260'                               | North               | Animal shows, auto show   | Median        |
|  | The Activity Center   | 16,800 square foot                       | Center              | Sales and auctions, consumer shows, conferences, banquets, fund-raisers, entertainment activities | Very High     |
| Commercial buildings                               | Commercial buildings  | 60' x 112'                               | West                | Exhibitions, Extra stalling for large horse shows, winter storage                                 | Median        |
| Exhibition buildings                               | Grandstand and Track  | 18,800 square foot                       | Southwest           | Sporting events, Concerts   | Median        |
|  | West Exhibit Building | 40' x 160'                               | Center              | Exhibitions   | High          |
|  | East Exhibit Building | 56' x 160'                               | Center              | Exhibitions small events and animal clinics   | Median        |

Figure 16. List of Existing Facilities  
Source: Created By Author

Each year over half of the Fair Park events are held in the Activity Center, most of them are those small animals shows and sales and auctions activities.

Exhibition buildings include west exhibition building, east exhibition building, grandstand and stage. The west exhibition building is 40' x 160' free span with a solid surface, ceiling fans, and two overhead doors. This building is attached to the southwest side of the Activity Center and used almost exclusively with activities held in the Activity Center. Similar to the West Exhibit Building, the East Exhibit Building is a wood-frame structure (approximately 56' x 160') with blacktop flooring. It has no restrooms, heat or air conditioning. It is fully exploited together with the Activity Center to hold activities. Sometimes it also provide space for a few small events and animal clinics on

a stand-alone basis. The grandstand and stage is a covered grandstand that seats 2,200 people is located on the south end of the grounds. Additional bleacher seating is available on each end of the Grandstand.

The table summarizes of the above facilities. According to the long-term usage investigation, the Activity Center and the Horse Complex (Horse Barn, Indoor Arena and Outdoor Arenas) are the most used facilities at the Fair Park. In most recent years, horse shows, consumer/public shows and livestock shows have been the largest categories of multi-day events held at Fair Park.

## 2.2.2 Traffic Circulation and Parking Conditions

The Fair Park site enjoys easy access from major highways and city streets, is centrally located in the Jefferson City area, and is in close proximity to support services and public schools and in good relation to the majority of population.

From the traffic circulation map (Figure 15), we can see that the Fair Park locates on the west side of WI 26 Jefferson Bypass and Pitzner Street, where the main traffic flow go through these two ways, while its main entrances direction is from its east side into the park, which is on North Jackson Ave. When approaching its east side, there is no obvious sign to direct and attract people to go to the Fair Park. As we notice that there isn't noticeable sign along the driving road besides the sign on the Fair Park gate, .Serving as a regional

recreation center, the Jefferson Fair Park needs to increase its recognition and develop its unique features to attract more tourists and win the opportunities in holding various events in Southeast Wisconsin.

Parking space is sufficient in this surrounding the Fair Park from east and south side. Within the Fair Park, due to the truck and animal activities, vehicles and pedestrian share a mixed road and the opening area near facilities serves as extra parking space. There is also a ground parking space in front of the activity center. In peak season, especially the auto shows seasons, the parking space will be limited. The north side of the Fair Park will provide temporary parking space as well. The current parking space basically meets the demands in event season, yet we need to consider that when the new exhibition center is built and more people will come to this area. Potential and easy access parking space should be identified and planned to meet the incoming needs. The proposed parking space should have good connection with the WI 26 Jefferson Bypass and US 18 W Racine Street to provide easy parking while decrease the congestion risk.

### 2.2.3 Landuse and Policy Review

The Fair Park is bordered on the east and southeast sides with residential housing(Figure 18). Farmland is adjacent to the southwest, west and north sides of the Fair Park. The environmental corridors are along the Crawfish River; the residential districts are along the US 18 W Racine Street.

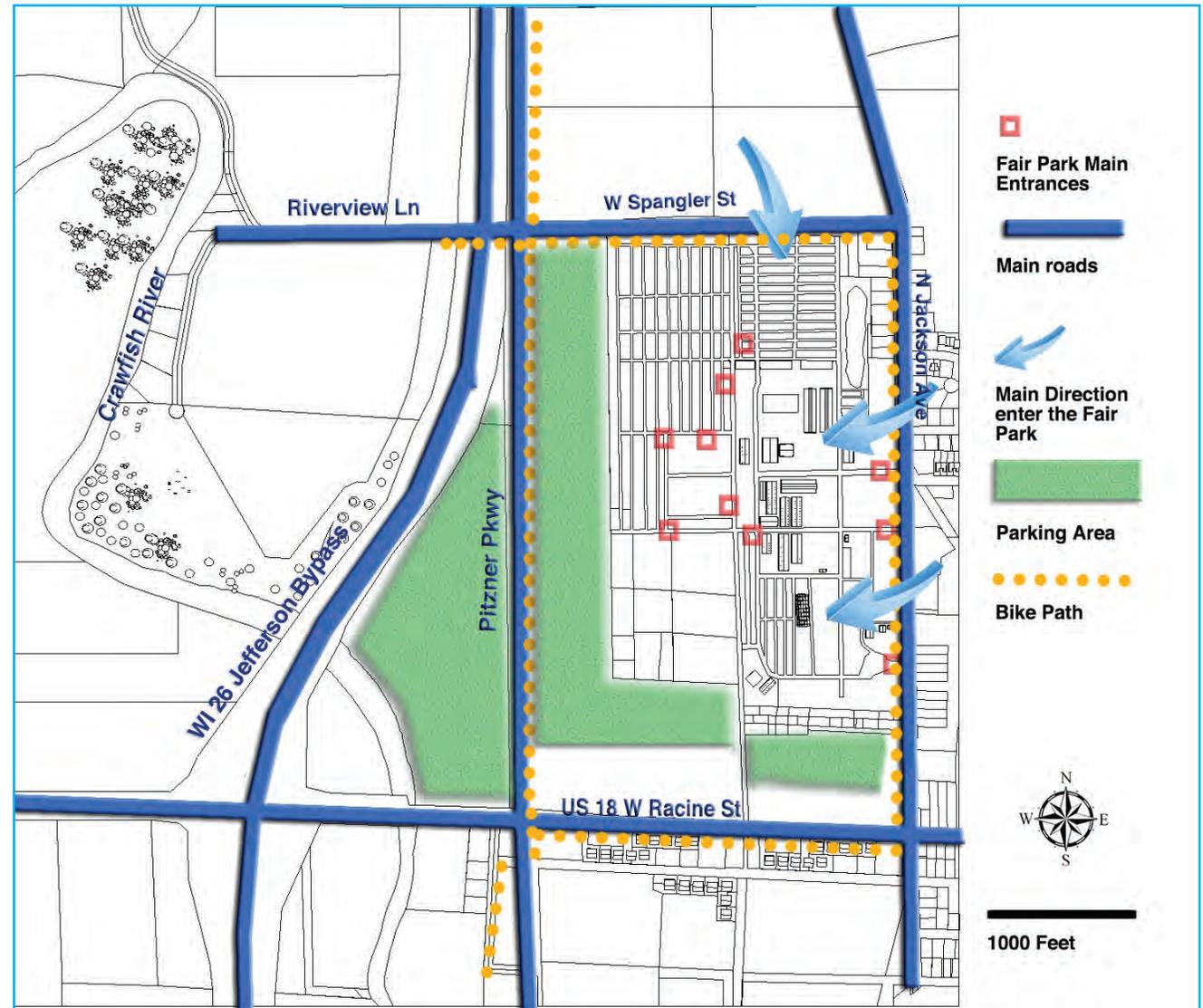


Figure 17. Traffic Circulation and Parking  
Source: Created By Author

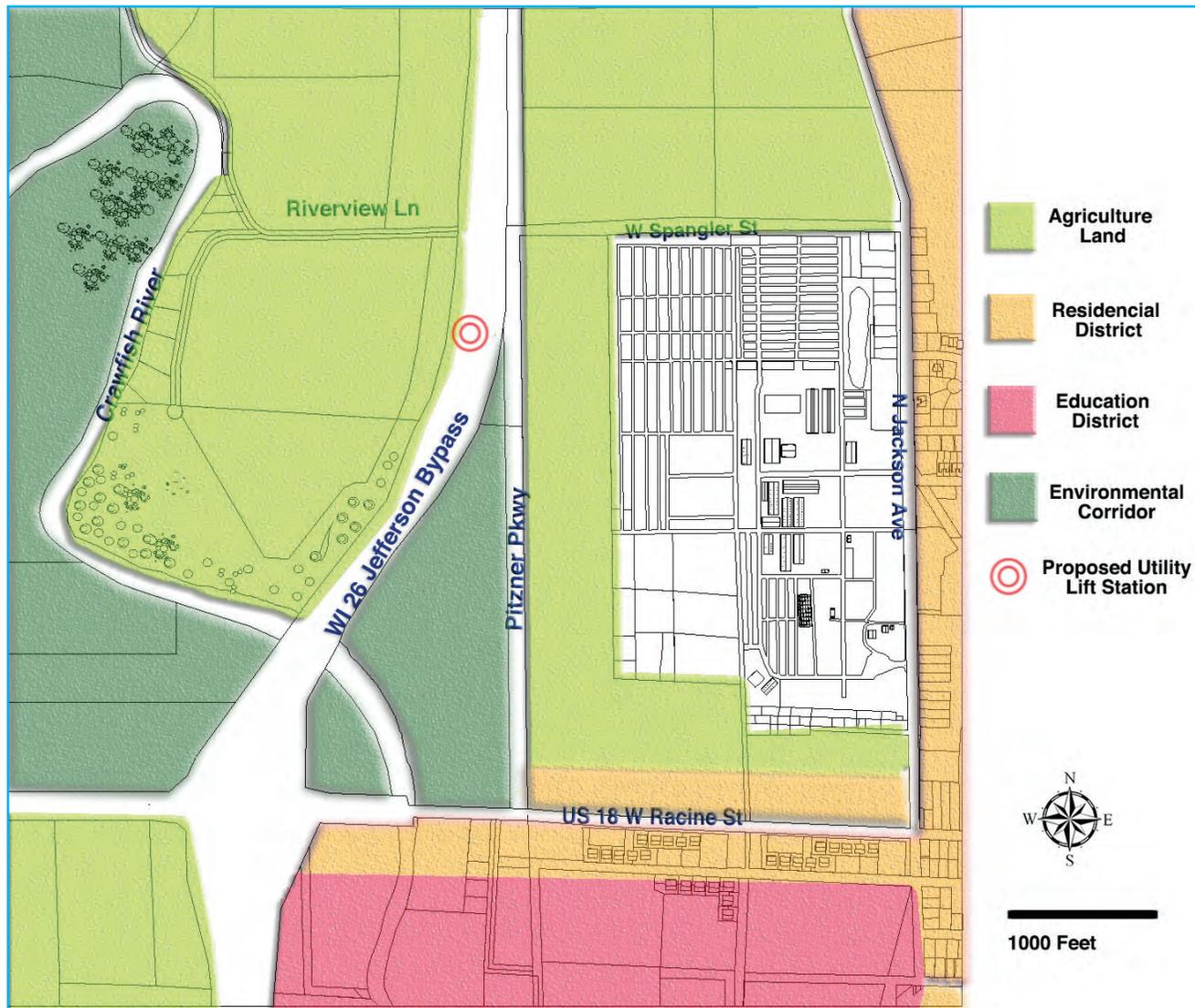


Figure 18. Existing Landuse  
Source: Created By Author

This area is also planned as the redevelopment area in the City of Jefferson Comprehensive Plan.

After reviewing the City of Jefferson comprehensive plan, Farmland preservation plan of Jefferson (2012), Comprehensive Plan update with Economic Development Emphasis (2010), we identified that some primary principles and policy rules the project should comply with:

- Protect and preserve and the environmental corridor system, consisting of wetlands, floodplains, upland woods, and steeply sloped glacial features.
- Design and locate housing in rural areas in a manner that minimizes adverse impacts on agriculture and maintains the rural characteristics in Jefferson County.
- Encourage higher-density residential development in areas where public utilities will be available.
- Encourage nonagricultural-related businesses and industries to locate in areas where public utilities will be available
- The City should capitalize on the stream of visitors the County Fair Park grounds generate through encouraging hospitality uses such as restaurants and hotels to locate on the west side of the City.
- Coordinate growth and development planning between towns and incorporated municipalities.
- Linking Trails. Approximately 100 miles of linking trails are proposed to meander through the countryside and connect the conservation areas to the nearby cities and villages. The linking trails would offer longer distance biking, horseback riding, and cross-country skiing opportunities on relatively flat lands, either off-road or separated from vehicle traffic, and suitable for people with a range of abilities, including

children and seniors. Most trails would be within narrow corridors with surfaces of packed gravel, asphalt, or grass or a mix for different trail users.

- Create a distinct sense of place and charming human scale. Strategies include bringing buildings close to the sidewalk and local streets, providing public focal points with public plazas, greens and squares; creating visual interest, and designating prominent building sites.
- Connect planned neighborhoods internally and to adjacent areas through a network of paths, sidewalks, and streets that discourage high travel speeds but still allow access to emergency and maintenance vehicles (e.g. fire trucks and snow plows).
- Preserve environmentally sensitive areas and pay attention to unique natural features.
- Lay out streets, buildings, and public open spaces that take advantage of long views created by local topography.

### 2.3 SWOT Analysis

After the analysis of the Fair Park natural and social characteristics, we conduct a SWOT analysis to generalize the analysis outcome (in Figure 19).

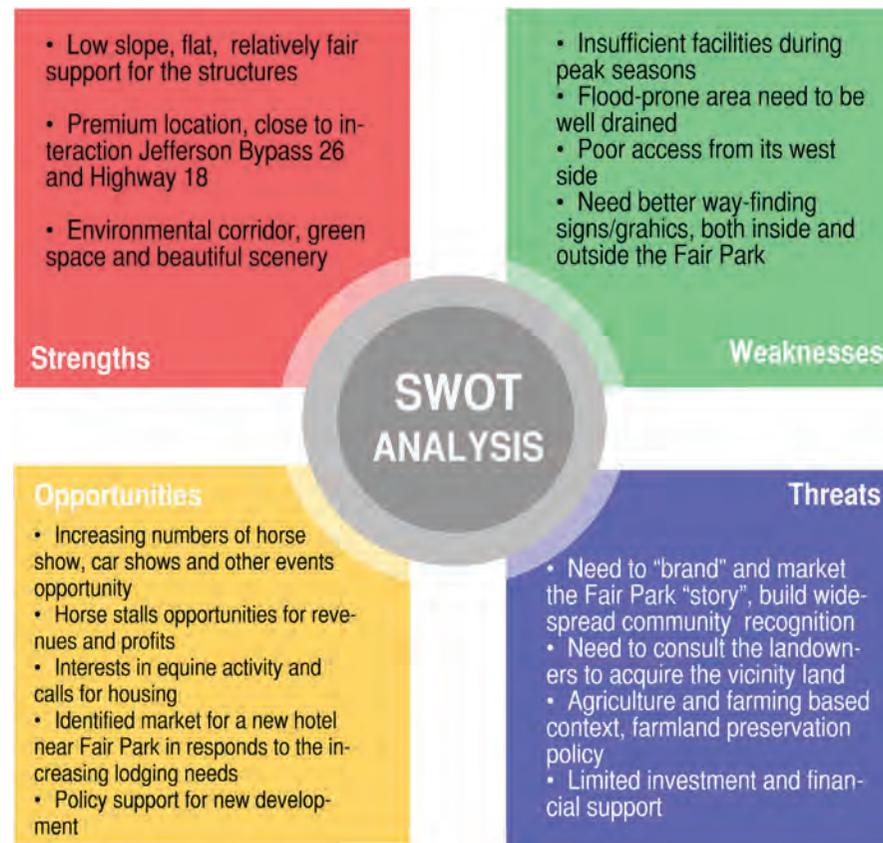


Figure 19. SWOT Matrix  
Source: Created By Author

## 2.4 Design Concept and Principles

### 2.4.1 Design Concept

Based on the SWOT result and the discussion result during the local stakeholder meeting, considering the origin of the project, we come up with the concept idea of One Good Building within the Fair Park. The development of a successful of Fair Park is a long process. This is a lesson we learn from the history of the Jefferson Fair Park.

After decades and multiple remodels, comes the today's Fair Park. As saying goes, Rome wasn't built in a day. Before we could formulate a conclusive and comprehensive long term plan for this area, it's better to focus on the need and demand at present. Only meeting the demands can the Fair Park prepares more and better for the future growth. One Good Building idea doesn't indicate merely one single building, but is to build one good exposition building together with the package of street redesign and the buildings in vicinity area to support and facilitate this building to reach its fullest use. This One Good Building will not only meet the current demands of larger horse shows, but also answers the calls from the policy of City of Jefferson and Jefferson County. On the other hand, this idea leaves the blank space for further development in the future, makes the short-term payback possible, providing more financial support for the following expansion and growth.

## · Functional

Form follows function. The proposed building and street design should fully meet the needs of users. The proposed exposition building will provide more space for larger animals show during peak time and stall space. The street will be redesigned to accommodate the peak events, and have design characteristics branding its association with Fair Park. The vicinity area design will also provide housing supplement to meet the housing need while addressing the increasing interest in Equine activities.



Figure 20. Functional Example: Dalls Fair Park  
Source: Dalls Fair Park Website

One of successful functional Fair Park example is the Dallas Fair Park with the recreational and educational complex located in Dallas, Texas. The complex has nine museums, six performance facilities, a lagoon, and the largest Ferris wheel in North America. The 277-acre park and its cultural and sports facilities play host to more than seven million annual visitors.



Figure 21. Unification Example: Pella Plaza. Iowa State Fair Park  
Source: Iowa State Fair Park Website

## · Unification

Considering of the existing buildings and facilities in the Jefferson Fair Park area, the new design need to fit in the context, from the color, style to material and layouts. Since most of the existing facilities are wood and concrete structure with brick and white color, the new building and facilities will try to mimic the surrounding buildings to live in harmony with the environment. This unification also indicates a respect and preservation heritage of the history, get inspired from and reference to the successful past to enjoy an innovative development.

One of the unification examples is the Iowa state Fairground in Des Moines, IA. The Iowa State Fairground has a classic appeal with its many mature shade trees, hills near the east end, and a mix of

traditional and new buildings and exhibits. The entire 450-acre Iowa State Fairgrounds (including the Campgrounds), are listed in the National Register of Historic Places and feature a large collection of late Nineteenth and Twentieth Century exposition type buildings.



Figure 22. Connectivity Example: Ohio State Fair Park  
Source: Ohio State Fair Park Website

## · Connectivity

A building is a response to its surroundings. New design will rebuild and close the relationship between the Fair Park and its vicinity area, as well as the relationship of buildings and facilities within the Fair Park. This process will be accomplished by the location selection and building of the a exposition building, new facilities, the redesign of streets and roads to make new primary entrances. The connectivity also revealed in linking the current entertainment ground with the

neighborhood and community communication. In this area, after the redevelopment of the Fair Park, the south side education district can benefit from the education programs that take use of the Fair Park.

One of the perfect connectivity examples is the Ohio state Fairground, in Columbus, Ohio. This versatile, 360-acre complex successfully connects I-71 and 17th Avenue, locates in the heart of Columbus. It takes advantage of its north side Columbus Crew Stadium, and several schools in its east side. From a small meeting to a large convention, from a sporting event to a concert, and from a horse show to a black-tie celebration, the Ohio Expo Center/Fairground can well accommodate.

### · Sustainability

In this project we will rely on natural features and processes to create a multi-functional landscape. This area is protected under farmland preservation plan and the environmental corridors are also identified in the City Comprehensive Plan. It is obligatory to preserve the natural resources and protect the green space for the benefits in ecology, agriculture and future development. We aim to achieve the project functional goals while as far as possible to implement the low impact development method. That's also the reason why we take natural analysis and put the storm water management into consideration in advance.

One of the sustainability examples we can learn from the precedent model is also the Iowa state Fairground in Des Moines, IA. The fairgrounds is using more than 300 recycling



Figure 23. Sustainability Example: Iowa State Fair Park  
Source: Iowa State Fair Park Website

containers throughout the grounds and also set up Mid American Energy Wind Turbine and Wind Education Center on Expo Hill to produce green energy. Though the Jefferson Fair ground is a relatively small Fair ground for wind turbine, we can produce the least impervious surface, utilize recycle materials and products to promote sustainability.

## 3 Elements of the Master Plan Options

### 3.1 Master Plan Overview

From the Figure 24, we can have a glimpse of the Jefferson Fair Park Master Plan. This plan not only concerns about the Fair Park itself but also includes its vicinity area that has a close relationship with the Fair Park. The west side area of the Fair Park is defined as Fair Park potential development area. Due to the fact that the east and north side of the Fair Park has already filled with residential buildings, allowing its future development expand to its west side is a wise choice, because this west area has a great connection to the WI 26 Jefferson Bypass and US 18 Racine Street, making lively and linked interaction possible. The southwest side of the Fair Park is defined as bike facilities and school forest area. The reason for that, as mentioned, is that its existing school district and bike trail is a great source to develop educational programs. Students can get a chance to ride a bike while wandering the forest, enjoying the green space and get to know more about the nature, ecology and their community. Over the WI 26 Jefferson Bypass, east side of the Crawfish River area, we propose an equestrian-oriented neighborhood. This neighborhood will be a great response to the mix of the interests in equestrian activities and needs in housing. Building along the Crawfish river but leaving out the important environment corridors, the neighborhood will provide the residents with enjoyment of natural scenery, the style of countryside leisure, the relation of horsing ride, at the same time preserve the precious natural resources.

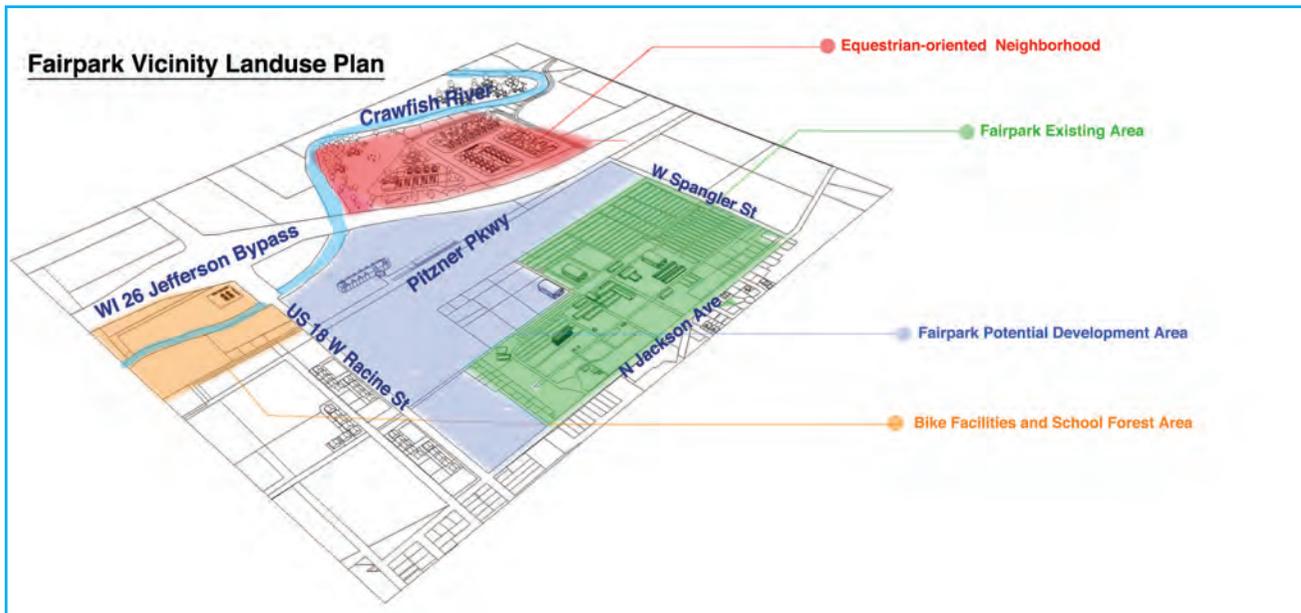


Figure 24. Fair Park and its Vicinity Landuse Plan  
Source: Created By Author

### 3.2 The Fair Park Master Plan Update

The Fair Park Master Plan follows the one good building idea. Within the Fair Park, we choose three preferred locations for the exposition center. The exposition will be a 300' x 125', one-story building with featured logo and sign on the top and a safe room inside. It will allow 500 horse shows at one time and facilitate other animal shows and exhibition activities. The material and color will follow the surrounding buildings with wood and concrete structures in brick white color. The three preferred locations, as marked in Figure 25, A and B, mainly focus on building a featured and functional building along the west side. It will brand and advertise the Fair Park by being easily observed from the WI 26 Jefferson Bypass and US 18 Racine Street, leading the traffic and people to visit the Fair Park area. If we set the exposition building here, we also will open new entrances from the west side, making the west direction the primary entrance direction instead of the original east side. Location C is also a good option, for that it will utilize

the existing utility in the Fair Park, and will well facilitate the surrounding arenas and barns function during the peak hour without much transportation of the animals. Yet for option B and C, it needs to consider the validation fee of the existing outdoor arena. For the Option A, the area has a higher risk of flood and needs to drain more water than B and C from the analysis of the natural characteristics.

Off the Fair Park site, Number 1 shows the location of bicycle facilities. This bicycle meets the call from the regular bike trail users along the Pitzner Pkwy, facilitate green traffic and healthy living style. Number 2 shows the location of an established hotel. This hotel will accommodate the lodge need from the local employers with over 80 rooms, similar with the Holiday Inn Express in Fort Atkinson where has the similar situation in Jefferson. Located in WI 26 Jefferson Bypass and US 18 Racine Street interchange, this hotel serves the local employers as well as the people from the highway, and could be a good source of tax revenue. Beside the hotel, Number 3 is a green parking space. We will follow the sustainability principle, produce as less as impervious surface, using porous ground for parking space. This parking space plays a significant role in providing extra parking space for the Jefferson Fair Park during its peak time, for the vehicle flow from highway, and for the hotel. Since the potential Fair Park development area is also located in the west side, the green parking lots preserve a multi-functional space, and can be transformed into other uses such as building facilities to meet the future demand.



Figure 25. The Fair Park Master Plan  
Source: Created By Author

### 3.3 Traffic Circulation and Parking

Four new gates are set up from the west side of the Fair Park. These new gates will alter the main direction to enter the Fair Park from its west side N Jackson Ave to its east side Pitzner Pkwy. This will ease the traffic pressure and prevent traffic jam on the N Jackson Ave, which is a two-lane road that serves as the main road across the Jefferson City in north-south direction. Another benefit, we set the main entrances west is that, from west we can able to set up logo, sign, and direction plate to attract attention and flow to the Fair Park.

In the intersection area of Highway 26 Bypass/ Highway 18, we proposed two new elements, a green parking lot and a hotel. The green parking lot is an outcome of combination of usability and sustainability. First, parking space is in high demand for the Fair Park visitors and drivers from highway. Second, this area is surround by cropland, river and environment corridor. Traditional

parking space with impervious surface can cause environmental concerns and reduce the drainage of rainwater and increase the risk for flooding. This green parking will apply permeable pavement such as previous concrete, porous asphalt, and porous paves. We restrict the parking space into the green parking lots, in order to leave more space for future the Fair Park expansion. Also, the planned and organized green parking will have clear direction sign and maintained. It promotes the ordered traffic system; avoid the chaos or even traffic accidents that caused by uncontrolled free parking space.

The construction of hotel is to meet the demand from the local employers and the opportunities to provide lodging service for the highway drivers and the Fair Park visitors. The hotel will be a three-story express hotel and has a capacity of 80 plus rooms. Together with the green parking lot, the interaction will bring more vitality to the Fair Park and serves as an essential economic supplement for the future development in this area. On the south side, bike facilities will be built. It will bring convenience for bike users and advocate the environmental friendly transportation method.

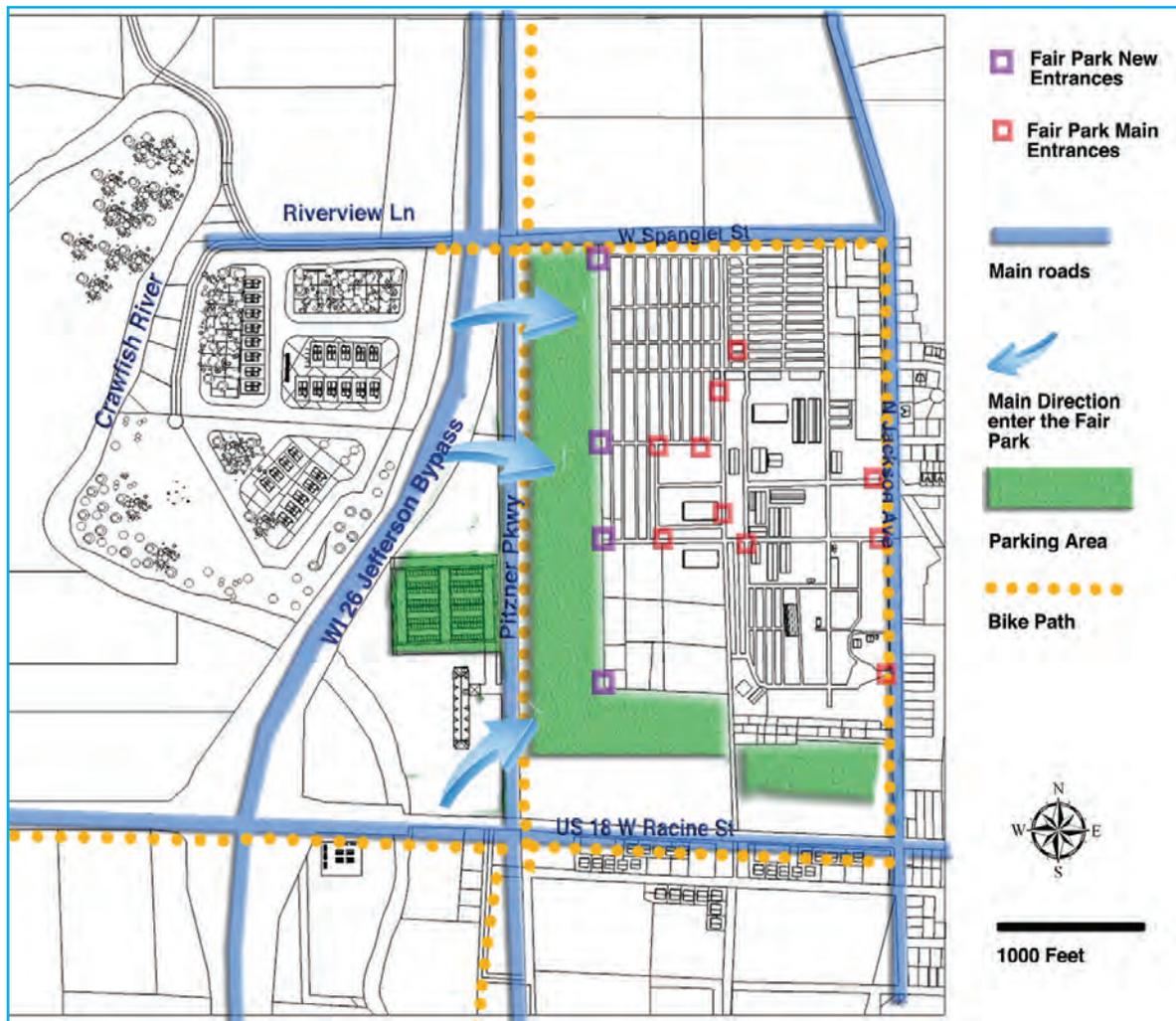


Figure 26. Traffic Circulation and Parking  
Source: Created By Author

### 3.4 Equestrian Community Plan

This Equestrian Community is designed to serve the local community needs for housing and interests of equestrian activities. It also can be a good candidate for vacation village. The whole equestrian community locates to the northeast of the Crawfish River, and west of the Fair Park. The total area is 50 acres.

In this plan, three functional areas are designed. One is residential area, occupies approximate 40% of this area, one is picnic area and community center takes up 10% of this area. Over half of the land is used as open lawn and green space. This layout is for the purpose of ecological conservation consideration. To preserve the environmental corridor and natural resources along the Crawfish River is City of Jefferson's goal that is emphasized in the city comprehensive plans and policy. Further more, well-protected environment and original countryside atmosphere will add value to property value and optimize residential experience. A horse trail will be constructed and within the green space providing the residents with the combination entertainment of horse riding and scenery appreciation. The community center and picnic area is right behind the residential area. They will add more fun and vitality to this community with the possible to hold family parties and educational workshops for kids. The residential area contains 28 units. Each unit will be a single detached house. Hidden in the bush and birch, this residential building set the residents free from the chaos of urban lives and enjoy a decent and tranquil break. It additionally enable to ride horses, wander around or race with your friends or neighbors in the forest.



Figure 27. Equestrian Community Plan  
Source: Created By Author



Figure 28. Equestrian Community Plan Effect Picture  
Source: Created By Author

## 4 Conclusion

By succeeding the functional, unification, connectivity and sustainability principles from the successful precedents, this master plan update seeks to enhance its advantage and to eliminate its disadvantage to meet the demands for now and the future. From natural perspective, the plan take advantage its prime terrain condition and proximity to Crawfish River, bring the greenness, vitality to the new established community. From social perspective, its proximity to the highway interaction and convenient transportation is fully considered during the planning process. New gates and facilities will benefited from the streets redesign and optimized circulation system. From current perspective, local lodging demands, housing needs and interests in equine activities are accordingly met and accomplished in this plan. From the future perspective, this plan demonstrates the potential for the Fair park future development scenarios and lay the root for its expansion to the west side and predictable prosperity.

This visionary plan is a promising start of the Jefferson Fair park future development. From this plan to its full implementation, there are more steps to go. In the near future, a market analysis and cost estimation report will be conducted. According to the report, this plan will be revised and updated to bring it into more detailed and feasible level. Next step, we will also identify and consult with the local business stakeholders to explore possible grant sources. Implementation schedules and phases will be planned coordinately to make sure the Jefferson County Fair Park will fully implement this plan and forster its innovation.



Figure 29. Jefferson County Fair Park Street View  
Source: Photo By Author

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