

TEAP Study

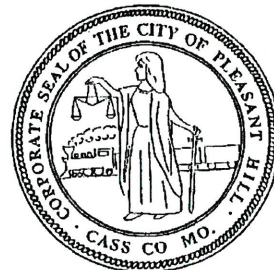
Pleasant Hill Bikeway Plan



April 2017

PREPARED FOR: The City of Pleasant Hill, Missouri
PREPARED BY: Lee Baer, EI
REVIEWED BY: Linda Rottinghaus, PE

Affinis Project Number: 17-0734.02



Affinis
corp

April 14, 2017


Mr. Justin Wieberg
Parks and Recreation Director
City of Pleasant Hill, Mo
203 Paul Street
Pleasant Hill, Missouri 64080

**RE: TEAP STUDY
PLEASANT HILL BIKEWAY PLAN
PLEASANT HILL, MISSOURI**

Dear Mr. Wieberg,

At the request of the City of Pleasant Hill, Missouri, Affinis Corp has completed a TEAP study to develop a bikeway plan to complement the existing trails. The purpose of this study is to evaluate the existing MOPAC and Rock Island Spur trails and recommend the needed interconnection between these trails and to direct the Rock Island Spur Trail users to the City's activity centers. This study includes summary of the existing trails and previous studies, recommended connections and wayfinding signage, and a trail map of the existing and proposed trails.

Sincerely,


Linda Rottinghaus, PE

PLEASANT HILL BIKEWAY PLAN PLEASANT HILL, MISSOURI

TEAP STUDY
APRIL 2017

Prepared For: The City of Pleasant Hill, Missouri

Prepared By: Lee Baer, EI

Reviewed By: Linda Rottinghaus, PE

TABLE OF CONTENTS

TABLE OF CONTENTS.....	3
1. PURPOSE OF STUDY.....	4
2. ANALYSIS.....	5
3. RECOMENDATIONS	7
APPENDIX A – Existing and Proposed Trail Connections Map.....	111
APPENDIX B – Bicycle and Pedestrian Master Plan	113

1. PURPOSE OF STUDY

Pleasant Hill Missouri which is located roughly 18 miles east of the Missouri/Kansas state line and roughly 3 miles south of the Jackson/Cass County line has taken steps to position themselves as a vibrant trail town. This is evident by the proactive approach the City has taken to construct their existing trails including the MOPAC trail system. The City has also been a strong advocate for getting the Rock Island Spur Trail construction to extended to Pleasant Hill.

At the end of 2016, the Rock Island Spur Trail was extended to the south city limits and a trailhead parking area was constructed at the Cass County Fairgrounds. Due to a funding shortfall, the Missouri Division of State Parks was unable to construct a bicycle/pedestrian bridge over the MNA Railroad to complete the construction of the trail to the Cass County Fairgrounds.

The purpose of this study is to identify a bikeway route and appropriate signage to safely and efficiently connect the Rock Island Spur Trail to the trailhead parking area and to the existing MOPAC trail system. This study will also update the previous bicycle studies to identify bikeway routes to improve the interconnection between the existing trails and the activity centers around the city.

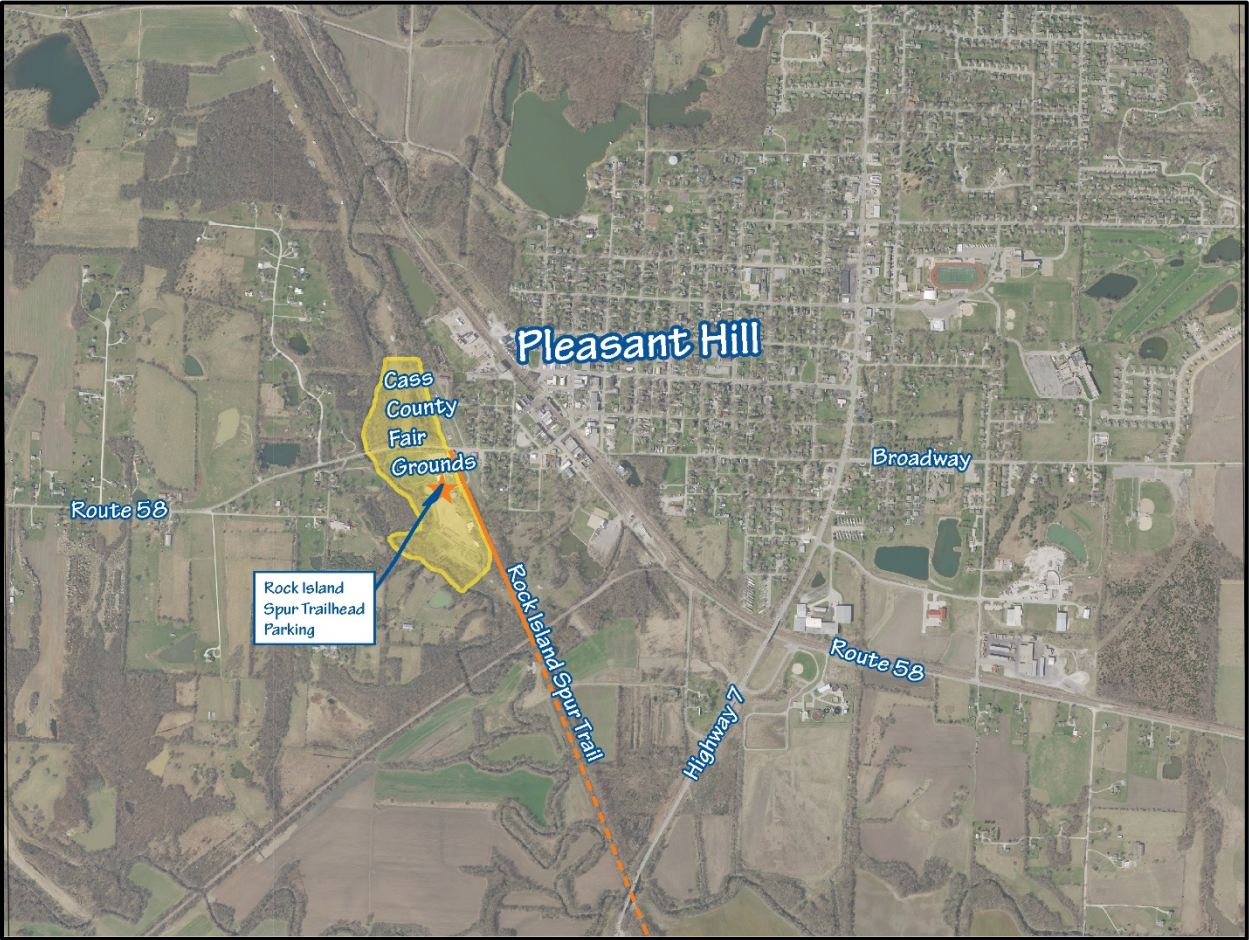


Figure 1: Vicinity Map - Pleasant Hill, Missouri

2. ANALYSIS

As previously mentioned, the City of Pleasant Hill has been pro-active in the trail planning process. To date they have constructed the following trails and share use routes as shown in Appendix A:



MOPAC Trail: Currently the trail extends from 167th Street to the Cass County Fairgrounds. The last phase of this trail is under design and will be constructed by the Spring of 2018. Once this section is completed, the trail will connect the City Lake to the county fairgrounds. The trail incorporates off-street trails, on-street trails, and a cycle-track through downtown Pleasant Hill.



MOPAC Singletrack Trails: The first phase of the singletrack trails will be open this month (April 2017) at the Pleasant Hill City Lake, see Figure 2. The dirt trails will be fairly simple to moderate singletrack trails. Singletrack trails are only one bicycle lane wide and can accommodate hikers, joggers, and mountain bikers. There will be a total of four sections with each section approximately one and half miles long that link together to form the singletrack system on the east side of the lake. The future goal is to have the singletrack system loop around the entire lake.



Figure 2: MOPAC Singletrack Trails



Stone Creek Nature Trail: This gravel trail is located off Redbud Avenue in the Stone Creek neighborhood. The wooded trail walking trail is approximately 1/3-mile in length.



Ridgetree Neighborhood Trail: This eight foot wide trail runs along Lexington Road from Route VV south to Woodlawn Road and was constructed as part of the Ridgetree subdivision.



Country Club Trail: Country Club Drive is currently being designed and will be constructed by the Spring of 2018. With the improvements, an 8-foot wide trail will be added along Country Club Drive from Hillcrest Street to Murray Road. To accommodate bicyclists from Highway 7 to Hillcrest Street, share the road signs will be added.



Shared Use Lanes: Shared use signing and/or pavement markings indicate a shared lane environment for bicycles and vehicles. The following streets have existing Share the Road signs: 161st Street/Davidson Road from the City Lake to 163rd Street; 167th Street from Smart Road to Boardman Road; and Boardman Road from Cedar Street to 163rd Street.



Rock Island Spur Trail: This trail was constructed by the Missouri Division of State Parks. The trail currently starts at the MNA Railroad at the south city limits and then proceeds to the City of Windsor where it has a connection to the KATY Trail.

In researching the existing trails, the following plans/studies have been previously completed and the strategies and trail layouts have been incorporated into the TEAP study:

Downtown Revitalization and Trail Town Implementation Strategy

This plan was completed in 2013 and is a combination of previously completed plans. The goals of the plan were to enhance downtown economic development, increase connectivity, preserve and maintain downtown’s unique identity, and increase resident quality of life. As part of the plan, implementation strategies for way finding locations, trails and bike routes, and proposed streetscape improvements were discussed. One focus was on the “trail town” perception and the revitalization of the downtown area. It provides streetscape improvements and other aesthetic improvements that are prioritized.

Master Plan for Improvements and Expansion of the Cass County Fairground

In 2010 a consultant was hired by the Cass County Fair Board and the City of Pleasant Hill to plan for future improvements of the Cass County Fairgrounds. The Fairgrounds are located on the southwest edge of Pleasant Hill and are a major summer attraction for the surrounding areas. This plan has positioned the City of Pleasant Hill well for tying together the fairgrounds and downtown for year-round events and future expansion of the Cass County Fairgrounds.



Figure 3: Cass County Fairground Master Plan

Citywide Bicycle and Pedestrian Master Plan

The citywide Bicycle and Pedestrian Master Plan was completed in 2005 and gives the city a blue print of bicycle and pedestrian focused improvements that will enhance connectivity throughout the city. Specifically as part of this plan, connections to all of the city parks are delineated. The main and critical link of this plan is the introduction of on-street bike lanes along Cedar Street from Boardman Road to Mo Highway 7. Many paved trails shown on the northeast side of Pleasant Hill have yet to be built, but will be great additions to the connectivity the city desires. The Citywide Bicycle and Pedestrian Master Plan is shown in Appendix B.

3. RECOMENDATIONS

The study team has reviewed all existing downtown, trail, bike and pedestrian, and county fair plans and studies that were previously completed. There are three main recommendations as part of this plan.

- Continue trail connections.
- Increase wayfinding signing.
- Improve Cedar Street to include bike lanes.

Continued Connections to Existing Activity Centers

As the City of Pleasant Hill continues to grow, connections throughout the city that tie together the exterior trails with the interior street network are vital. Pleasant Hill has a great system of existing trails, including the Rock Island Spur Trail, the MOPAC Trail and the MOPAC Singletrack Trails north of town.

The city has great potential to connect some of these existing trails to activity centers within town as shown in Appendix A. Lexington Road, from roughly Industrial Drive to Woodlawn Road has an existing off-street shared use path that abruptly ends at Woodlawn Road. Lexington Road would be a great candidate for an on-street bicycle facility starting at Woodlawn Road and running south to College Hill, at which point bicyclist could head west on Cedar Street into downtown and from downtown, access the MOPAC or Rock Island Spur Trails. Along Lexington Road, bicyclists would have access to Pleasant Hill schools, the city pool, many neighborhoods and the opportunity to connect to trails east of town. The map shown in Appendix A shows the existing trails and proposed trails that will connect the MOPAC Trail System and the Rock Island Spur Trail to the City’s activity centers around town.

The connections use a combination of off-street trails, shared use lanes and bike lanes.

Wayfinding

Wayfinding is a vital piece of any trail, bike, or pedestrian system connecting its users to the locations and activity centers they desire. Signing boosts recognition of network routes and increases the perception of safety, both of which encourage more individuals to get out and ride. In this case, where the city would like cyclist and trail users to seamlessly transition from the Rock Island Spur Trail to downtown (and other activity centers) to the MOPAC Trail, wayfinding is very important. The connection for these trails and Pleasant Hill’s activity centers are shown in Appendix A. The study team understands the cost restraints of doing every plan recommendation immediately and wayfinding signing is a great, cost effective way to show users where they can go on existing roadway and trail sections.

Wayfinding Signing



- Signing to indicate to users the direction to specific locations.
- May include distance and approximate travel times.
- Placed at key locations and decision points.

As discussed in the previous sections, the Missouri Division of State Parks was unable to complete the Rock Island Spur Trail due to lack of funding which created a gap between the trail and the trailhead parking. The City is working with the Division of State Parks and the MNA Railroad on developing a permanent solution for crossing the railroad. For the short term, the City has constructed trails to divert the trail users around the railroad crossing to connect to the trailhead parking, the MOPAC trail, and downtown. The City has installed Share the Road signs along Cardinal Street and Route 58 (as shown in

Figure 4) to indicate the bicycle route but there currently is a lack of wayfinding signs to guide the trail users to the two different trails, to downtown, and to the many activity centers. To fill in the gap, Figure 4 shows the location of proposed wayfinding signs and City Monument Signs to fill in any gaps and to assist any riders flowing through town to their destinations.



Figure 4: Wayfinding Location Map - Pleasant Hill, Missouri

To go along with the wayfinding signs, monument signs can be placed at key intersections. These signs direct the trail users to the activity centers, businesses, restaurants, or attractions. Below are some examples of creative wayfinding options that are used country wide.



To help the trail users navigate the different trails and to distinguish the signs, the MOPAC and the Rock Island Trail logos can be used within the wayfinding signs. And then as the interior and exterior trails get constructed, the bike route/trail route signs can be installed to guide the Pleasant Hill residents to their destinations.



Improve Cedar Street

A recommendation to improve connectivity and promote across town access would be to improve Cedar Street and add bike lanes in both directions from Boardman Road to Mo Highway 7.

Currently, Cedar Street is approximately 36-feet wide from edge-of-pavement to edge-of-pavement which provides two lanes of traffic with on-street parking. Pedestrian access is provided by existing sidewalks along both sides of the street. As shown in Figure 5, the addition of bike lanes on Cedar Street will fit within the existing pavement, this figure was used from the Downtown Revitalization and Trail Town Implementation Strategy Study. Providing accommodations for bicyclists will mean that Cedar Street will need to be signed as no parking.

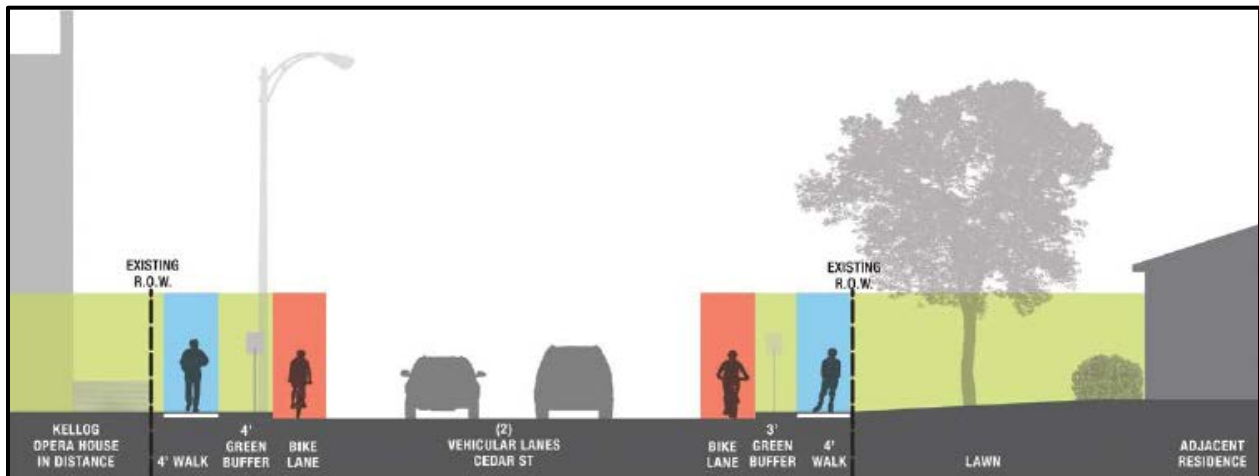


Figure 5: Cedar Street Improvement (Downtown Revitalization and Trail Town Implementation Strategy)

Cedar Street is being developed as the gateway to downtown. With the addition of the bike lanes, connectivity to not only the adjacent neighborhoods will be improved but connectivity to the activity centers along Myrtle Street/Eklund Street and the across town amenities will also be improved.

APPENDIX A - Existing and Proposed Trail Connections Map

LEGEND

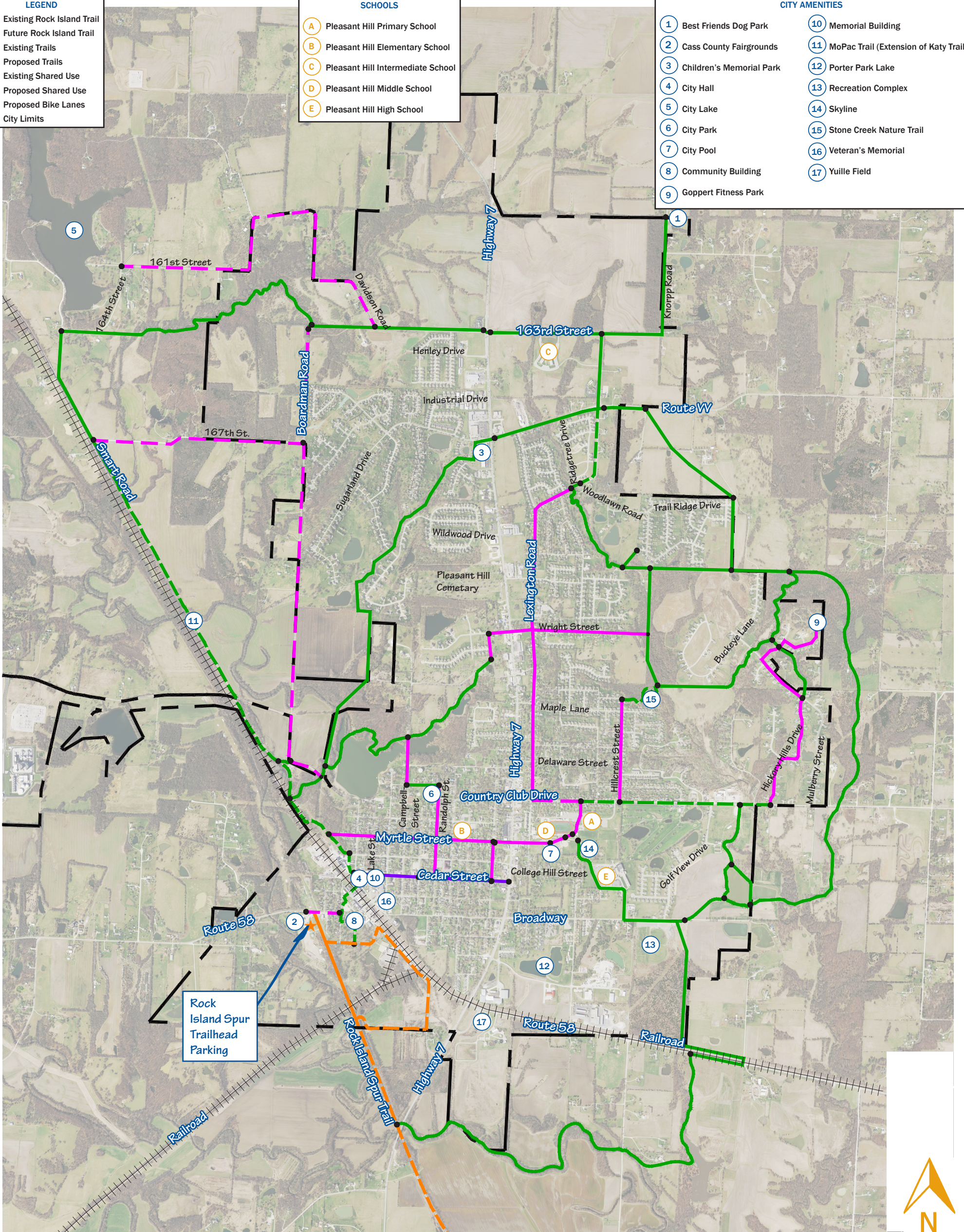
- Existing Rock Island Trail
- Future Rock Island Trail
- Existing Trails
- Proposed Trails
- Existing Shared Use
- Proposed Shared Use
- Proposed Bike Lanes
- City Limits

SCHOOLS

- A Pleasant Hill Primary School
- B Pleasant Hill Elementary School
- C Pleasant Hill Intermediate School
- D Pleasant Hill Middle School
- E Pleasant Hill High School

CITY AMENITIES

- 1 Best Friends Dog Park
- 2 Cass County Fairgrounds
- 3 Children's Memorial Park
- 4 City Hall
- 5 City Lake
- 6 City Park
- 7 City Pool
- 8 Community Building
- 9 Goppert Fitness Park
- 10 Memorial Building
- 11 MoPac Trail (Extension of Katy Trail)
- 12 Porter Park Lake
- 13 Recreation Complex
- 14 Skyline
- 15 Stone Creek Nature Trail
- 16 Veteran's Memorial
- 17 Yuille Field



Existing and Proposed Trail Connections Map

APPENDIX B - Bicycle and Pedestrian Master Plan

