

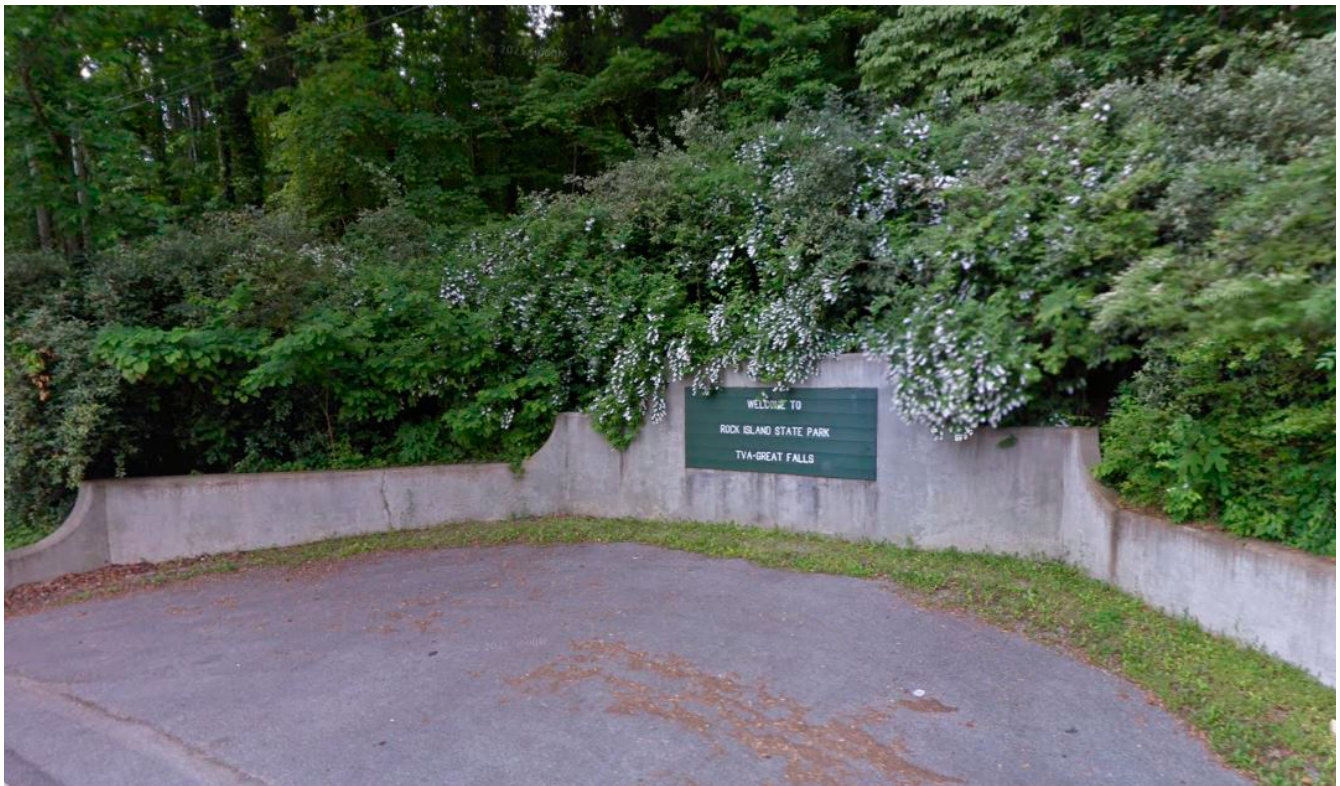
Rock Island Bicycle and Pedestrian Master Plan

Rock Island, TN
May 2023



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Introduction

The Tennessee Department of Transportation (TDOT) established the Transportation Planning Grant (TPG) program to assist Tennessee's small and rural communities in developing transportation plans to address transportation, land use, and growth management issues. The program is designed to better integrate multimodal transportation systems with local land use objectives and achieve statewide transportation planning goals.

The unincorporated community of Rock Island, by way of Warren County, is one of the grant recipients during the TPG program's 2021 – 2022 grant cycle. This report documents the findings and recommendations of the Rock Island Bicycle and Pedestrian Master Plan.

Rock Island, Tennessee, is an unincorporated community located in Warren County with an estimated population of approximately 220 residents. The community is located adjacent to Rock Island State Park, which welcomed approximately 680,000 visitors in fiscal year 2021. Figure 1 provides an overview of the project area.

The TPG grant application submitted by Warren County identified several key concerns to be addressed in the Bicycle and Pedestrian Master Plan. Safety was identified as the primary issue, as the current transportation infrastructure in the community lacks any dedicated multimodal facilities. The application recognized that the rolling topography of the community would present major obstacles for conventional sidewalk or bikeway infrastructure, and noted that many residents value the rural nature of the community. The application also noted the potential health and wellness benefits associated with the provision of safe, accessible multimodal facilities.

Finally, the application noted the role of Rock Island State Park in attracting tourism to the community. As park visitation continues to grow year over year, the addition of improved connections between the park and area businesses could provide economic development opportunities by increasing visitor spending at area restaurants, gift shops, antique stores, and other attractions.

This document summarizes the planning process conducted for the Rock Island Bicycle and Pedestrian Master Plan, and includes the following elements:

- Discussion of existing conditions;
- Development and evaluation of multimodal alternatives;
- Public and Stakeholder Engagement; and
- Recommended Multimodal Improvements.

Summary

The Rock Island Bicycle and Pedestrian Master Plan sought to evaluate multimodal design alternatives that would improve safety, enhance health outcomes, and promote economic development within the Rock Island community. As a result of the public and stakeholder input gathered as part of the planning process, it became clear that area residents preferred the No-Build Alternative out of concern for, among other things, the community's rural character and aesthetics. As a result, the No-Build Alternative was carried forward as the plan's recommendation for the community.

The stakeholder engagement process identified other needs related closely to the existing opportunities and challenges facing Rock Island State Park, which ultimately became the focus of the planning effort. The recommendations represent a commitment to the key goals of the planning effort – improving safety, public health, and economic development opportunities. State and local officials should use these recommendations as a starting point for more detailed planning and engineering analysis as part of a broader project development process.



Figure 01. Map of Rock Island's major destinations

Existing Conditions

Geography

The unincorporated community of Rock Island is located at the entrance of Rock Island State Park in central Tennessee, approximately 45 miles east of Murfreesboro. The community is located between the Caney Fork River, the Rocky River and the Collins River. Rock Island is bisected by a railroad track and has rugged topography, including hills, dense forests and waterfalls.

Residents value Rock Island's rural environment. A few churches and small businesses are located at the center of town near the railroad tracks. Many of the buildings in Rock Island are older structures which have been restored or preserved, giving the community a small-town atmosphere.

Approximately 219 people live in Rock Island; however, Rock Island State Park sees an estimated 500,000 visitors each year. Currently, Rock Island has no dedicated infrastructure for multimodal transportation. The terrain, narrow lanes, lack of shoulders and thick vegetation present in the community can hinder visibility for motorists traveling around curves or up and down hills, creating an unsafe environment for people biking and walking. The main corridor of State Route (SR) 287 between Rock Island and the state park experiences a high rate of larger vehicles, including logging trucks and farm implements throughout the year, along with recreational vehicles during the peak tourism season.

In addition to safety concerns, the lack of multimodal options in Rock Island prevents easy access to destinations for residents and tourists. Tourism is a significant source of revenue for Rock Island, and providing safe and convenient ways for visitors to reach local businesses could boost the community's economic success.

Demographics

Please note that due to the community's unincorporated status, the U.S. Census data cited in this section is for Warren County, Tennessee, where Rock Island is located.

According to the American Community Survey's (ACS) 2021 5-Year Estimates, the population of Warren County is approximately 88.3 percent White, and roughly a quarter of the population is under the age of 18. The county's median household income is \$46,189 and approximately 19.1 percent of its residents live below the federal poverty line. The county boasts low unemployment, with a rate of 3.5 percent compared to 5.3 percent in the State of Tennessee as a whole.

Rock Island residents face major health and wellness concerns. The TPG grant application cites an adult obesity rate of 34 percent and a childhood overweight and obesity rate of 45 percent, along with a 28 percent physical inactivity rate. Increased opportunities for walking and biking in the community will provide improved mobility and recreational opportunities for Rock Island residents.



Figure 02. Annual Average Daily Traffic (AADT) in Rock Island

Public and Stakeholder Engagement

Stakeholder outreach is critical to project success. The goals of effective stakeholder engagement include gathering information about the public's needs and wants, evaluating public support for a project and building effective solutions to problems. Stakeholder engagement efforts in the Rock Island Bicycle and Pedestrian Master Plan project included two stakeholder meetings, one public meeting and a survey.

Stakeholder and Public Meetings

The initial stakeholder meeting, held on October 12, 2022, served as a project kickoff. The project team described the project's background, scope and schedule, then gathered information about current and upcoming local projects before opening the floor for discussion.

The second stakeholder meeting was held on January 11, 2023, and updated stakeholders about the project's progress. The team reviewed the project schedule and presented a summary of existing conditions, as well as potential alternatives.

An open-house public meeting was held on March 10, 2023. Display boards included existing conditions, draft proposed multimodal alternatives, and representative images of each facility type. In addition, a survey requested input on the proposed alternatives, including a no-build alternative.

Survey Questions

The surveys distributed for the Rock Island project included maps of potential network alternatives which respondents were asked to review before answering the questions. Survey questions included:

- Do you currently walk or bike in Rock Island or to the Rock Island State Park?
- Please rank the five network alternatives as they are shown in order of your preference
- If you could change something about the alternatives to make them work better for Rock Island, what would that be?
- Do you support shared-use path along SR 136 (Rock Island Road)?
- Please explain why you do, or do not, support shared-use path along SR 136 (Rock Island Road).
- Do you support shared-use path along SR 287 (Great Falls Road)?
- Please explain why you do, or do not, support shared-use path along SR 287 (Great Falls Road).
- Do you support a system of bicycle boulevards (pavement markings and signage) in Rock Island to access proposed shared-use path?
- Please explain why you do, or do not, support bicycle boulevards in Rock Island.
- Do you support other walking and bicycling-friendly improvements in Rock Island? These include traffic calming to slow down people driving, crosswalks and signage where people cross the road, and clearer access points into local businesses with defined parking?
- Please explain why you do, or do not, support other walking and bicycling-friendly improvements.
- Please use this space to provide any other comments about walking or bicycling in Rock Island that we have not covered above.
- What is your age?
- What is your gender?
- What is your race/ethnicity?
- What is your zip code?

Respondents were given the option of submitting surveys online or by mail.

Summary of Survey Results

In total, 106 surveys were submitted. Of those surveyed who walk and/or bike in Rock Island, most only walk. Respondents overwhelmingly preferred the No-Build Alternative within the community of Rock Island; 23 of 24 paper surveys listed “Existing/No-Build” for all five ranking choices (The online survey would not allow a single Alternative to have multiple rankings.)

Concerns raised by supporters of the No-Build Alternative included personal safety concerns due to narrow, busy roads with frequent speeding, as well as potential privacy issues and property impacts. Respondents also showed concern for preserving the community’s stone walls and historic locations.

Those surveyed who indicated support for one of the Build Alternatives noted that the improvements support local businesses, promote safety and health and provide connectivity within the community.

Additional suggestions from respondents included widening main roads, such as SR 287, for logging and farming vehicles, as well as focusing walking and biking improvement efforts on Rock Island State Park. Other suggestions included restoration of the park’s dam and truss bridge for walking, expansion of trails for walking and bicycling in the state park, and expansion of parking facilities for state park visitors.

The full survey results are on file with the TDOT Office of Community Transportation (OCT) and can be provided upon request.



Development and Evaluation of Alternatives

Alternative 1

Alternative 1 features a shared-use path along Great Falls Road at the entrance to Rock Island State Park; the shared-use path becomes a bicycle lane that runs the lengths of Bluff Road and HG Hill Road. The bicycle lane reconnects with Great Falls Road (SR 287) and becomes a shared-use path again at the intersection of HG Hill Road and SR 287. The path runs southeast along SR 287 to its intersection with Rock Island Road (SR 136), then turns south down SR 136. Alternative 1 features two Enhanced Crossings: one at the intersection of SR 287, SR 136 and Old Ferry Road, and one at the end of the shared-use path on SR 136.

Alternative 2

Alternative 2 has the same beginning and ending points as Alternative 1, but the Bluff Road bike lane connects to SR 287 via a shared-use path along Pine Bluff Road. The intersection of Pine Bluff Road and SR 287 features an Enhanced Crossing.

Alternative 3

In Alternative 3, the shared-use path runs the full length of SR 287 within Rock Island without any gaps in coverage. The bike lane on Bluff Road is only connected to SR 287 at the north end of the road.

Alternative 4

Alternative 4 features only sidewalks, rather than bike lanes or shared-use paths. The proposed sidewalks begin on SR 287 at its intersection with Pine Bluff Road and continue to the intersection of SR 287, Old Ferry Road and SR 136 before turning south onto SR 136. Two Enhanced Crossings are present in the same locations as in Alternatives 1 and 3.



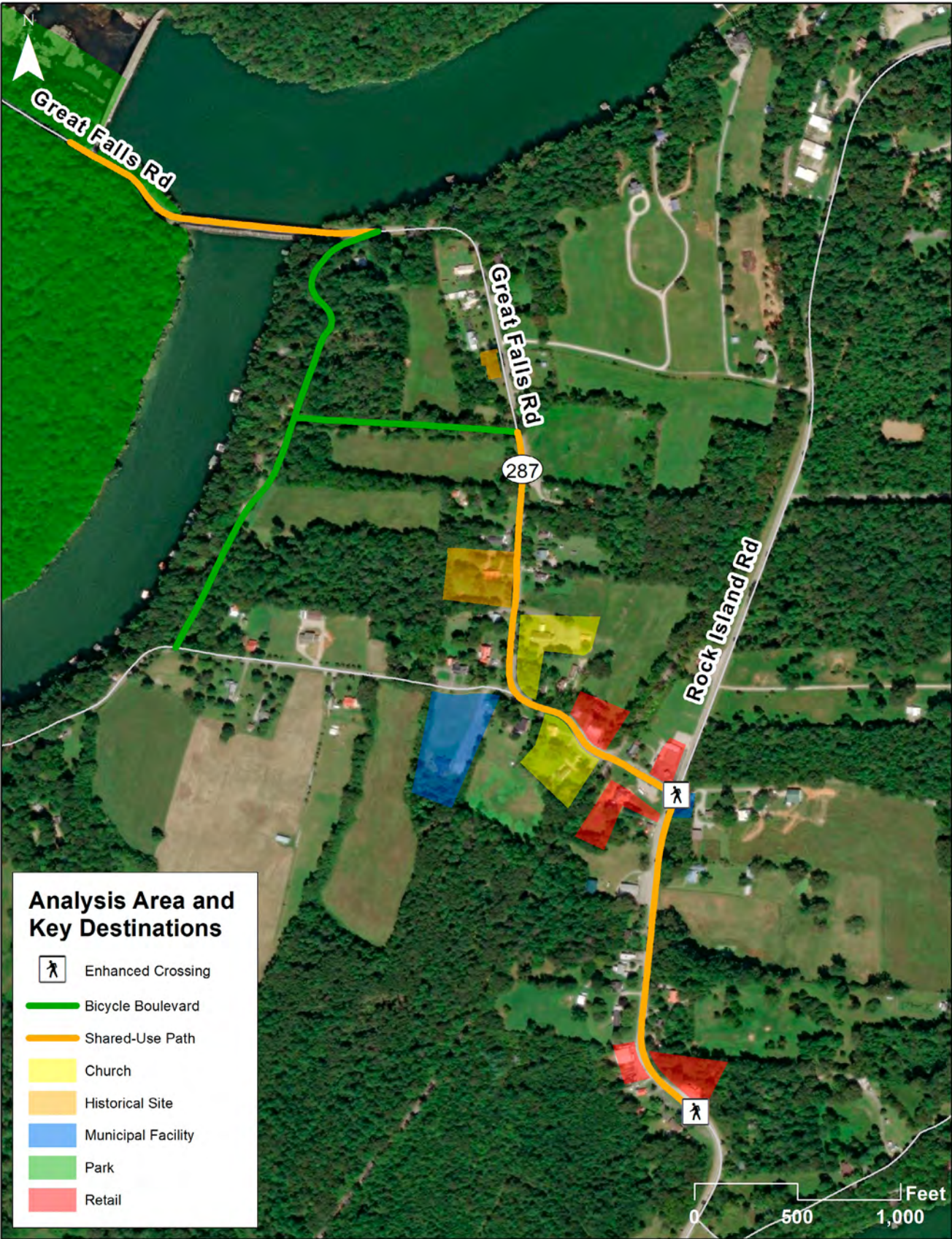


Figure 03. Alternative 1

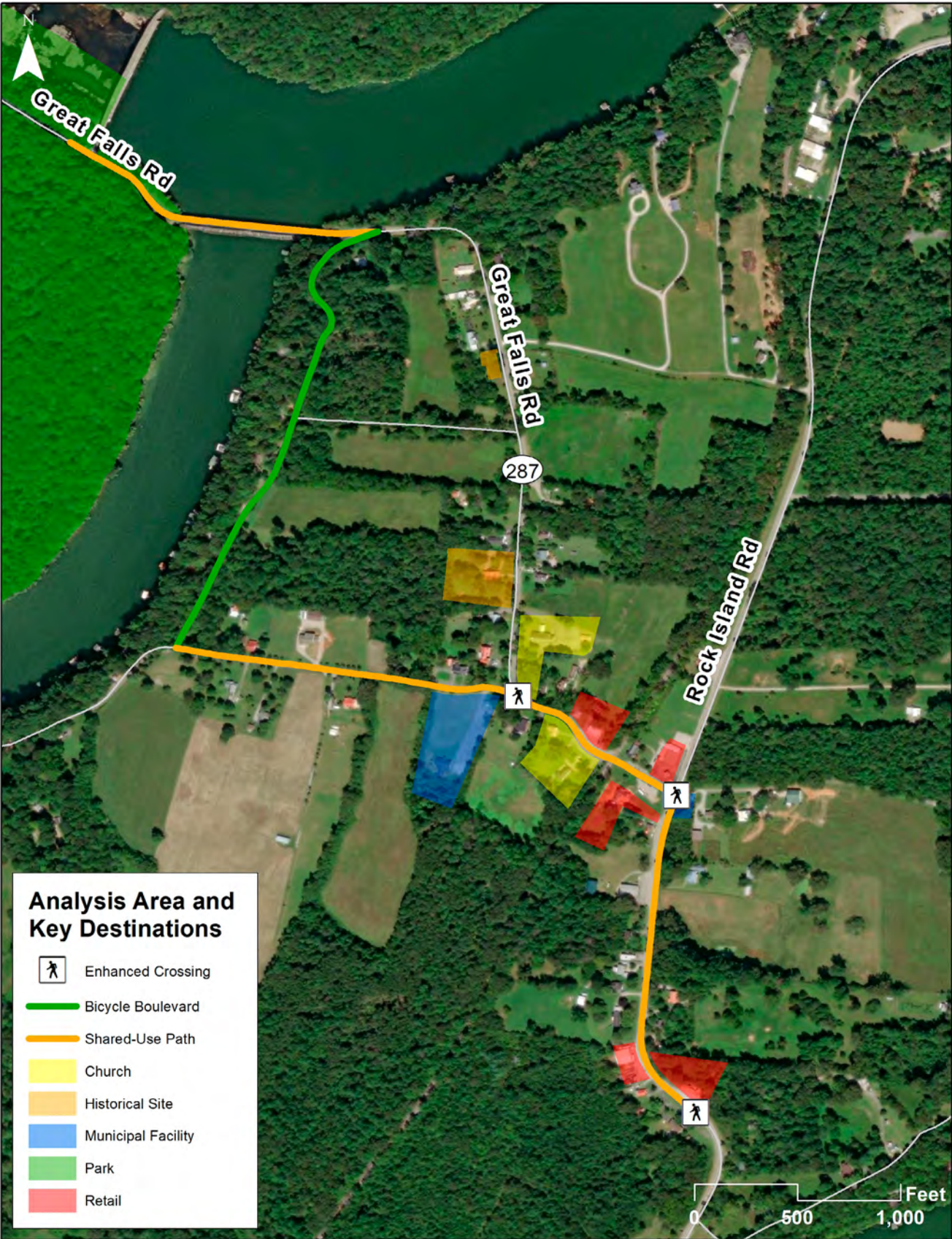


Figure 04. Alternative 2

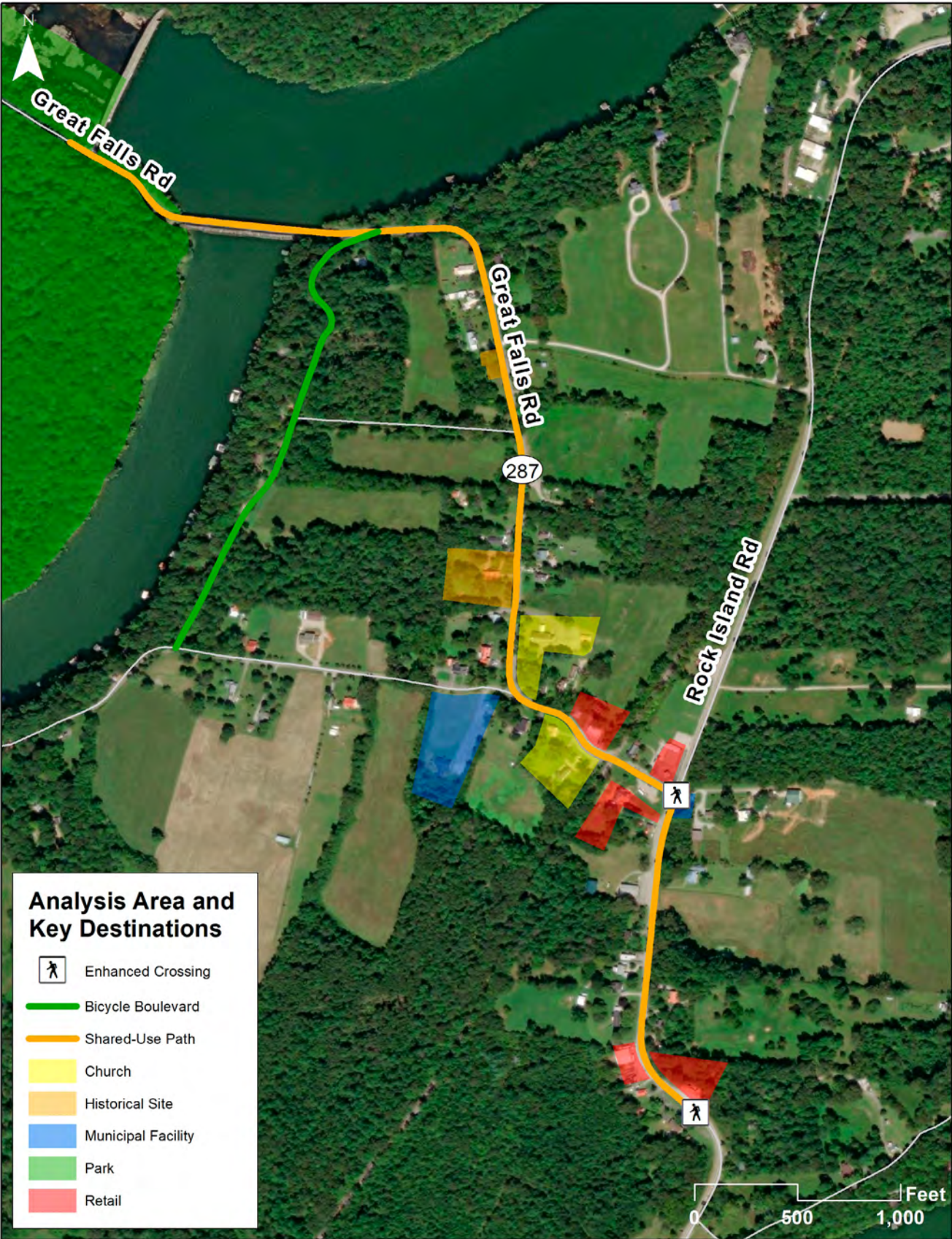


Figure 05. Alternative 3

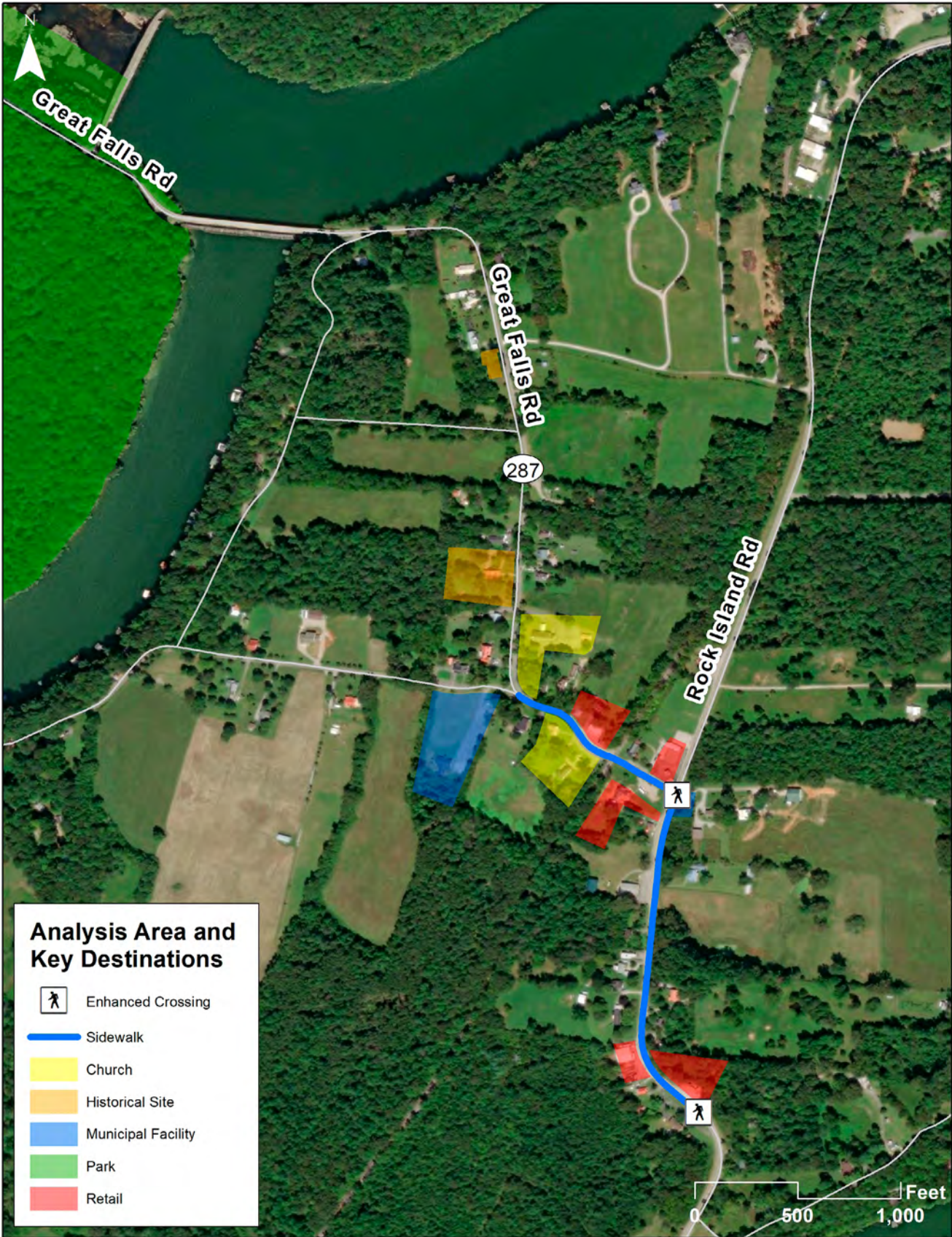


Figure 06. Alternative 4

Recommended Multimodal Improvements

Due to the lack of support for pedestrian and bicyclist facilities by local residents, each of the recommendations given in this plan is for Rock Island State Park, rather than the community of Rock Island. The public engagement conducted for the plan indicated strong support for the No-Build Alternative within the community of Rock Island. As such, none of the design alternatives presented in this study were carried forward as recommendations. Following this determination, the planning team engaged officials at Rock Island State Park to develop a suite of multimodal recommendations within the park property. The recommendations are based on the park's need for improved infrastructure to promote health, safety and convenience, as well as results from the public input surveys.

For all project recommendations, design and construction of pedestrian and bicyclist facilities within the footprint of roadway right-of-way should consider the most current best practices established by the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), and the National Association of City Transportation Officials (NACTO) along with all other applicable federal, state and local guidelines. New construction of sidewalk and shared-use path or rehabilitation of existing accessible

pedestrian facilities must adhere to Americans with Disabilities Act (ADA) and Proposed Public Rights-of-Way Accessibility Guidelines (PROWAG) standards in conjunction with any local and state guidelines. This includes, but is not limited to cross-slope, grade and accessible ramps and landings. Recreational park facilities may vary on level of accessibility, surface type, and design standards.

Restore the Rock Island Lions Memorial Bridge

The historic Rock Island Lions Memorial Bridge, shown below, is currently closed and in a state of disrepair. The narrow truss bridge runs parallel to the SR 287 roadway bridge over the Collins River. The Lions Memorial Bridge offers scenic views of the park and would be ideal for walking and biking once repaired.

Special considerations should be taken to keep park visitors using the Lions Memorial Bridge off of the adjacent private property on the eastern end of the bridge. Currently, a tall chain-link fence separates the bridge from the parcel beside it. An extension of that fence or some other form of barrier should be used to guide walkers and bikers to the proper area and prevent access to the private drive.



Restore the Great Falls Dam Bridge for Walking and Biking

The Great Falls Dam is a popular spot in the park. Visitors stop on the side of the road to take photos of the dam since no parking is available. Great Falls Road is a two-lane facility, and the bridge across the dam is currently open only to official vehicles, so parked cars on this portion of SR 287 frequently cause traffic backups in the park. The Tennessee Department of Transportation (TDOT) is currently relocating the section of SR 287 near the dam in an attempt to alleviate the congestion. The current SR 287 will become a scenic route for visitors who want to see the dam and nearby historic Great Falls Cotton Mill, while the new SR

287 will allow drivers passing through the area to bypass the dam and cotton mill.

The relocation of SR 287 provides a chance for Rock Island State Park to restore the Great Falls Dam bridge for walking and biking. The TDOT and the Tennessee Valley Authority (TVA) are working to safely open the dam to visitors. The bridge provides better views of the surrounding area, and decreased traffic on the old portion of SR 287 will increase safety for walkers and bikers.

To support visitors walking and biking on the Great Falls Dam, parking should be added near the dam entrance. A designated parking area will provide a place for drivers to stop at the dam without obstructing the flow of traffic on the roadway.



Shared-Use Path in Rock Island State Park

Another popular tourist spot in Rock Island State Park is the Great Falls Cotton Mill. The cotton mill is close to the two aforementioned areas: the bridge over Great Falls Lake and the Great Falls Dam. However, there is no safe and convenient way for visitors to walk or bike between the three destinations. A shared-use path across the Rock Island Lions Memorial Bridge to the dam and the cotton mill will provide safe walking or biking opportunities for park visitors. The map in Figure 06 shows the proposed route for a shared-use path between the three popular locations.

Additionally, Rock Island State Park may choose to extend the shared-use path northwest to the main park area, where the campgrounds, beach and recreational areas are located. This would allow for greater connectivity within the entire park and provide multimodal options to reach destinations. Increased opportunities for visitors to reach their destinations without driving could cut down on traffic congestion within Rock Island State Park.



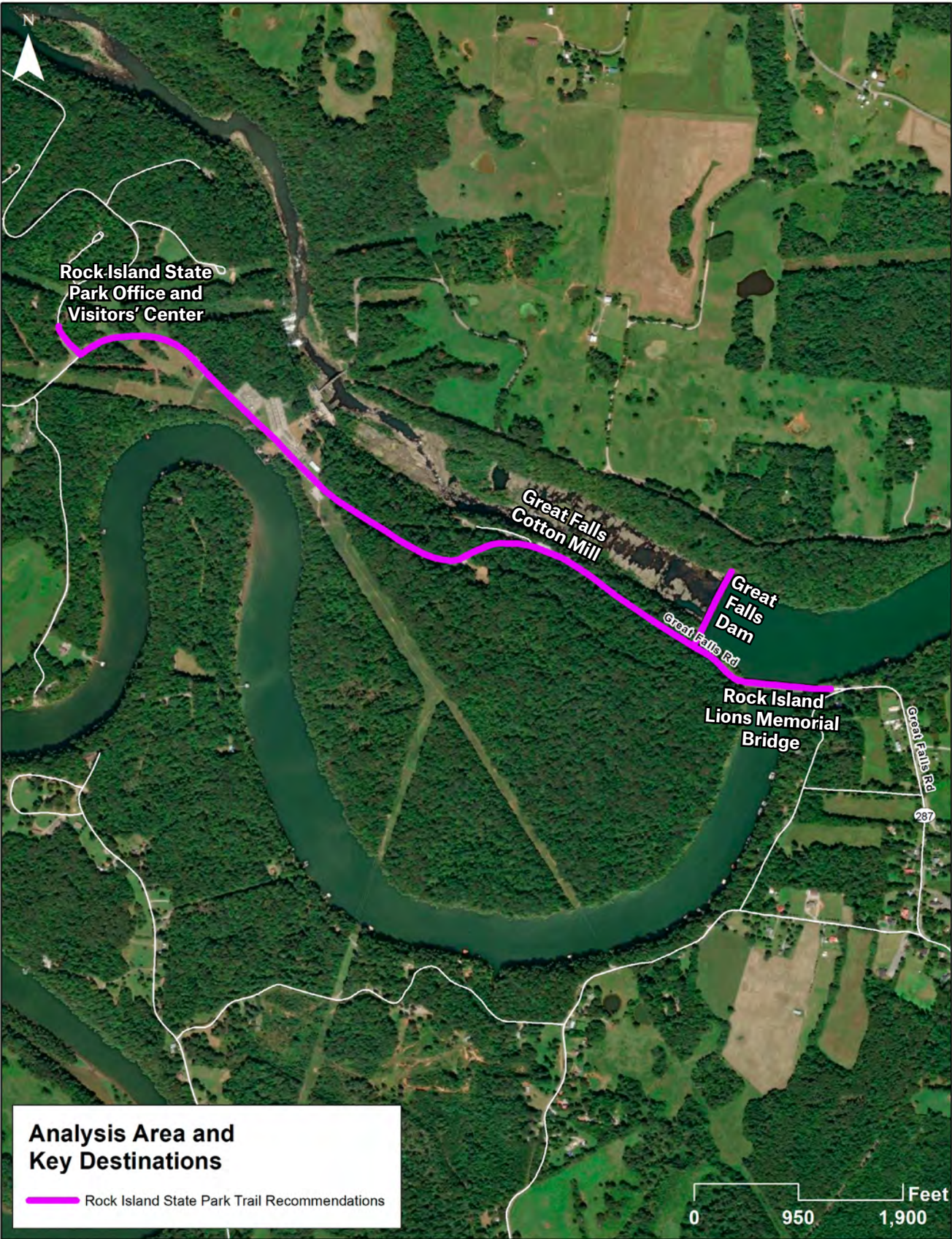
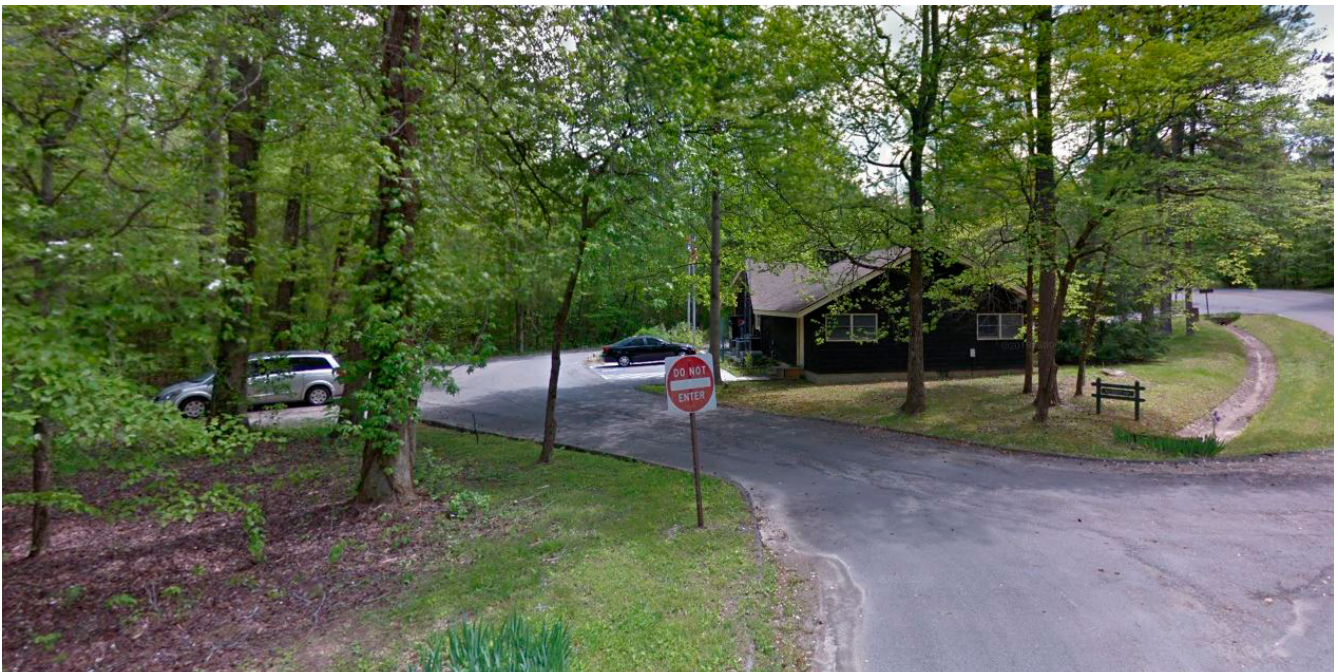


Figure 07. Recommended Shared-use Path

Expanded Parking Near Visitors' Center

The Rock Island State Park Office and Visitors' Center has few parking spaces and no alternative parking area, leading visitors to park on the sides of SR 287. As with the area surrounding the Great Falls Dam, the road by the visitors' center is narrow. When drivers park along the roadway, they create backups for other vehicles moving through the park.

The area behind the current visitors' center parking lot is densely wooded. If the vegetation is cleared, Rock Island State Park could create additional parking to mitigate congestion on SR 287 caused by parked cars. Additional parking at this location would further support a successful shared-use path connecting the visitor's center to the historic mill and dam and reduce congestion in the park by shifting some users to walking instead of driving.

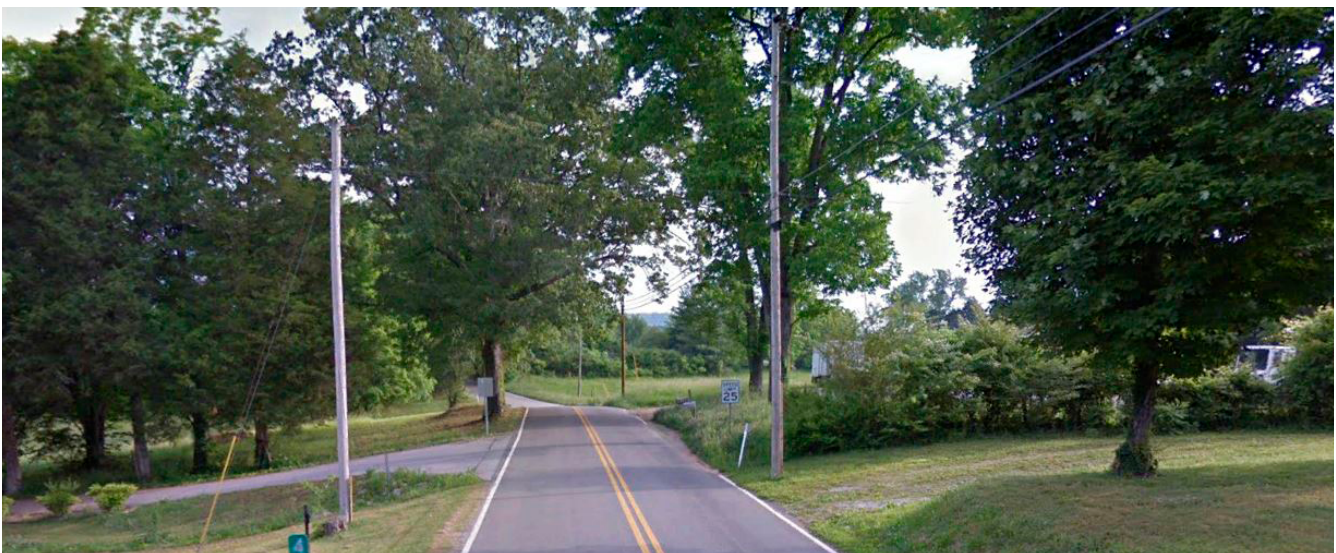
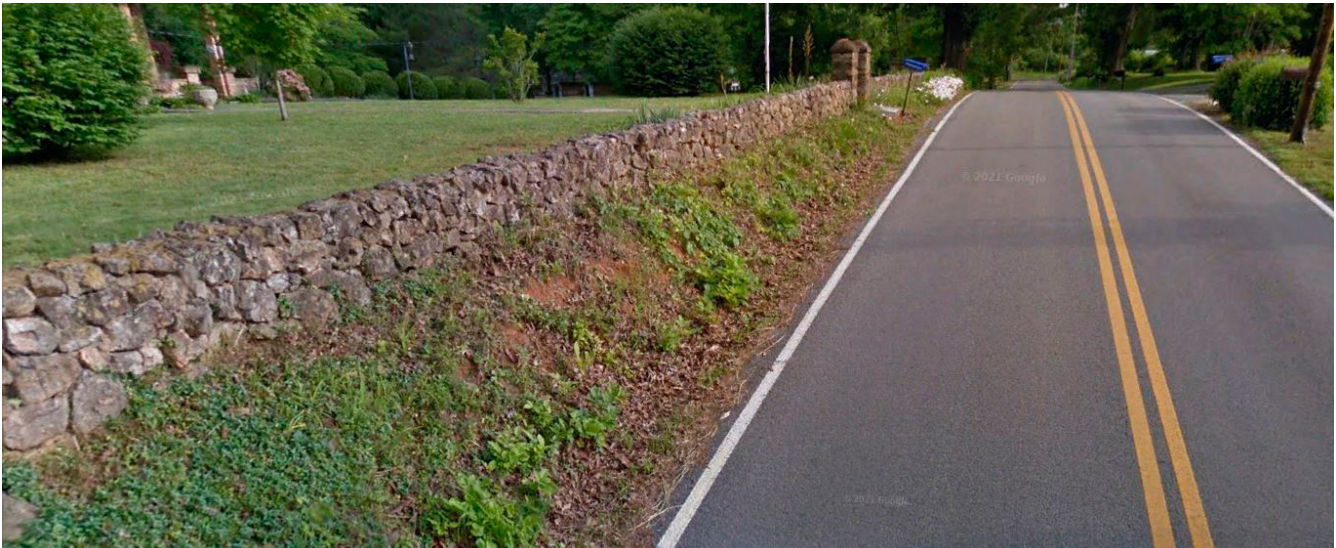


Add Shoulders to SR 287

SR 287 is a major thoroughfare in Rock Island. Residents use SR 287 to move large farming equipment, and visitors to Rock Island State Park often travel SR 287 while hauling boats, RVs and other recreational equipment. The current two-lane facility has no shoulders, and drivers frequently travel at high speeds. At many points along the road, heavy vegetation lines the pavement, impeding visibility around curves and over hills.

Adding adequate shoulders to SR 287 will improve safety for all users. Shoulders will provide ample space for oversized vehicles making wide turns and will allow room for vehicles to safely pass people walking or biking with better sightlines.

Currently, numerous objects stand in the right-of-way on SR 287, as shown in the photos below. Many homes in Rock Island are surrounded by rock walls that extend nearly to the edge of the pavement. Additionally, utility poles on SR 287 are frequently placed very close to the road, in the space which would be needed to create shoulders. These obstacles would require extra consideration before shoulders could be added to SR 287.





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