



TRTA SCENIC BYWAY

BIKE & PEDESTRIAN FACILITIES

TENNESSEE RIVER TRAIL



DRIVE AND DISCOVER



TN TDOT
Department of
Transportation

LA LOSE
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TRTA SCENIC BYWAY

BIKE AND PEDESTRIAN
FACILITIES MASTER PLAN

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Henry County and the City of Paris
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and Clifton

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Southwest Tennessee Development District

Northwest Tennessee Development District



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1



INTRODUCTION



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1.0 INTRODUCTION

1.1 TRTA Overview and Planning History

The Tennessee River Trails Association (TRTA) was formed in 2000 by several motivated individuals interested in the economic vitality of the region. The organization was officially sanctioned in 2005 by the nine governing bodies that make up the region (Benton, Decatur, Hardin, Henry, Houston, Humphreys, Perry, Stewart, and Wayne Counties) to further promote recreational, community, and tourism development. The organization consists of an Executive Committee, Marketing Committee, and Board of Directors consisting of county mayors, representatives from four of Tennessee’s development districts, area tourism leaders and private citizens. TRTA not only recognizes the value of, but is committed to, “promoting the communities as one diverse region”.

Given the abundance of cultural, historical, and environmental resources in the area, TRTA recognized an opportunity to attract regional, national, and international visitors through a designated National Scenic Byway that connects the region. In 2007, the TRTA began the process of securing grant funding to identify and work towards this national designation. The Tennessee River Trail Scenic Byway Corridor Management Plan, as well as subsequent planning efforts relating to tourism development, are as follows:

- Tennessee River Trail Scenic Byway Corridor Management Plan (2008-2010) - Resulted in the establishment of a vehicular scenic byway that connects all nine counties of the region, as well as the identification of region environmental, cultural, and historical resources in each of the counties. The Tennessee River Trail Scenic Byway is illustrated in Figure 1.
- Tennessee River Trails Gateway Feasibility Study (2014-2016) - Strategic “gateway” locations were identified at key locations where visitors are likely to enter into the TRTA region in each of the 9 counties. A roadside stop fitted with an information kiosk will provide overall byway information, as well as key destinations and history specific to the particular county.
- Tennessee River Trail Heritage Tourism Program (2014-2016) – The Program consists of three elements: training in business-to-business marketing for front-line employees, development of selective information for dissemination to heritage travelers by these employees, and a gap analysis of current local visitor experiences to identify what tourism development elements need to be strategically addressed or strengthened to hold travelers longer and build long-term profitability in the region.

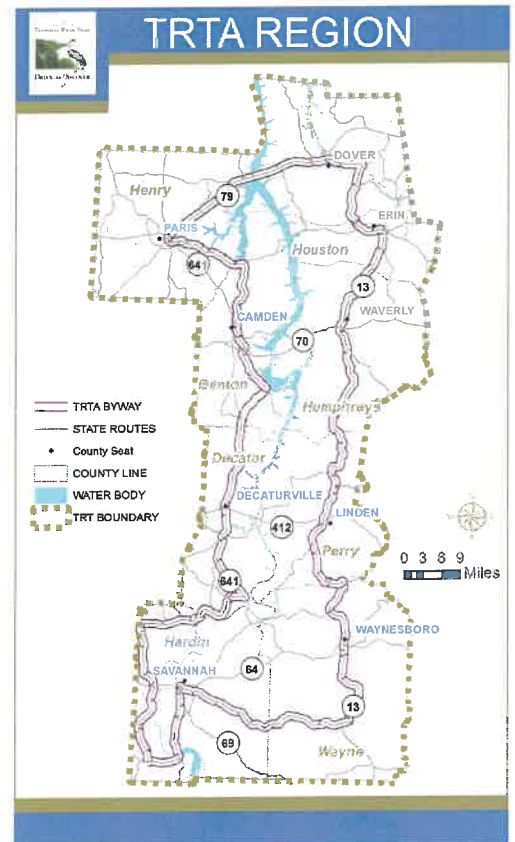


Figure 1 TRTA Scenic Byway



1.2 Bicycle Tourism

As a result of these efforts, bicycle tourism emerged as having strong potential for playing a successful role in the region's overall tourism and economic development strategy for many of the same reasons that spurred the region to pursue a national byway designation. The abundance and uniqueness of resources in the region which are connected by an extensive network of low-volume, scenic roadways provides a foundation for developing a multitude of riding opportunities that can tie into existing heritage and adventure tourism efforts. Illustrated in Figure 2, a number of existing multimodal outdoor recreation opportunities exist, including kayaking, hiking, boating, and horseback riding, which can easily be complemented or expanded with bicycling opportunities. The relatively small amount of effort and capital that is required to pursue bicycle tourism and the already-formalized commitment among TRTA counties to work together provided additional motive for the effort. Regional promotion and coordination is a critical component, not only for regional tourism strategies, but specifically for successfully supporting bicycle tourism in a rural setting. The existence of two successful national bicycle tourism routes (available through Adventure Cycling) that currently traverse the region north-to-south validated the region's marketability to cyclists on a national and regional scale prompting TRTA to ultimately pursue bicycle tourism opportunities.



Figure 2 Multimodal Recreation Opportunities in the TRTA Region

1.3 Bicycle and Pedestrian Master Plan

In 2014, TRTA secured a Federal National Scenic Byways grant from the Tennessee Department of Transportation (TDOT) to develop a bicycle and pedestrian master plan for the region that enhances the Scenic Byway by providing safe and adequate opportunities for non-motorized travel and recreation, including bicycle tourism opportunities. A consulting team comprised of landscape architects and transportation planners and engineers was hired in the spring of 2014 to work in tandem with the heritage tourism team of the on-going Gateway Feasibility Study and Heritage Tourism Program to complete a plan that defines the need for constructing non-motorized facilities from both a tourism perspective – where facilities and supportive strategies can enhance existing intrinsic qualities – as well as from a community perspective – providing recreational opportunities and transportation options for residents. The planning process began in the spring of 2014 and was completed in the fall of 2016.

2



MASTER PLAN AND DEVELOPMENT PROCESS OVERVIEW



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2.0 MASTER PLAN & DEVELOPMENT PROCESS OVERVIEW

2.1 Study Area

Figure 3 below illustrates the study area for this plan which encompasses approximately 4,400 square miles. Analyses and recommendations, however, incorporate existing and potential movements from nearby counties, states, and population centers. According to the U.S. Census, approximately 152,000 people lived in the region in 2010, up by 2.8% from 2000 (as compared to an 11.5% increase across the state). The region is rich in historical, natural, and cultural resources including: four State Parks, one Historic Park, two State Forests, three National Wildlife Refuge Units (including two newly-opened visitor and educational centers), sixteen Wildlife Management Areas, one National Military Park, one National Civil War Battlefield, a National Recreational Trail, two National Scenic Byways, and two Discover Tennessee Trails and Byways (in addition to the Tennessee River Trail).



Lady's Bluff, Perry County, TN

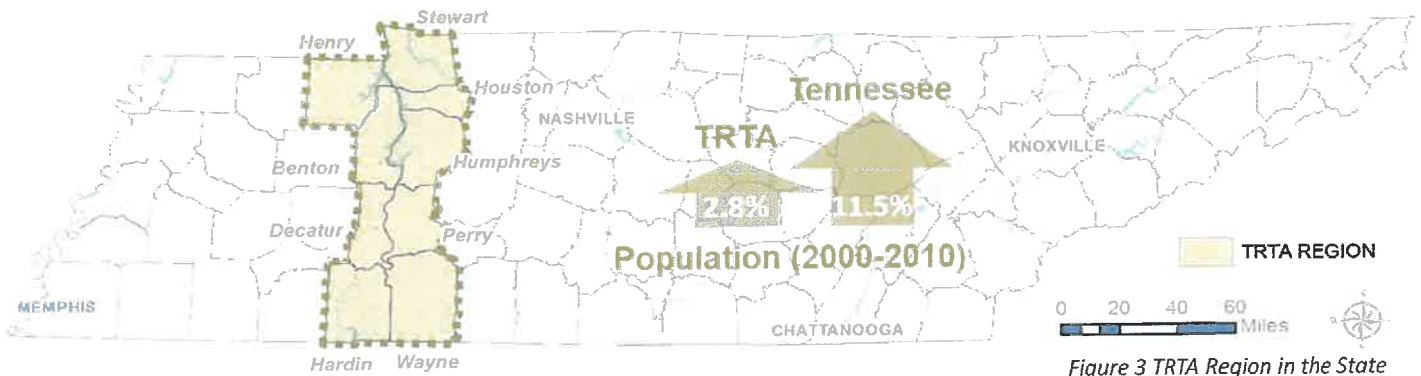


Figure 3 TRTA Region in the State

2.2 Scope and Plan Recommendations

This bicycle and pedestrian plan is unique given the size of the geographical area encompassed, the rural nature of the region, the emphasis upon tourism, and reliance upon stakeholder input to drive the direction of the plan and its recommendations. In fact, the plan's initial scope slightly shifted to reflect the input, needs, and desires heard from the public and stakeholders. While the plan still recommends a regional route network, additional emphasis was placed upon the general development of cycling in the region by providing more "beginner" and "intermediate" riding opportunities given the lack of residents who currently ride, and walk for that matter. Increasing the amount of riders and walkers by enhancing the visibility of existing opportunities, as well as identifying potential future opportunities helps to increase the general awareness among res-

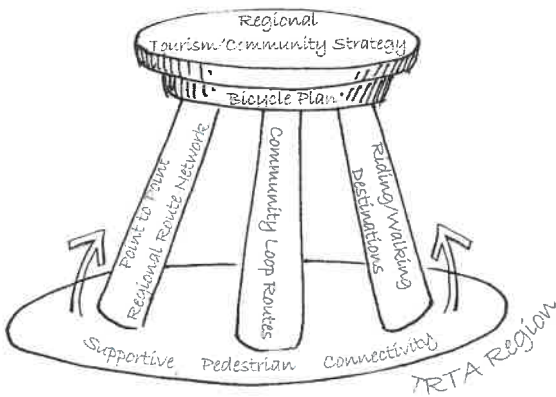


Figure 4 Three-Tiered Approach to the Development of Bicycling

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idents of non-motorized users on region roadways and in TRTA communities. This contributes to an overall “friendliness”, an important component for accomplishing the grander, long-term vision of a marketable bicycle-friendly region capable of sustaining bicycle tourism. Therefore, as illustrated in Figure 4, the plan uses a three-tiered approach to the development of active transportation and recreation in the region by providing three different types of experiences that cater to both residents and visitors, as well as the full spectrum of ability levels and user types.

- Point-to-point regional route network – Considered rideable today for a select group of riders (including most touring cyclists), this recommendation serves as the plan’s long-term vision. Piecemeal improvements to the route over the course of twenty to thirty years will increase the route’s safety and comfort levels, and therefore, cater to a wider range of riders.
- Community loop routes – These shorter, loop rides (considered rideable without improvements) are identified for the four Pilot communities – Erin, Savannah, Paris, and Waynesboro – and serve a wider range of rider ability levels because neighborhood and other low-speed, low-volume streets are used.
- Riding/walking destinations – Providing the greatest opportunity to ride to the greatest amount of rider ability levels and user types (including both on- and off-road), destinations mainly consist of public lands that have some type of riding facility, both informal and formal, ranging from dirt roads to paved trails. Most of these destinations equally provide walking opportunities.

The pedestrian component of this plan supports these recommendations and the overall Scenic Byway efforts by seeking to provide well-connected and accessible pedestrian infrastructure in communities. Sidewalk networks are mapped, overall walkability is assessed, and general recommendations for improving safety, accessibility, mobility, and comfortability are provided. Final components of the plan include supportive recommendations and strategies for further developing bicycling in the region, as well as basic cost estimates and design guidelines for the point-to-point regional network improvement recommendations.

2.3 Stakeholder Engagement

Stakeholder engagement was paramount to the development of a plan that accurately and effectively supports the TRTA’s vision, while meeting the needs and desires of residents. The results of the input process ultimately drove the direction of the plan’s recommendations. Coordination with stakeholders – particularly citizens, public officials, and agency representatives – help to ensure planning efforts align with other ongoing efforts also working towards community, tourism, and economic development in the region. Participants in the engagement process largely consisted of, but are not limited to, federal and state land and resource management agencies, County and City Tourism/Chamber of Commerce Directors, County and City Mayors, Development District, School System, and Health Department Representatives, and residents (particularly existing cyclists). A variety of venues were used to brainstorm ideas and gather input. The following represents the timeline of events for the master plan.



2.0 MASTER PLAN & DEVELOPMENT PROCESS OVERVIEW

- 08/2014 – Project team selected
- 09/2014 – Kick-off with TDOT
- 09/2014 – Meeting with Adventure Cycling to discuss national opportunities and trends
- 09/2014 – Attend Natchez Trace workshop to discuss bike safety on the Trace
- 11/2014 – Kick-off meeting with TRTA organization
- 02/2015 – Project update with TRTA organization
- 02/2015 – Meeting with TDOT to discuss project approach and schedule
- 06/2015 – Tour of Land Between the Lakes and bike facilities
- 07/2015 – Stakeholder Kick-off meeting in Nashville
- 09/2015 – Project update with TRTA organization
- 11/2015 – National Bike Tourism Conference – San Diego, CA
- 11/2015 – Project update with TRTA organization
- 01/2016 – Pilot communities selected at TRTA board meeting
- 01/2016 – Project update with TDOT
- 05/2016 – Stakeholder meetings in Wayne and Henry County
- 06/2016 – Bike and Pedestrian Conference held at Paris Landing
- 07/2016 – Hardin County and City of Erin Stakeholder meetings
- 08/2016 – Project update meeting with TRTA organization
- 08/2016 – Follow-up meeting with stakeholder groups in Henry, Hardin and Wayne Counties
- 09/2016 – Sent draft maps to 9 Counties for review
- 11/2016 – National Bike Tourism Conference – St. Petersburg, FL
- 12/2016 – Project update and preliminary draft presentation to TRTA organization
- 12/2016 – Presentation to TDOT of draft recommendations



Workshop Mobile Tour to Camp Hazlewood, Henry County, TN

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2.4 Data Collection

A final important component to the plan's development is the extensive data collected in the field. Roadway and traffic data gathered from TDOT as well as geocoded county destinations provided the initial framework for identifying the recommended regional point-to-point route network. TDOT maintains a web-based database, the Tennessee Roadway Information Management System ("TRIMS"), that contains a spectrum of inventory data for all of Tennessee's interstates, state routes, and functionally classified roadways. TRIMS attributes used in the early route planning process include but are not limited to:

- lane and shoulder width
- posted speed limit
- number of lanes (total and through)
- 2013 average annual daily traffic (AADT)
- percentage of truck traffic

Destinations necessary for successfully supporting tourism were first identified for each county and geo-coded using ArcGIS. These include opportunities for lodging, recreation, dining, and shopping, as well as major and minor attractions. For purposes of route planning, top and second tier destinations are identified based upon a destination's ability (existing or future) to draw tourists and/or if a destination provides a unique aspect to the overall region experience in order to identify desired regional connections. These 'big picture' corridor connections between TRTA communities and top and second tier destinations were used to focus infield inventory efforts given the considerable roadway mileage in the region. For candidate route roadways, attributes relevant to cyclists' comfort and safety were verified, measured, or noted. These include:

- lane width
- shoulder facility width as well as "usable" width, or the actual maneuver space available for cyclists. Intrusions or obstructions, such as the use of rumble strips, can reduce the actual width available for safe riding
- posted speed limits, including notes on specific segments where roadway geometrics, or other variables, may decrease the likeliness of driver compliance with posted speeds. It should be noted that some segments include speed limit assumptions when none was posted.
- roadway surface composition and condition
- presence of rumble strip/stripe
- additional attributes that may positively or negatively impact a cyclist's comfort or safety, such as the use of stormwater grates that are not bicycle-friendly or roadways that have posted truck restrictions, as well as notes regarding potential cross-section changes (i.e. on-going construction projects)

It should be noted that inventory attributes reflect the regional scale at which the data was collected and intended for use, meaning every detailed change in a roadway's geometrics, such as the widening of a shoulder at an intersection, is not reflected. This is often referred to as "data smoothing" which allows for easier analysis at the regional scale when using the bicycle level of service model, a formula that assigns a score to roadway segments based upon the quality of riding environment for cyclists. While more geared towards urban environments, this model provides a helpful tool in route planning.

As stated, collected data provided the foundation for determining the recommended regional point-to-point route network. Second tier destinations as well as geo-coded county destinations were then used to identify spur route

2.0 MASTER PLAN & DEVELOPMENT PROCESS OVERVIEW

connections as well as fine tune the route's path, especially when candidate route roadways presented similar riding environments. This recommended route network then underwent a detailed public review process, particularly with existing cyclists in the region, to further adjust the regional route.

Data relevant to pedestrian travel was also collected during the infield inventory. The presence and width of on-street parking (both angled and parallel) as well as sidewalk presence and width were the major attributes collected. Additional information that might impact a pedestrian's safety or comfort was also noted, such as the lack of access management along state highways. A final aspect to the plan's data collection efforts consisted of field visits to potential riding/walking destinations. General elements were noted, largely surrounding the opportunities for walking and biking, as well as the level of accommodation and site amenities available for public use.



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3



TARGET USERS



3.0 TARGET USERS

Plan recommendations encourage walkability and bikeability in the region for all users, including residents, regional visitors, and tourists, as well as a spectrum of cyclist types and ability levels. This chapter identifies those which are specifically targeted, as well as the general strategy for developing bicycling in the region. Given the region’s overall lack of cyclists, this chapter also provides important background information for decision-makers in the region relating to the general spectrum of bicycle types, user types, ability levels, and associated desires and needs.

3.1 Spectrum of Cyclist Needs and Desires

Figure 1 illustrates the spectrum of bicycle types and the variations in equipment, such as tire widths and tire treads, which influence a cyclist’s desired route or riding destination choice. In addition to equipment, ability level and goals for riding impact a rider’s desired route choice. The following environmental attributes impact a cyclist’s level of comfort and safety, both real and perceived, and are considered to be foundational elements to bicycle route planning:

- Traffic Volumes
- Roadway Condition
- Roadway Debris
- Truck Percentage of Traffic
- Traffic Noise and Air Pollution
- Landscape (Scenery)
- Destinations Along Route
- Topography
- Amenities
- Risk of Vehicle-Bicycle Collisions
- Traffic Speeds
- Distance between Destinations

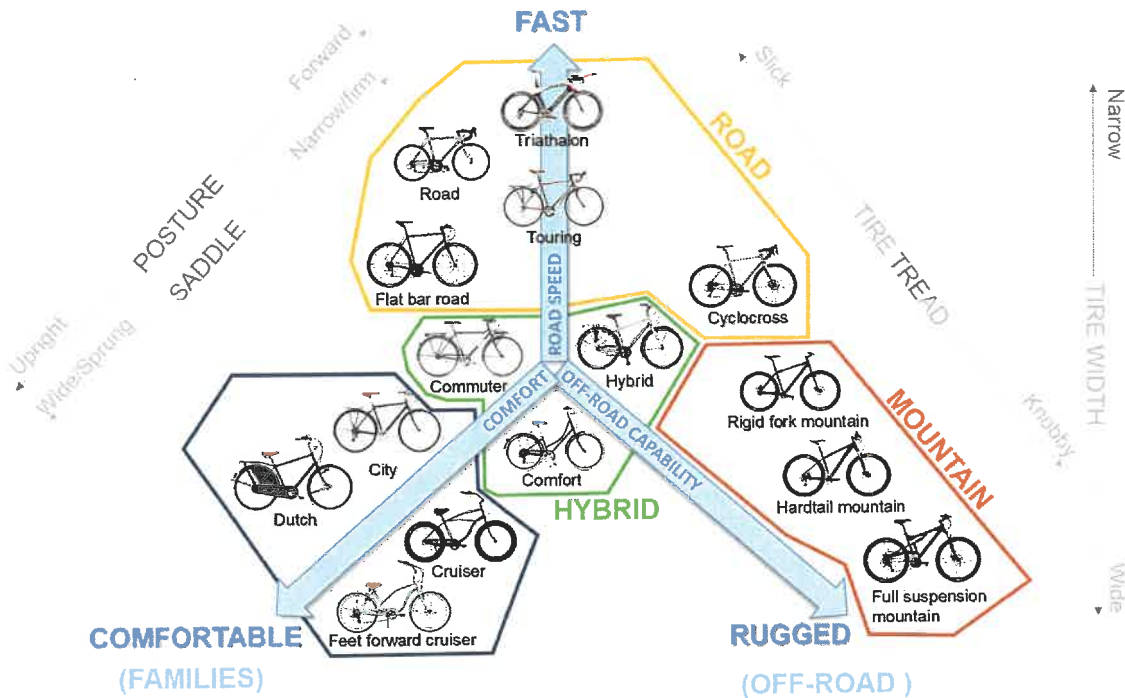


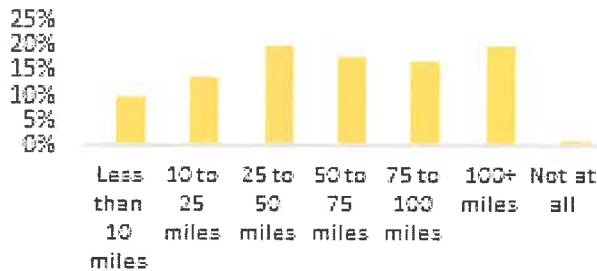
Figure 1 Spectrum of Bicycles

Source: Daily Biking

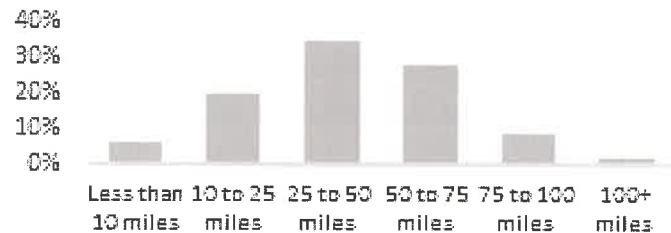
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Results from a 2010 TDOT statewide survey, completed by approximately 3,900 riders and residents as part of the statewide bicycle plan update, provide more detailed insight into how these variables are impacting route choice, as well as a general understanding of how existing roads are being used by riders in Tennessee. Figure 2 illustrates results especially relevant to this plan:

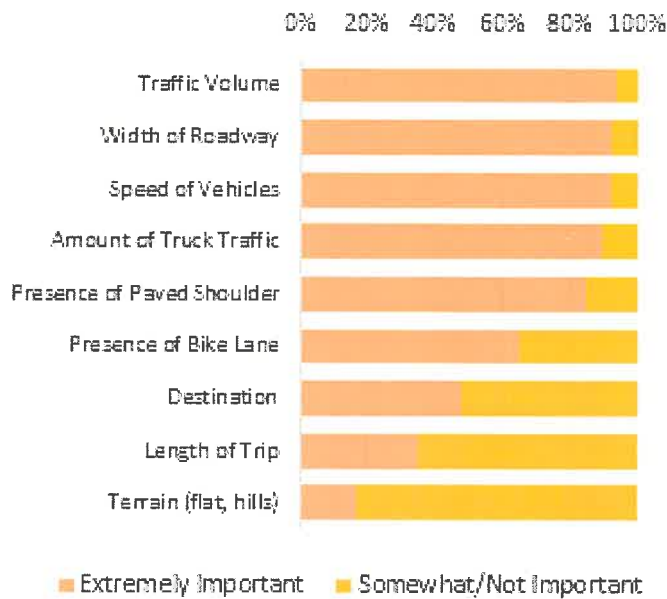
On average how many miles a week do you ride?



What do you consider a comfortable riding distance when thinking of a long ride?



When Deciding to Use a Route For Cycling, How Important Are The Following Factors In Your Decision?



When Thinking of Bike Routes How Important Are The Following Destinations?

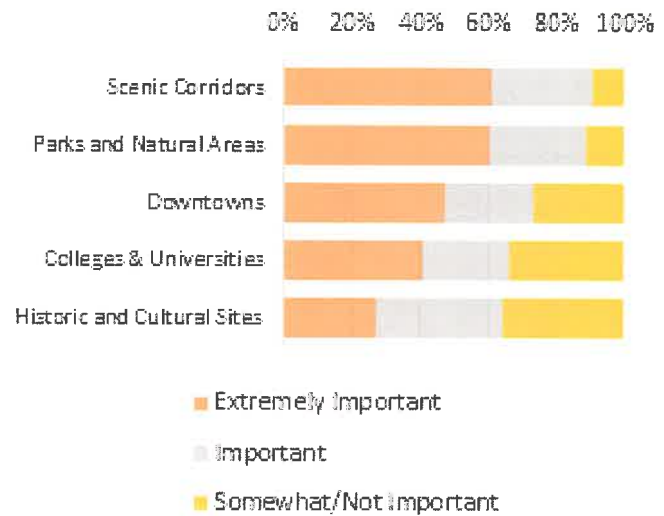


Figure 2 2010 Statewide Cyclist Survey, Source: TDOT Update of Statewide Bicycle Route Planning

3.2 Targeted User Abilities and User Types

Given the breakdown of average riding distances of survey respondents, it is likely that most are considered to be “strong and fearless” or “enthused and confident” bicycle riders. Figure 3 illustrates a popular scheme used for classifying riders, from those that have no desire to ride to those that feel confident riding in any type of roadway environment. While most often associated with low-stress bicycle network planning in urban environments, this classification scheme helps to easily categorize the segments of the population intended for the recommendations of this plan. Understanding sensitivities to various roadway and traffic variables unique to each rider type helps to better plan for, and ultimately, encourage a wider range of individuals to ride. The population can be generally broken down into the following segments:

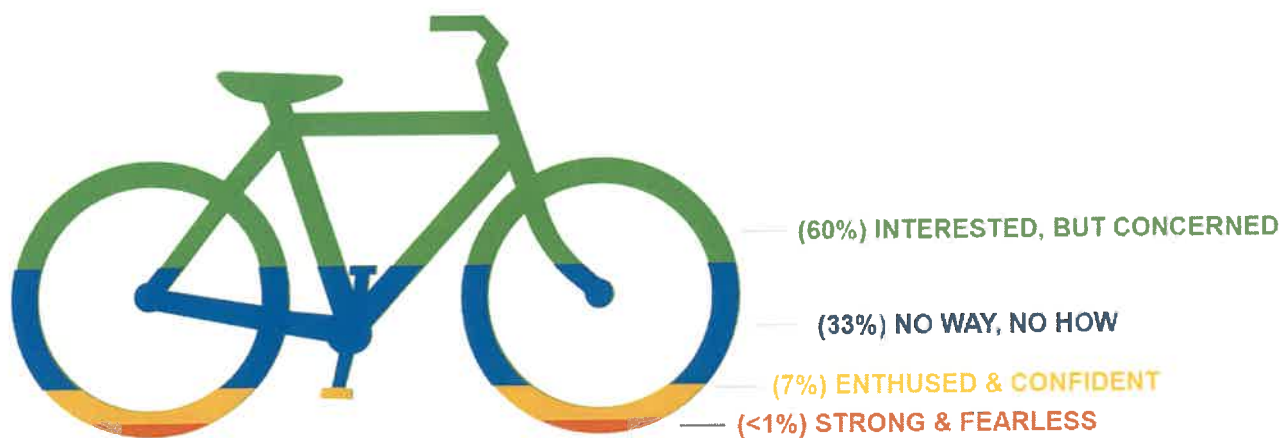


Figure 3 Rider Classification Scheme Source: Roger Geller, Portland, OR Bureau of Transportation

Strong and Fearless: Most likely a regular cyclist who rides weekly and is comfortable riding in any environment and any road condition, even with high traffic speeds and volumes and without bicycle lanes.

Enthused and Confident: Most likely a frequent cyclist who rides monthly. These riders are able to ride most roads, but may become uncomfortable in certain conditions or situations.

Interested, but Concerned: Most likely an occasional cyclist who may ride once a year. These individuals generally choose not to ride based upon safety and comfort concerns. Given the right bicycle facilities, education, and encouragement, these residents may choose to ride.

No Way, No How: Considered a potential cyclist; however, these individuals will likely not ride a bicycle regardless of the roadway conditions.

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

The plan's recommended point-to-point regional route network is capable today of accommodating riders that fall into the "strong and fearless" and "enthused and confident", as well as "interested, but concerned" riders in certain sections of the network. Breaking the regional route down into primary and secondary routes, to be further discussed in Chapter 5, allows for greater flexibility in the types of environmental elements posed to cyclists, therefore, increasing the potential for accommodating a greater variety of user ability levels. Recommended route improvements are intended to increase the route's level of safety and comfort further increasing the route's reach potential for drawing cyclists, particularly those that are "interested, but concerned". Community loop route recommendations as well as the identification of riding destinations are specifically geared towards providing opportunities for riders that fall into the "interested, but concerned" and "no way, no how" categories.

The region's variation in existing resources provides the opportunity to also accommodate a broad spectrum of user types. Four general categories are considered to be targeted user types of this plan and its recommendations. For planning purposes, categories and associated needs and desires are generalized in order to ensure a spectrum of users and needs are accommodated. These include:



On-Road Users: Typically more of a long-distance rider. Dedicated road cyclists are sometimes referred to as "road warriors".

Interested In: mileage, smooth roadway surfaces, targeted sections of roadway for training purposes (long, flat straightaways as well as extreme elevation changes)



Off-Road Users: Consists of mountain bikers, cyclocross racers (a very specific form of racing that uses natural obstacles), and a growing sector of riders known as "gravel grinders". Gravel grinders are further described in Section 3.4 given the region's potential for drawing these particular users.

Interested In: natural or soft-surface trails, gravel or dirt roads, and for more advanced riders, technical terrain, such as large drops, log obstacles, and rock.



Families: Consists of riders with a variety of skill levels

Interested In: roadways with low traffic volumes and speed limits, resting areas, interesting landscape and destinations, ability to complete short trips



Touring Cyclists & Other Bicycle Tourists: Typically regional, national, and international tourists

Interested In: lodging, food establishments, shower facilities, opportunities for shelter, and resupply venues. These types of cyclists are further described in Section 3.3 given the plan's emphasis on bicycle tourism.

3.3 Spotlight on Touring Cyclists and Other Bicycle Tourists

3.3.1. Bicycle Tourist Types

Bicycle tourism draws a spectrum of users and can act as an important sustainable component to a region or community's tourism and economic development strategies. A bicycle tourist is essentially a person who uses a bicycle as a primary or secondary mode of transportation during a vacation or leisure visit or just as a component of their overall travel experience. Common bicycle tourist types include:

- **Self-contained travelers**
These traveler types are also known as “touring cyclists” and generally travel in a linear, long-distance pattern. Although based upon style of travel (further described in section 3.3.2), most riders carry their gear on their bikes and largely require opportunities for camping, buying supplies, and internet access.
- **Urban-cycling travelers**
These travelers may also fall under the touring cyclist category, basing their route selection around and between communities. Some of these travelers, however, do not travel as far as self-contained travelers, instead focusing more time on sightseeing and enjoying a few or a single community.
- **Ride-centered travelers**
Ride-centered travelers identify locations, typically a lodging venue (such as bed-and-breakfasts) or community, to act as a “base camp” for shorter day rides and other tourism-related activities. Baby Boomers are often associated with this type of traveler given the flexibility of route lengths and the availability of more substantial lodging accommodations. Families might also fall under this category seeking to incorporate a variety of activities and sightseeing opportunities in their trip beyond cycling.
- **Event-centered travelers**
These traveler types participate in organized or event rides and include spectators as well. A weekend or week is the typical length of stay for these traveler types depending upon the event.
- **Component travelers**
Component travelers seek to incorporate cycling into their trip itineraries, such as touring a site or community by bike or embarking on an adventurous trail ride. These traveler types include those that bring their bikes, as well as those that do not (therefore, requiring a rental).

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3.3.2. Self-Contained Travelers

Long-distance travelers, including self-contained, and in some cases urban-centered travelers, can be further broken down into three basic branches of travel. This information is relevant to this plan and stakeholder communities given the existence of two popular Adventure Cycling bicycle touring routes that traverse the region north-to-south.

- **The Guided Bicycle Tour:** Guided bicycle tours are those which one pays to be escorted along a pre-determined route by an experienced guide or touring company. This support vehicle escort carries gear to the next checkpoint along the route. Not only does the vehicle provide relief off of the bicycle, but it can also help riders traverse an especially challenging location or less attractive route section. Some companies also provide a tour guide that rides with the group along the route, with others offering varied levels of support from the guide vehicle. The most widely-known company providing these services is the Adventure Cycling Association, which, as mentioned above, currently has two routes that pass through the TRTA region.
- **The Self-Guided Bicycle Tour:** These types of bicycle tours are similar to those described above; however, meals and lodging are taken care of by the cyclist, instead of a touring company, which distinguishes these types of riders as “self-contained”. Riding guides are also not provided, however, use of pre-determined routes and touring company materials are available for use at a much cheaper rate. These types of cyclists generally stay in a new town or location each night and typically need lodging, food supplies, and internet access.
- **The Self-Supported Bicycle Tour:** This type of touring cyclist carries all clothing, tools, and gear needed for the tour, and is commonly known as “traditional bicycle touring” or “fully-loaded bicycle touring”. Route and travel details are taken care of by the rider in advance and requires the most amount of planning and preparation. These riders typically plan their routes around lodging opportunities, whether it be campgrounds, cabins, bed and breakfasts, or hotels.



3.3.3. Typical Touring Cyclist Travel Distances

In addition to travel type, touring cyclists can be broken down by their ability level, or desired ride distances. This information is relevant for generally understanding touring cyclist needs, as well as for future efforts to provide supportive bicycle tourism elements. The worldwide adventure travel company, Ciclismo Classico, provides a breakdown of cycling ability levels for purposes of identifying the “right-sized” bicycle tour for their customers. While geared towards tours offered by Ciclismo, this classification scheme provides a basic framework for understanding general mileages, terrain, and rider characteristics.

- *Easy:* Average daily distances range from 18 to 35 miles with a flat terrain for individuals who already enjoy being active
- *Athletic Beginner:* While not an avid cyclist, these riders are fit, tend to exercise daily, and might ride 2-3 times a week. Average daily distances range from 35 to 45 miles with a flat and rolling terrain.
- *Intermediate:* Cycling is this individual's preferred method for being active and rides whenever possible. Average daily distances range from 40 to 50 miles with a rolling terrain that features more challenging climbs and descents.
- *Advanced:* These individuals are avid cyclists who train regularly. Average daily distances extend beyond 45 miles and are typically characterized by long distances and varying terrains.
- *Family:* Average daily distances range from 18 to 30 miles with destinations, other multimodal adventure opportunities, and lodging easily accessible. Terrain is generally flat.

3.3.4. Touring Cyclists' Needs

A bicycle tourist's needs varies based upon the method and length of travel. Adventure Cycling identifies the following general elements communities should consider when seeking to accommodate bicycle tourists, specifically touring cyclists:



Food

Touring cyclists look for restaurants and grocery stores; however, other locations, such as convenience stores, campground stores, and gas stations may provide cyclists with basic cycling foods (such as trail mix and oatmeal). Advertising "snacks available" helps cyclists to easily identify these locations.



Water

Cyclists look to fill up water bottles at any available location. Even if a location does not have a public water fountain, adding spigots to particularly high volume locations increases the availability of water and limits the need to stray off a route to find resources. In the summer, ice is especially appreciated.



Accommodations

Communities along Adventure Cycling's routes have allowed cyclists to stay in community centers, churches, city parks, and fairgrounds. Some even have specific camping facilities for touring cyclists. Availability to restrooms overnight should be considered.



Bike Storage

Safe and convenient bike storage is important for cyclists while they shop, eat, visit destinations, or stay in a location. Adventure Cycling recommends the "U" or staple rack given its versatility and effectiveness on a spectrum of bicycle types. It is important to carefully consider bike rack placement in relation to buildings, vegetation, etc. to ensure maneuverability. Storage sheds with hanging bicycle racks can be particularly useful in lodging locations.

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN



Communications

Internet access, and sometimes public phones, can be an important lifeline for cyclists. Staying on course, avoiding severe weather, gathering information on destination hours of operation, and emergency service access are a few of the reasons access is important. Communities should make an effort to ensure a public phone and internet access is available in your community, such as in locations like libraries, city halls, local diners, or laundromats.



Hygiene

Showers and laundry facilities are very important for touring cyclists. Community pools and recreation centers, welcome centers, volunteer fire departments, YMCAs, and churches may have facilities that can be shared with cyclists. These venues are also possibilities for locating washers and dryers if a community lacks a laundromat.



Bike Tools

Cyclists often need basic tools and supplies, on long-distance trips especially. Items such as tire tubes, spokes, and tire patch kits can be intentionally placed in local businesses and destination gift shops. Make sure these supplies are advertised with a small sign in the window to alert cyclists. Access to bike pumps is also a great service to have. Bicycle repair stations (similar to one shown), typically cost approximately \$1,100 and can provide these services in one easy location.



3.4 Spotlight on Gravel Grinders

Riding on gravel has been around since the event of the sport of bicycling; however, the industry has only recently begun to roll out bikes which balance both efficiency and durability. “Gravel grinders” is one of the fastest-growing niches in bicycling with events popping up all over the U.S. given the nation’s extensive network of scenic backroads. Sometimes referred to as the ‘goldilocks of cycling’, dirt and gravel roads provide a perfect riding venue both away from traffic while up close and personal with nature. Gravel grinder races fill a niche between short, intense races (cyclocross) and ultramarathon outings. These events often have a less competitive feel as a whole, getting back to the roots of why people bicycle in the first place – enjoyment and adventure.

Hickman County has become a haven in the past few years for Nashville area gravel grinders given the County’s extensive network of connected unpaved roads. In March 2016, the successful inaugural Gosh Darn Gravel Grinder Camp/Ride event offered a 50k and 100k route and was capped at 100 riders. The Hickman County Gravel Grinder Association Facebook group currently has approximately 550 members and is dedicated to “the advancement of gravel road riding and racing in Middle Tennessee”.

The TRTA region’s own network of gravel and dirt roads, as well as accompanying scenery and destinations, provides an excellent platform for drawing these types of cyclists. Figure 4 illustrates region roadways with a gravel surface in 2014. Wayne, Humphreys, Houston, Stewart, and a portion of Hardin County have the greatest likelihood for drawing gravel grinders given the mileage and connectivity of gravel roads, as well as availability of informal dirt roads on public lands. Humphreys County is particularly positioned to draw Hickman County riders given its adjacent location to the County.

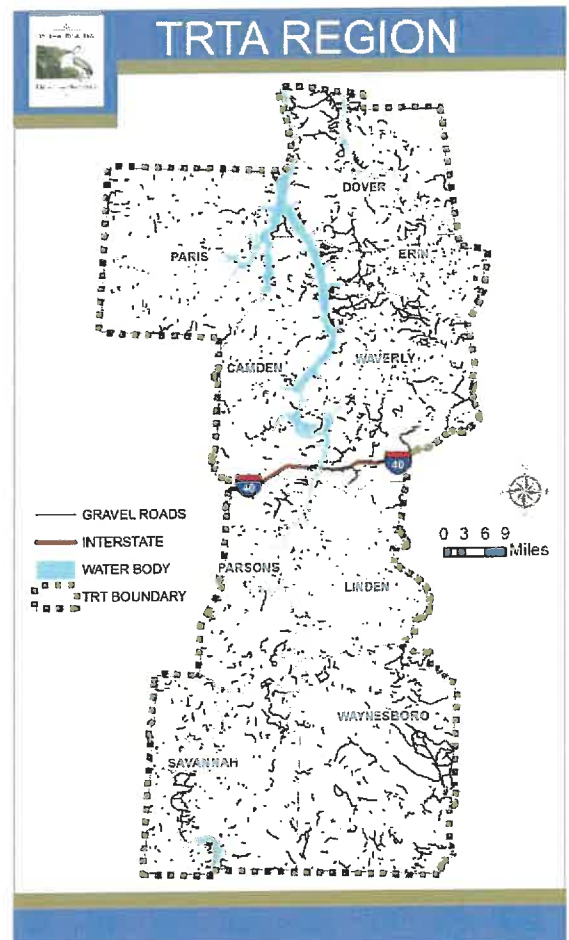
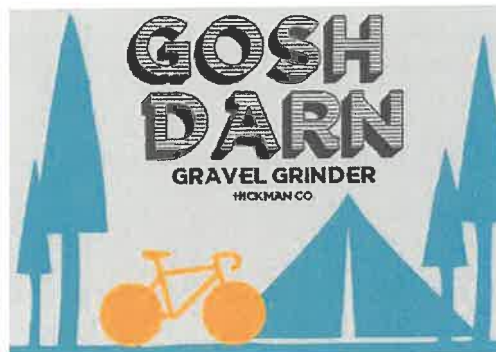


Figure 4 Gravel Roadways in TRTA Region



2015 Gosh Darn Gravel Grinder Event Pictures

3.5 Existing Cycling Attractions in the TRTA Region

The state of bicycling across the TRTA region was largely unknown prior to the development of this plan. While many stakeholders assumed numbers were low, it was found that two destinations, located in the northern and southern ends of the region, are already drawing a number of cyclists. The Natchez Trace Parkway and Land Between the Lakes National Recreation Area each draw on- and off-road cyclists year-round given the trail systems and roadway characteristics. The plan's overall strategy to the development of bicycling in the region is to build upon these existing strongholds by drawing cyclists further into the region, as illustrated in Figure 5.

3.5.1. Natchez Trace Parkway

The Natchez Trace Parkway is designated as a National Park, National Scenic Byway, U.S. Bicycle Route, and Adventure Cycling touring route (Great River South). Stretching 444 miles from Natchez, MS to Nashville, TN, this important historic route attracts cyclists given its controlled-access nature, restriction of commercial vehicles, low traffic volumes, and scenic beauty. The Trace attracts both regional day cyclists as well as touring cyclists, with a particular draw for touring cyclists given the unique linear and contiguous nationally-protected park setting, accompanied by numerous historic and cultural destinations, hiking trails, rest areas with restroom facilities, and nearby lodging. Given the number of touring cyclists that ride the Trace, bike-only campgrounds are located throughout its length, in addition to a number of nearby bed and breakfasts that serve general Natchez Trace users.

Collinwood, located just off the Trace in Wayne County, has capitalized on the cyclists coming off of the Trace. While making no initial efforts to pursue bicycle tourism as a means of community development, the community and its residents embraced the opportunity to cater to these riders given their continued presence. Input was gathered from local and touring cyclists to understand the types of amenities and services these riders typically seek in order to accommodate these visitors.



A grant to build a welcome center in 2006 allowed for these identified needs to be incorporated into the design of the new facility, such as showers and a bicycle tire pump free for cyclists' use. This facility is maintained by the Wayne County Chamber of Commerce and volunteers of the community, who have been known to pick up stranded cyclists off of the Trace. In addition to these efforts, the community collaborated to provide additional accommodations, including allowing overnight camping for cyclists in one of the parks, as well as opening the adjacent local volunteer fire department to cyclists seeking showers or shelter during inclement weather. A bed and breakfast also caters especially to cyclists providing rides from the Trace, as well as

secure on-site bicycle storage. While still in planning stages, a local businessman hopes to open a hotel that will also specifically accommodate touring cyclists and their associated needs in downtown Collinwood.

BICYCLE DEVELOPMENT STRATEGY
Existing Attractors

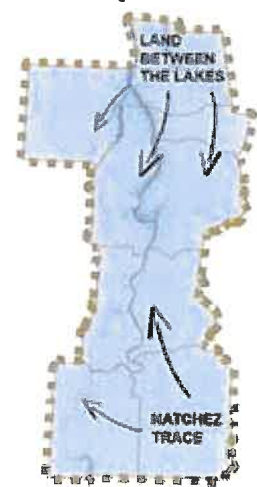


Figure 5 Existing Bicycle Attractors in TRTA Region

3.5.2. *Land Between the Lakes National Recreation Area*

According to its website, Land Between the Lakes National Recreation Area features “one of the largest blocks of undeveloped forest in the eastern United States”. The area, located on a peninsula between Lake Barkley and Kentucky Lake in Western Tennessee and Kentucky, consists of 170,310 acres and features over 300 miles of shoreline, 200 miles of scenic roadway, and 500 miles of multiuse trails maintained for hiking, off-roading, biking, and horseback riding. While perhaps not as solidified as the cycling culture along the Natchez Trace, the Land Between the Lakes draws a number of cyclists given the approximately 70 miles of trails open to biking, as well as attractive roadway settings.

According to the trails manager, mountain biking is the dominate form of cycling that occurs in the park, although the low traffic volumes on the Woodland Trace (the main north-south roadway) draws a number of road cyclists as well. According to his observations, most cycling currently occurs in the North End, where the majority of the existing bike trails exist. Canal Loop opened to mountain bikers in 1997 offering some of the most challenging rides in the region. So much so, the National Off-Road Bicycle Association (NORBA) has held several sanctioned events in recent years. The presence of nearby biking attractions in Kentucky (such as Lake Barkley State Park) and communities (like Murray and Cadiz) also help to draw cyclists to the park’s northern end. Current multiuse path connection projects, illustrated in Figure 6, will further enhance non-motorized connectivity into Land Between the Lakes from these attractions and communities. Partner agencies affiliated in the management of the property are open to implementing a spectrum of strategies to draw more visitors to the South End, including expanding cycling opportunities.

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN



Figure 6 Future Multiuse Path Connections at Land Between the Lakes



Construction of new bridges (to be completed by 2018) on either side of Land Between the Lakes (Kentucky Side) will include a multiuse path further enhancing connection to the park



4



EXISTING CONDITIONS



4.0 EXISTING CONDITIONS

The Existing Conditions chapter consists of three sections. The first focuses upon existing bicycle routes, tourism trails, and byways that pass through or connect to the TRTA region. These are important for understanding how and where existing cyclists and tourists are, or might, enter, travel through, and exit the region. Adjacent statewide bicycle route systems as well as regional routes that pass through the region are also covered in order to ensure seamless connections as well as understand where investment efforts can be maximized by providing improvements for both regional riders as well as those that are passing through on a multi-state tour. The second section provides information on the existing cycling population in, or adjacent to, the region. Supportive elements, including cycling clubs, established riding groups, bike shops, and cycling events, are covered. This provides general knowledge of where to direct cyclists looking for resources, as well as an understanding of baseline conditions from which to implement the recommendations of this plan. The final section consists of county profiles that contain demographic, geographic, environmental, and transportation-related data relevant for route planning, the development of route materials, or for briefly understanding how residents could potentially benefit from the development of cycling in the county.

4.1 Existing Bicycle Routes

National Routes

U.S. Bicycle Route System (USBRS)

Over 11,000 miles of U.S. Bicycle Routes have been officially designated in 24 states, with an eventual goal of a nationwide network that allows cyclists to commute safely, travel cross-country, and tour regionally. Adventure Cycling, the bicycle-advocacy non-profit at the helm of national route planning, mapped their first route, the TransAmerica Bicycle Trail, in 1976. The National Corridor Plan from October 2015 identifies the existing cycling routes and proposed route corridors that make up the envisioned 50,000-mile network. Routes 35 and 25 are proposed for the Tennessee River Trail region as illustrated in Figure 1.

State departments of transportation (DOTs) are responsible for approaching Adventure Cycling to move forward on official designation of proposed routes. The Tennessee Department of Transportation (TDOT) is currently working on the designation of a route in East Tennessee, however, it is envisioned that once their effort is complete and the recommended TRTA bicycle route has been firmly established, TDOT will revisit potential designations in the region.

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN



The goal of The United States Bicycle Route System is to connect America through a network of numbered interstate bicycle routes.

NATIONAL CORRIDOR PLAN

October 2015



Figure 1 United States Bicycle Route System Plan



4.0 EXISTING CONDITIONS

Adventure Cycling Association (“Adventure Cycling”) Route Network

Adventure Cycling also offers guided tours (varying in level of support for cyclists) for routes that vary by year. Some of these tours feature existing designated U.S. bicycle routes or within desired corridors. The organization describes their routes as providing cycling connections between some of the “most scenic and historically significant landscapes in the U.S.” Available on their website, routes are accompanied with detailed maps, navigational instructions, and information such as bike shop locations, food and water sources, and overnight accommodations. In 2014, the organization offered regional and cross-country route tours that included the TRTA region, which indicated the region’s capability in supporting touring cyclists, as well as a desire on the national level to experience the culture of the Southeast.

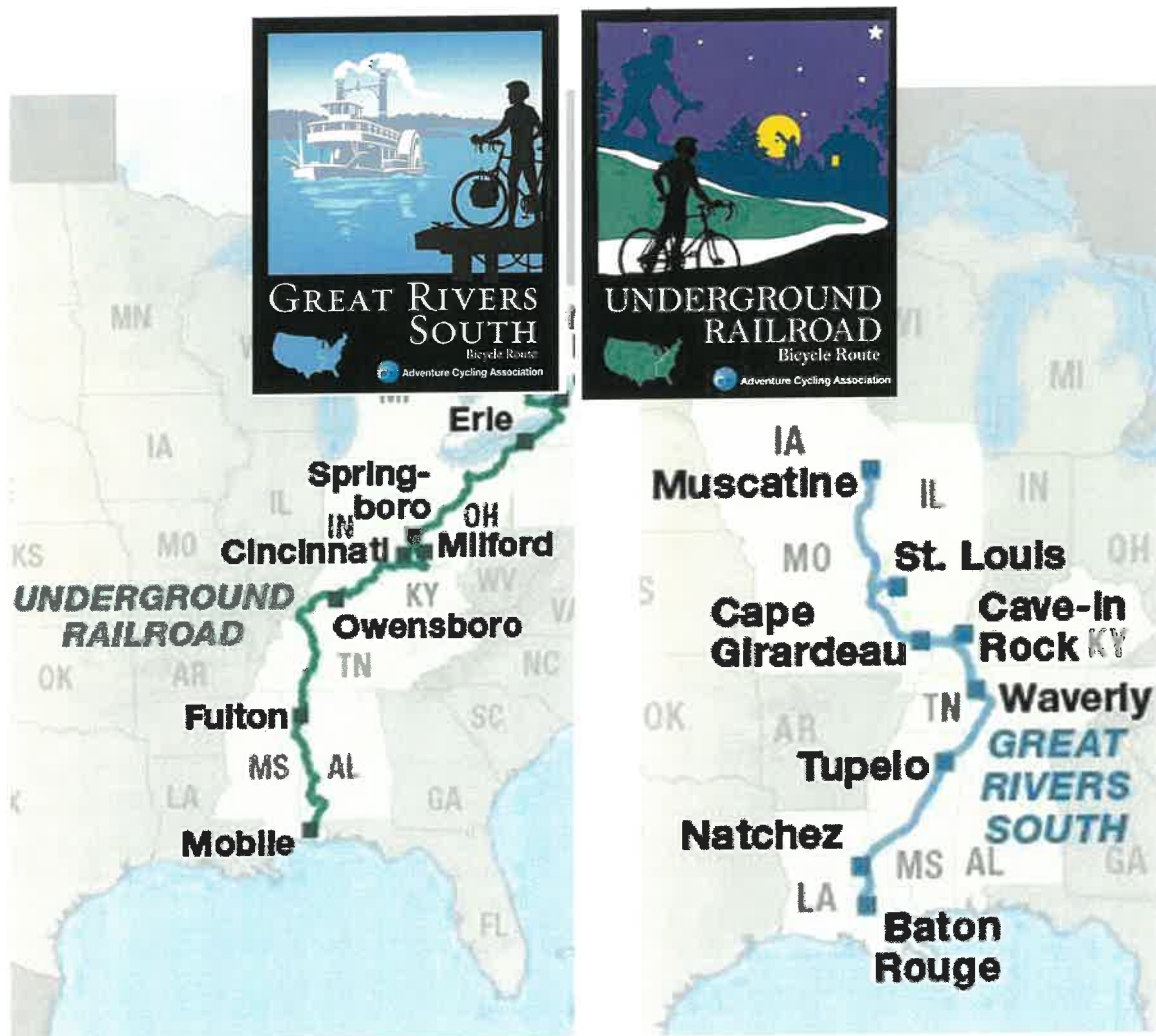


Figure 2 Adventure Cycling Routes in TRTA Region

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Statewide Routes

Tennessee Department of Transportation (TDOT) Statewide Bicycle Route Network

The Tennessee Department of Transportation (TDOT) has existing bicycle routes along designated state highways for purposes of providing logical connections for long-distance bicycle trips as well as connecting community bicycle networks throughout the state. These signed routes were chosen based upon existing bicycle-friendly elements (or their potential for) given needed improvements. TDOT bike routes are currently signed, however, it was noted during data collection efforts that route signage sometimes terminated when routes are illustrated to continue, as shown in Figure 3.

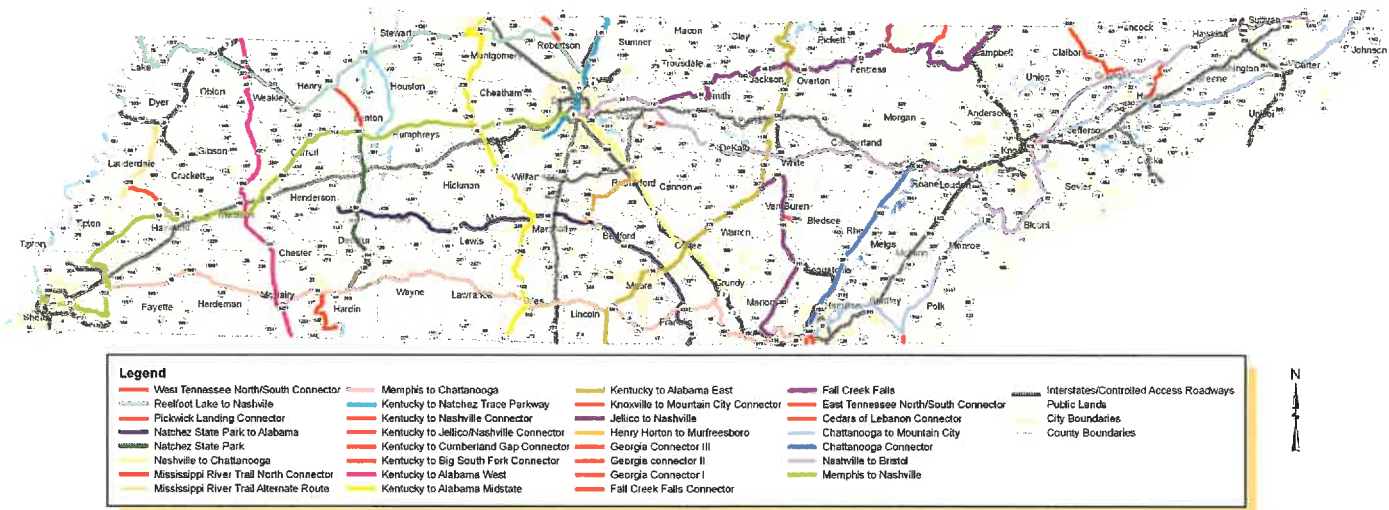


Figure 3 TDOT Statewide Bicycle Routes



STATEWIDE ROUTES IN THE TRTA REGION:

- Pickwick Landing Connector
- Memphis to Chattanooga
- Natchez State Park
- Natchez State Park to Alabama
- Memphis to Nashville
- Reelfoot Lake to Nashville
- West TN North South Connector

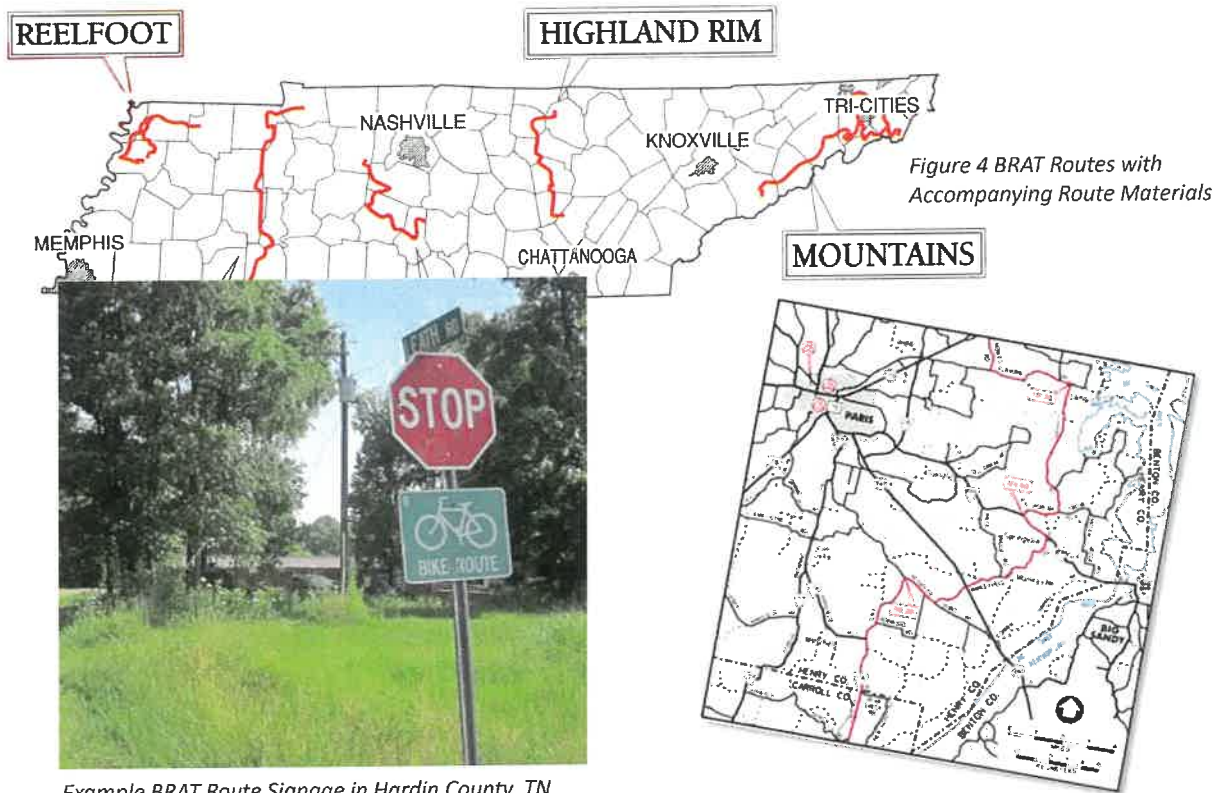
4.0 EXISTING CONDITIONS

Bicycle Ride Across Tennessee (BRAT)

The Bicycle Ride Across Tennessee, commonly known as “BRAT”, is held twice a year – in the spring and fall – and is organized by the Tennessee State Parks and Tennessee Department of Environment and Conservation (TDEC). Now in its 27th year (2016), the 7-day bicycle tour features a different part of Tennessee each year. Custom routes are identified to connect various communities, points-of-interest, and scenic vistas with each day ending at various State Parks. Daily mileage ranges from 50-80 miles with overall totals ranging between 350 and 410 total miles depending upon state park destinations. The ride is fully-supported, meaning detailed pre-determined route information is provided, as well as logistics, such as camping locations and food. A shuttle provides baggage transport and support services should a need arise on the route. Hosting State Parks typically provide entertainment and interpretive programming for riders following their ride. Registration for the 2016 fall 7-day, 6-night event was \$450.



Several of the previous B.R.A.T routes, illustrated in Figure 4, have been formalized with TDOT bicycle route signs. These route signs are distinguished from the standard statewide bicycle route signage by milepost numbers in upper left hand corner as well as a directional arrow. For these routes, TDOT provides accompanying touring maps and navigational information on their website. The River Route begins and ends in the TRTA region providing an additional signed route for region riders.



Example BRAT Route Signage in Hardin County, TN

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Kentucky Statewide Bicycle Route Network

In 2015, the State of Kentucky’s Tourism, Arts, and Heritage Cabinet’s Office for Adventure Tourism completed the Cross Kentucky Master Trail Plan: A How-to Guide for Trail Development. This plan identifies a statewide route network of Cross Kentucky Trails, or “interstate trails”, that provide key regional connections strategically identified for long-distance travelers. Trails that provide connection into the TRTA region are illustrated in Figure 5. An existing route currently connects Tennessee and Kentucky along the Woodland Trace, with a proposed east-west connection that uses State Highway 119 to enter Henry County and U.S. Highway 79 to connect to the Woodland Trace providing an opportunity to steer the attention of regional and touring cyclists further into the greater TRTA region. In addition, a proposed connector route is identified between the North End of Land Between the Lakes, Murray, and the Tennessee state line at Hazel. This proposed route would use the improved U.S. Highway 68 bridge designed to include a multi-use path.



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Figure 5 Existing and Proposed Kentucky Bicycle Routes

Kentucky’s Trail Town Program is also a particularly useful model and resource for the TRTA region in regards to the recommendations of this plan. These communities, which apply for the designation, act as gateways to an area’s natural, historical, and cultural resources for long-distance travelers (whether those on foot, bike, or horse). The program essentially assists communities in capitalizing on existing adventure tourism opportunities, expanding general local tourism opportunities, and supporting the industry by providing funding assistance for tourism materials. The designation also helps long-distance travelers to develop itineraries knowing resources are available and recreation and leisure opportunities exist nearby. Criteria for designation includes “proximity to trail systems, public recreational destinations, and communities that integrate cultural, historical, and agricultural elements into the overall experience of visiting the community”. The Program’s How-to-Guide for Communities provides an excellent resource for TRTA communities in evaluating existing assets, enhancing these in order to attract tourists, as well as providing sample action plans for a variety of task forces involved in supporting the community’s trail town program.

4.0 EXISTING CONDITIONS

“The Trail Town Program will help communities improve their tourism economy, add more jobs, and create more tourism opportunities for the entire state. There are currently nine Trail Towns with more than 30 communities working through the application process.”



Alabama Statewide Bicycle Route Network

The goal for the statewide network, identified in the State’s 2010 Plan, is to “provide bicycle access across the state, between metropolitan areas, and to natural and cultural resources within the state”. In northwest Alabama, proposed routes link communities such as Florence and Muscle Shoals and destinations like John Wheeler State Park, Wheeler Dam, and the Natchez Trace Parkway, as illustrated in Figure 6. The Natchez Trace is identified as an East-West Route providing connection into the region. In 2015, the Alabama Department of Transportation (ALDOT) began the process of updating the Statewide Bicycle and Pedestrian Plan, which is soon to be released.

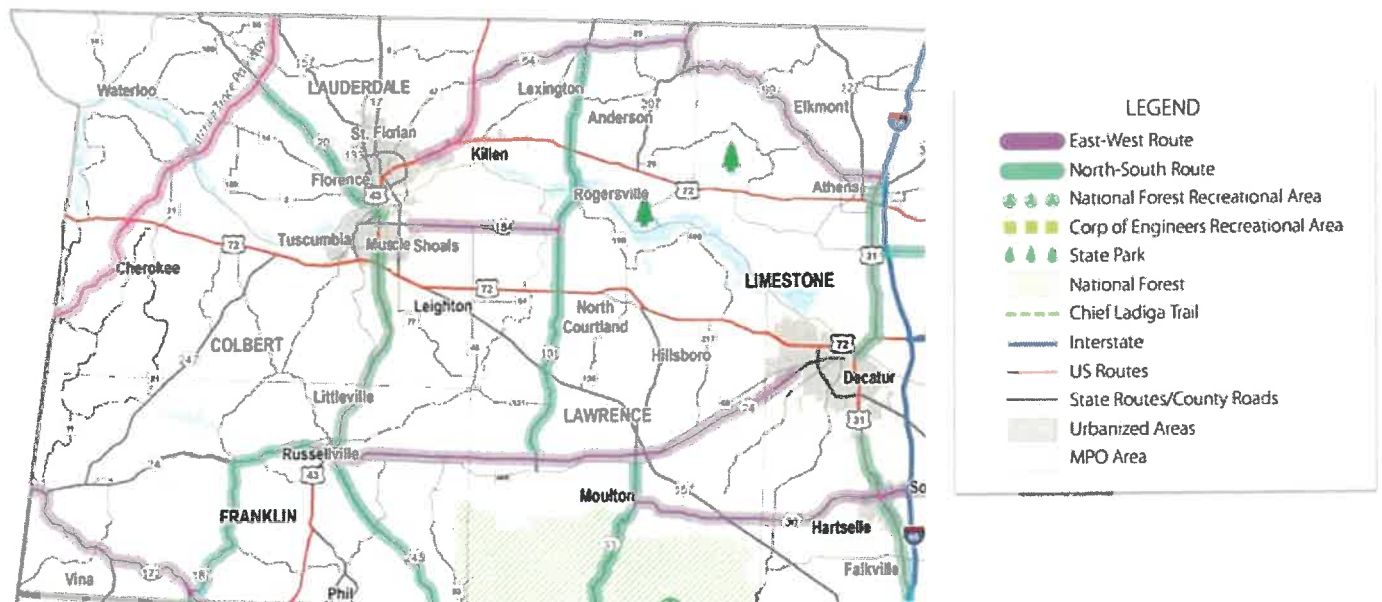


Figure 6 Proposed Bicycle Routes in Alabama

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Mississippi Statewide Bicycle Route Network

Mississippi has the fewest bicycle routes of the three adjacent states. The Natchez Trace Route is the only route that connects into the TRTA region. It is worth noting that Adventure Cycling’s Underground Railroad route also connects the TRTA region to Northeastern Mississippi with Tishomingo State Park and marinas north of the park being a potential destination for through cyclists.

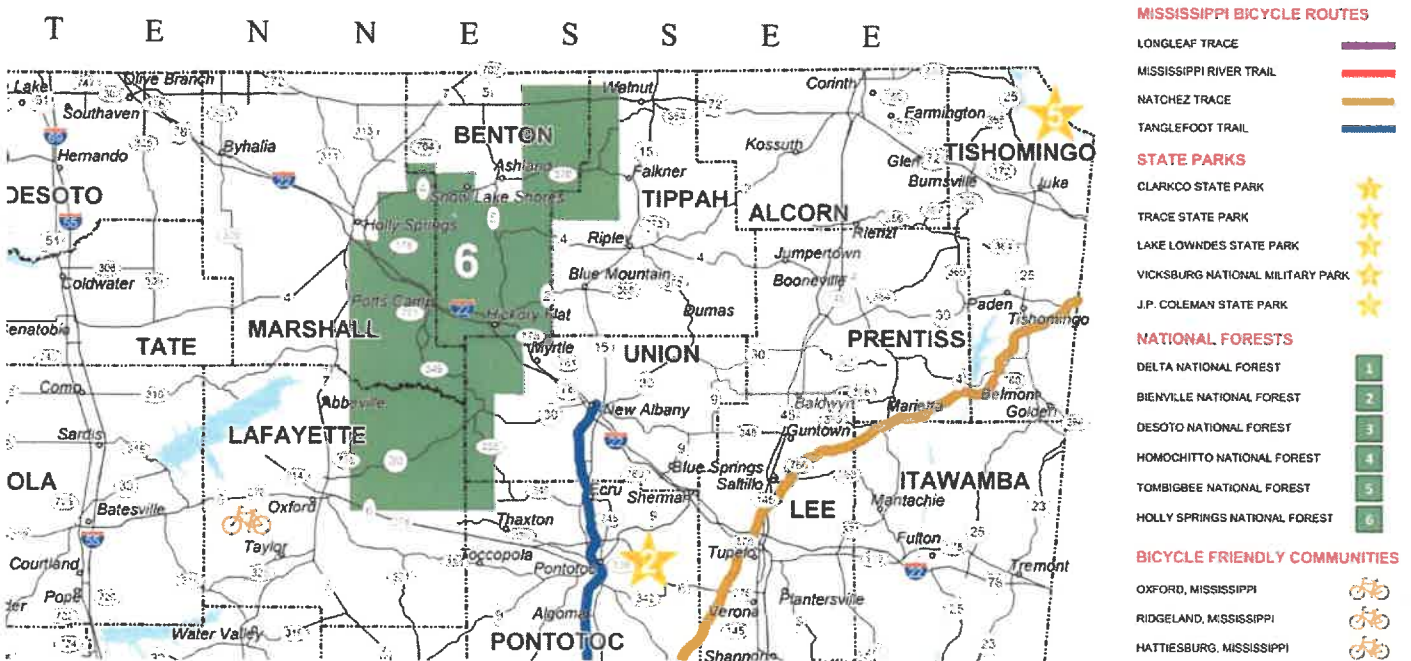


Figure 7 Existing and Proposed Bicycle Routes in Mississippi

4.2 Existing Tourism Byways and Trails

National Byways and Trails

National Scenic Byways (U.S. Department of Transportation and Federal Highway Administration)

Two National Scenic Byways, roadways designated for their “architectural, cultural, historic, natural, recreational, and scenic qualities”, pass through the TRTA region. The Woodlands Trace National Scenic Byway, encompassing 43 miles, acts as the backbone for Land Between the Lakes. The Natchez Trace National Scenic Byway and National Park stretches 444 miles from Natchez, Mississippi to Nashville, TN. It is also considered as an “All-American Road”, a National Scenic Byway that possesses multiple national significance qualities. These byways are considered to be unique and dynamic enough to be tourist destinations in themselves. Both feature informal and formal opportunities to explore and learn about the history, culture, and environment that set these national treasures apart.



4.0 EXISTING CONDITIONS

Trail of Tears National Historic Trail (National Park Service)

The Trail of Tears National Historic Trail commemorates the historic routes used for forced relocations during the events of 1838-1839. The Bell, Water, and Bengie routes - used for the removal of Cherokee, Creek, and Chickasaw - all pass through the TRTA region, as illustrated in Figure 8. While still under development, the trail's driving tour offers interpretative materials and signage to help explore the route and related sites.

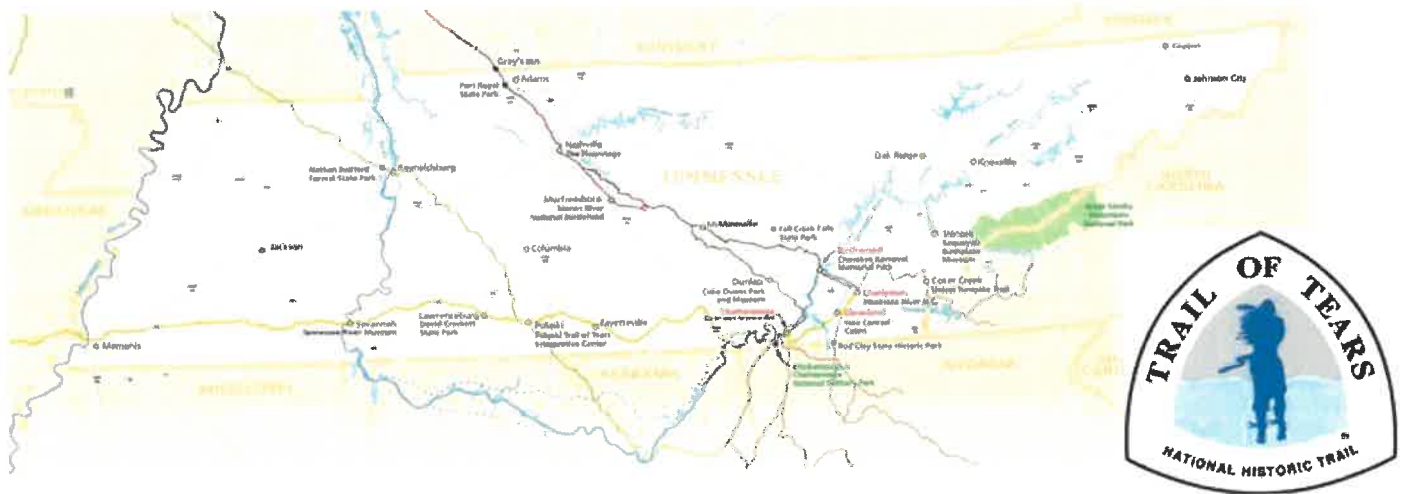
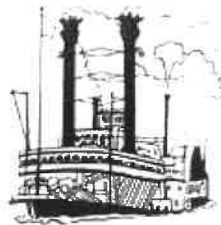


Figure 8 Trail of Tears National Historic Trail in Tennessee

The Tennessee River Museum is a destination along the Trail of Tears. Exhibit materials include receipts for supplies John Bell purchased as he and his group of Cherokee passed through the area



TENNESSEE
RIVER
MUSEUM

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Statewide Byways and Trails

Discover Tennessee Trails and Byways

The Discover Tennessee Trails and Byways initiative provides 16 self-guided driving tours, including the Tennessee River Trail, across the state of Tennessee that feature Tennessee's "legendary landscapes". These tours are intended to increase exposure to the state's secondary markets using rural backgrounds (more major cities being considered primary), while providing "an authentic glimpse into Tennessee life" for tourists and residents alike. The following trails, which feature dozens of historic, cultural, and natural attraction stops, pass through the TRTA region.



Walking Tall Trail: The trail explores African American history in southwestern Tennessee including important sites relating to slavery and early freedom, blues music, and civil rights. Major communities featured along this trail include Memphis, Collierville, Bolivar, Selmer, Savannah, Henderson, and Jackson.



Screaming Eagle Trail: This trail focuses upon western Middle Tennessee's cuisine, historic communities spawned by the 1800s iron industry, military history, and influential women born in the area. Major communities include Nashville, Clarksville, Erin, Camden, Waverly, and Dickson.



Nashville's Trace Trail: 'Backstages to Backroads' is this trail's tagline featuring Tennessee's musical heritage. Major communities include Nashville, Columbia, Linden, Hohenwald, Waynesboro, and Lawrenceburg.

Civil War Heritage Trail

The Tennessee Civil War Trails program is part of a five-state trails system that allows users to explore well-known and less-familiar sites significant to the Civil War. Additional states participating include Virginia, North Carolina, Maryland, and West Virginia. More than 340 trail markers are in the ground across 87 of Tennessee's 95 counties offering a range of interaction, from simple interpretive plaques to preserved battlefields. Destinations within the TRTA region include Fort Hill in Waverly, the Cedar Grove Iron Furnace in Perry County, and the Cherry Mansion in Savannah. Tennessee's Civil War Trail Map/Guide continues to be the most requested brochure of the five states, as well as in Tennessee's Welcome Centers. The recently-launched Tennessee Civil War 150 app has been download more than 9,500 times since July 2015.



4.0 EXISTING CONDITIONS

4.3 Existing Cycling Clubs, Shops, and Events In or Adjacent to the TRTA Region

Riding groups, clubs, cycling events, and bike shops can be important lifelines for existing resident cyclists, bicycle tourists, or interested individuals seeking to get into cycling. Even though some of the venues covered in this section are located outside of the TRTA region, they still remain relevant for purposes of directing interested individuals.

While informal groups of cyclists exist within the region, no official ones exist. Those listed below are based just outside of the TRT region. Bicycle clubs typically meet on a regular basis to ride. Sometimes they are associated with a bicycle shop or university, although clubs also exist solely based upon the common interest in cycling. The following clubs are located in nearby communities:

- Shoals Cycling Club** – Muscle Shoals area, AL
- Jackson Velo Sports** – Jackson, TN
- Jackson Hub-City Hammers** – Jackson, TN
- Jackson Spokes (Road and Mountain Bike)** – Jackson, TN
- Murray State University Cycling Team** – Murray, KY
- Clarksville Cycling Club** – Clarksville, TN

Bicycle shops can be an important ingredient in supporting a strong touring and local cycling community. These shops not only carry bicycles for purchase, but also carry important tools and supplies specific to bicycles and are typically equipped for basic maintenance services. Shops are also an invaluable source for networking with other cyclists as well as general information (such as places to ride). No shops currently exist within the region. Input from existing riders pointed to the small size of the market and availability of online shopping as the biggest hurdles for shops. The following shops are located just outside the region:

- Gear Up Cycles** – Murray, KY
- Hub City Bicycle** – Jackson, TN
- Bicycle City** – Jackson, TN
- Spinning Spoke Cycle Hub** – Florence, AL
- Shoals Bicycle Shop** – Florence, AL
- Bicycle Center of Clarksville** – Clarksville, TN
- Riverside Bicycle Shop** – Clarksville, TN
- Wood-N-Wave Bicycles & Watersports** – Great Rivers, KY

Cycling events draw people locally, regionally, and, in some cases, nationally and internationally. These events provide opportunities to market the bicycle-friendliness of communities, increase exposure to a county's offerings, while providing an additional activity to local festivals or as a standalone event in itself. Current events provide an opportunity to work with organizers to feature portions of the region by incorporating nearby roadways in race or tour routes (which commonly vary by year). Three existing events within the region include:

- Tour de Wayne** – The Annual Tour de Wayne draws cyclists from across the Southeast. The 13th annual ride took place June 11, 2016. The casual tour offers a 35-mile, 60-mile, and 75-100-mile route beginning and ending in Waynesboro. Routes have varied in the past, although in the past years the organizers have moved to a more solidified route.



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Espinazo Del Diablo (a.k.a. Devil's Backbone Road Race) – A newer event that has been held on several occasions at Land Between the Lakes is the Devil's Backbone Road Race, organized by Stewart County cycling enthusiast Justin Lowe and sponsored in part by the Stewart County Chamber of Commerce. The 2016 race dually acted as the Tennessee State Championship Road Race with a variety of rider categories and associated route lengths.



BRAT – Discussed in section 4.1, this statewide event's routes change each year to feature a different portion of the state. Although events in the past few years have been held in East Tennessee, portions of the TRTA region have been featured in the past. Future BRAT routes could potentially feature portions of this plan's recommended regional point-to-point network to draw attention to the new route network and the many resources the region has to offer.

The following races, rides, and tours are located just outside of the TRTA region:

Sucker Punch Century Ride – In the past, Gear Up Cycles has helped to sponsor and organize races at Land Between the Lakes, including the Espinazo Del Diablo and Barkley Bootlegger, a cyclocross race typically held in the fall or winter that uses both on- and off-road facilities. The Barkley Bootlegger was indefinitely suspended in 2014 due to focusing efforts on other races in Kentucky; however, the event hopes to continue racing again in the near future. The shop's annual Sucker Punch Century Ride, which features a 30, 60 or 100 ("century") mile fun ride, helps to raise money for Murray State University's cycling team.

Clarksville Sunrise Century Bicycle Tour/"Bike the CRAM" – This annual event, now in its 24th year (2016), is sponsored by the Clarksville Rotary Club and offers a variety of route lengths including a 20, 35, 62, and 100 ("century") mile option. This ride markets itself as "one of the best supported and flattest rides in the South".

W.C. Handy Festival Three State Bike Ride – The annual W.C. Handy week-long Music Festival is held each July in Florence, Alabama and features a variety of activities and events, including the Three State Bike Ride. All rides (distance options of 21, 39, 61, 70, 100, and 107 miles) begin and end in McFarland Park along the Tennessee River. This "premier cycling event held in the Shoals area" drew 469 riders in its 32nd edition held in July 2016 with 233 riders completing the 100+ mile century ride (a more than doubling of past numbers). Many riders note this is one of the most scenic and best supported rides they have ever participated in. Park showers are available post-race, as well as a meal provided by organizers.



Bagels & Bluegrass Bicycle Century Tour – This annual event features the best of Southwest Tennessee's scenic roads and State Parks originating and ending in Jackson, TN. Beginning with a bagel breakfast at Jackson State Community College, route distances include 14, 30, 60, and 100 miles with the century ride featuring a total climb of more than 7,000 feet.

4.4 County Profiles

This section provides a variety of data relevant to increasing opportunities in the TRTA region for active transportation and recreation, including for analysis and planning purposes, as well as the future development of supportive route, county, and region materials. These profiles help to not only better understand conditions within each respective county, but also gain an understanding of the resources within the overall region. Information is broken down by county and includes the following information:



County Snapshot

The county snapshot provides basic information regarding the county, its' residents, general climate, and distances between communities.



Demographics

While drawing tourists to the region is an important goal of this planning effort, the plan ultimately seeks to increase mobility and accessibility for all users in the region, including residents. Therefore, this segment highlights pertinent information relevant to understanding active transportation and recreation needs and opportunities in regards to region residents.



Environmental

The Tennessee River and the life it sustains is a cornerstone of the TRTA region. This section includes information on the River's watersheds, county high points, region eco-regions, as well as wetlands and waterfalls. This information is useful not only for trail publication materials, but also for potential future efforts that may seek to enhance cycling opportunities with relevant TRTA region-specific information through tools such as watershed education placards along the trail.



Destinations

This section identifies destinations within each county, including both public lands, public boat ramps, and fishing piers, as well as destinations relevant to supporting bicycle tourism, such as attractions, lodging, retail, dining, and recreation opportunities. These locations are important for the process of designating and fine tuning bicycle routes in the region as well as identifying opportunities for biking and walking that currently exist in the region. In addition, this section also identifies existing bicycle routes and tourism trails, pertinent for understanding how and where existing cyclists and tourists are entering, traveling within, and exiting the TRTA region.



Transportation

Elements relating to the transportation network help to identify roadways which are, or are not, best suited for bicycle travel. Attributes provided in this section include lane and shoulder width, speed limit, average annual daily traffic (AADT), and presence of rumble strips/stripes, all of which was gathered from either TDOT's TRIMS database or the plan's inventory. Additionally, crashes, roadway functional classification, and gravel roadways are identified for each county. Many of these components are used in the calculation of a roadway segment's Bicycle Level-of-Service (BLOS), an algorithm that helps to quantify a cyclist's quality of travel. In addition, a brief glimpse into the walkability in each county's main community is provided.

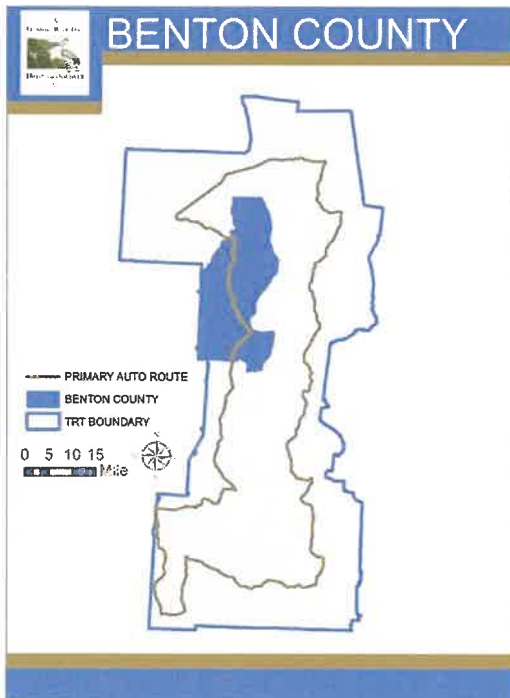
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BENTON COUNTY



PROFILE

BENTON COUNTY



4.4.1. Benton County

Benton County, Tennessee is located in the northwestern section of the TRTA Region as illustrated in Figure 9. The county has approximately 16,000 residents who are generally older and less diverse as compared to the state's averages (displayed in Table 1). Municipalities include Camden, which acts as its county seat, and Big Sandy.

Figure 9 Benton County's Location within TRTA Region

	BENTON COUNTY	TRTA REGION	TENNESSEE	SOURCE
County Seat	Camden	-	-	-
Land Area (sq mi)	394.1	4,207	41,235	U.S. Census 2010
Water Area (sq mi)	42.1	179.2	909.4	U.S. Census 2010
County Population (2010)	16,489	151,826	6,346,105	U.S. Census 2010
County Population (2014 Estimate)	16,398	151,075	6,451,365	ACS 2014
Persons Younger than 18 Years	20.0%	21.1%	23.1%	ACS 2014
Persons 65 Years and Over	21.1%	19.1%	14.2%	ACS 2014
Percent Minority	4.3%	6.7%	21.8%	ACS 2014
Percent Households Living Below Poverty Line (below \$25,000 for family of four)	22.0%	20.1%	16.6%	ACS 2014
Percent Households Living With No Vehicle	7.3%	6.1%	6.4%	ACS 2014
Adventure Tourism District	No	-	-	-
TN River Resort District	Yes	-	-	-

Table 1 Benton County Overview

4.0 EXISTING CONDITIONS

Destination Mileage

Table 2 following consists of mileage between various communities and key destinations within the county. Mileage was calculated using Google Map's bicycle routing feature. Information may be especially useful for trail publication materials as well as providing a general understanding of cycling distances within the county.

	Benton-Houston Ferry	Big Sandy	Camden	Holladay	Freshwater Pearl Museum	Nathan B. Forrest SP
Benton-Houston Ferry		10.4	24.1	39	34.5	26.9
Big Sandy	10.4		13.7	28.6	24.1	16.5
Camden	24.1	13.7		14.6	8.4	7.8
Holladay	39	28.6	14.6		13.8	22.4
Freshwater Pearl Museum	34.5	24.1	8.4	13.8		16.2
Nathan B. Forrest SP	26.9	16.5	7.8	22.4	16.2	

Table 2 Benton County Riding Mileages

Climate

Climate data, displayed in Figure 10, can influence information contained in trail guide materials, such as the types of gear that may be needed for touring cyclists, as well as provide a helpful tool when planning cycling events.

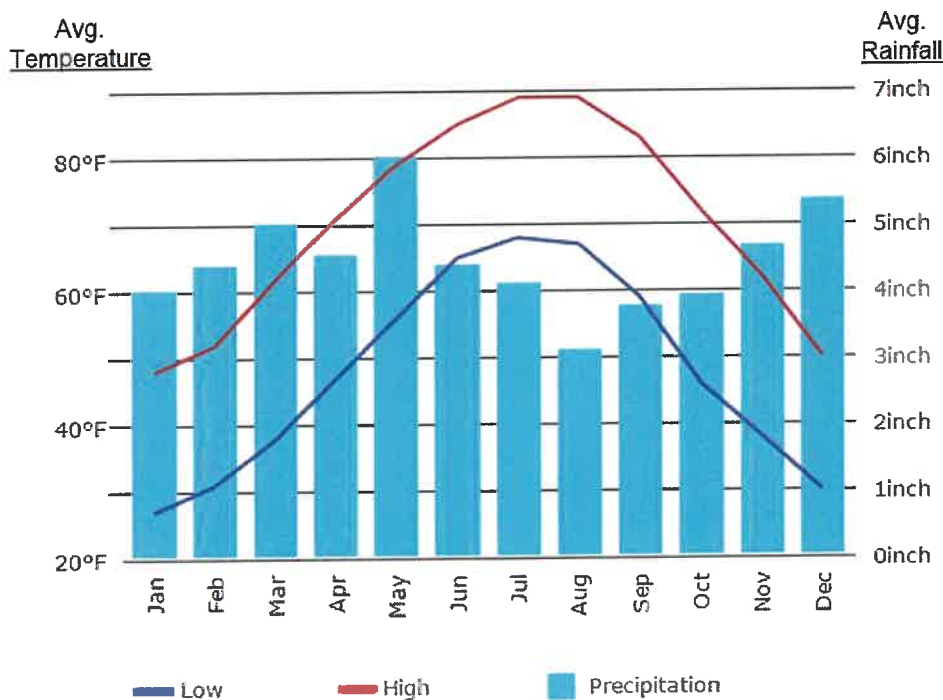


Figure 10 Benton County Climate Data
Source: www.usclimatedata.com

PROFILE

DEMOGRAPHICS

Demographics

Households with No Access to a Vehicle and Living below Poverty Line

Households without access to a vehicle, as well as those living below the poverty line (\$25,000), are more likely to rely upon non-motorized transportation. Figure 11 contains a Demographic Map Series that illustrates the County's distribution of these demographic groups by Census Block. Understanding where these households are generally located within a county can help to prioritize improvements by ensuring public investments meet the needs of those that especially are impacted. Overall, 7.3% of Benton County households do not have access to a vehicle, while 22% live below the poverty line, as compared to Tennessee's respective 6.4% and 16.6%.

Percentage of Non-Active Adults and Adults with Access to Exercise Opportunities

Tennessee's high rates of lifestyle-related diseases and conditions has prompted the Tennessee Department of Health to shift its traditional philosophy of treatment to a preventative one. This strategy centers upon enabling residents to make more active and healthy lifestyle choices, including walking and biking. County Health Rankings is a national data resource the Department uses to assist in tracking various health measures that are influencing Tennesseans' length and quality of life, including percent of adults that report no leisure-time physical activity and the percentage with access to exercise opportunities. These points of data, as well as a variety of additional measures, such as access to health care, tobacco use, and income, yield a health factor score that provides a basic understanding of elements contributing positively or negatively to health in each county. Counties with especially poor health can now qualify for new Department of Health programs that provide funding assistance for sidewalk and greenway projects.

Benton County's 2016 Health Factor score ranking is 78th out of Tennessee's 95 counties. 40% of residents were considered as inactive, while 43% of Benton County residents had reasonable opportunities for physical activity as illustrated in Figure 11. Thirty four percent of residents met the criteria for being obese according to County Health Rankings. Table 3 illustrates the county's historic obesity levels as compared to the state of Tennessee and the United States.

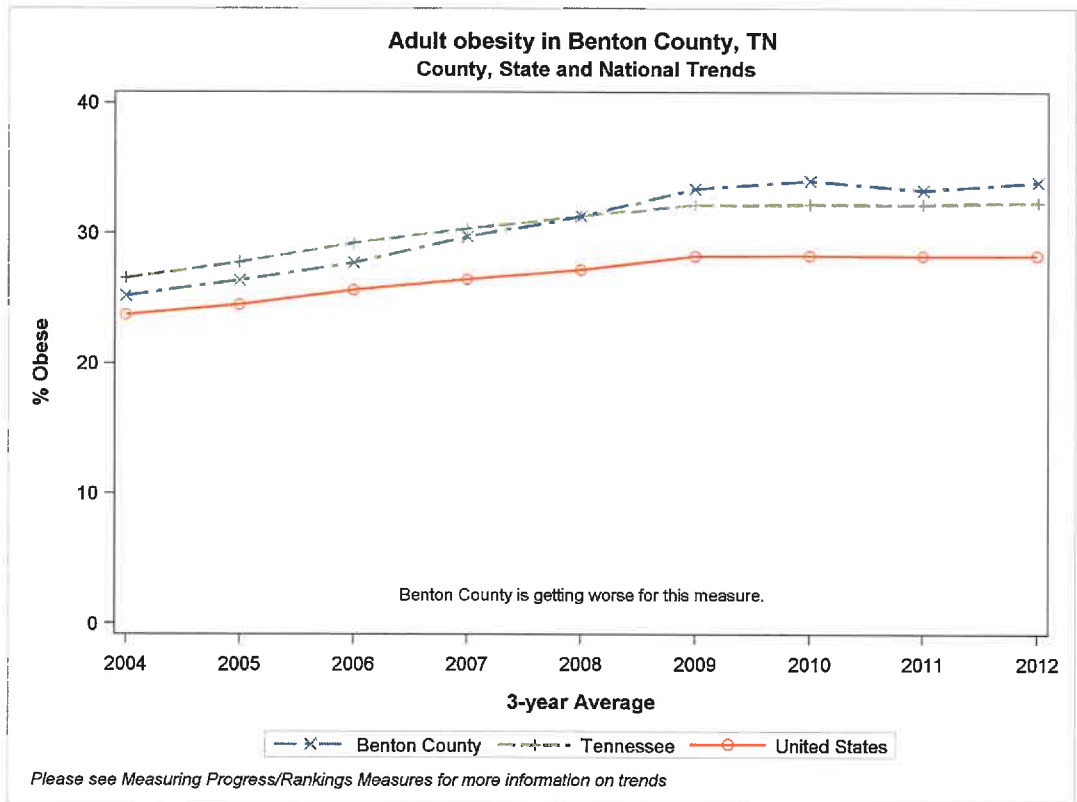
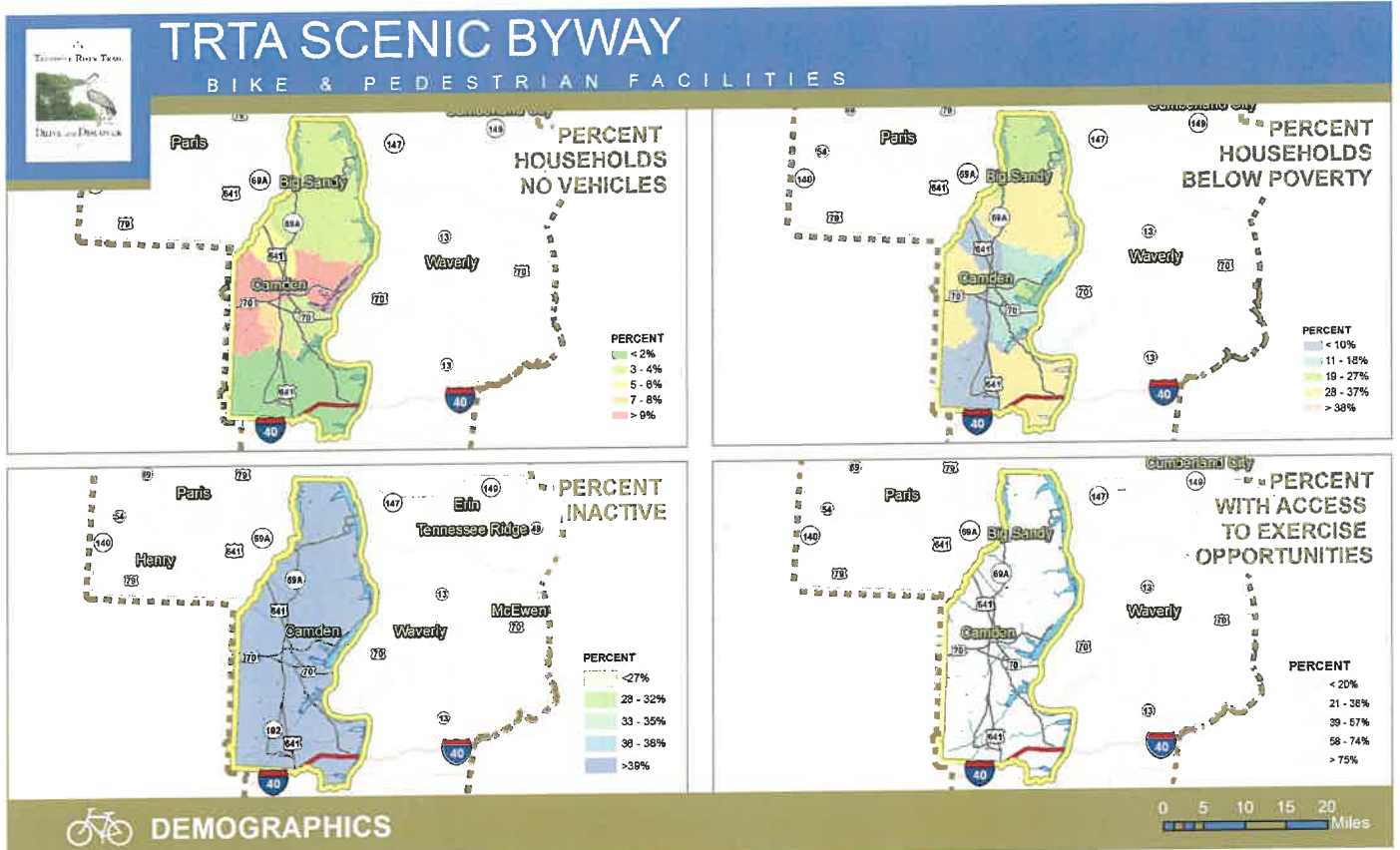


Table 3 Benton County Obesity Levels

4.0 EXISTING CONDITIONS

PROFILE

DEMOGRAPHICS



DEMOGRAPHICS

LEGEND

- BENTON COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- COUNTY BOUNDARY
- STATE ROUTES
- INTERSTATE



BENTON COUNTY

Figure 11 Benton County Demographic Map Series

Environment

Ecoregions and Land Cover

According to the United States Geological Survey (USGS), ecoregions denote areas of similarity in ecosystems as well as the type, quantity, and quality of environmental resources. There are three ecoregions within the TRTA region:

-Interior Plateau: According to the USGS, this ecoregion is characterized by a series of grassland plateaus and forested uplands, with Oak-Hickory stands being the most common forest type. The relatively flat nature and fertile lowlands particularly attracted early settlement and agriculture uses in this eco-region, the TRTA region's largest.

-Mississippi Valley Loess: Irregular plains primarily characterize this ecoregion's topography, which is only found in the northwestern portion of Henry County. Its distinguishing characteristic is the thick, highly erodible loess deposits (top soil). While these soils are often poor in nutrients and organic matter, the use of fertilizers allow lands to be easily cultivated.

-Southeastern Plains: This expansive ecoregion is characterized by relatively flat plains as well as croplands, forests, and wetlands. Although growing seasons are long and precipitation is abundant, relatively poor sandy soils limit agriculture uses as compared to other regions. Once covered in natural forests, heavily managed timberlands (largely pine plantations) now are prevalent, which poses a risk to cyclists given the amount of logging truck activity.

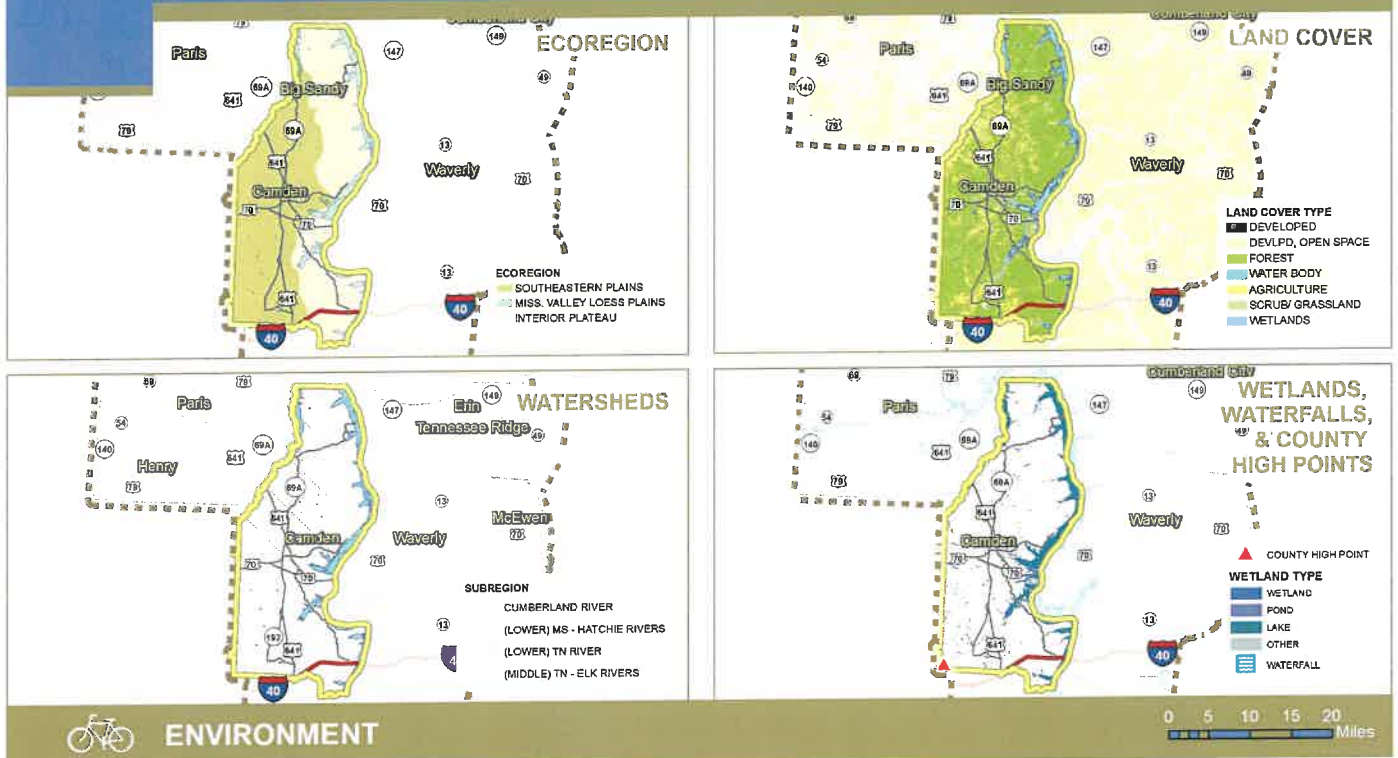
Benton County is made up of two ecoregions, Southeastern Plains and Interior Plateau, as illustrated in Figure 12. Except for impacts from human activity (i.e. land use), ecoregions inform the types of vegetation found at the Earth's surface. Land cover is relevant to bicycle route planning in terms of evaluating the general types of land uses or environment types a route might pass through, as well as the likeliness (although at a high level) for tree coverage along a desired route. Benton County's land cover is also illustrated in Figure 12.

Watersheds and Wetlands, Waterfalls, and County High Points

Watersheds refer to the land area by which surface water drains into a given body of water. These hydrological units are commonly associated with water quality and water management plans. Watershed boundary information, wetlands, and waterfalls are relevant to both route planning, the development of supportive route materials, as well as providing information to assist the region in protecting the health of its water bodies through increased resident awareness of the water cycle and its processes. These hydrological features as well as the county's high point are illustrated in Figure 12.

TRTA SCENIC BYWAY

BIKE & PEDESTRIAN FACILITIES



LEGEND

- BENTON COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- COUNTY BOUNDARY
- STATE ROUTES
- INTERSTATE



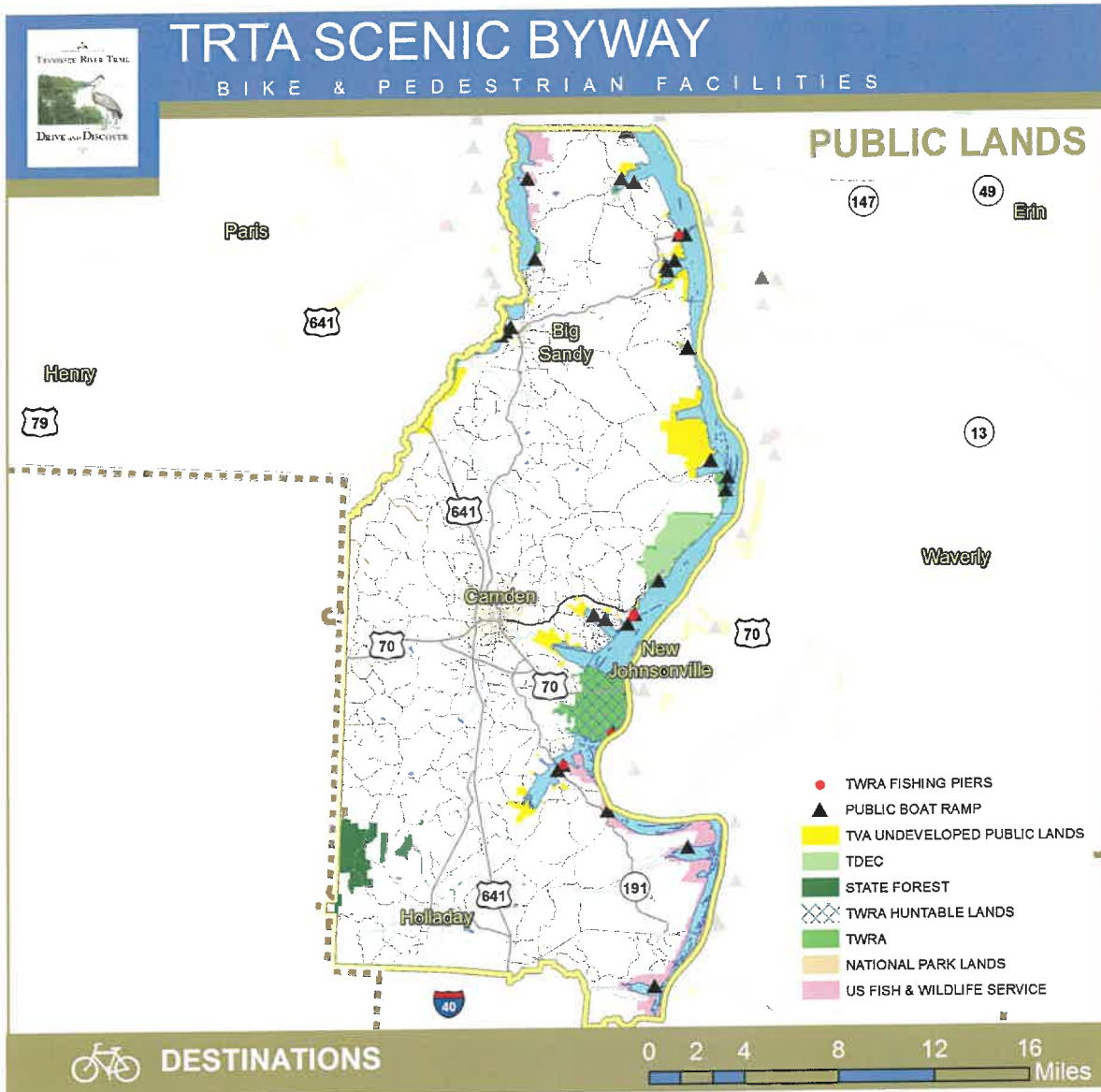
BENTON COUNTY

Figure 12 Benton County Environment Map Series

Destinations

Public Lands

Public lands under the management of state and federal agencies provide active and passive outdoor recreation opportunities in the TRTA region. Public fishing piers as well as boat ramps are included in Figure 13 to help identify further public opportunities to experience the Tennessee River. While there is an abundance of these lands, public engagement revealed that many residents are not aware of the public use rules and associated walking and biking opportunities these lands provide.



LEGEND

- MUNICIPALITIES
- BENTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS

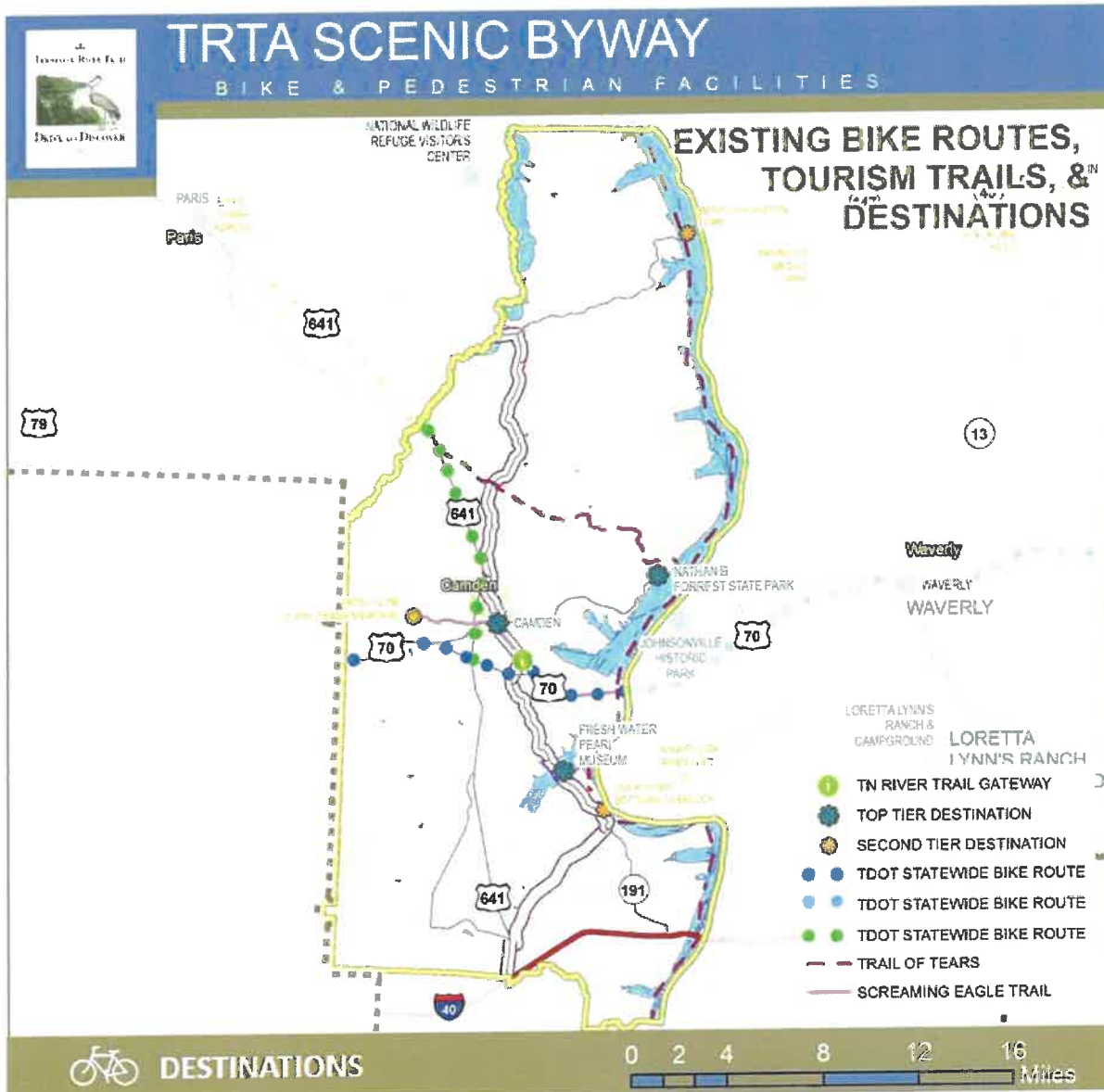


BENTON COUNTY

Figure 13 Benton County Public Lands

Routes, Trails, and Major Destinations

A number of existing bicycle routes, tourism trails, and historic trails exist in the TRTA region. These are important for understanding how visitors are currently entering, traveling within, and exiting the region. Associated trail points-of-interest help to identify the county's destinations which are currently being marketed to tourists. For purposes of this plan and the identification of the regional route network, these destinations are broken down into primary and secondary categories. Routes, trails, and byways that pass through Benton County, as well as key points-of-interest are illustrated in Figure 14.



LEGEND

- MUNICIPALITIES
- BENTON COUNTY
- WATER BODY
- COUNTY BOUNDARY
- TRTA BOUNDARY
- TRTA PRIMARY AUTO ROUTE
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS
- PUBLIC LANDS

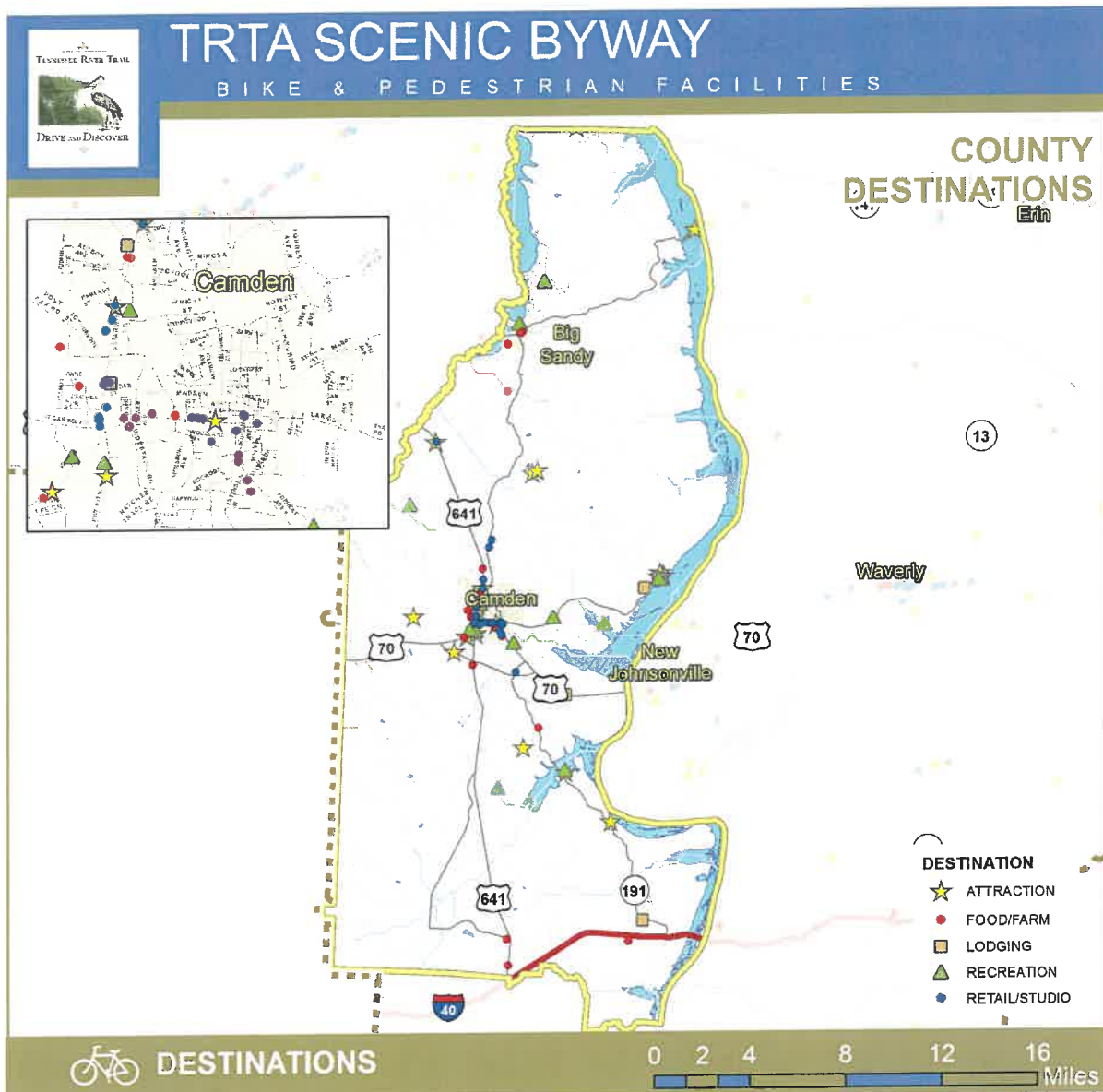


BENTON COUNTY

Figure 14 Benton County Routes, Trails, and Major Destinations

County Destinations

In the early stages of the plan's development process, destinations including lodging, dining, retail, and recreation opportunities were geo-coded for each county. These destinations, shown in Figure 15, are relevant for understanding the level of support a county provides tourists, pedestrian connectivity in TRTA communities, and the identification of a recommended route network.



LEGEND

- MUNICIPALITIES
- BENTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS
- INTERSTATE



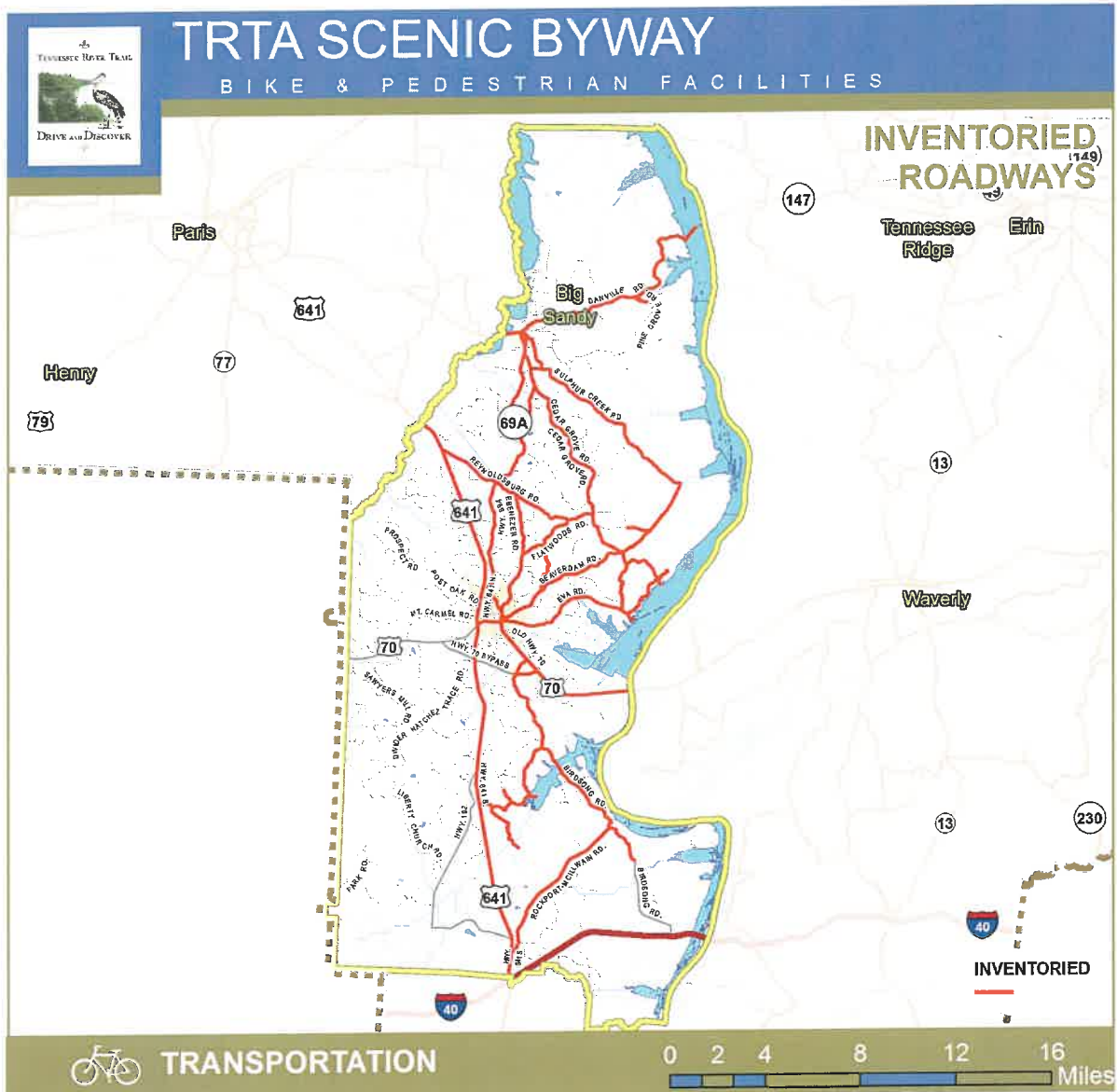
BENTON COUNTY

Figure 15 Benton County Destinations



Transportation

Information contained in this section consists of data gathered from both TDOT, as well as the plan's field inventory. TDOT roadway data exists for functionally-classified collector roadways and above, meaning no data exists for those classified as local. As such, it should be noted that maps in this section reflect available data. Of Benton County's approximate 771 miles of roadway, 151 miles (20%) were inventoried (illustrated in Figure 16).



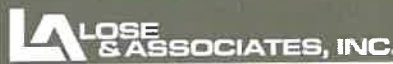
LEGEND

- MUNICIPALITIES
- BENTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



BENTON COUNTY

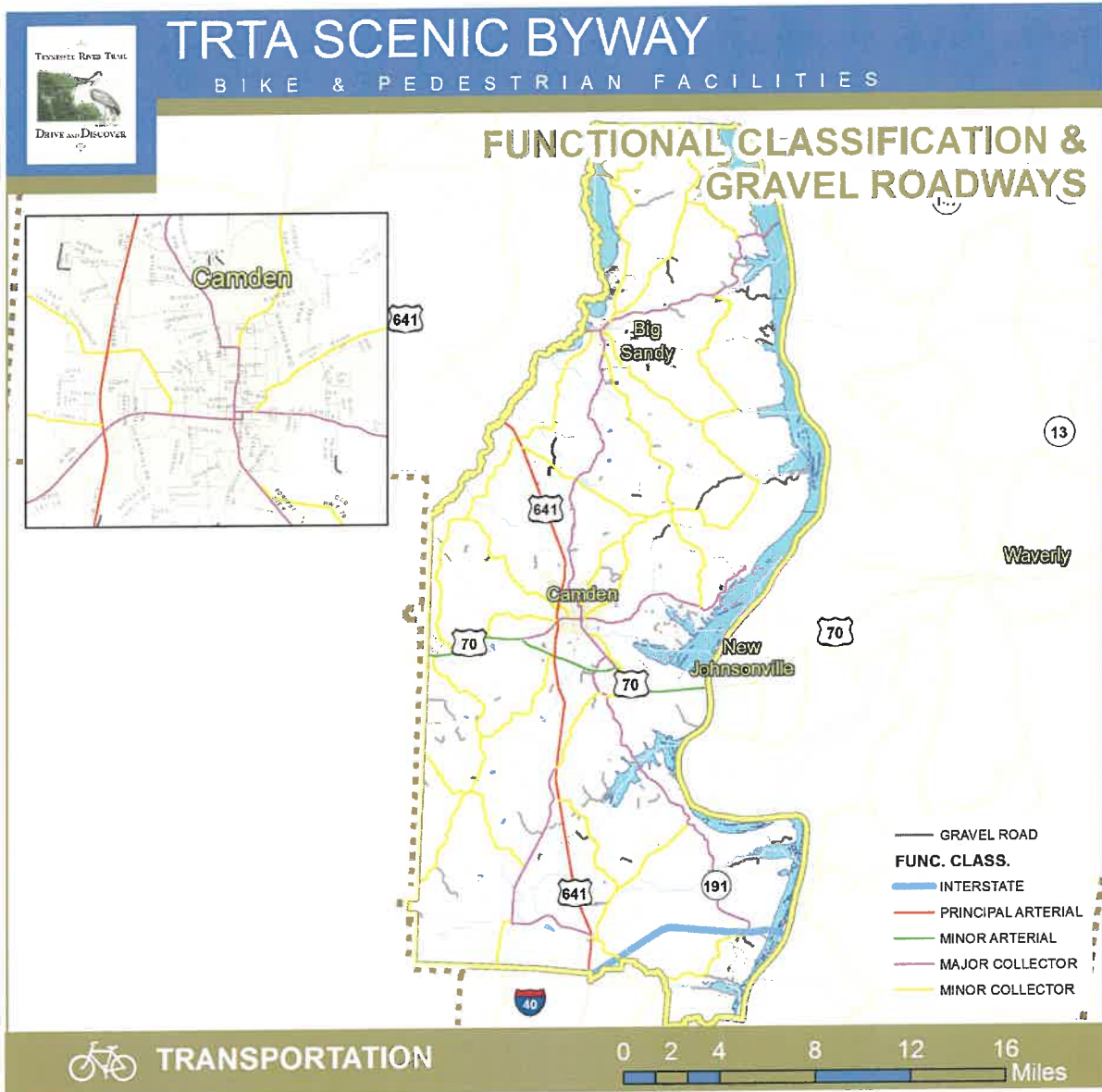
Figure 16 Benton County Inventoried Roads



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Functional Classification

According to the Federal Highway Administration (FHWA), there are three main roadway functional classifications, including arterials, collectors, and locals. Classifications are determined by the level of traffic service that the roadway is intended to provide, which includes degree of land access and traffic characteristics. Arterials are intended for long-distance travel and, therefore, are often associated with higher traffic volumes and speed limits, whereas local roads are intended for a high degree of local accessibility meaning speed limits and traffic volumes are often low. Collectors provide a balance between the two types, especially emphasizing connections to residential areas. The functional classification of roadways for Benton County, as well as those that have gravel surfaces, are illustrated in Figure 17.



LEGEND

- MUNICIPALITIES
- BENTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



BENTON COUNTY

Figure 17 Benton County Functionally-Classified and Gravel Roads

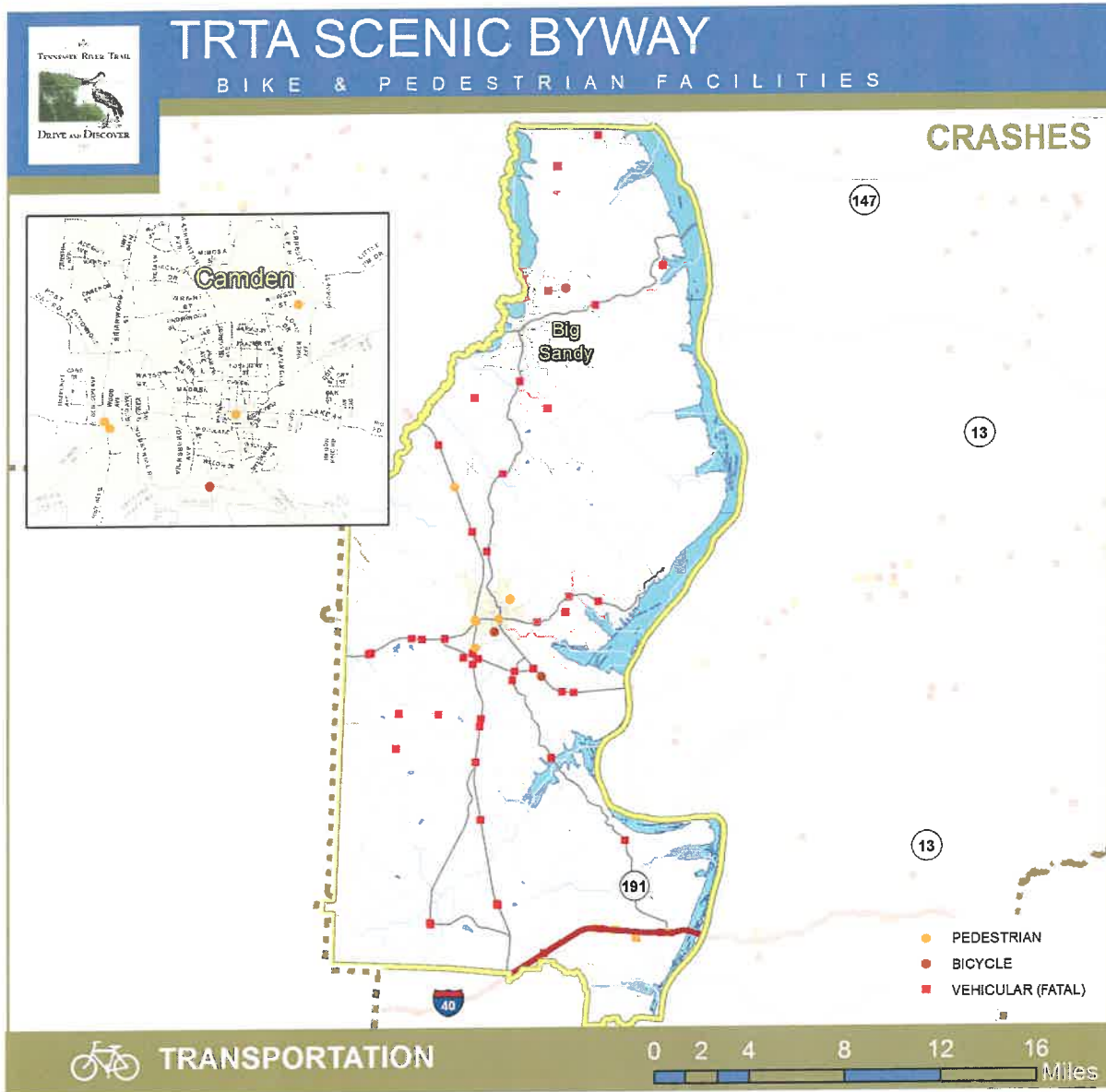
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Crashes

An important component in route planning, crash data illustrated in Figure 18 includes pedestrians, bicyclists, and fatal vehicular crashes that have occurred in the past 10 years in the county. In addition, Table 4 describes the numbers of these crashes. TDOT's numbers do not include those occurring on parking lots and private property as well as those with less than \$400 in damage.

	PED	BIKE	VEHICLE (FATAL)
BENTON	14 (3 FATAL)	4	56

Table 4 Benton County Crashes (2006-2016)



LEGEND

- | | |
|-----------------|-----------------|
| MUNICIPALITIES | ROADWAYS |
| BENTON COUNTY | STATE ROUTE |
| COUNTY BOUNDARY | CREEKS & RIVERS |
| WATER BODY | INTERSTATE |
| TRTA BOUNDARY | |



BENTON COUNTY

Figure 18 Benton County Crashes



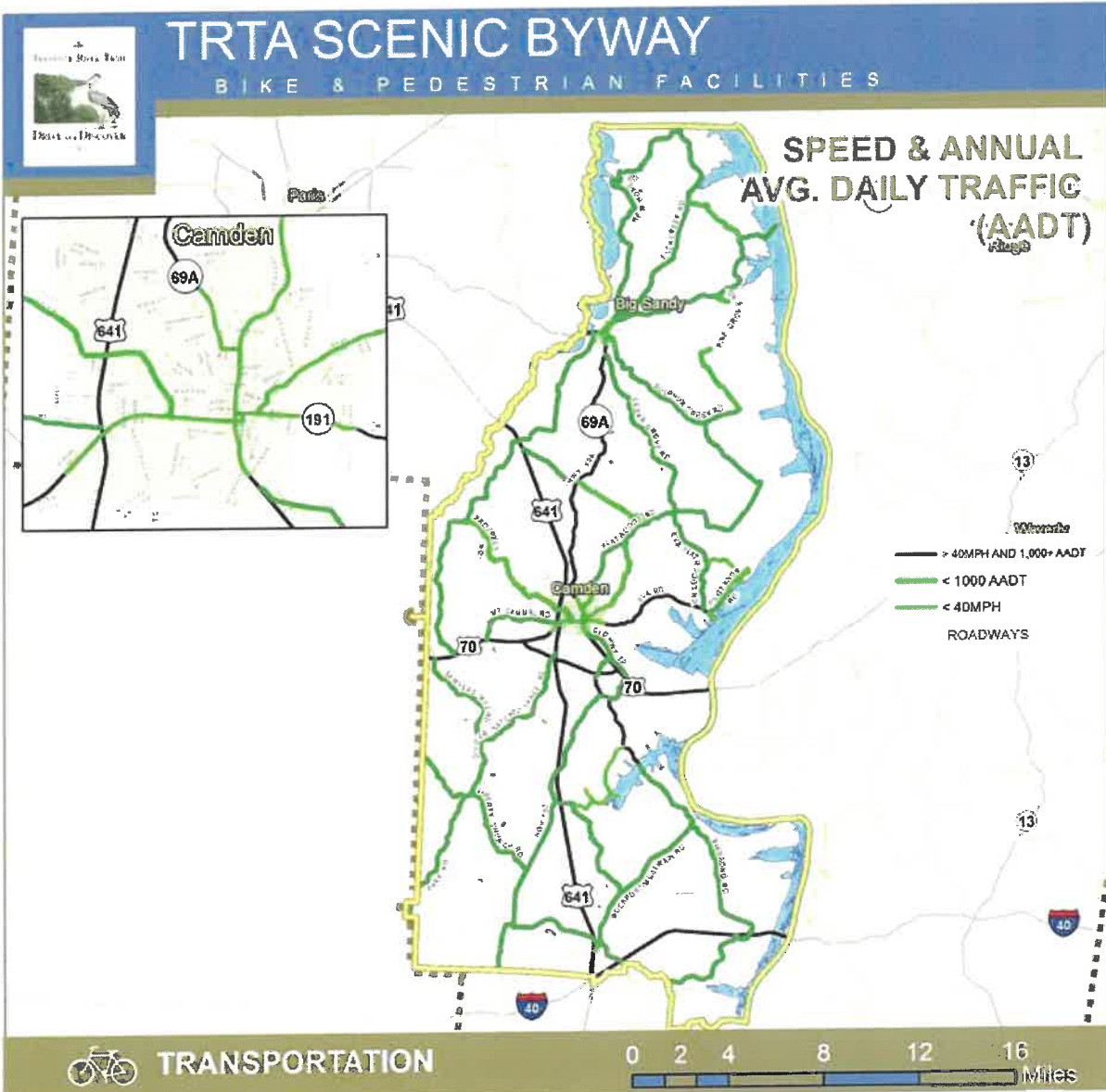
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Speed and Average Annual Daily Traffic (AADT)

Posted speed limits and traffic volumes are two of the most important roadway elements for cyclists determining preferred routes. The map in Figure 19 illustrates roadways with a posted speed less than 40 mph as well as those with less than 1,000 vehicles per day. Total mileage for the county broken down by these attributes is displayed in Table 5. TDOT traffic count station data was used when available, however, volume assumptions were assigned for roadways lacking count data based on averages experienced across similar roadways in the county.

	MILES WITH AADT <1,000	ROADWAYS WITH NO COUNT DATA BUT LIKELY LOW VOLUMES	TOTAL MILEAGE-LOW VOLUME ROADWAYS	SPEED LIMIT LESS THAN 40 MPH (TRIMS+INVENTORY)
BENTON	193	496	689	41

Table 5 Benton County Speed Limit and AADT Mileage Data



LEGEND

- MUNICIPALITIES
- BENTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



BENTON COUNTY

Figure 19 Benton County Speed Limit and AADT Data

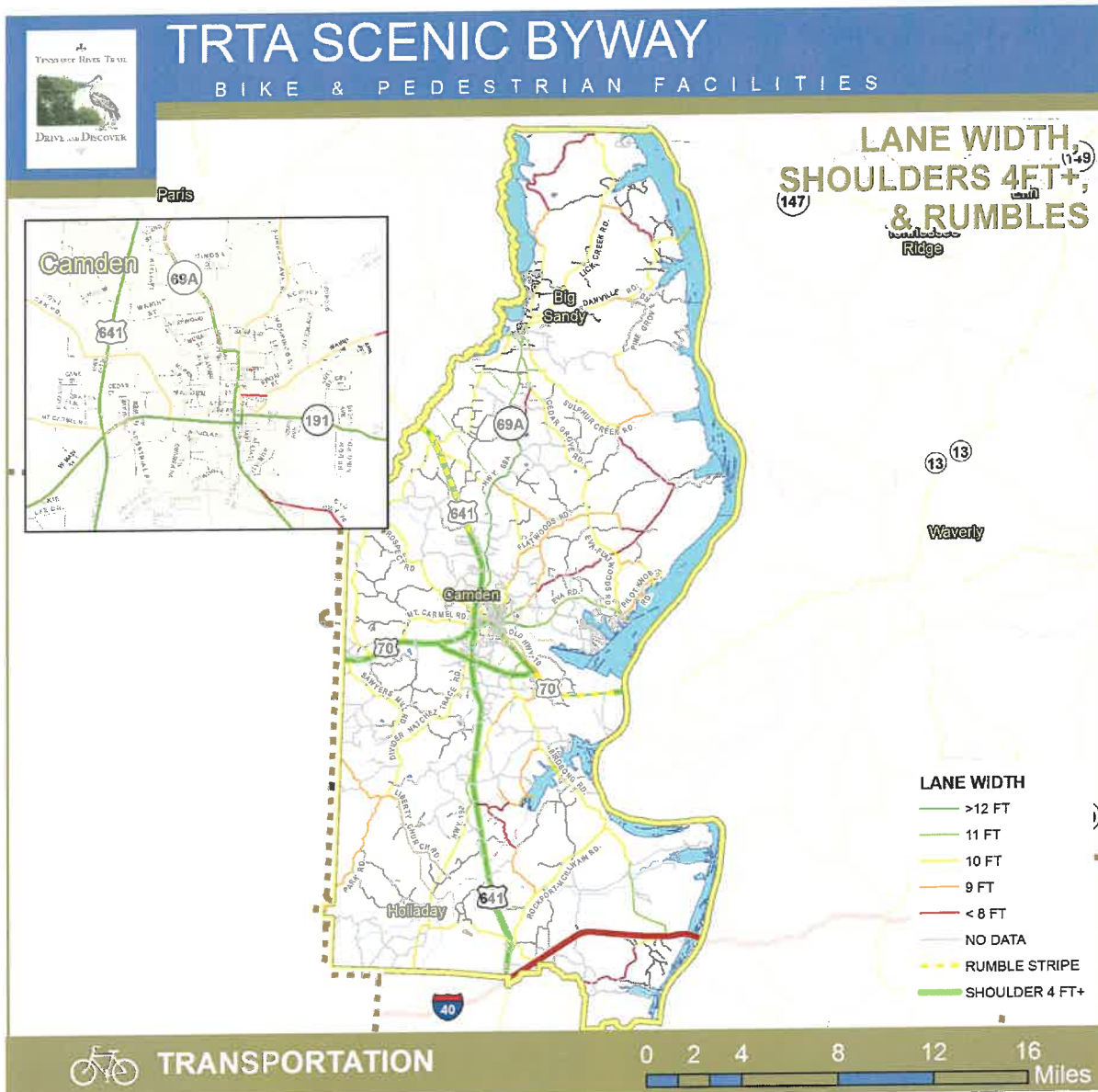
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Lane Widths and Shoulders

Lane widths, and especially the presence of shoulder facilities, are two additional roadway elements critical for bicycle route planning. Depending upon an individual's ability and comfort levels, shoulder width can be a sole determination for a preferred route, regardless of the road's speed limit and traffic volumes. Benton County lane widths, shoulders, and rumble strips are illustrated in Figure 20 and described in Table 6.

	LAND WIDTH 12+	SHOULDERS 4FT+	RUMBLE STRIP/STRIPE
BENTON	64	48	9

Table 6 Benton County Lane Width and Shoulder Mileage Data



LEGEND

- MUNICIPALITIES
- BENTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



BENTON COUNTY

Figure 20 Benton County Lane Width and Shoulder Data



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

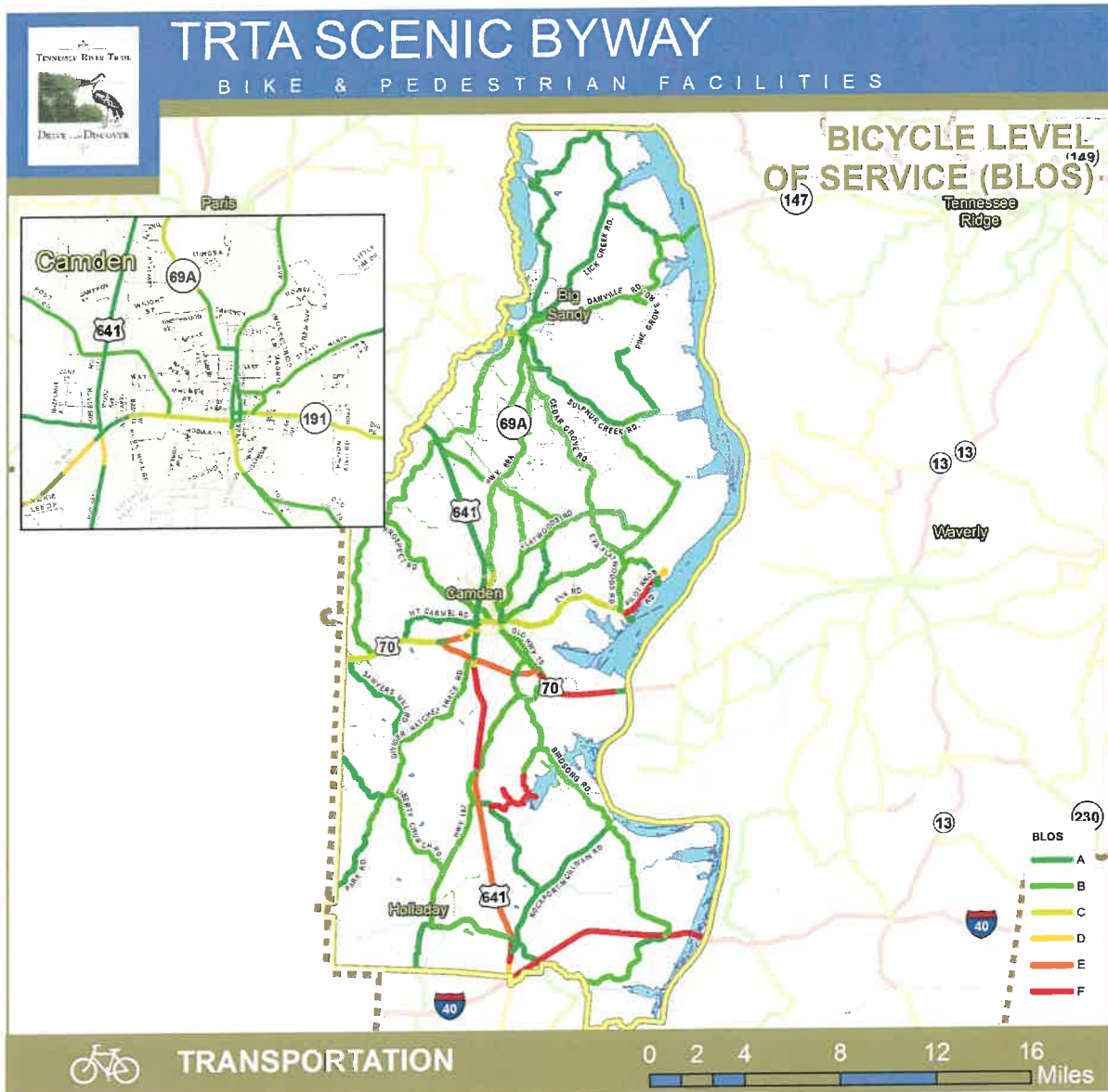
Bicycle Level-of-Service (BLOS)

As previously mentioned, BLOS is an algorithm that uses a variety of roadway variables to help quantify a cyclist's quality of travel by scoring roadways using an A to F grading scale, A being the highest and F being the lowest. Scores A, B, and C are generally considered acceptable with greater concern for roadways assigned a D, E, or F. A score of E or F, however, does not necessarily disqualify a roadway from being a route, it just means that extra diligence is required for analyzing the safety and comfort of that roadway section. BLOS scores for Benton County roadways are illustrated in Figure 21 and described in Table 7.

	BLOS A-C	BLOS D-F
BENTON	254	38

Table 7 Benton County Bicycle Level of Service Mileage

4.0 EXISTING CONDITIONS



LEGEND

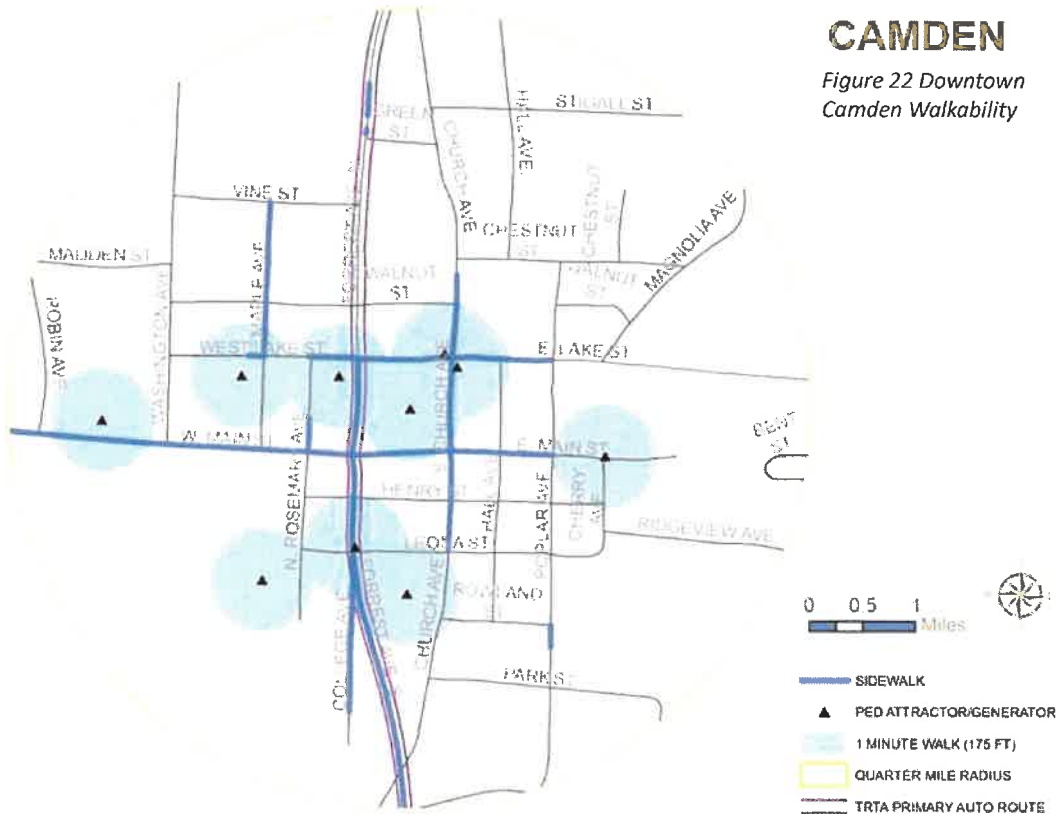
- MUNICIPALITIES
- TRTA BOUNDARY
- BENTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



BENTON COUNTY

Figure 21 Benton County Bicycle Level of Service





CAMDEN SIDEWALKS	
ROADWAYS WITH A SIDEWALK ON AT LEAST ONE SIDE IN DOWNTOWN CAMDEN (SHOWN IN FIGURE 22) - MILEAGE TOTAL	1.28 MILES (65% ON STATE ROUTES)
ROADWAYS WITH A SIDEWALK ON AT LEAST ONE SIDE IN CAMDEN - MILEAGE TOTAL	2.78 MILES (74% ON STATE ROUTES)

Table 8 Camden Sidewalk Mileage

Each county’s largest community, typically the county seat, acts as a destination for tourists and residents. Providing walkable environments within these communities is an important component to supporting the TRTA’s overall economic development, tourism, and livability goals, as well as the recommendations of this plan. Figure 22 illustrates roadways that have a sidewalk on at least one side of the roadway within a quarter mile radius from the county courthouse (except for Parsons, which uses the main downtown intersection). Pedestrian attractors and generators, such as parks, civic buildings, and other retail and restaurant destinations, are shown in order to demonstrate the existing level of connectivity provided by sidewalk infrastructure relative to locations where pedestrian activity is likely. This information provides communities with a basic understanding of where future sidewalk investments may be most beneficial within the downtown.

Benton County Conclusions

Benton County has several features and destinations that provide unique experiences for the overall TRTA region, including the Benton-Houston Ferry at the Tennessee River, Nathan B. Forrest State Park, the Patsy Cline Plane Crash Memorial, the Duck River Bottoms Overlook, and the Tennessee River Freshwater Pearl Museum. All of these destinations, except for the Memorial, provide opportunities for experiencing or viewing the Tennessee River, which can be especially challenging in some TRTA counties. Aside from the Ferry, most destinations are located centrally in the county, an added benefit when making cycling connections near Camden.

U.S. Highway 641 acts as the county's main thoroughfare carrying the highest average traffic volumes in the county. While volumes and speeds are relatively high, the roadway's shoulders maintain a comfortable riding width through the length of the county with the majority of the mileage having a shoulder width of 10 feet or greater. Aside from State Highway 70, the rest of the county's roadways carry relatively low amounts of traffic, with many county roads carrying less than 500 vehicles per day. Also a benefit for riding, the county is relatively flat as compared to other TRTA counties. A final component to note as it relates to biking in the county is the concentration of destinations in communities or along major roadways, providing both a benefit and a constraint. While the lack of opportunities to dine, fill up on water, or visit a destination can pose a challenge for some riders, it conversely translates to lower traffic volumes.

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DECATUR COUNTY



PROFILE

DECATUR COUNTY

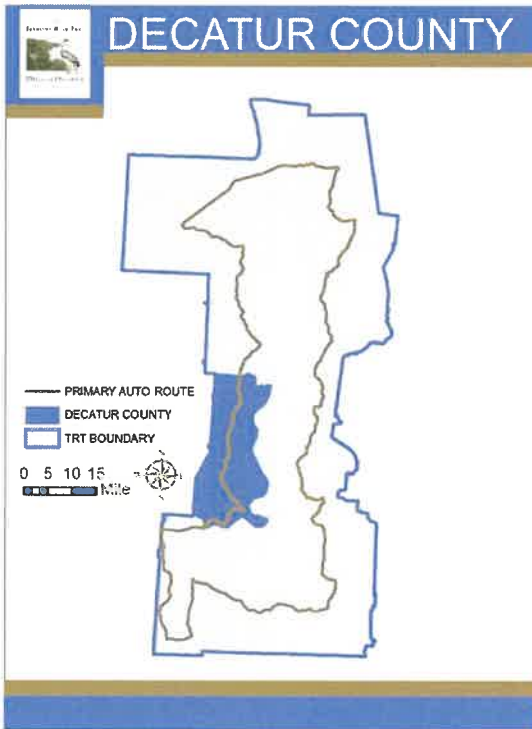


Figure 23 Decatur County's Location within TRTA Region

4.4.2. Decatur County

Decatur County, Tennessee is located in the southwestern section of the TRTA Region as illustrated in Figure 23. The county has approximately 12,000 residents who are generally older and less diverse as compared to the state's averages (displayed in Table 9). Municipalities include Parsons, which acts as its county seat, and Decaturville.

	DECATUR COUNTY	TRTA REGION	TENNESSEE	SOURCE
County Seat	Decaturville	-	-	-
Land Area (sq mi)	333.8	4,207	41,235	U.S. Census 2010
Water Area (sq mi)	11	179.2	909.4	U.S. Census 2010
County Population (2010)	11,757	151,826	6,346,105	U.S. Census 2010
County Population (2014 Estimate)	11,695	151,075	6,451,365	ACS 2014
Persons Younger than 18 Years	20.7%	21.1%	23.1%	ACS 2014
Persons 65 Years and Over	19.2%	19.1%	14.2%	ACS 2014
Percent Minority	4.9%	6.7%	21.8%	ACS 2014
Percent Households Living Below Poverty Line (below \$25,000 for family of four)	24.1%	20.1%	16.6%	ACS 2014
Percent Households Living With No Vehicle	4.5%	6.1%	6.4%	ACS 2014
Adventure Tourism District	1 (Designated 2015)	-	-	-
TN River Resort District	Yes	-	-	-

Table 9 Decatur County Overview

4.0 EXISTING CONDITIONS

Destination Mileage

Table 10 following consists of mileage between various communities and key destinations within the county. Mileage was calculated using Google Map's bicycle routing feature. Information may be especially useful for trail publication materials as well as providing a general understanding of cycling distances within the county.

	Decaturville	Exit 126-140	Hwy 412 @ TN River	Hwy 641 @ TN River	Parsons
Decaturville		20.1	85	33.1	5.5
Exit 126-140	20.1		19.3	33	14
Hwy 412 @ TN River	8.5	19.3		23.1	5.5
Hwy 641 @ TN River	33.1	33	23.1		19.1
Parsons	5.5	14	5.5	19.1	

Table 10 Decatur County Riding Mileages

Climate

Climate data, displayed in Figure 24, can influence information contained in trail guide materials, such as the types of gear that may be needed for touring cyclists, as well as provide a helpful tool when planning cycling events.

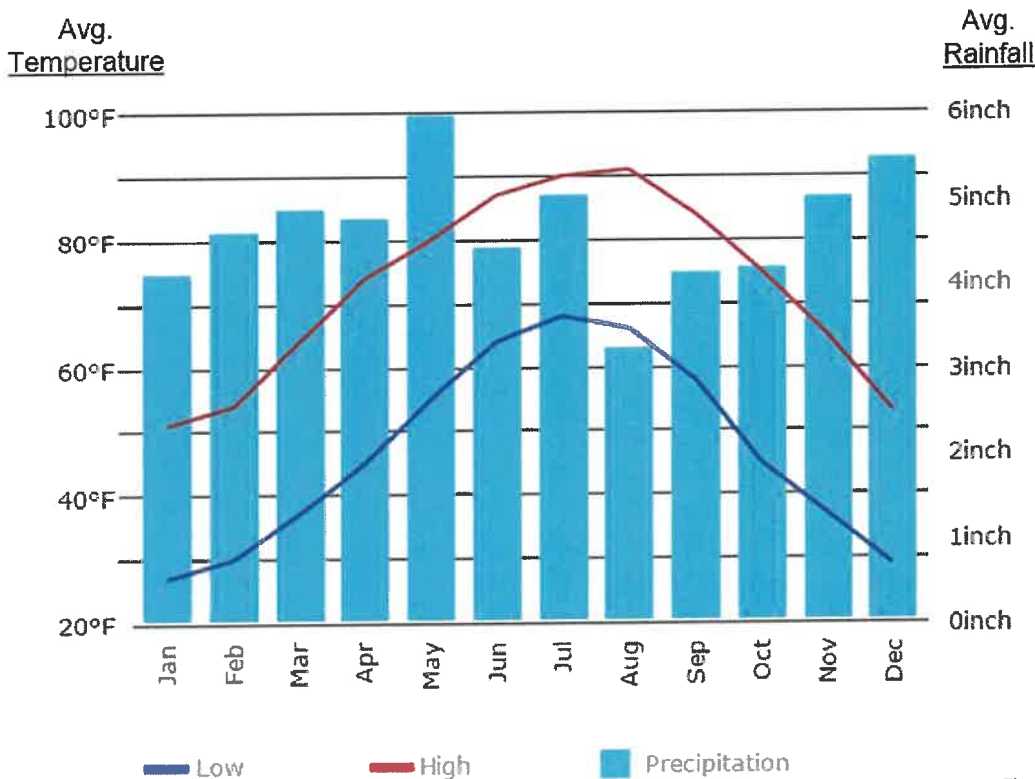


Figure 24 Decatur County Climate Data
Source: www.usclimatedata.com

Demographics

Households with No Access to a Vehicle and Living below Poverty Line

Households without access to a vehicle, as well as those living below the poverty line (\$25,000), are more likely to rely upon non-motorized transportation. Figure 25 contains a Demographic Map Series that illustrates the County's distribution of these demographic groups by Census Block. Understanding where these households are generally located within a county can help to prioritize improvements by ensuring public investments meet the needs of those that especially are impacted. Overall, 4.9% of Decatur County households do not have access to a vehicle, while 24% live below the poverty line, as compared to Tennessee's respective 6.4% and 16.6%.

Percentage of Non-Active Adults and Adults with Access to Exercise Opportunities

Tennessee's high rates of lifestyle-related diseases and conditions has prompted the Tennessee Department of Health to shift its traditional philosophy of treatment to a preventative one. This strategy centers upon enabling residents to make more active and healthy lifestyle choices, including walking and biking. County Health Rankings is a national data resource the Department uses to assist in tracking various health measures that are influencing Tennesseans' length and quality of life, including percent of adults that report no leisure-time physical activity and the percentage with access to exercise opportunities. These points of data, as well as a variety of additional measures, such as access to health care, tobacco use, and income, yield a health factor score that provides a basic understanding of elements contributing positively or negatively to health in each county. Counties with especially poor health can now qualify for new Department of Health programs that provide funding assistance for sidewalk and greenway projects.

Decatur County's 2016 Health Factor score ranking is 77th out of Tennessee's 95 counties. 39% of residents were considered as inactive, while 54% of Decatur County residents had reasonable opportunities for physical activity as illustrated in Figure 25. Thirty four percent of residents met the criteria for being obese according to County Health Rankings. Table 11 illustrates the county's historic obesity levels as compared to the state of Tennessee and the United States.

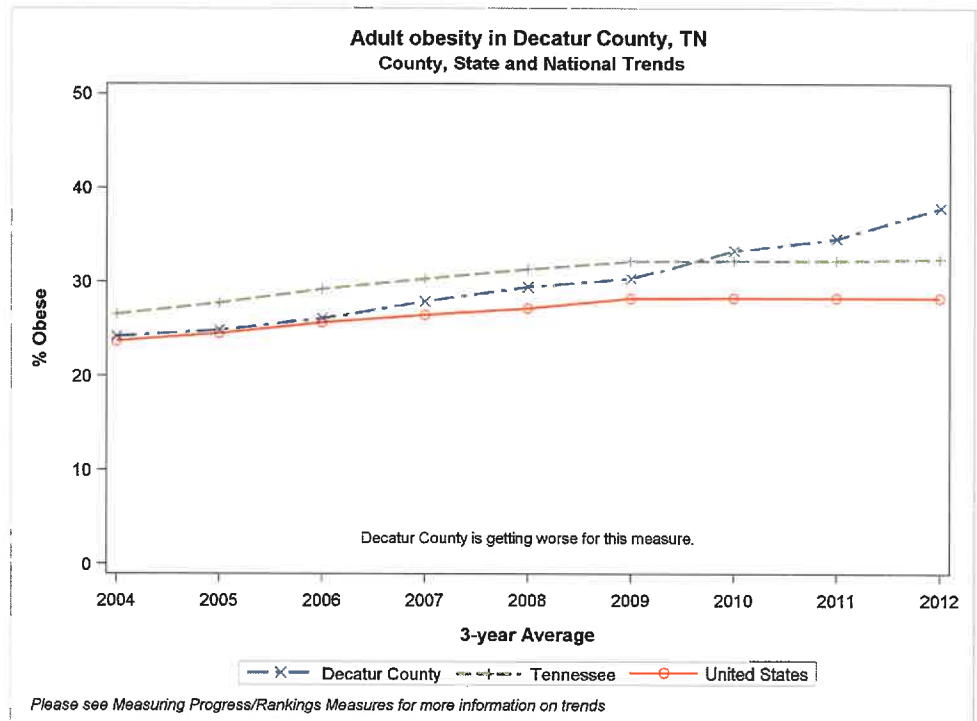
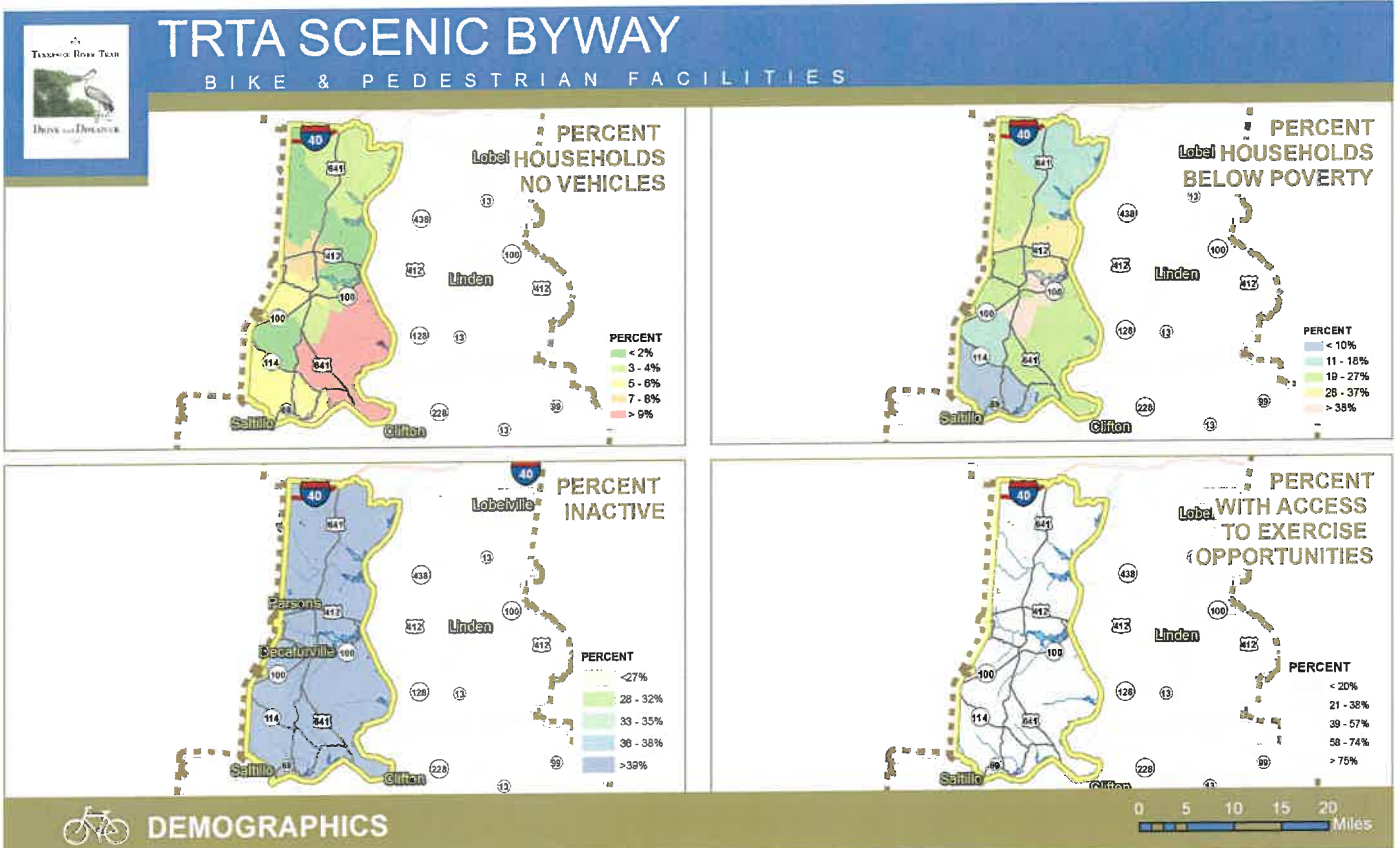


Table 11 Decatur County Obesity Levels



LEGEND

- DECATUR COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- COUNTY BOUNDARY
- STATE ROUTES
- INTERSTATE



DECATUR COUNTY

Figure 25 Decatur County Demographic Map Series

Environment

Ecoregions and Land Cover

According to the United States Geological Survey (USGS), ecoregions denote areas of similarity in ecosystems as well as the type, quantity, and quality of environmental resources. There are three ecoregions within the TRTA region:

-Interior Plateau: According to the USGS, this ecoregion is characterized by a series of grassland plateaus and forested uplands, with Oak-Hickory stands being the most common forest type. The relatively flat nature and fertile lowlands particularly attracted early settlement and agriculture uses in this eco-region, the TRTA region's largest.

-Mississippi Valley Loess: Irregular plains primarily characterize this ecoregion's topography, which is only found in the northwestern portion of Henry County. Its distinguishing characteristic is the thick, highly erodible loess deposits (top soil). While these soils are often poor in nutrients and organic matter, the use of fertilizers allow lands to be easily cultivated.

-Southeastern Plains: This expansive ecoregion is characterized by relatively flat plains as well as croplands, forests, and wetlands. Although growing seasons are long and precipitation is abundant, relatively poor sandy soils limit agriculture uses as compared to other regions. Once covered in natural forests, heavily managed timberlands (largely pine plantations) now are prevalent, which poses a risk to cyclists given the amount of logging truck activity.

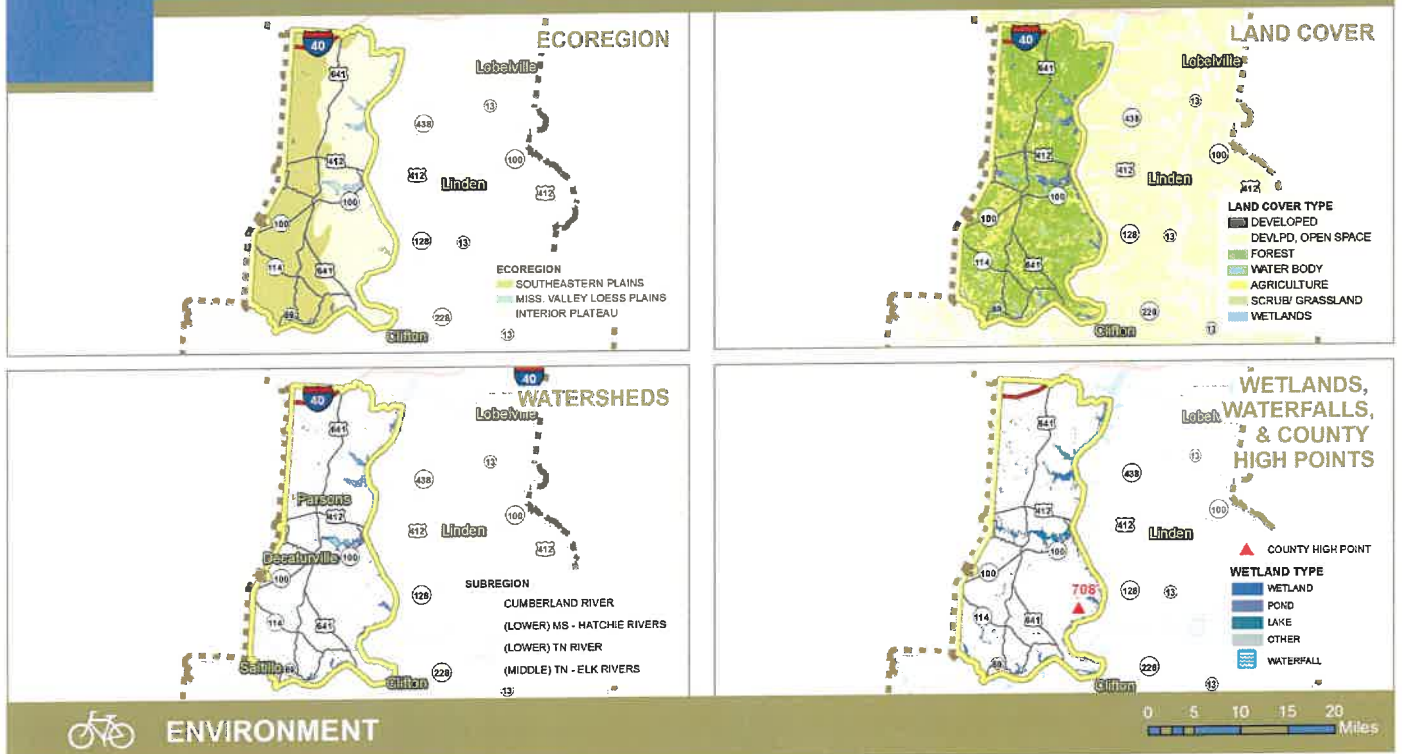
Decatur County is made up of two ecoregions, Southeastern Plains and Interior Plateau, as illustrated in Figure 26. Except for impacts from human activity (i.e. land use), ecoregions inform the types of vegetation found at the Earth's surface. Land cover is relevant to bicycle route planning in terms of evaluating the general types of land uses or environment types a route might pass through, as well as the likeliness (although at a high level) for tree coverage along a desired route. Decatur County's land cover is also illustrated in Figure 26.

Watersheds and Wetlands, Waterfalls, and County High Points

Watersheds refer to the land area by which surface water drains into a given body of water. These hydrological units are commonly associated with water quality and water management plans. Watershed boundary information, wetlands, and waterfalls are relevant to both route planning, the development of supportive route materials, as well as providing information to assist the region in protecting the health of its water bodies through increased resident awareness of the water cycle and its processes. These hydrological features as well as the county's high point are illustrated in Figure 26.

TRTA SCENIC BYWAY

BIKE & PEDESTRIAN FACILITIES



ENVIRONMENT

LEGEND

- DECATUR COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- COUNTY BOUNDARY
- STATE ROUTES
- INTERSTATE



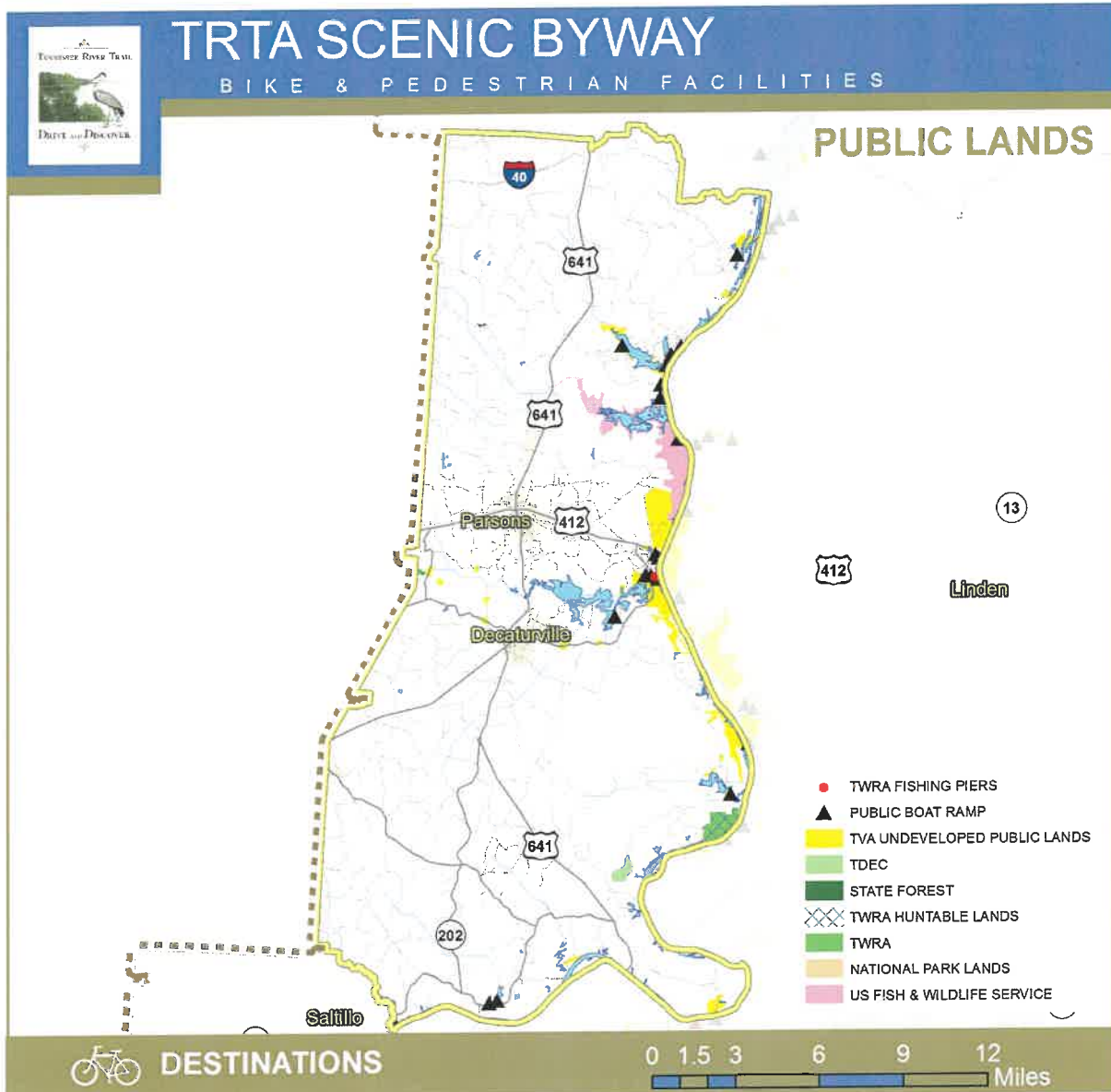
DECATUR COUNTY

Figure 26 Decatur County Environment Map Series

Destinations

Public Lands

Public lands under the management of state and federal agencies provide active and passive outdoor recreation opportunities in the TRTA region. Public fishing piers as well as boat ramps are included in Figure 27 to help identify further public opportunities to experience the Tennessee River. While there is an abundance of these lands, public engagement revealed that many residents are not aware of the public use rules and associated walking and biking opportunities these lands provide.



LEGEND

- MUNICIPALITIES
- DECATUR COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS

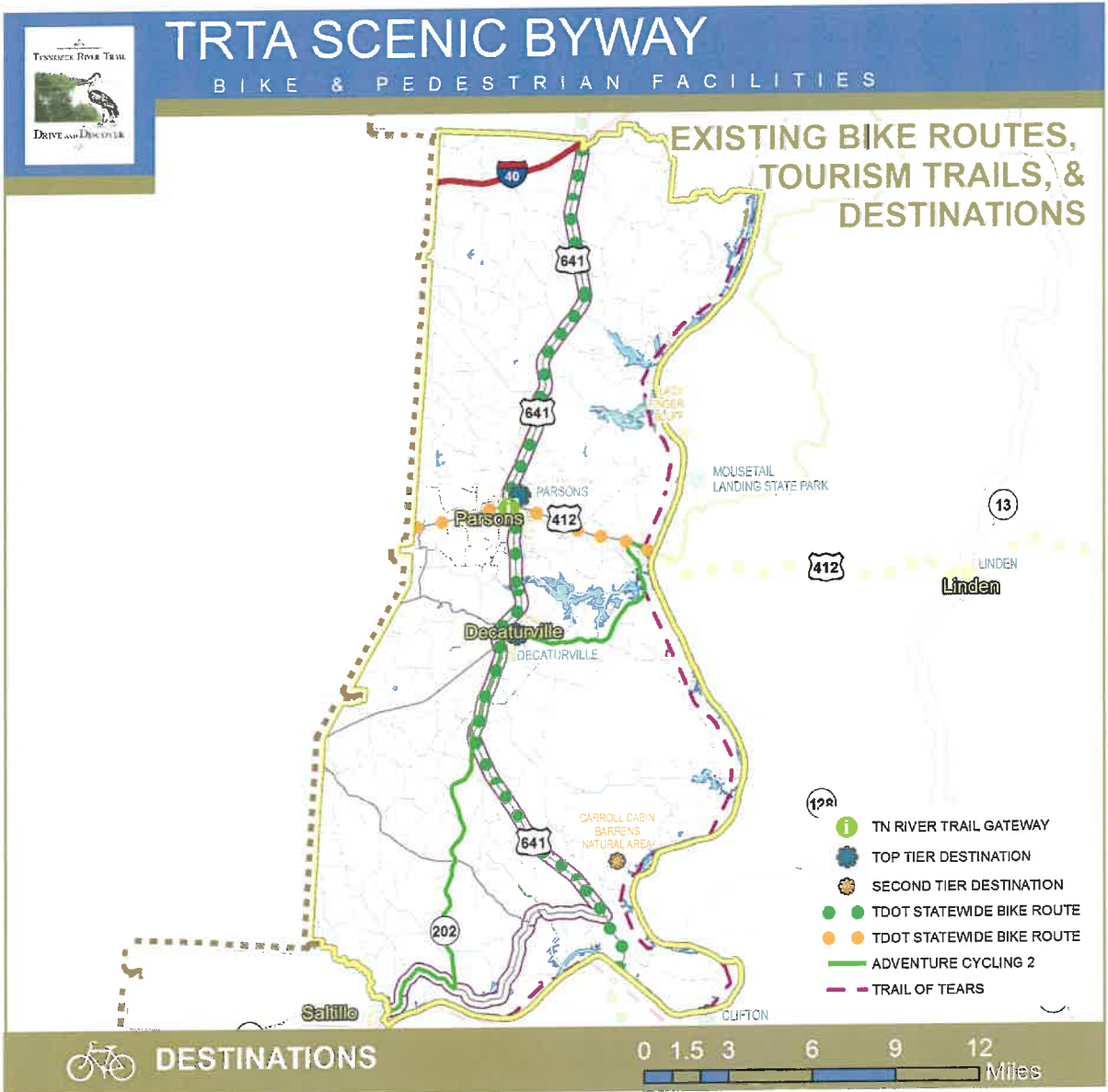


DECATUR COUNTY

Figure 27 Decatur County Public Lands

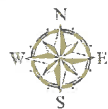
Routes, Trails, and Major Destinations

A number of existing bicycle routes, tourism trails, and historic trails exist in the TRTA region. These are important for understanding how visitors are currently entering, traveling within, and exiting the region. Associated trail points-of-interest help to identify the county's destinations which are currently being marketed to tourists. For purposes of this plan and the identification of the regional route network, these destinations are broken down into primary and secondary categories. Routes, trails, and byways that pass through Decatur County, as well as key points-of-interest are illustrated in Figure 28.



LEGEND

- MUNICIPALITIES
- DECATUR COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- TRTA PRIMARY AUTO ROUTE
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS
- PUBLIC LANDS



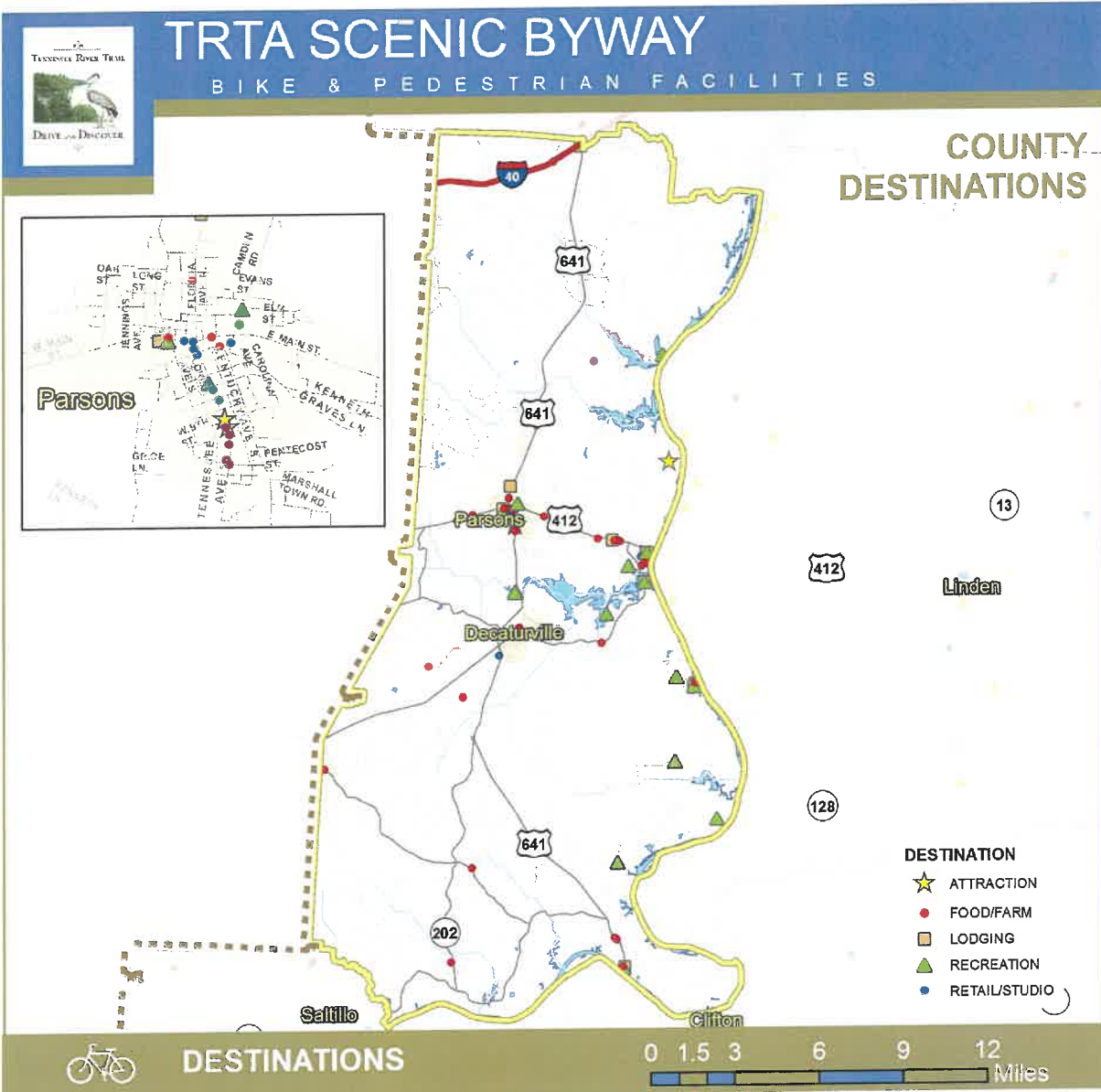
DECATUR COUNTY

Figure 28 Decatur County Routes, Trails, and Major Destinations



County Destinations

In the early stages of the plan's development process, destinations including lodging, dining, retail, and recreation opportunities were geo-coded for each county. These destinations, shown in Figure 29, are relevant for understanding the level of support a county provides tourists, pedestrian connectivity in TRTA communities, and the identification of a recommended route network.



LEGEND

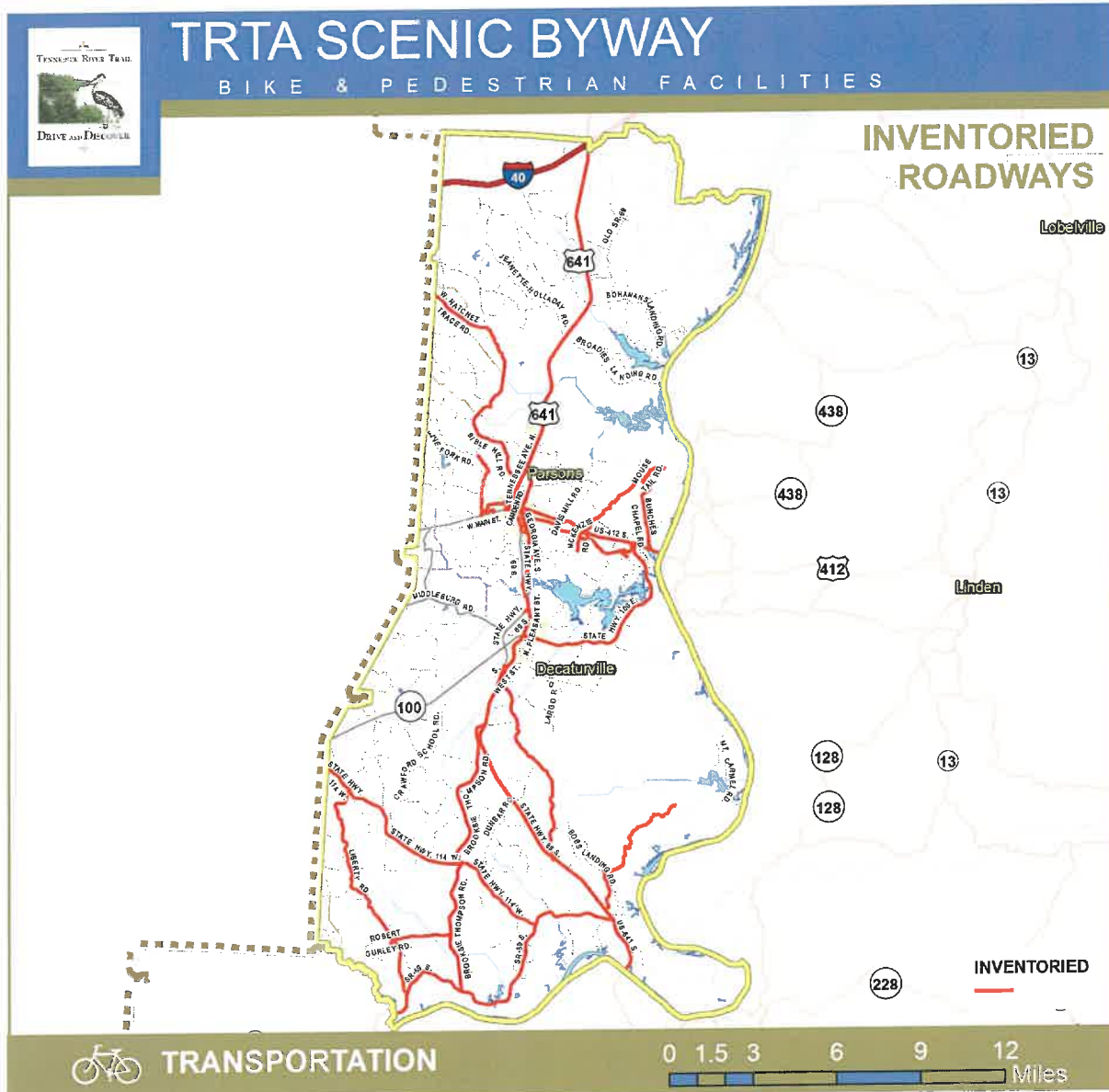


DECATUR COUNTY

Figure 29 Decatur County Destinations

Transportation

Information contained in this section consists of data gathered from both TDOT, as well as the plan's field inventory. TDOT roadway data exists for functionally-classified collector roadways and above, meaning no data exists for those classified as local. As such, it should be noted that maps in this section reflect available data. Of Decatur County's approximate 663 miles of roadway, 136 miles (21%) were inventoried (illustrated in Figure 30).



LEGEND

- MUNICIPALITIES
- TRTA BOUNDARY
- DECATUR COUNTY
- COUNTY BOUNDARY
- WATER BODY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



DECATUR COUNTY

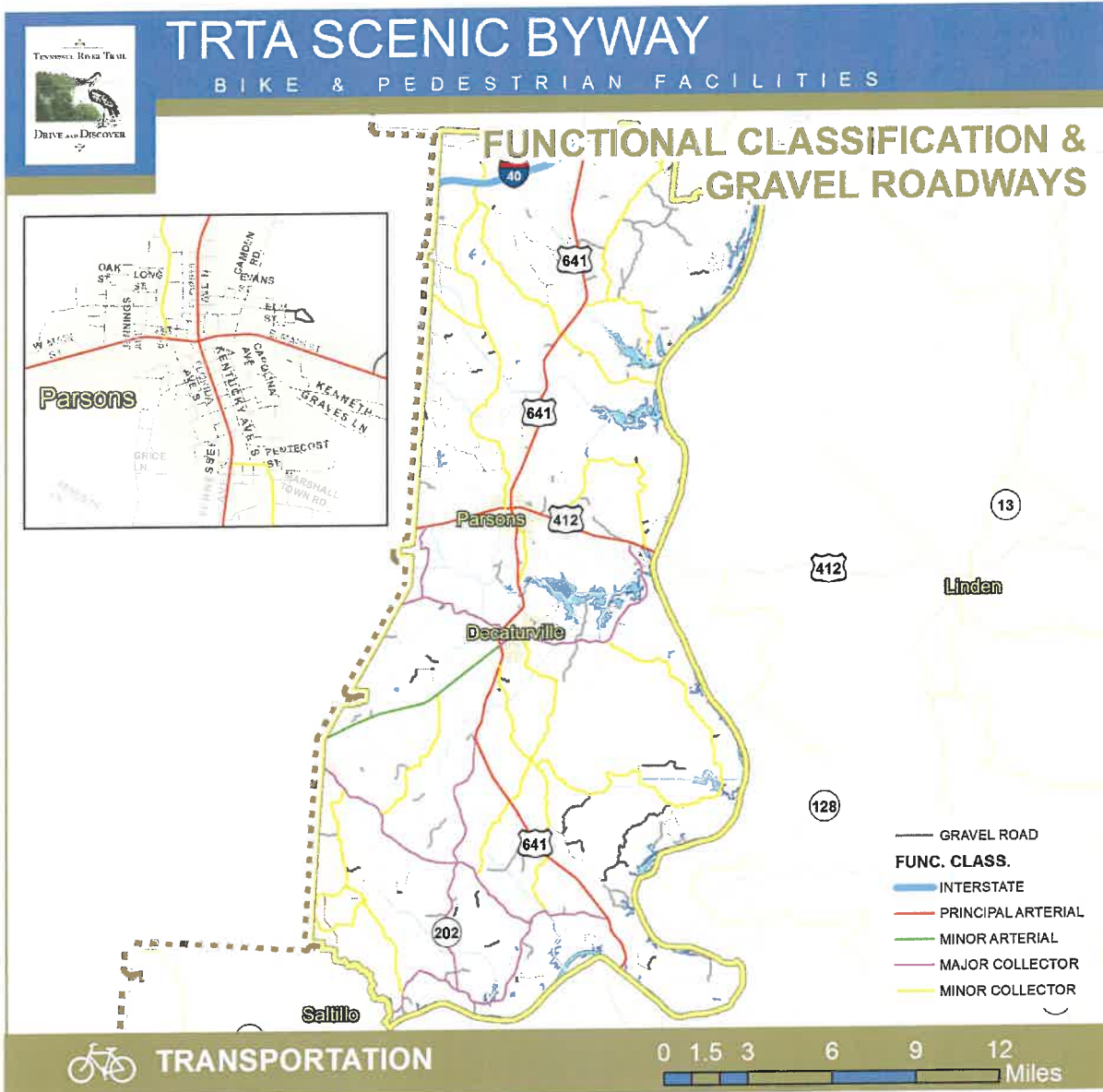
Figure 30 Decatur County Inventoried Roads



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Functional Classification

According to the Federal Highway Administration (FHWA), there are three main roadway functional classifications, including arterials, collectors, and locals. Classifications are determined by the level of traffic service that the roadway is intended to provide, which includes degree of land access and traffic characteristics. Arterials are intended for long-distance travel and, therefore, are often associated with higher traffic volumes and speed limits, whereas local roads are intended for a high degree of local accessibility meaning speed limits and traffic volumes are often low. Collectors provide a balance between the two types, especially emphasizing connections to residential areas. The functional classification of roadways for Decatur County, as well as those that have gravel surfaces, are illustrated in Figure 31.



LEGEND

- MUNICIPALITIES
- DECATUR COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



DECATUR COUNTY

Figure 31 Decatur County Functionally-Classified and Gravel Roads



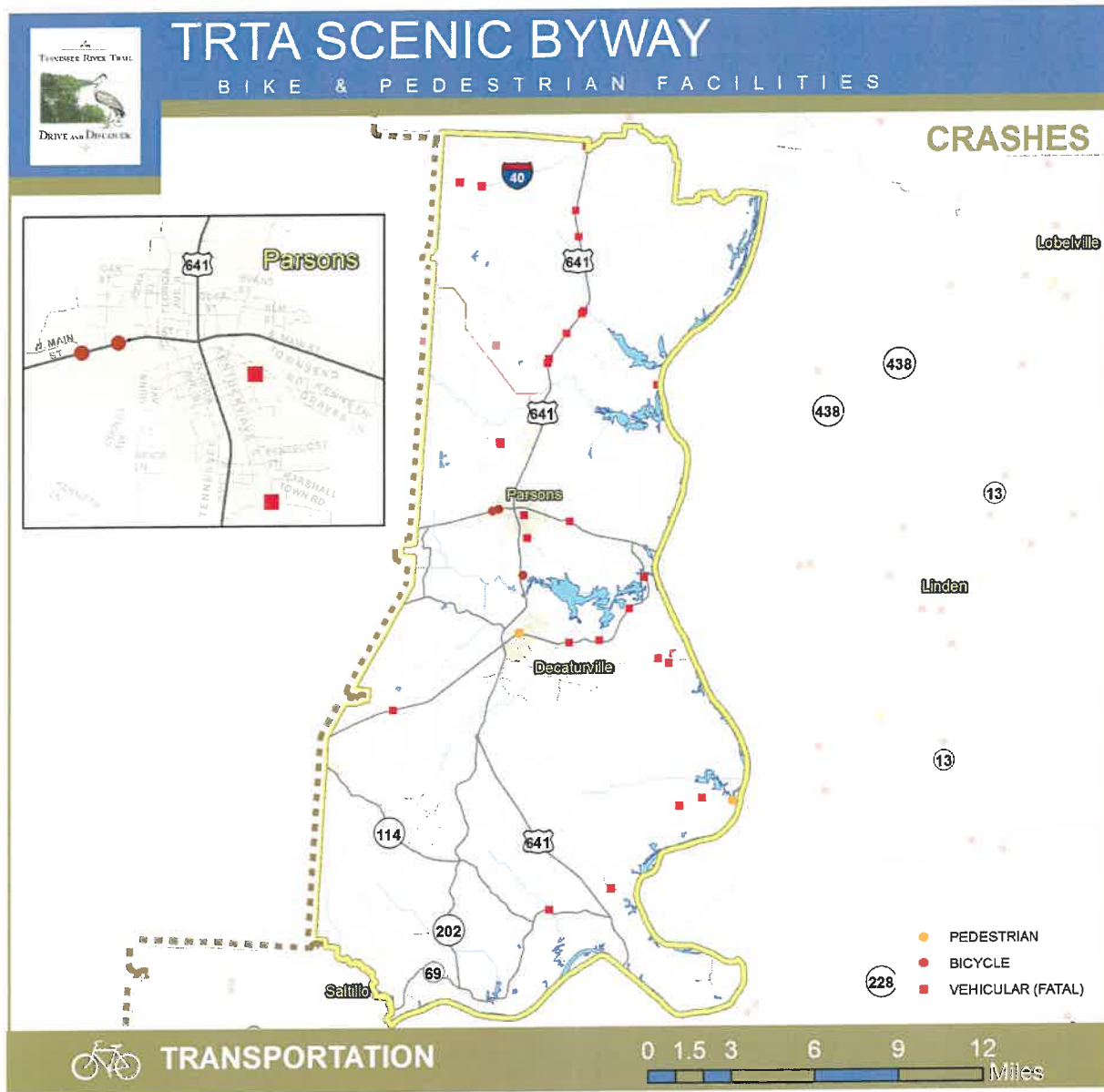
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Crashes

An important component in route planning, crash data illustrated in Figure 32 includes pedestrians, bicyclists, and fatal vehicular crashes that have occurred in the past 10 years in the county. In addition, Table 12 describes the numbers of these crashes. TDOT's numbers do not include those occurring on parking lots and private property as well as those with less than \$400 in damage.

	PED	BIKE	VEHICLE (FATAL)
DECATUR	4	5	35

Table 12 Decatur County Crashes (2006-2016)



LEGEND

- [Yellow Box] MUNICIPALITIES
- [Yellow Outline] DECATUR COUNTY
- [Grey Outline] COUNTY BOUNDARY
- [Blue Box] WATER BODY
- [Dashed Box] TRTA BOUNDARY
- [Grey Line] ROADWAYS
- [Thick Grey Line] STATE ROUTE
- [Thin Grey Line] CREEKS & RIVERS



DECATUR COUNTY

Figure 32 Decatur County Crashes



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

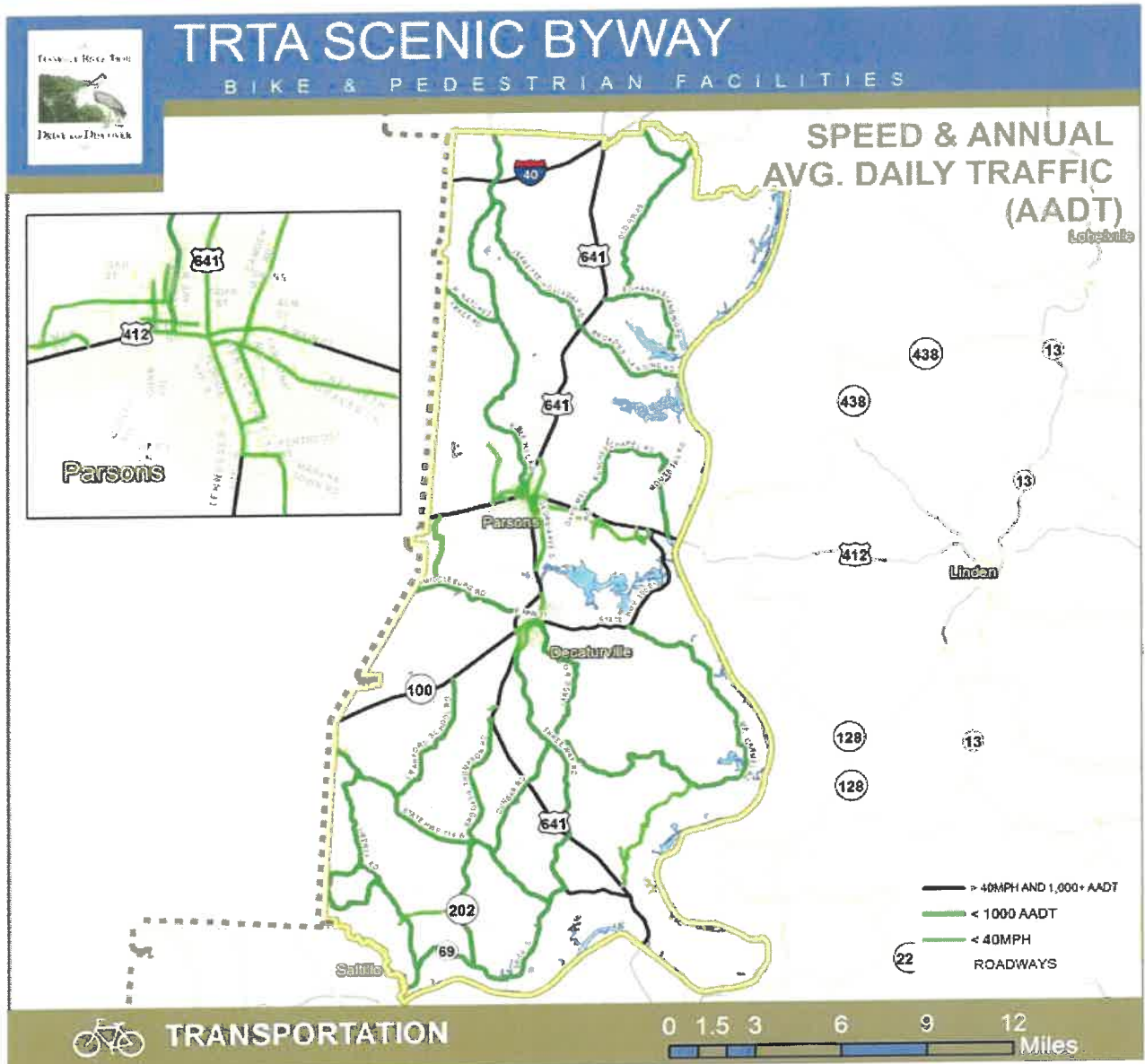
Speed and Average Annual Daily Traffic (AADT)

Posted speed limits and traffic volumes are two of the most important roadway elements for cyclists determining preferred routes. The map in Figure 33 illustrates roadways with a posted speed less than 40 mph as well as those with less than 1,000 vehicles per day. Total mileage for the county broken down by these attributes is displayed in Table 13. TDOT traffic count station data was used when available, however, volume assumptions were assigned for roadways lacking count data based on averages experienced across similar roadways in the county.

	MILES WITH AADT <1,000	ROADWAYS WITH NO COUNT DATA BUT LIKELY LOW VOLUMES	TOTAL MILEAGE-LOW VOLUME ROADWAYS	SPEED LIMIT LESS THAN 40 MPH (TRIMS+INVENTORY)
DECATUR	144	440	584	34

Table 13 Decatur County Speed Limit and AADT Mileage Data

4.0 EXISTING CONDITIONS



LEGEND

- MUNICIPALITIES
- DECATUR COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



DECATUR COUNTY

Figure 33 Decatur County Speed Limit and AADT Data



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

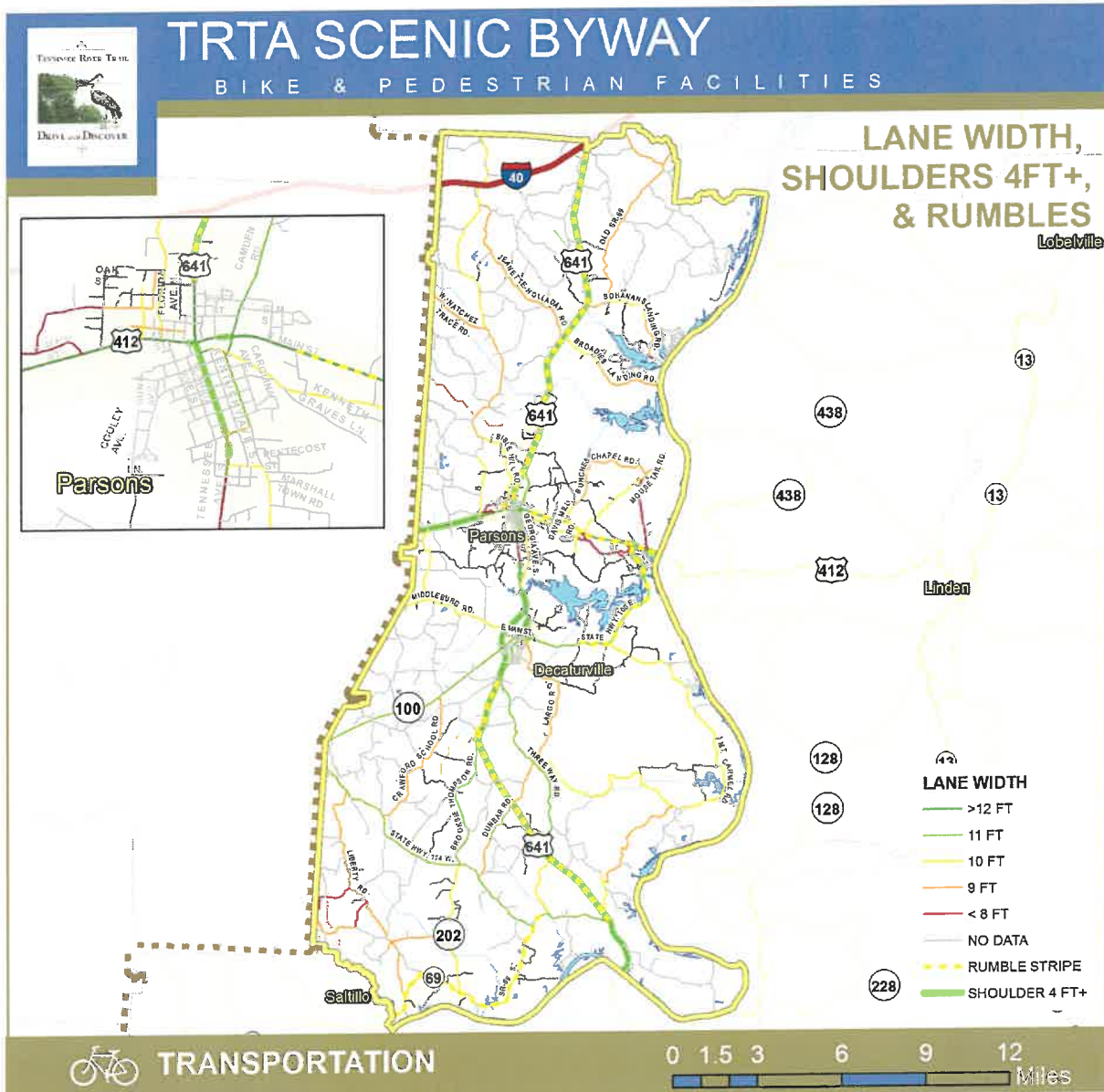
Lane Widths and Shoulders

Lane widths, and especially the presence of shoulder facilities, are two additional roadway elements critical for bicycle route planning. Depending upon an individual's ability and comfort levels, shoulder width can be a sole determination for a preferred route, regardless of the road's speed limit and traffic volumes. Decatur County lane widths, shoulders, and rumble strips are illustrated in Figure 34 and described in Table 14.

	LAND WIDTH 12+	SHOULDERS 4FT+	RUMBLE STRIP/STRIPE
DECATUR	47	41	43

Table 14 Decatur County Lane Width and Shoulder Mileage Data

4.0 EXISTING CONDITIONS



LEGEND

- MUNICIPALITIES
- DECATUR COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



DECATUR COUNTY

Figure 34 Decatur County Lane Width and Shoulder Data



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

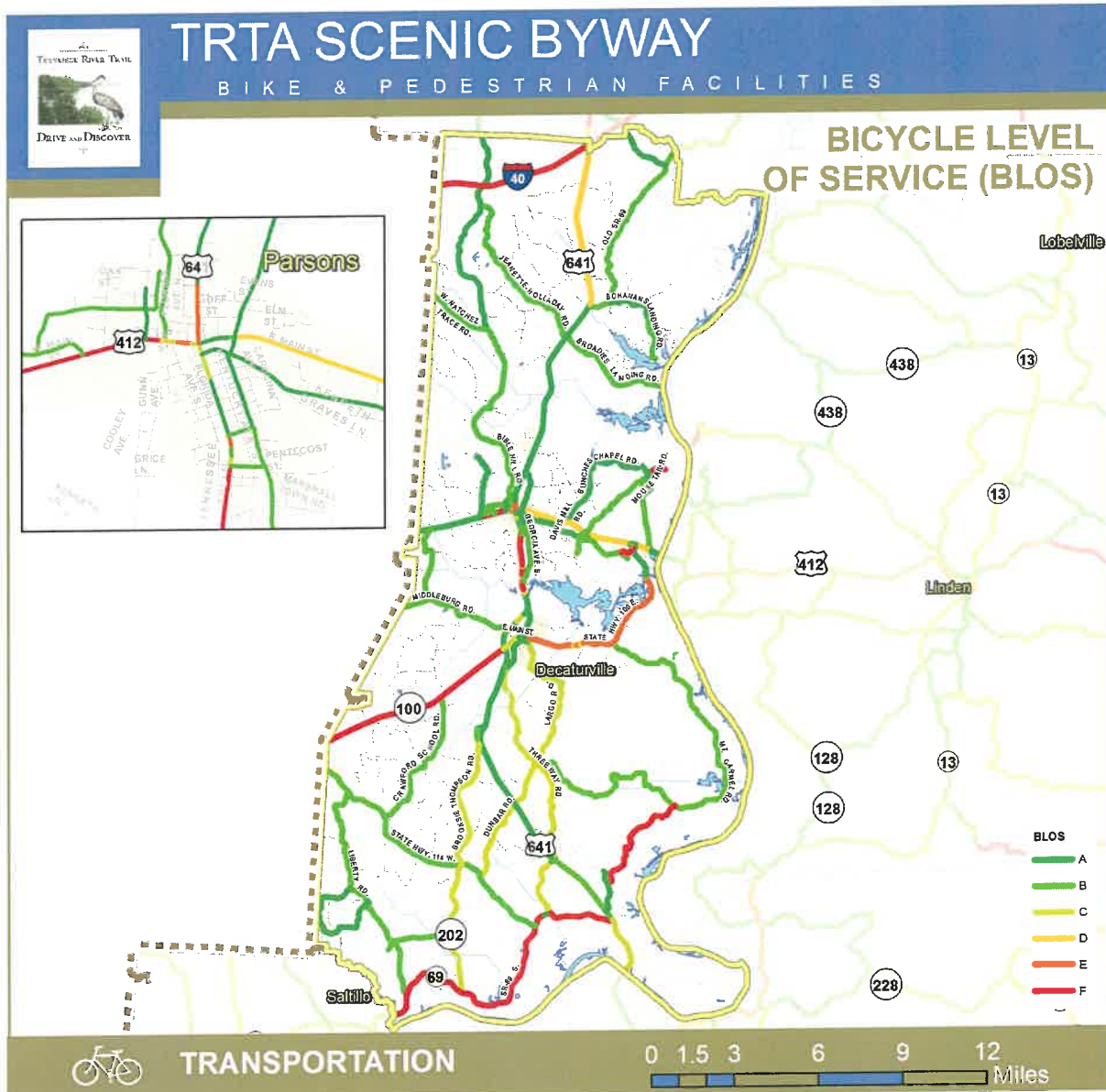
Bicycle Level-of-Service (BLOS)

As previously mentioned, BLOS is an algorithm that uses a variety of roadway variables to help quantify a cyclist's quality of travel by scoring roadways using an A to F grading scale, A being the highest and F being the lowest. Scores A, B, and C are generally considered acceptable with greater concern for roadways assigned a D, E, or F. A score of E or F, however, does not necessarily disqualify a roadway from being a route, it just means that extra diligence is required for analyzing the safety and comfort of that roadway section. BLOS scores for Benton County roadways are illustrated in Figure 35 and described in Table 15.

	BLOS A-C	BLOS D-F
DECATUR	193	50

Table 15 Decatur County Bicycle Level of Service Mileage

4.0 EXISTING CONDITIONS



LEGEND

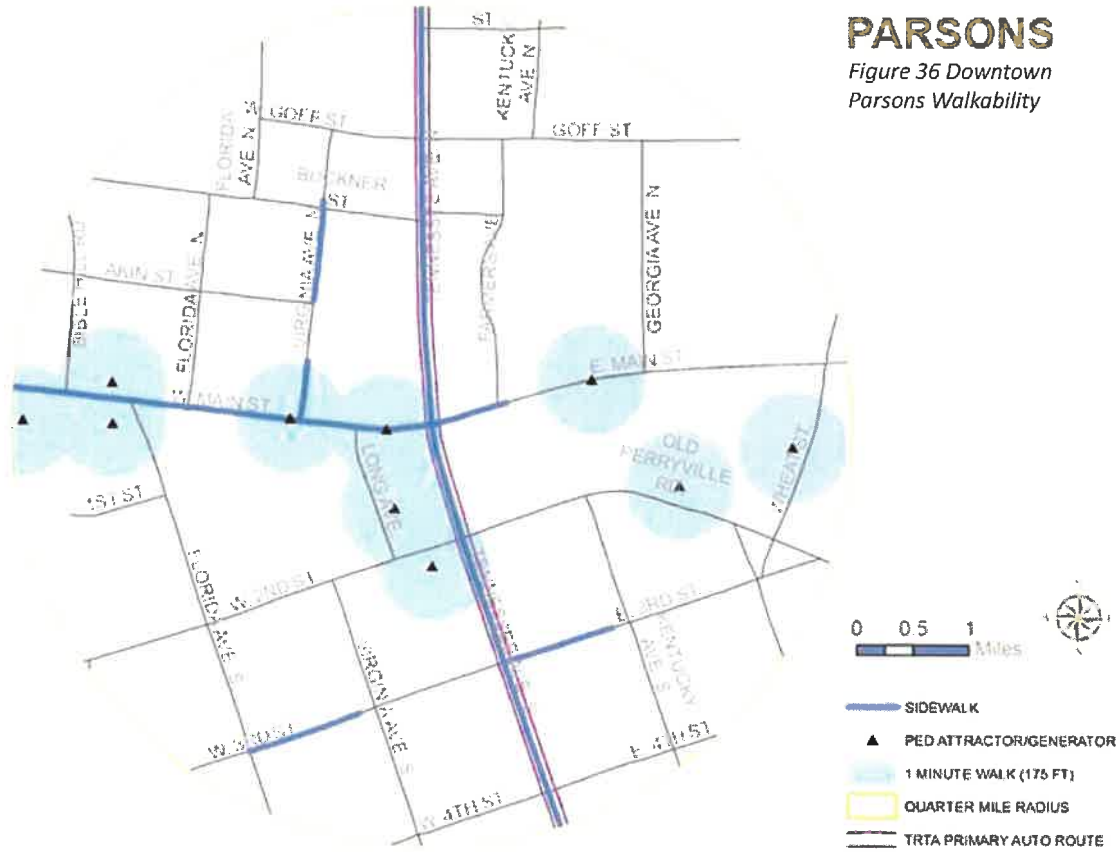
- MUNICIPALITIES
- TRTA BOUNDARY
- DECATUR COUNTY
- ROADWAYS
- COUNTY BOUNDARY
- STATE ROUTE
- WATER BODY
- CREEKS & RIVERS



DECATUR COUNTY

Figure 35 Decatur County Bicycle Level of Service





PARSONS SIDEWALKS	
MILES OF ROADWAY WITH A SIDEWALK ON AT LEAST ONE SIDE IN DOWNTOWN PARSONS (SHOWN IN FIGURE 36) - MILEAGE TOTAL	1 MILE (80% ON STATE ROUTES)
MILES OF ROADWAY WITH A SIDEWALK ON AT LEAST ONE SIDE IN PARSONS – MILEAGE TOTAL	2.60 MILES (85% ON STATE ROUTES)

Table 16 Parsons Sidewalk Mileage

Each county's largest community, typically the county seat, acts as a destination for tourists and residents. Providing walkable environments within these communities is an important component to supporting the TRTA's overall economic development, tourism, and livability goals, as well as the recommendations of this plan. Figure 36 illustrates roadways that have a sidewalk on at least one side of the roadway within a quarter mile radius from the county courthouse (except for Parsons, which uses the main downtown intersection). Pedestrian attractors and generators, such as parks, civic buildings, and other retail and restaurant destinations, are shown in order to demonstrate the existing level of connectivity provided by sidewalk infrastructure relative to locations where pedestrian activity is likely. This information provides communities with a basic understanding of where future sidewalk investments may be most beneficial within the downtown.

PROFILE**CONCLUSIONS****DECATUR COUNTY**

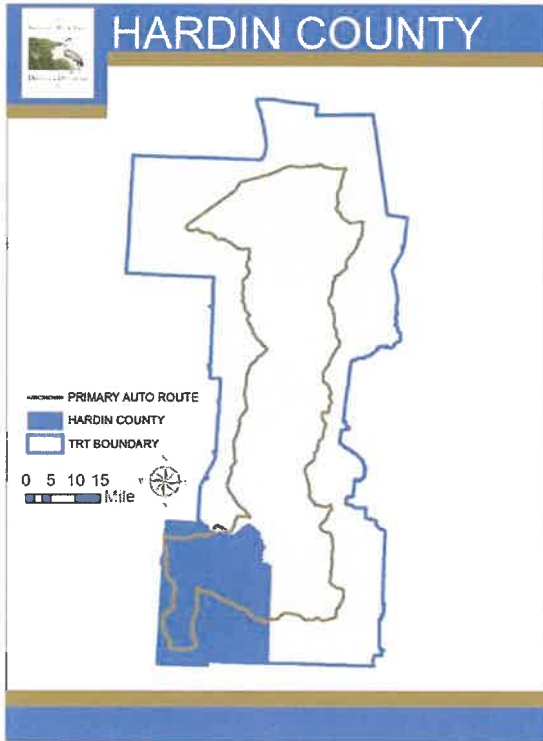
A challenge for Decatur County is the lack of formalized major destinations. While one of Tennessee's National Wildlife Refuges (Busselton Unit) is located approximately 9 miles northeast of Parsons, it is the smallest and most "unstructured" unit of the three. The county does, however, have one of the few opportunities for hiking in the TRTA region. Carroll Cabin Barrens Natural Area, located in the southeast corner of the county, consists of a parking area with a trailhead kiosk and an approximate two-mile hiking trail. The State acquired the property by donation from the Weyerhaeuser Company and was designated as a State Natural Area in 2002. The County Parks Department approached the State to improve public access to the property ultimately resulting in the parking area, kiosk, and trail. TVA's Alley Bluff Wild Area is an area that could have similar potential as Carrol Cabin as TVA actively seeks to provide low-impact public use opportunities on these types of lands, which are designated based on their "exceptional natural, scenic or aesthetic qualities".

U.S. Highway 641 and 412 act as the county's major thoroughfares carrying the county's highest average traffic volumes. While the majority of Highway 641 north of Parsons and south Decaturville has wide shoulders suitable for comfortable riding, shoulder widths narrow closer to these two communities. U.S. Highway 412 east of Parsons is especially poor for riding given the lack of shoulder facilities, use of rumble stripes, relatively high traffic volumes, and high speeds. While the southern portion of the county is relatively remote and traffic volumes are low, high speed limits, curviness of roadways, and lack of shoulders create challenges for riding. A lack of convenience stores or other destinations in the northern portion of the county also poses as a challenge for riders seeking resources or points of interest, although this aspect also results in lower traffic volumes in these more remote areas, a benefit for some riders. As compared to other TRTA counties, Decatur County is relatively flat with the hilliest portions located in the eastern and southeastern areas of Decatur County. This aspect could be advertised to particularly draw beginner long-distance cyclists.

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HARDIN COUNTY





4.4.3. Hardin County

Hardin County, Tennessee is located in the southwestern section of the TRTA Region as illustrated in Figure 37. The county has approximately 26,000 residents who are generally older and less diverse as compared to the state's averages (displayed in Table 17). Municipalities include Savannah, which acts as its county seat, and Saltillo and Crump.

Figure 37 Hardin County's Location within TRTA Region

	HARDIN COUNTY	TRTA REGION	TENNESSEE	SOURCE
County Seat	Savannah	-	-	-
Land Area (sq mi)	577.3	4,207	41,235	U.S. Census 2010
Water Area (sq mi)	19	179.2	909.4	U.S. Census 2010
County Population (2010)	26,025	151,826	6,346,105	U.S. Census 2010
County Population (2014 Estimate)	26,011	151,075	6,451,365	ACS 2014
Persons Younger than 18 Years	21.0%	21.1%	23.1%	ACS 2014
Persons 65 Years and Over	19.2%	19.1%	14.2%	ACS 2014
Percent Minority	6.1%	6.7%	21.8%	ACS 2014
Percent Households Living Below Poverty Line (below \$25,000 for family of four)	21.7%	20.1%	16.6%	ACS 2014
Percent Households Living With No Vehicle	6.1%	6.1%	6.4%	ACS 2014
Adventure Tourism District	1 (Designated 2015)	-	-	-
TN River Resort District	Yes	-	-	-

Table 17 Hardin County Overview

4.0 EXISTING CONDITIONS

Destination Mileage

Table 18 following consists of mileage between various communities and key destinations within in the county. Mileage was calculated using Google Map's bicycle routing feature. Information may be especially useful for trail publication materials as well as providing a general understanding of cycling distances within the county.

	Clifton (Wayne Co)	Crump	Pickwick Landing SP	Saltillo	Savannah	Shiloh National Battlefield
Clifton (Wayne Co)		24.4	31.2	20.6	20.4	31.4
Crump	24.4		20	17.3	4	6.8
Pickwick Landing SP	31.2	20		30.3	12	15
Saltillo	20.6	17.3	30.3		17.7	24.3
Savannah	20.4	4	12	17.7		11
Shiloh National Battlefield	31.4	6.8	15	24.3	11	

Table 18 Hardin County Riding Milages

Climate

Climate data, displayed in Figure 38, can influence information contained in trail guide materials, such as the types of gear that may be needed for touring cyclists, as well as provide a helpful tool when planning cycling events.

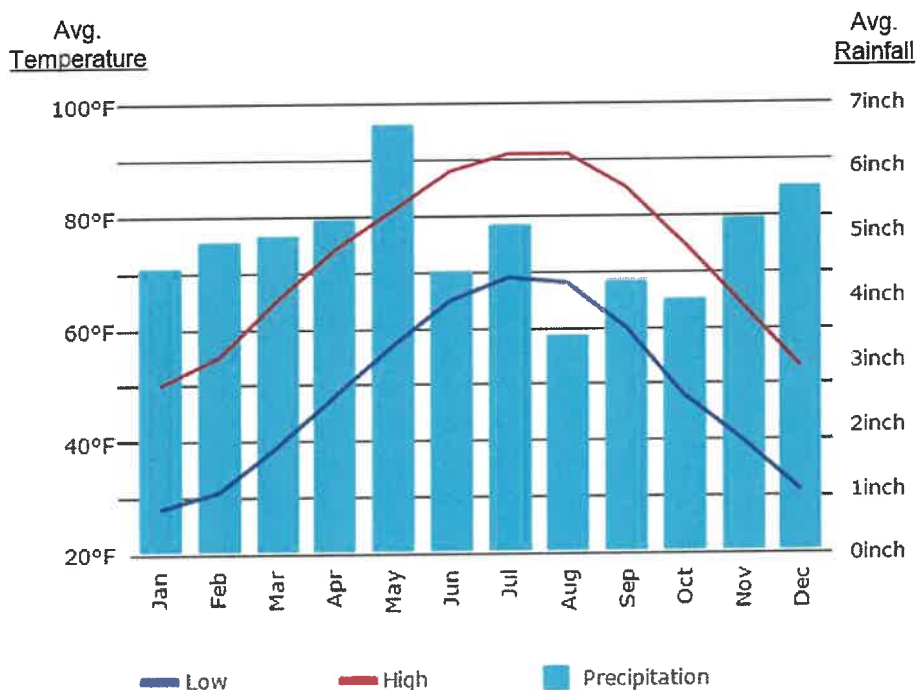


Figure 38 Hardin County Climate Data
Source: www.usclimatedata.com

PROFILE

DEMOGRAPHICS

Demographics

Households with No Access to a Vehicle and Living below Poverty Line

Households without access to a vehicle, as well as those living below the poverty line (\$25,000), are more likely to rely upon non-motorized transportation. Figure 39 contains a Demographic Map Series that illustrates the County's distribution of these demographic groups by Census Block. Understanding where these households are generally located within a county can help to prioritize improvements by ensuring public investments meet the needs of those that especially are impacted. Overall, 5.4% of Hardin County households do not have access to a vehicle, while 21.9% live below the poverty line, as compared to Tennessee's respective 6.4% and 16.6%.

Percentage of Non-Active Adults and Adults with Access to Exercise Opportunities

Tennessee's high rates of lifestyle-related diseases and conditions has prompted the Tennessee Department of Health to shift its traditional philosophy of treatment to a preventative one. This strategy centers upon enabling residents to make more active and healthy lifestyle choices, including walking and biking. County Health Rankings is a national data resource the Department uses to assist in tracking various health measures that are influencing Tennesseans' length and quality of life, including percent of adults that report no leisure-time physical activity and the percentage with access to exercise opportunities. These points of data, as well as variety of additional measures, such as access to health care, tobacco use, and income, yield a health factor score that provides a basic understanding of elements contributing positively or negatively to health in each county. Counties with especially poor health can now qualify for new Department of Health programs that provide funding assistance for sidewalk and greenway projects.

Hardin County's 2016 Health Factor score ranking is 69th out of Tennessee's 95 counties. 39% of residents were considered as inactive, while 38% of Hardin County residents had reasonable opportunities for physical activity as illustrated in Figure 39. Thirty four percent of residents met the criteria for being obese according to County Health Rankings. Table 19 illustrates the county's historic obesity levels as compared to the state of Tennessee and the United States.

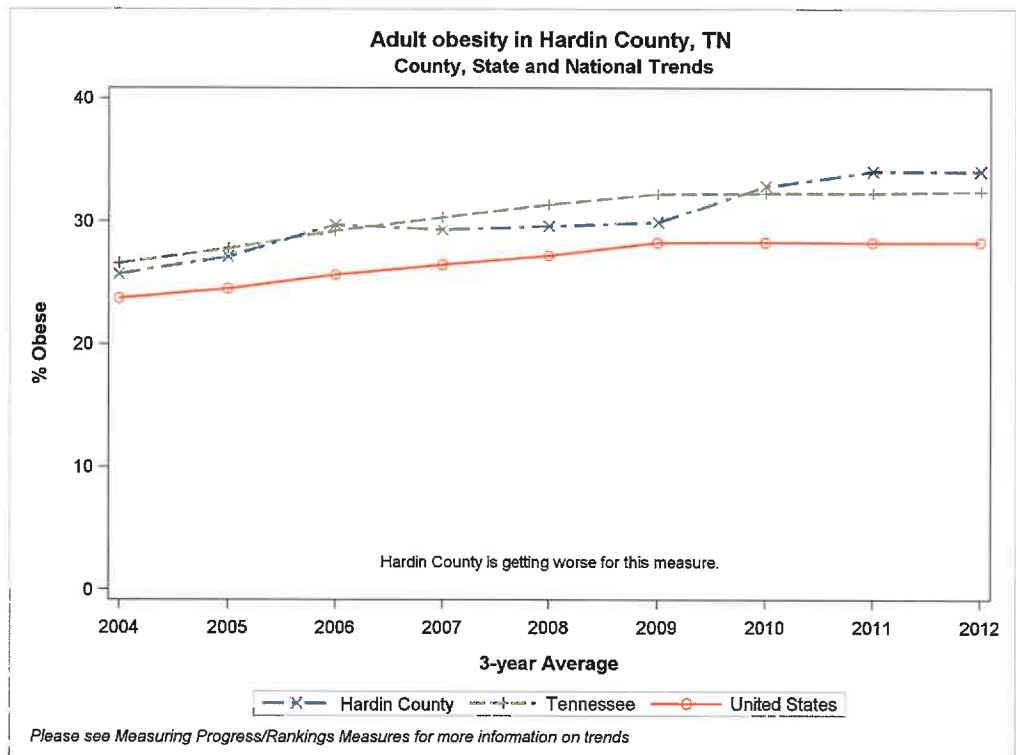
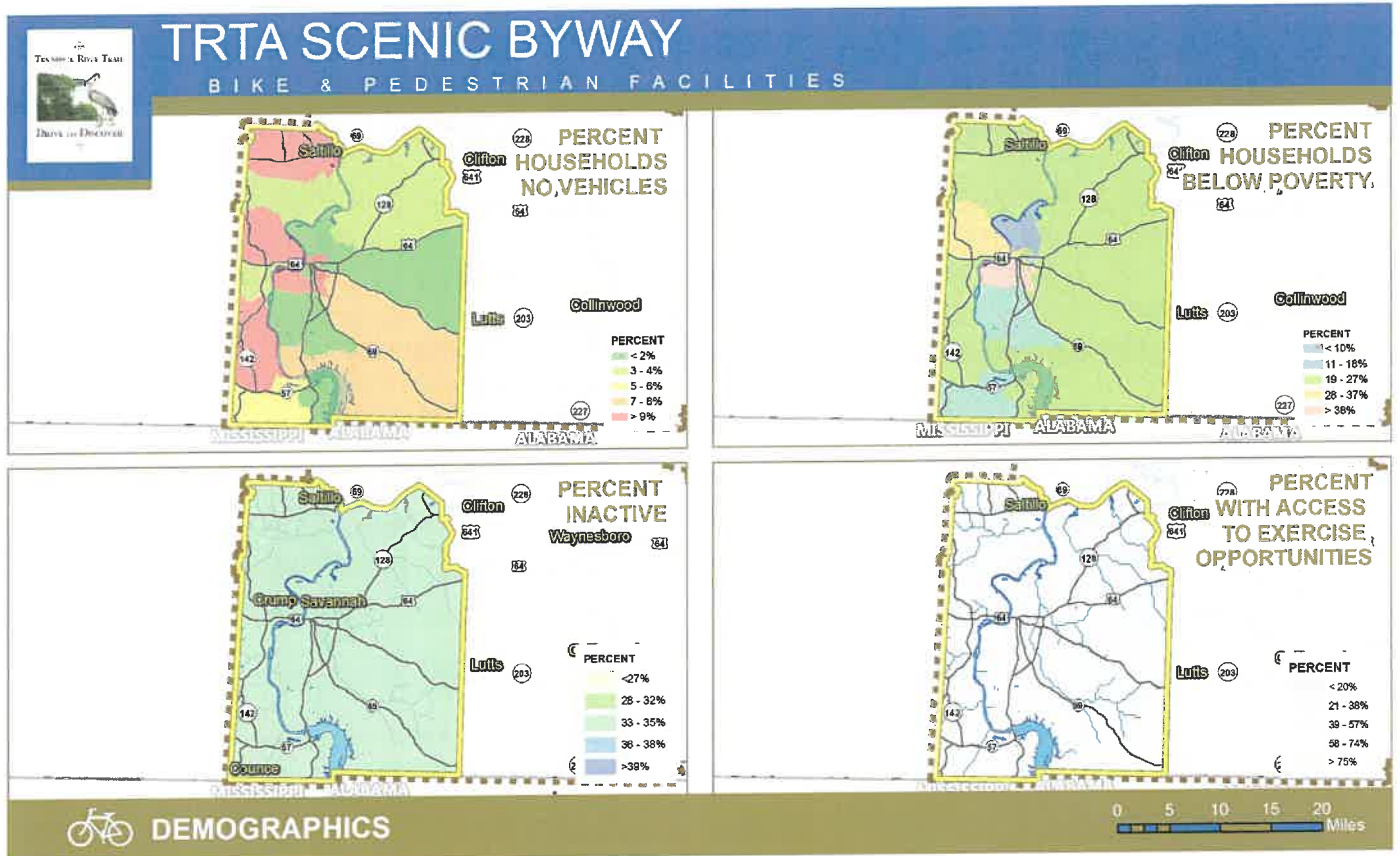


Table 19 Hardin County Obesity Levels



LEGEND

- HARDIN COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- COUNTY BOUNDARY
- STATE ROUTES
- INTERSTATE



HARDIN COUNTY

Figure 39 Hardin County Demographic Map Series

Environment

Ecoregions and Land Cover

According to the United States Geological Survey (USGS), ecoregions denote areas of similarity in ecosystems as well as the type, quantity, and quality of environmental resources. There are three ecoregions with the TRTA region:

-Interior Plateau: According to the USGS, this ecoregion is characterized by a series of grassland plateaus and forested uplands, with Oak-Hickory stands being the most common forest type. The relatively flat nature and fertile lowlands particularly attracted early settlement and agriculture uses in this eco-region, the TRTA region's largest.

-Mississippi Valley Loess: Irregular plains primarily characterize this ecoregion's topography, which is only found in the northwestern portion of Henry County. Its distinguishing characteristic is the thick, highly erodible loess deposits (top soil). While these soils are often poor in nutrients and organic matter, the use of fertilizers allow lands to be easily cultivated.

-Southeastern Plains: This expansive ecoregion is characterized by relatively flat plains as well as croplands, forests, and wetlands. Although growing seasons are long and precipitation is abundant, relatively poor sandy soils limit agriculture uses as compared to other regions. Once covered in natural forests, heavily managed timberlands (largely pine plantations) now are prevalent, which poses a risk to cyclists given the amount of logging truck activity.

Hardin County is made up of two ecoregions, Southeastern Plains and Interior Plateau, as illustrated in Figure 40. Except for impacts from human activity (i.e. land use), ecoregions inform the types of vegetation found at the Earth's surface. Land cover is relevant to bicycle route planning in terms of evaluating the general types of land uses or environment types a route might pass through, as well as the likeliness (although at a high level) for tree coverage along a desired route. Hardin County's land cover is also illustrated in Figure 40.

Watersheds and Wetlands, Waterfalls, and County High Points

Watersheds refer to the land area by which surface water drains into a given body of water. These hydrological units are commonly associated with water quality and water management plans. Watershed boundary information, wetlands, and waterfalls are relevant to both route planning, the development of supportive route materials, as well as providing information to the assist the region in protecting the health of its water bodies through increased resident awareness of the water cycle and its processes. These hydrological features as well as the county's high point are illustrated in Figure 40.

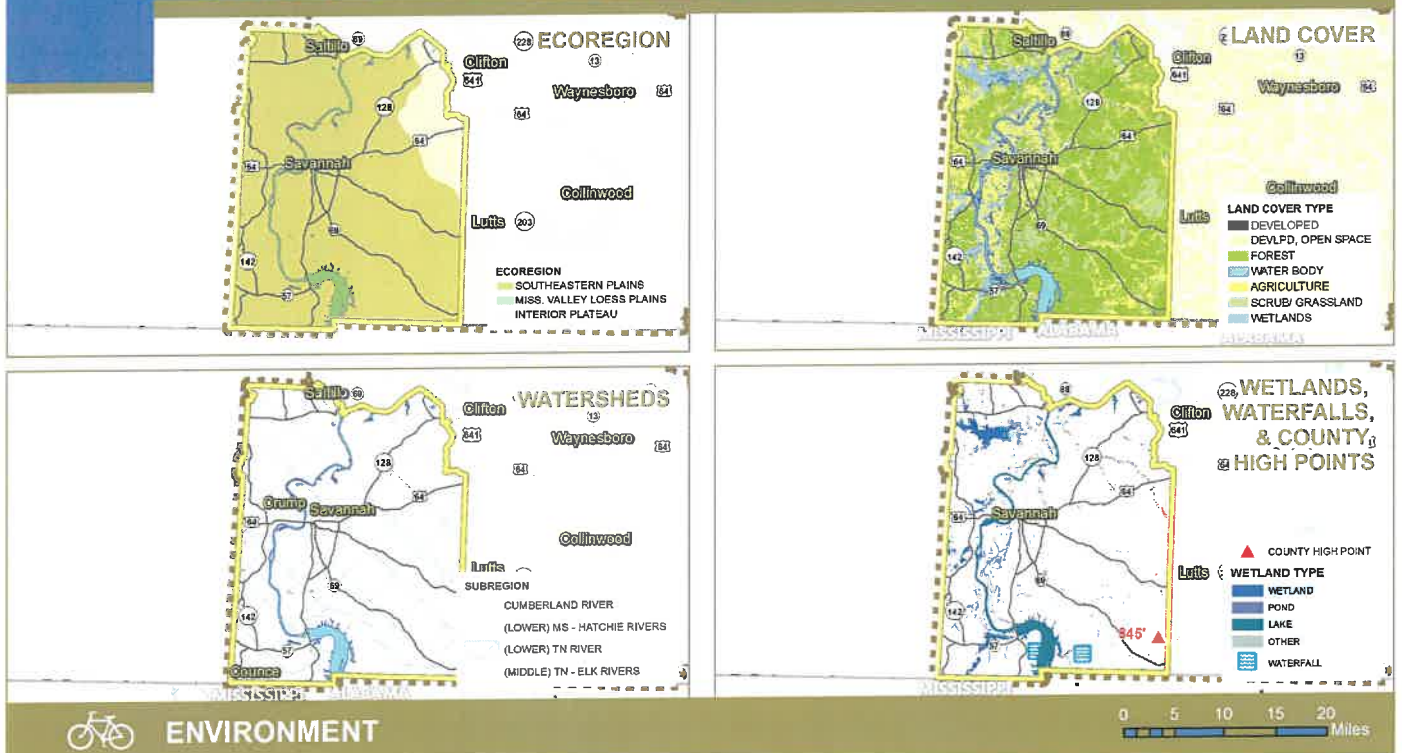
4.0 EXISTING CONDITIONS

PROFILE

ENVIRONMENT

TRTA SCENIC BYWAY

BIKE & PEDESTRIAN FACILITIES



LEGEND

- HARDIN COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- COUNTY BOUNDARY
- STATE ROUTES
- INTERSTATE



HARDIN COUNTY

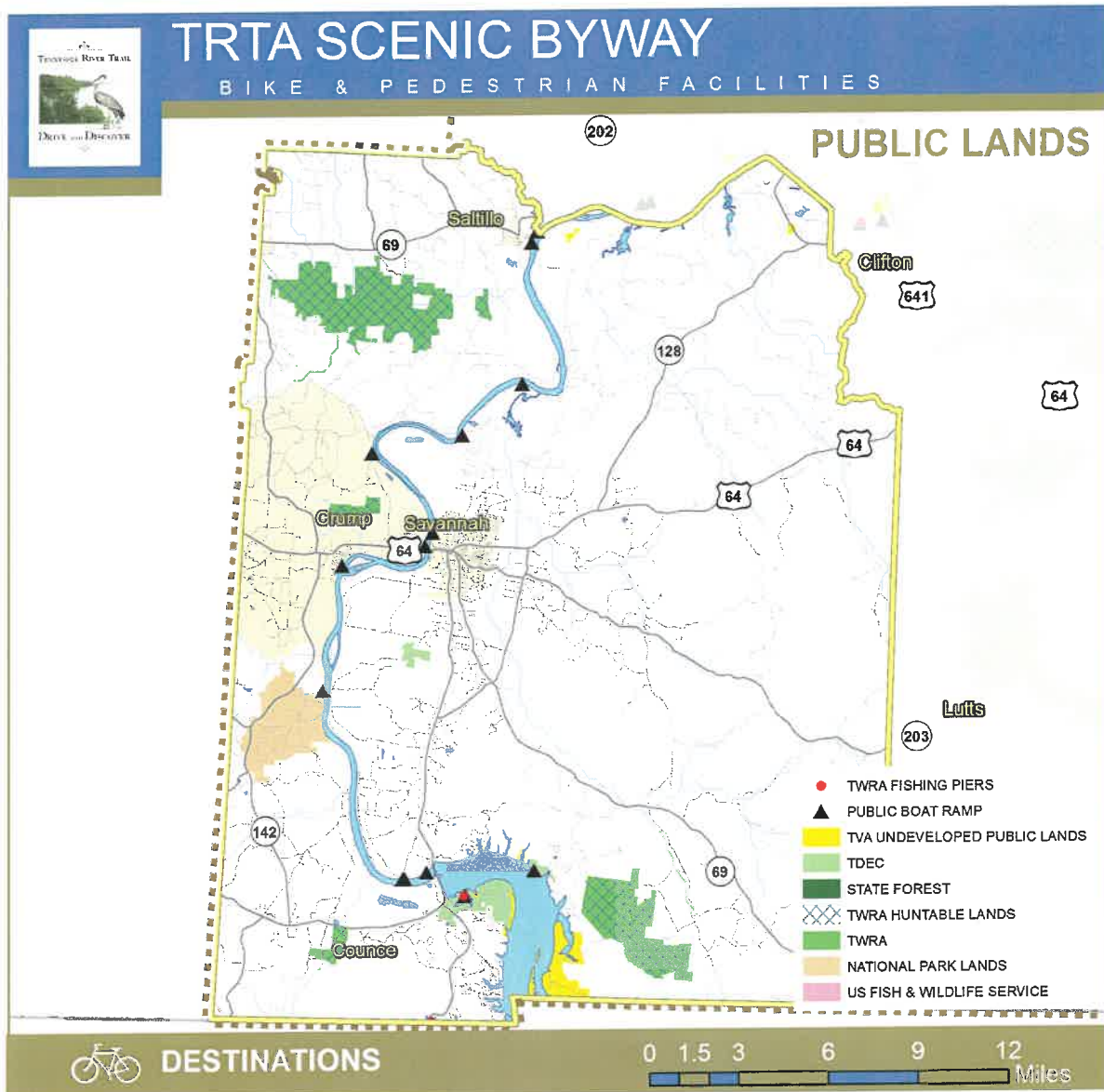
Figure 40 Hardin County Environment Map Series



Destinations

Public Lands

Public lands under the management of state and federal agencies provide active and passive outdoor recreation opportunities in the TRTA region. Public fishing piers as well as boat ramps are included in Figure 41 to help identify further public opportunities to experience the Tennessee River. While there is an abundance of these lands, public engagement revealed that many residents are not aware of the public use rules and associated walking and biking opportunities these lands provide.



LEGEND

- MUNICIPALITIES
- HARDIN COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HARDIN COUNTY

Figure 41 Hardin County Public Lands

Routes, Trails, and Major Destinations

A number of existing bicycle routes, tourism trails, and historic trails exist in the TRTA region. These are important for understanding how visitors are currently entering, traveling within, and exiting the region. Associated trail points-of-interest help to identify the county's destinations which are currently being marketed to tourists. For purposes of this plan and the identification of the regional route network, these destinations are broken down into primary and secondary categories. Routes, trails, and byways that pass through Hardin County, as well as key points-of-interest are illustrated in Figure 42.

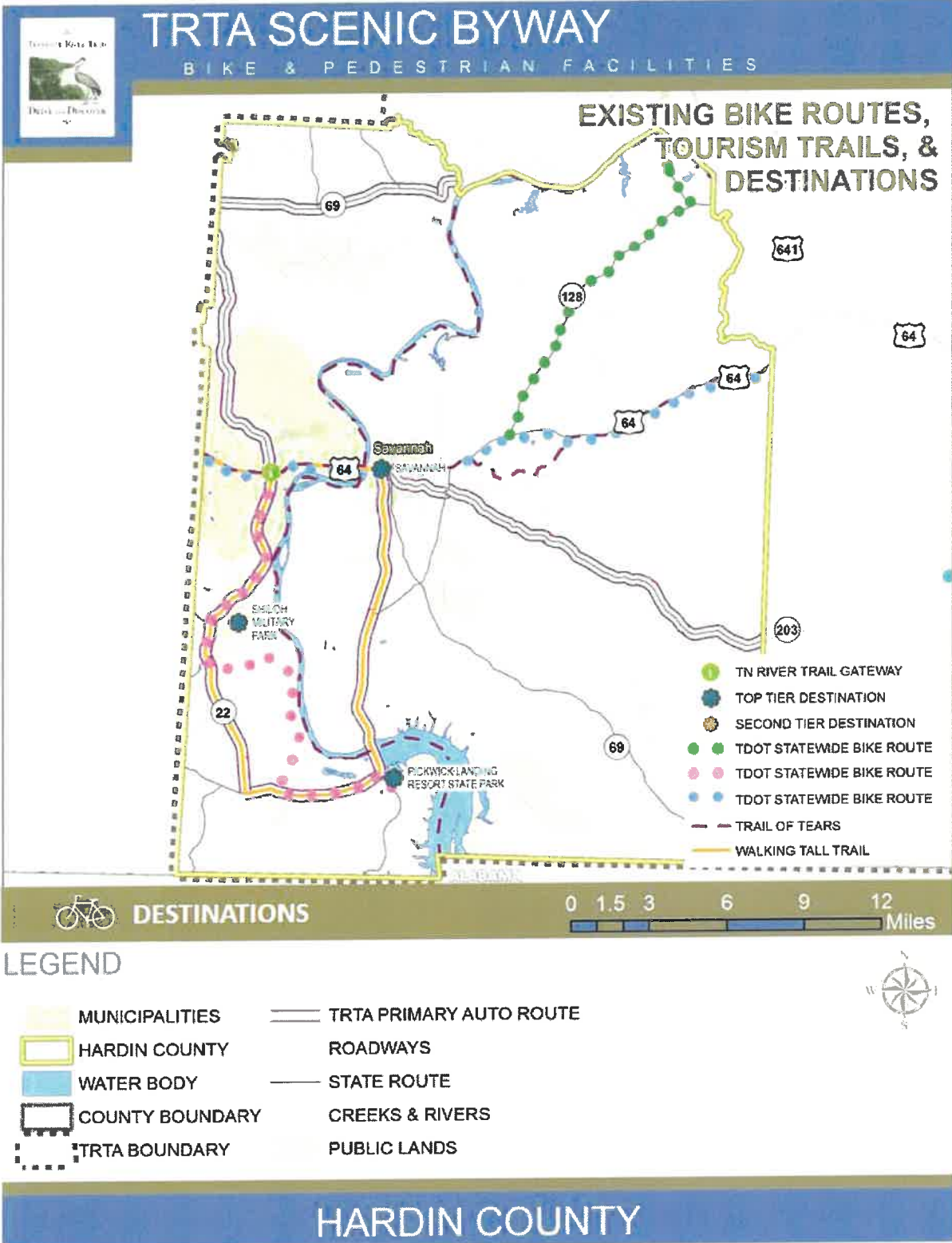
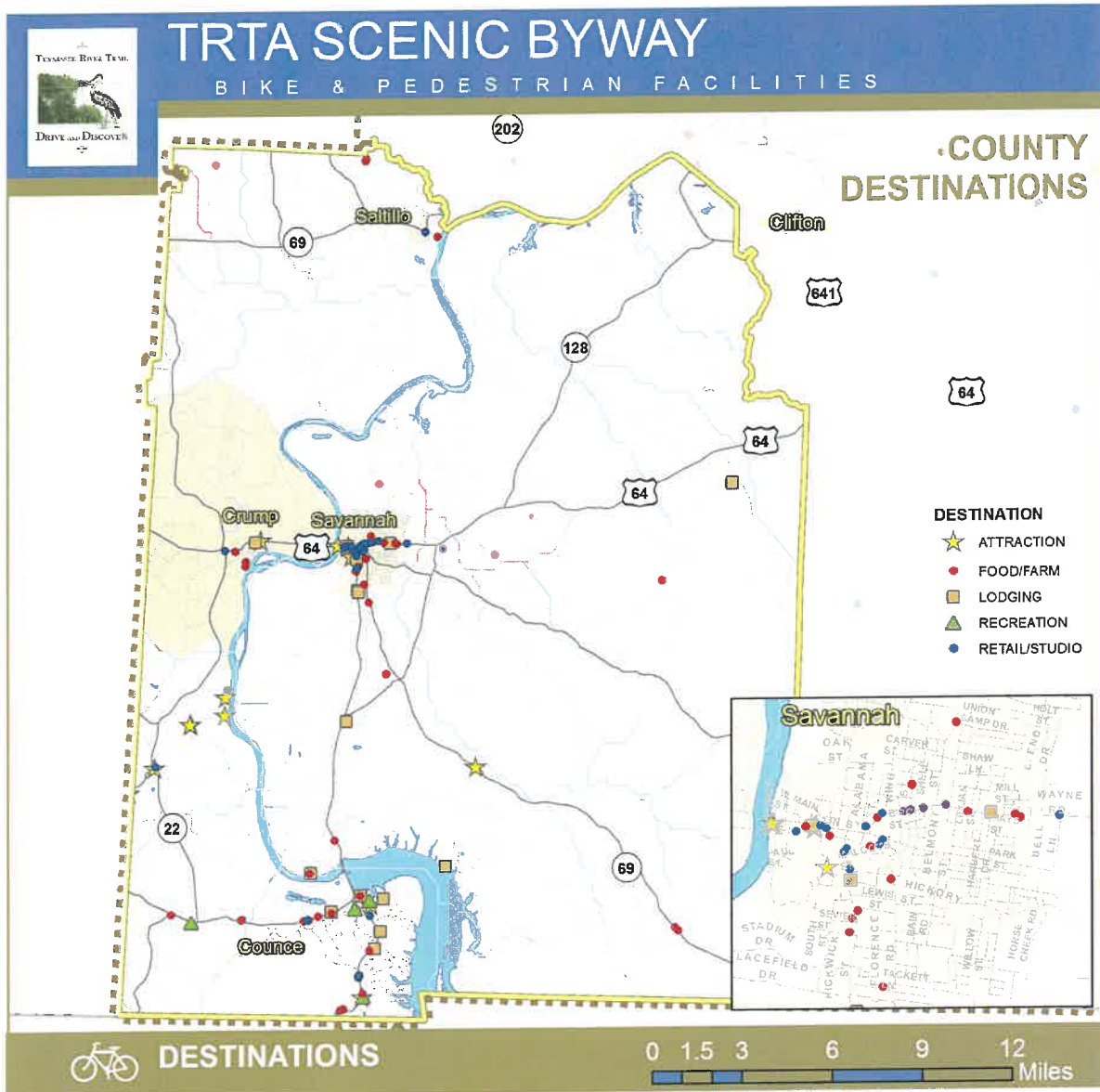


Figure 42 Hardin County Routes, Trails, and Major Destinations

County Destinations

In the early stages of the plan's development process, destinations including lodging, dining, retail, and recreation opportunities were geo-coded for each county. These destinations, shown in Figure 43, are relevant for understanding the level of support a county provides tourists, pedestrian connectivity in TRTA communities, and the identification of a recommended route network.



LEGEND

- | | |
|-----------------|-----------------|
| MUNICIPALITIES | ROADWAYS |
| HARDIN COUNTY | STATE ROUTE |
| COUNTY BOUNDARY | CREEKS & RIVERS |
| WATER BODY | INTERSTATE |
| TRTA BOUNDARY | |



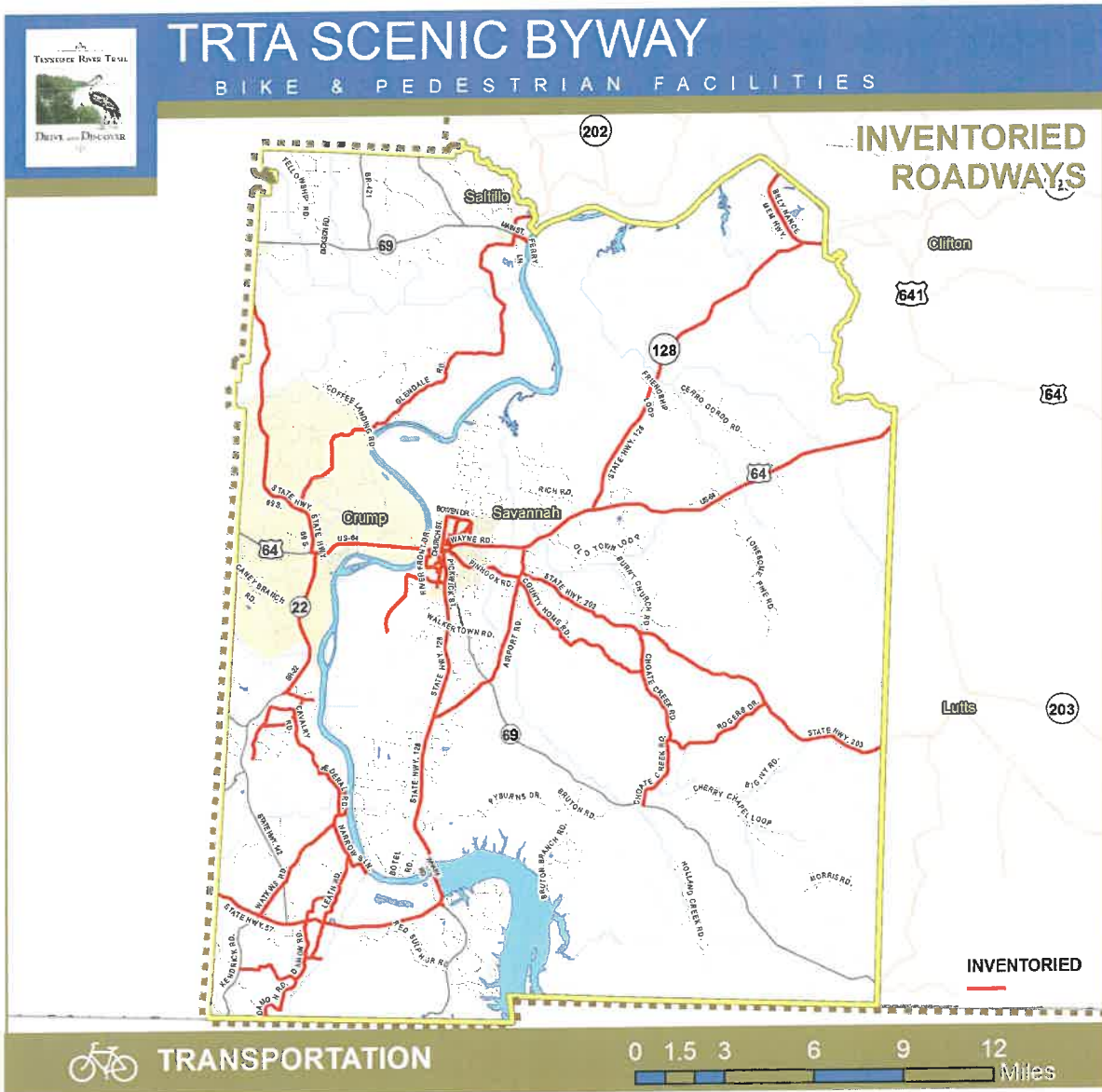
HARDIN COUNTY

Figure 43 Hardin County Destinations



Transportation

Information contained in this section consists of data gathered from both TDOT, as well as the plan's field inventory. TDOT roadway data exists for functionally-classified collector roadways and above, meaning no data exists for those classified as local. As such, it should be noted that maps in this section reflect available data. Of Hardin County's approximate 1,045 miles of roadway, 175 (17%) were inventoried (illustrated in Figure 44).



LEGEND

- MUNICIPALITIES
- TRTA BOUNDARY
- HARDIN COUNTY
- COUNTY BOUNDARY
- WATER BODY
- STATE ROUTE
- CREEKS & RIVERS



HARDIN COUNTY

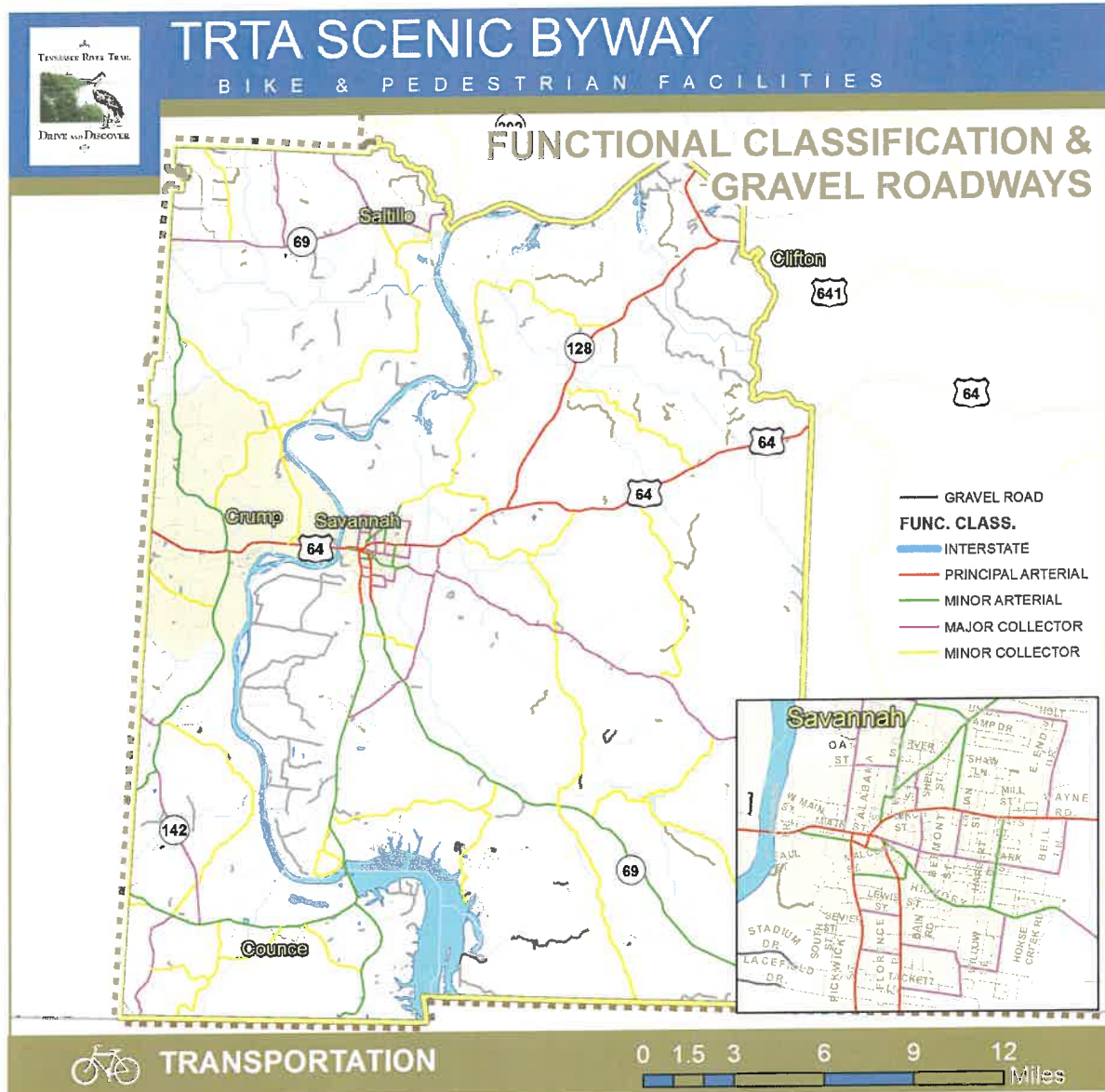
Figure 44 Hardin County Inventoried Roads



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Functional Classification

According to the Federal Highway Administration (FHWA), there are three main roadway functional classifications, including arterials, collectors, and locals. Classifications are determined by the level of traffic service that the roadway is intended to provide, which includes degree of land access and traffic characteristics. Arterials are intended for long-distance travel and, therefore, are often associated with higher traffic volumes and speed limits, whereas local roads are intended for a high degree of local accessibility meaning speed limits and traffic volumes are often low. Collectors provide a balance between the two types, especially emphasizing connections to residential areas. The functional classification of roadways for Hardin County, as well as those that have gravel surfaces, are illustrated in Figure 45.



LEGEND

- | | |
|-----------------|-----------------|
| MUNICIPALITIES | ROADWAYS |
| HARDIN COUNTY | STATE ROUTE |
| COUNTY BOUNDARY | CREEKS & RIVERS |
| WATER BODY | |
| TRTA BOUNDARY | |



HARDIN COUNTY

Figure 45 Hardin County Functionally-Classified and Gravel Roads



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

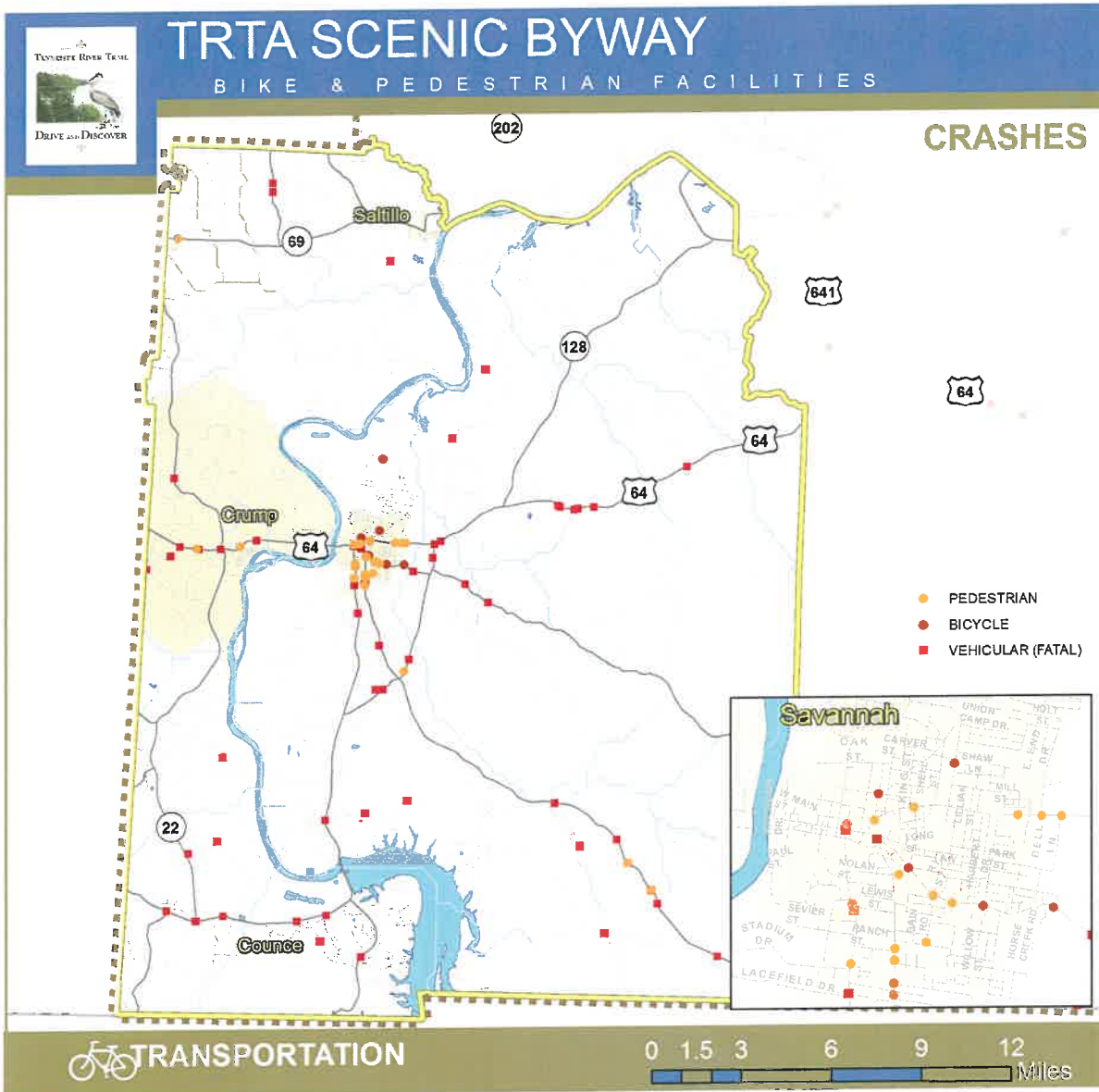
Crashes

An important component in route planning, crash data illustrated in Figure 46 includes pedestrians, bicyclists, and fatal vehicular crashes that have occurred in the past 10 years in the county. In addition, Table 20 describes the numbers of these crashes. TDOT's numbers do not include those occurring on parking lots and private property as well as those with less than \$400 in damage.

	PED	BIKE	VEHICLE (FATAL)
HARDIN	26 (3 FATAL)	8	67

Table 20 Hardin County Crashes (2006-2016)

4.0 EXISTING CONDITIONS



LEGEND

- MUNICIPALITIES
- HARDIN COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS
- INTERSTATE



HARDIN COUNTY

Figure 46 Hardin County Crashes



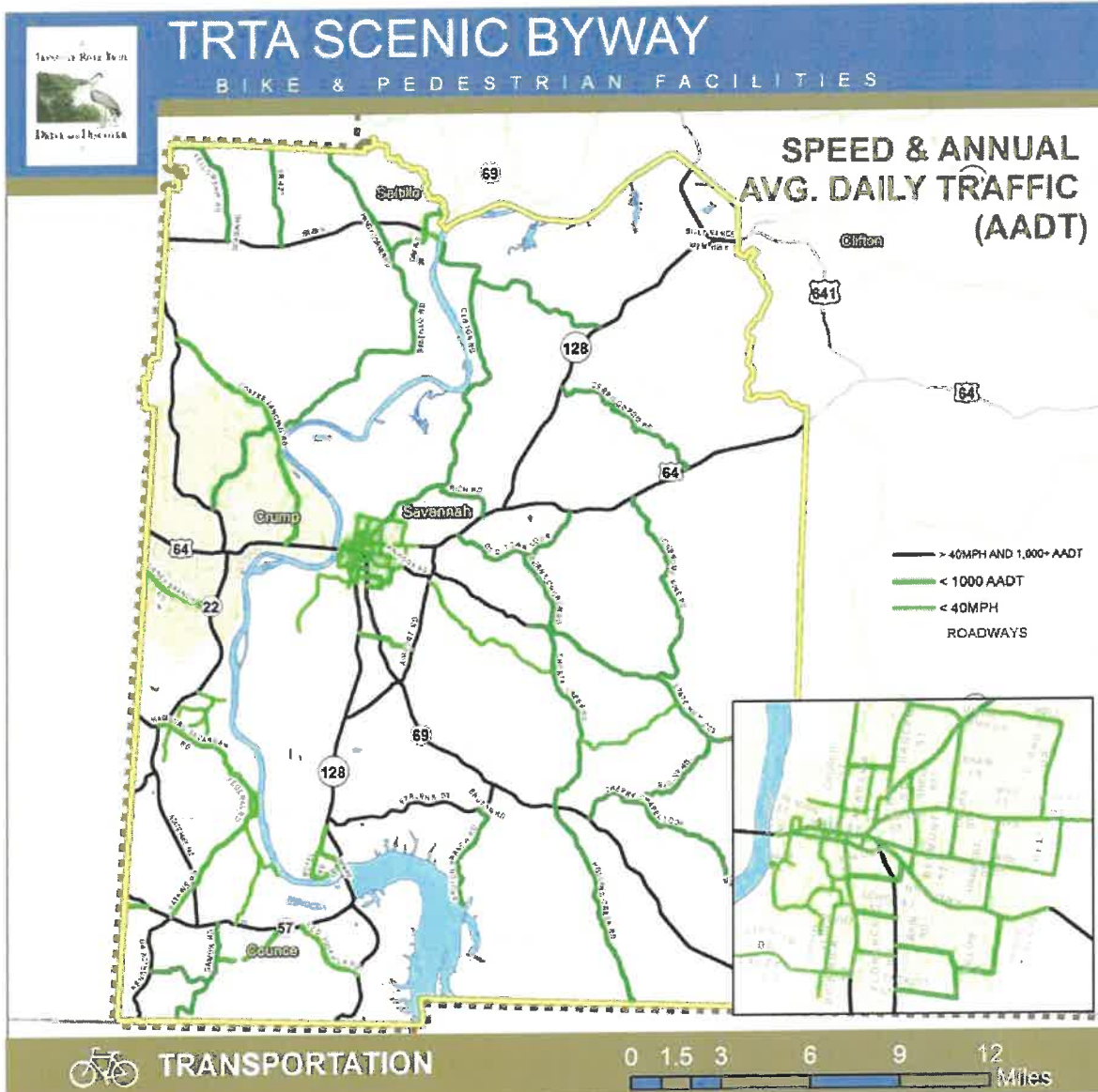
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Speed and Average Annual Daily Traffic (AADT)

Posted speed limits and traffic volumes are two of the most important roadway elements for cyclists determining preferred routes. The map in Figure 47 illustrates roadways with a posted speed less than 40 mph as well as those with less than 1,000 vehicles per day. Total mileage for the county broken down by these attributes is displayed in Table 21. TDOT traffic count station data was used when available, however, volume assumptions were assigned for roadways lacking count data based on averages experienced across similar roadways in the county.

	MILES WITH AADT <1,000	ROADWAYS WITH NO COUNT DATA BUT LIKELY LOW VOLUMES	TOTAL MILEAGE-LOW VOLUME ROADWAYS	SPEED LIMIT LESS THAN 40 MPH (TRIMS+INVENTORY)
HARDIN	158	730	888	87

Table 21 Hardin County Speed Limit and AADT Mileage Data



LEGEND

- MUNICIPALITIES
- HARDIN COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HARDIN COUNTY

Figure 47 Hardin County Speed Limit and AADT Data

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

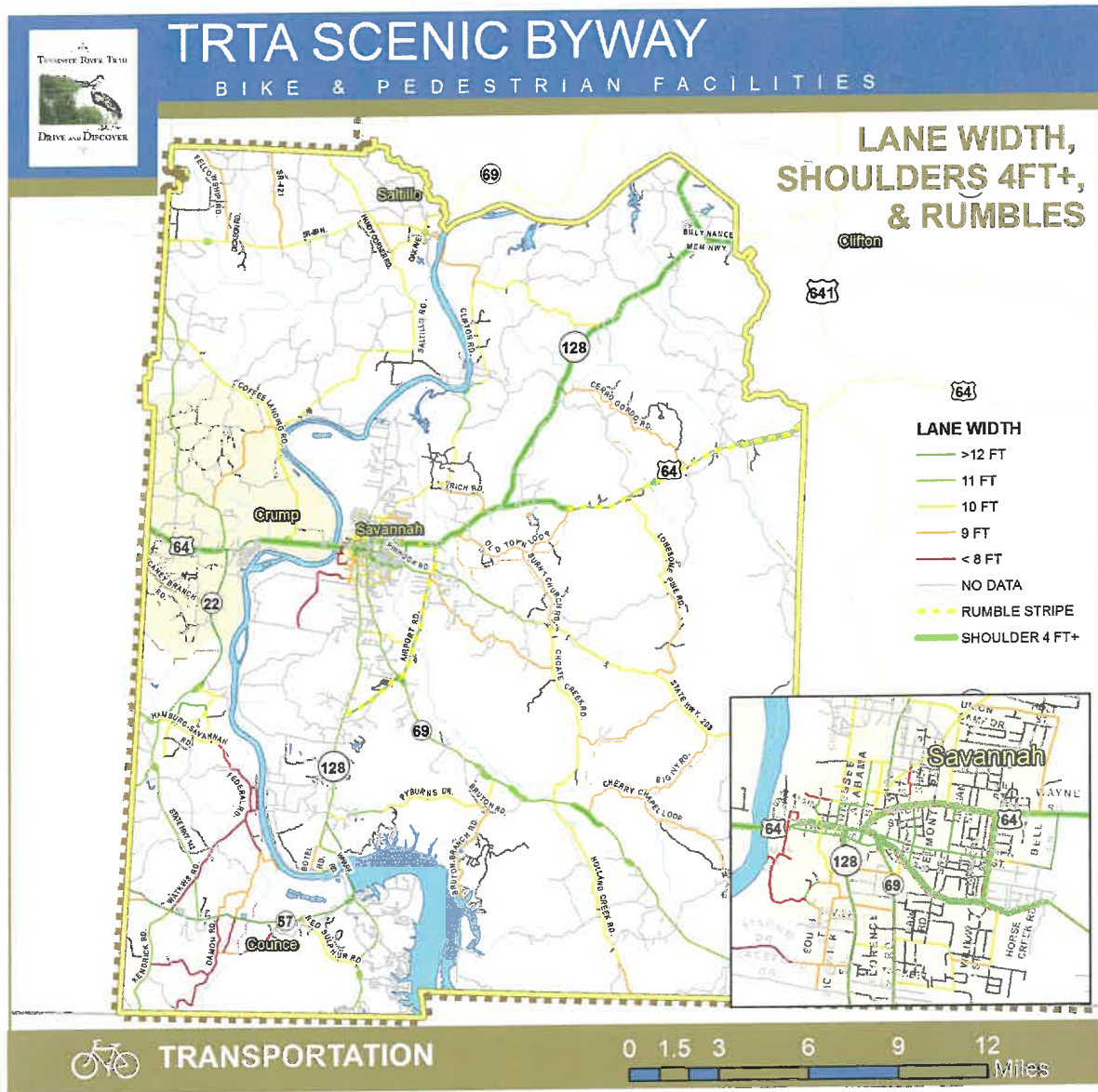
Lane Widths and Shoulders

Lane widths, and especially the presence of shoulder facilities, are two additional roadway elements critical for bicycle route planning. Depending upon an individual’s ability and comfort levels, shoulder width can be a sole determination for a preferred route, regardless of the road’s speed limit and traffic volumes. Hardin County lane widths, shoulders, and rumble strips are illustrated in Figure 48 and described in Table 22.

	LAND WIDTH 12+	SHOULDERS 4FT+	RUMBLE STRIP/STRIPE
HARDIN	72	38	16

Table 22 Hardin County Lane Width and Shoulder Mileage Data

4.0 EXISTING CONDITIONS



LEGEND

- MUNICIPALITIES
- HARDIN COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HARDIN COUNTY

Figure 48 Hardin County Lane Width and Shoulder Data

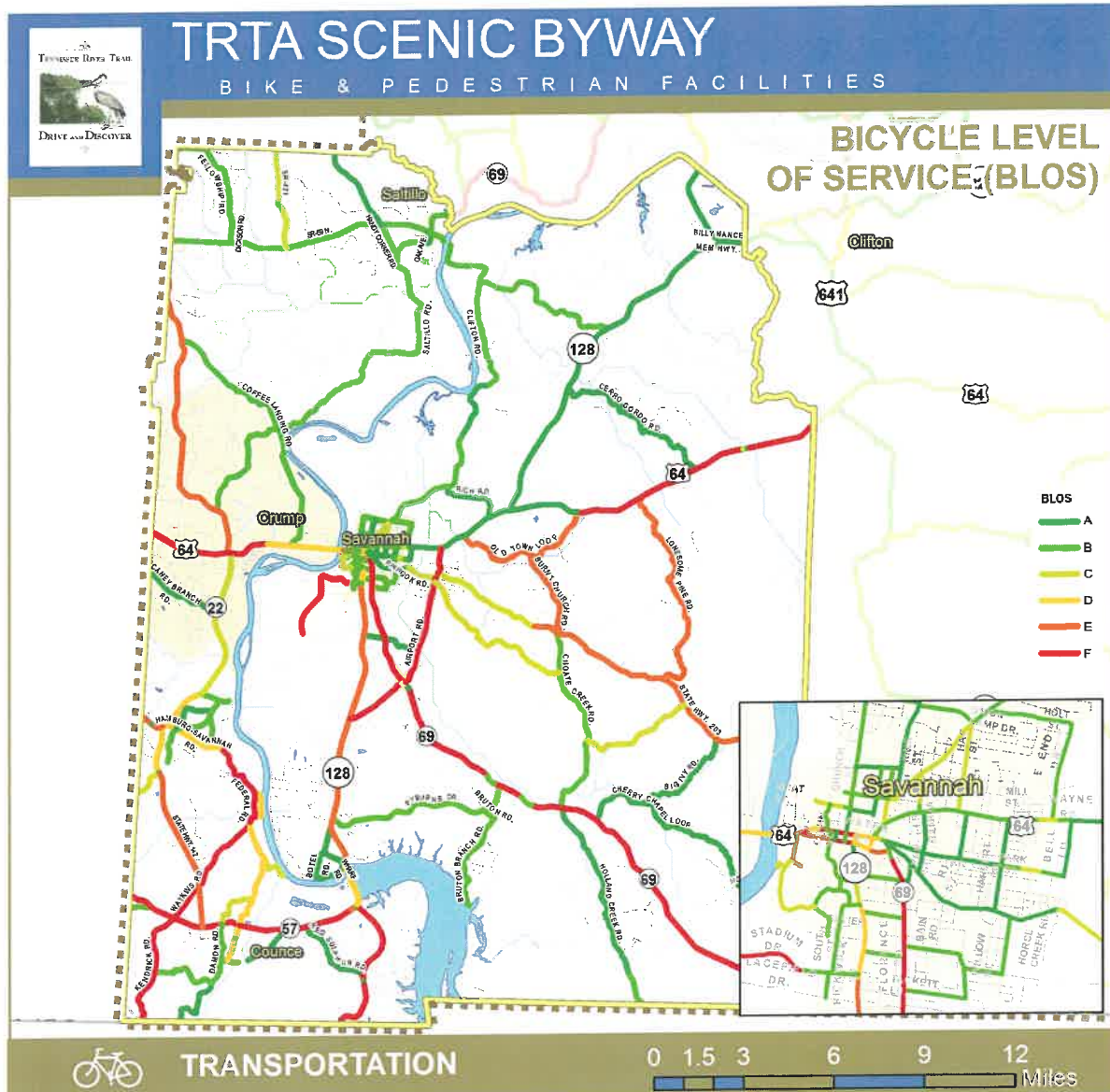
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Bicycle Level-of-Service (BLOS)

As previously mentioned, BLOS is an algorithm that uses a variety of roadway variables to help quantify a cyclist's quality of travel by scoring roadways using an A to F grading scale, A being the highest and F being the lowest. Scores A, B, and C are generally considered acceptable with greater concern for roadways assigned a D, E, or F. A score of E or F, however, does not necessarily disqualify a roadway from being a route, it just means that extra diligence is required for analyzing the safety and comfort of that roadway section. BLOS scores for Hardin County roadways are illustrated in Figure 49 and described in Table 23.

	BLOS A-C	BLOS D-F
HARDIN	213	138

Table 23 Hardin County Bicycle Level of Service Mileage



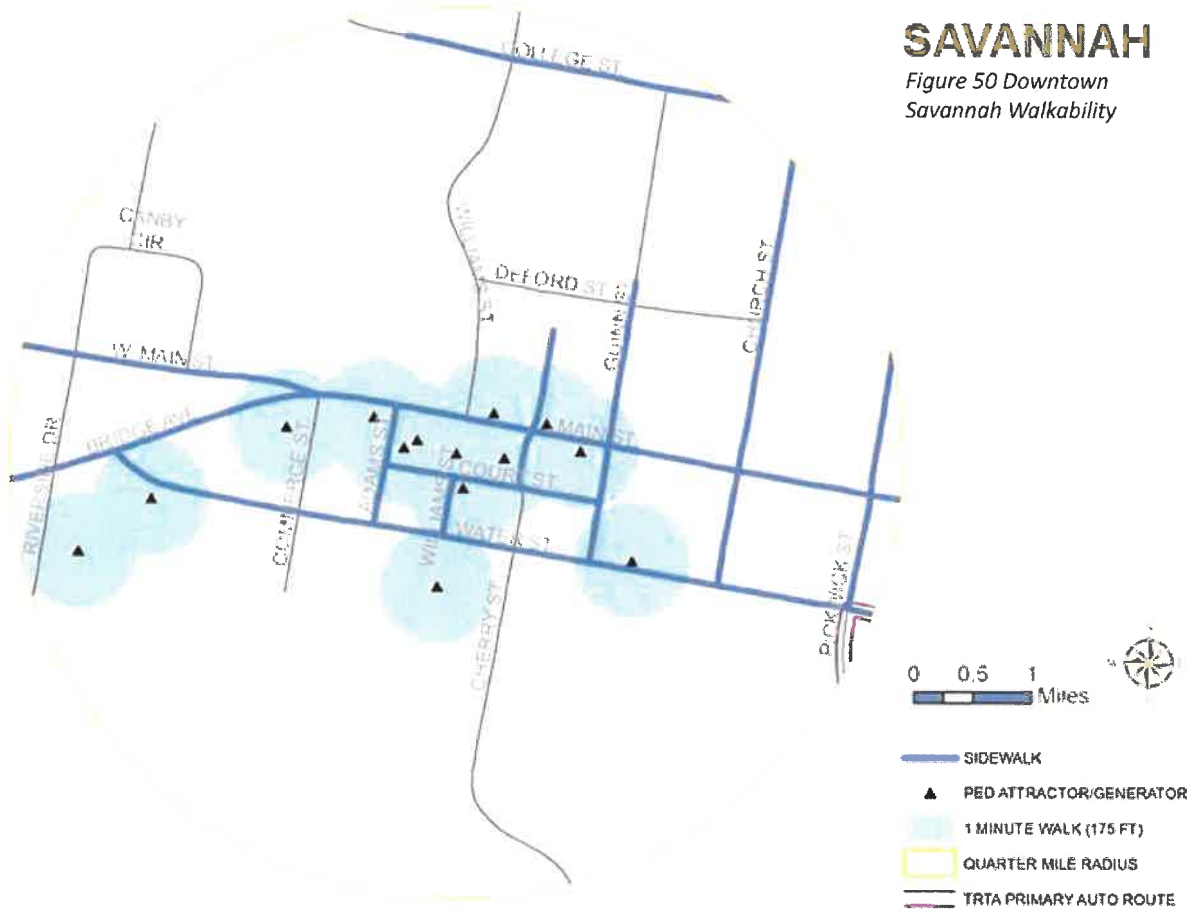
LEGEND

- MUNICIPALITIES
- HARDIN COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HARDIN COUNTY

Figure 49 Hardin County Bicycle Level of Service



SAVANNAH

Figure 50 Downtown Savannah Walkability

SAVANNAH SIDEWALKS	
MILES OF ROADWAY WITH A SIDEWALK ON AT LEAST ONE SIDE IN DOWNTOWN SAVANNAH (SHOWN IN FIGURE 50) - MILEAGE TOTAL	2.2 MILE (23% ON STATE ROUTES)
MILES OF ROADWAY WITH A SIDEWALK ON AT LEAST ONE SIDE IN SAVANNAH – MILEAGE TOTAL	6.9 MILES (41% ON STATE ROUTES)

Table 24 Savannah Sidewalk Mileage

Each county's largest community, typically the county seat, acts as a destination for tourists and residents. Providing walkable environments within these communities is an important component to supporting the TRTA's overall economic development, tourism, and livability goals, as well as the recommendations of this plan. Figure 50 illustrates roadways that have a sidewalk on at least one side of the roadway within a quarter mile radius from the county courthouse (except for Parsons, which uses the main downtown intersection). Pedestrian attractors and generators, such as parks, civic buildings, and other retail and restaurant destinations, are shown in order to demonstrate the existing level of connectivity provided by sidewalk infrastructure relative to locations where pedestrian activity is likely. This information provides communities with a basic understanding of where future sidewalk investments may be most beneficial within the downtown.

PROFILE

CONCLUSIONS

HARDIN COUNTY

Hardin County is the second largest county, encompassing some 577 square miles, in the TRTA region. The county has a number of the region's important destinations, including Shiloh National Battlefield, Pickwick Landing State Park, Pickwick Lake, the Tennessee River Museum, and the historic town of Savannah. An added benefit is that these destinations are concentrated in the central and southwestern areas of the county and be accessed from an approximate 30 mile loop using various State and U.S. Highway facilities, including Highways 128, 22, and 69. Several marinas and a state park just over the Mississippi state line additionally act as attractions for county visitors and residents. Although outside of the TRTA region, connections to these destinations should be taken into consideration when planning for cyclist activity in that portion of the county.

U.S. Highway 64 and State Highways 69, 128 (south of Savannah), and 57 carry the highest average traffic volumes in the county. Of these high traffic portions, U.S. Highway 64 is the only that has comfortable shoulder widths for riding, with exception of the portions within Savannah and Crump where shoulders are replaced with curb and gutter. Cycling conditions along Highway 22, 57, and 69 can be especially treacherous for riders given limited shoulder widths and higher volumes of traffic and speeds. Highway 57 west of Pickwick Dam has an added barrier to cycling comfort given a high volume of truck traffic generated from the large containerboard mill in Counce. Given the importance of this highway in connecting two major regional destinations, increasing the safety and comfortability for non-motorized users along this corridor is especially warranted.

The Tennessee River bottomlands between Savannah and Pickwick Dam provide a unique riding opportunity in the county. Approximately 35 miles of gravel roadway exists in this remote and scenic setting west of Highway 128. This provides excellent opportunity for new cyclists seeking to ride in a virtually traffic-free environment, while also drawing riders particularly interested in riding gravel and dirt roads.

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HENRY COUNTY



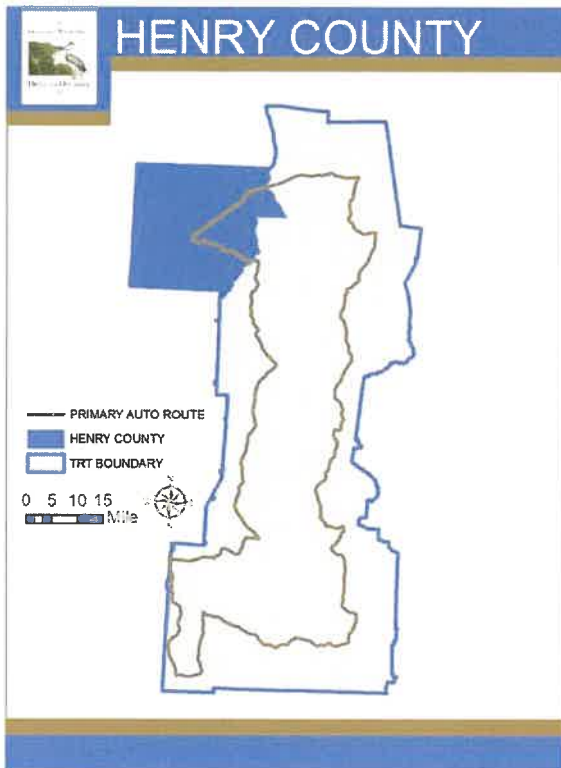


Figure 51 Henry County's Location within TRTA Region

4.4.4. Henry County

Henry County, Tennessee is located in the northwestern section of the TRTA Region as illustrated in Figure 51. The county has approximately 32,330 residents who are generally older and less diverse as compared to the state's averages (displayed in Table 25). Paris is the county seat.

	HENRY COUNTY	TRTA REGION	TENNESSEE	SOURCE
County Seat	Paris	-	-	-
Land Area (sq mi)	562.1	4,207	41,235	U.S. Census 2010
Water Area (sq mi)	31.3	179.2	909.4	U.S. Census 2010
County Population (2010)	32,330	151,826	6,346,105	U.S. Census 2010
County Population (2014 Estimate)	32,293	151,075	6,451,365	ACS 2014
Persons Younger than 18 Years	21.2%	21.1%	23.1%	ACS 2014
Persons 65 Years and Over	20.1%	19.1%	14.2%	ACS 2014
Percent Minority	10.4%	6.7%	21.8%	ACS 2014
Percent Households Living Below Poverty Line (below \$25,000 for family of four)	19.1%	20.1%	16.6%	ACS 2014
Percent Households Living With No Vehicle	8.0%	6.1%	6.4%	ACS 2014
Adventure Tourism District	-	-	-	-
TN River Resort District	Yes	-	-	-

Table 25 Henry County Overview

4.0 EXISTING CONDITIONS

Destination Mileage

Table 26 following consists of mileage between various communities and key destinations within in the county. Mileage was calculated using Google Map’s bicycle routing feature. Information may be especially useful for trail publication materials as well as providing a general understanding of cycling distances within the county.

	Big Sandy (Benton)	NWR Visitors Center	Paris	Paris Landing SP	Stateline Old Paris-Murray RD
Big Sandy (Benton)		13.1	15.9	21.4	29.2
NWR Visitors Center	13.1		12.8	13.2	24.6
Paris	15.9	12.8		17.4	15.4
Paris Landing SP	21.4	13.2	17.4		17.7
Stateline Old Paris-Murray RD	29.2	24.6	15.4	17.7	

Table 26 Henry County Riding Milages

Climate

Climate data, displayed in Figure 52, can influence information contained in trail guide materials, such as the types of gear that may be needed for touring cyclists, as well as provide a helpful tool when planning cycling events.

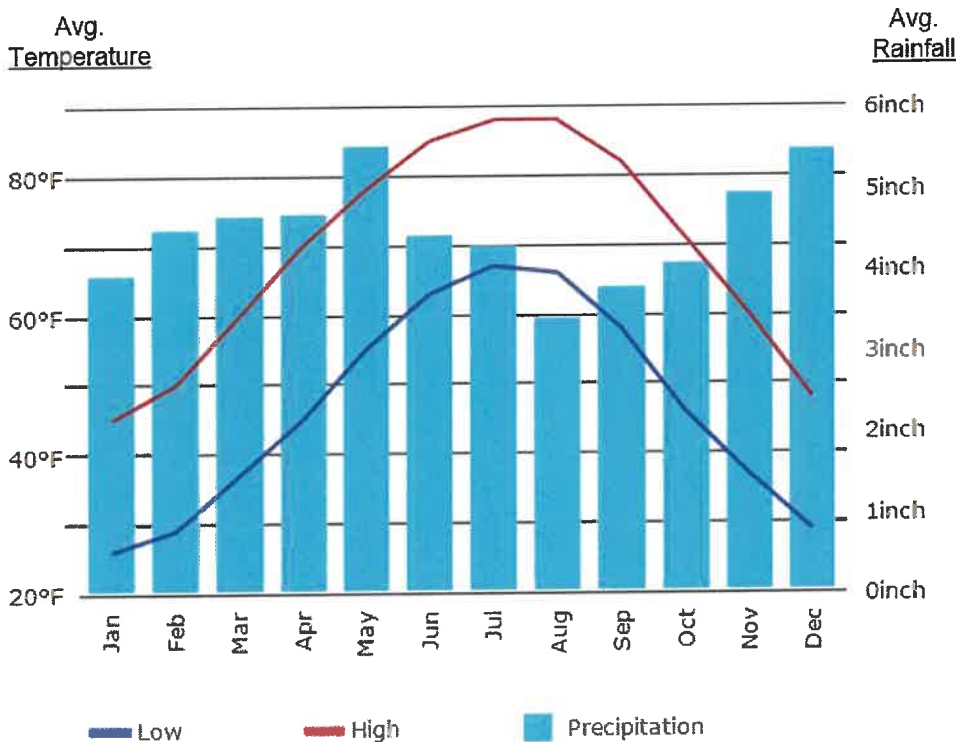


Figure 52 Henry County Climate Data
Source: www.usclimatedata.com

Demographics

Households with No Access to a Vehicle and Living below Poverty Line

Households without access to a vehicle, as well as those living below the poverty line (\$25,000), are more likely to rely upon non-motorized transportation. Figure 53 contains a Demographic Map Series that illustrates the County's distribution of these demographic groups by Census Block. Understanding where these households are generally located within a county can help to prioritize improvements by ensuring public investments meet the needs of those that especially are impacted. Overall, 5.4% of Henry County households do not have access to a vehicle, while 17.9% live below the poverty line, as compared to Tennessee's respective 6.4% and 16.6%.

Percentage of Non-Active Adults and Adults with Access to Exercise Opportunities

Tennessee's high rates of lifestyle-related diseases and conditions has prompted the Tennessee Department of Health to shift its traditional philosophy of treatment to a preventative one. This strategy centers upon enabling residents to make more active and healthy lifestyle choices, including walking and biking. County Health Rankings is a national data resource the Department uses to assist in tracking various health measures that are influencing Tennesseans' length and quality of life, including percent of adults that report no leisure-time physical activity and the percentage with access to exercise opportunities. These points of data, as well as a variety of additional measures, such as access to health care, tobacco use, and income, yield a health factor score that provides a basic understanding of elements contributing positively or negatively to health in each county. Counties with especially poor health can now qualify for new Department of Health programs that provide funding assistance for sidewalk and greenway projects.

Henry County's 2016 Health Factor score ranking is 49th out of Tennessee's 95 counties. 39% of residents were considered as inactive, while 39% of Henry County residents had reasonable opportunities for physical activity as illustrated in Figure 53. Thirty six percent of residents met the criteria for being obese according to County Health Rankings. Table 27 illustrates the county's historic obesity levels as compared to the state of Tennessee and the United States.

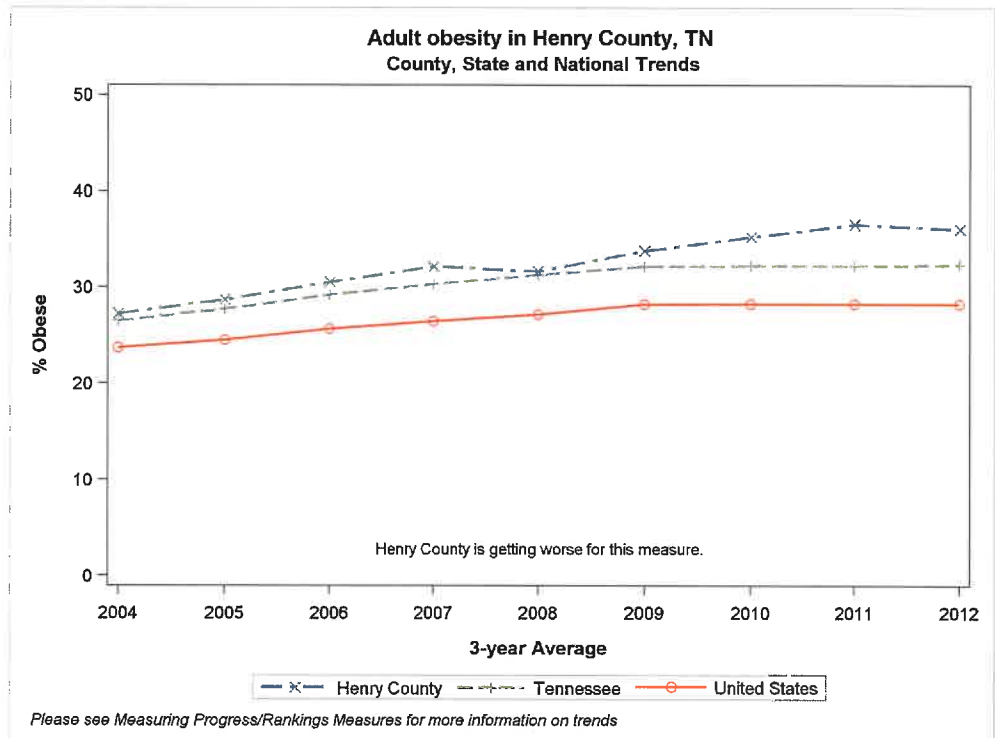
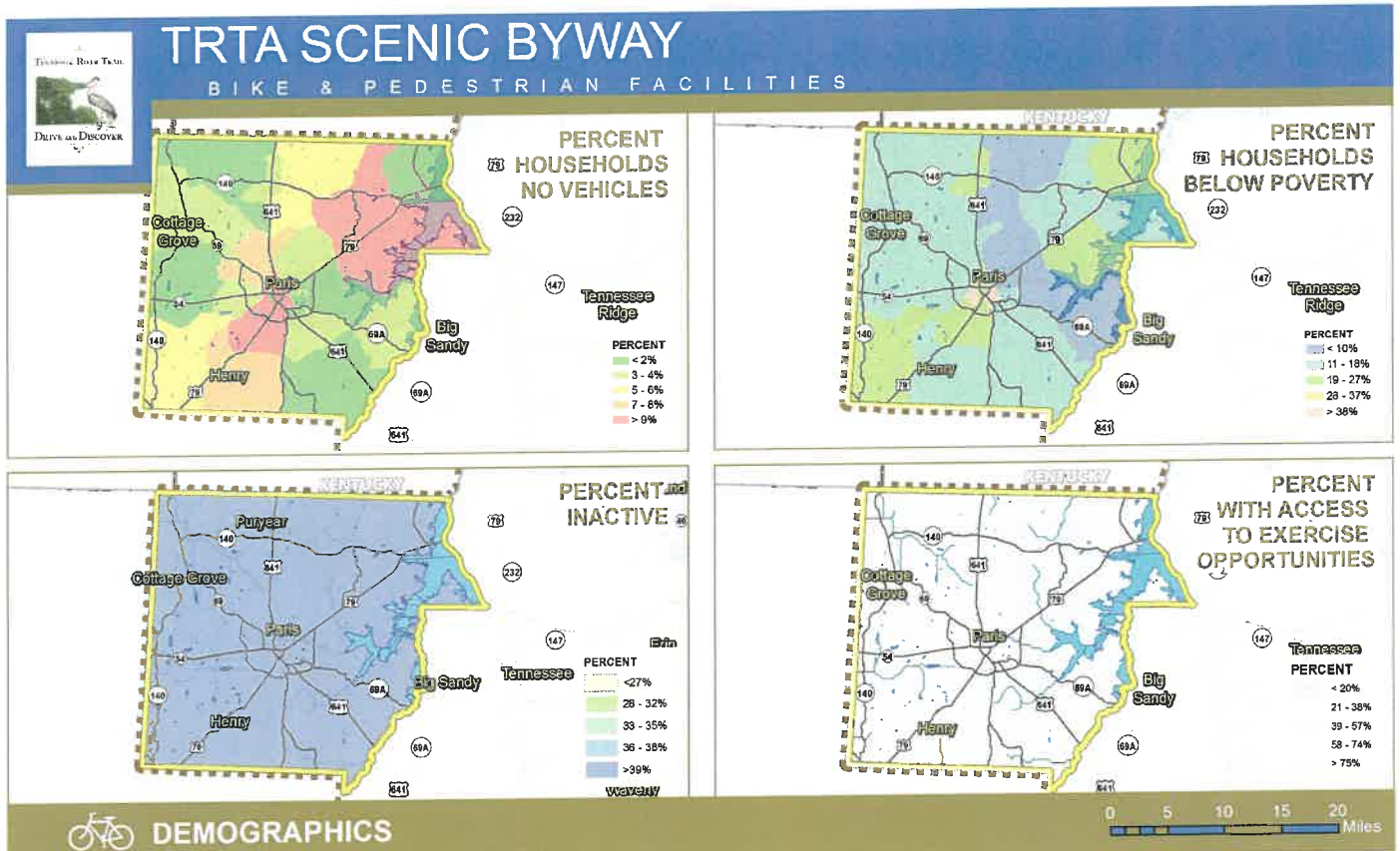


Table 27 Henry County Obesity Levels



LEGEND

- HENRY COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- INTERSTATE
- COUNTY BOUNDARY
- STATE ROUTES



HENRY COUNTY

Figure 53 Henry County Demographic Map Series

Environment

Ecoregions and Land Cover

According to the United States Geological Survey (USGS), ecoregions denote areas of similarity in ecosystems as well as the type, quantity, and quality of environmental resources. There are three ecoregions with the TRTA region:

-Interior Plateau: According to the USGS, this ecoregion is characterized by a series of grassland plateaus and forested uplands, with Oak-Hickory stands being the most common forest type. The relatively flat nature and fertile lowlands particularly attracted early settlement and agriculture uses in this eco-region, the TRTA region's largest.

-Mississippi Valley Loess: Irregular plains primarily characterize this ecoregion's topography, which is only found in the northwestern portion of Henry County. Its distinguishing characteristic is the thick, highly erodible loess deposits (top soil). While these soils are often poor in nutrients and organic matter, the use of fertilizers allow lands to be easily cultivated.

-Southeastern Plains: This expansive ecoregion is characterized by relatively flat plains as well as croplands, forests, and wetlands. Although growing seasons are long and precipitation is abundant, relatively poor sandy soils limit agriculture uses as compared to other regions. Once covered in natural forests, heavily managed timberlands (largely pine plantations) now are prevalent, which poses a risk to cyclists given the amount of logging truck activity.

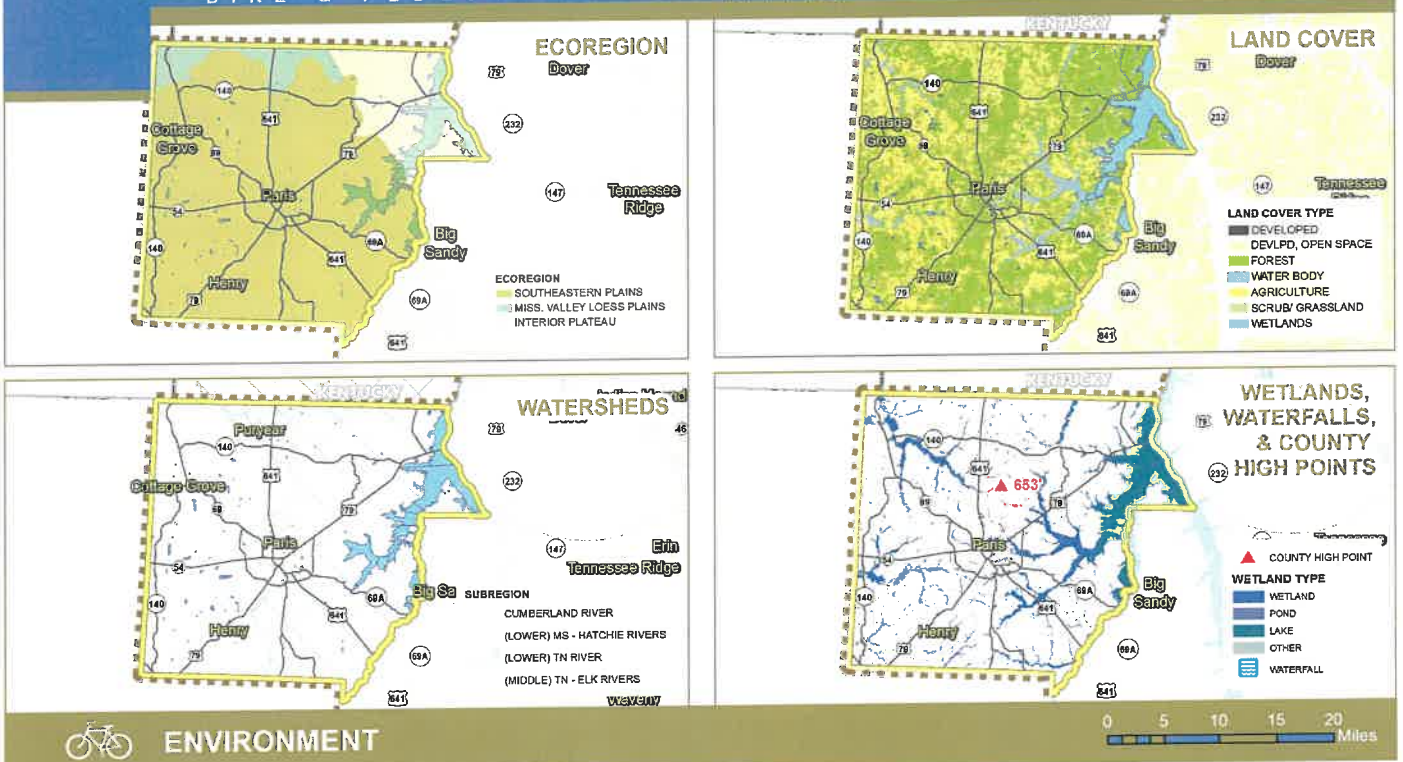
Henry County is made up of two ecoregions, Southeastern Plains and Interior Plateau, as illustrated in Figure 54. Except for impacts from human activity (i.e. land use), ecoregions inform the types of vegetation found at the Earth's surface. Land cover is relevant to bicycle route planning in terms of evaluating the general types of land uses or environment types a route might pass through, as well as the likeliness (although at a high level) for tree coverage along a desired route. Benton County's land cover is also illustrated in Figure 54.

Watersheds and Wetlands, Waterfalls, and County High Points

Watersheds refer to the land area by which surface water drains into a given body of water. These hydrological units are commonly associated with water quality and water management plans. Watershed boundary information, wetlands, and waterfalls are relevant to both route planning, the development of supportive route materials, as well as providing information to assist the region in protecting the health of its water bodies through increased resident awareness of the water cycle and its processes. These hydrological features as well as the county's high point are illustrated in Figure 54.

TRTA SCENIC BYWAY

BIKE & PEDESTRIAN FACILITIES



ENVIRONMENT

LEGEND

- HENRY COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- INTERSTATE
- COUNTY BOUNDARY
- STATE ROUTES



HENRY COUNTY

Figure 54 Henry County Environment Map Series

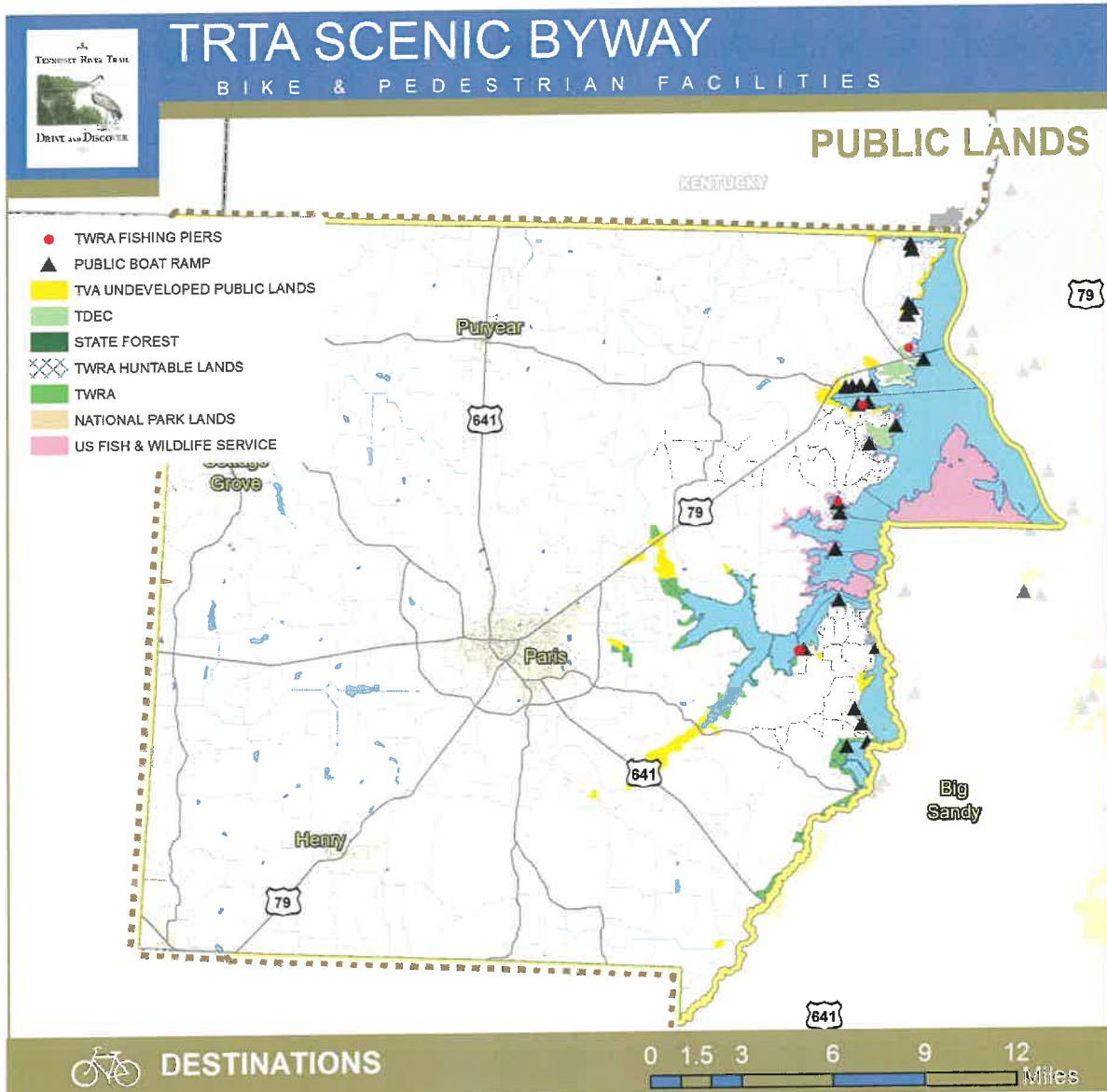


Destinations

Public Lands

Public lands under the management of state and federal agencies provide active and passive outdoor recreation opportunities in the TRTA region. Public fishing piers as well as boat ramps are included in Figure 55 to help identify further public opportunities to experience the Tennessee River. While there is an abundance of these lands, public engagement revealed that many residents are not aware of the public use rules and associated walking and biking opportunities these lands provide.

4.0 EXISTING CONDITIONS



LEGEND

- MUNICIPALITIES
- HENRY COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HENRY COUNTY

Figure 55 Henry County Public Lands

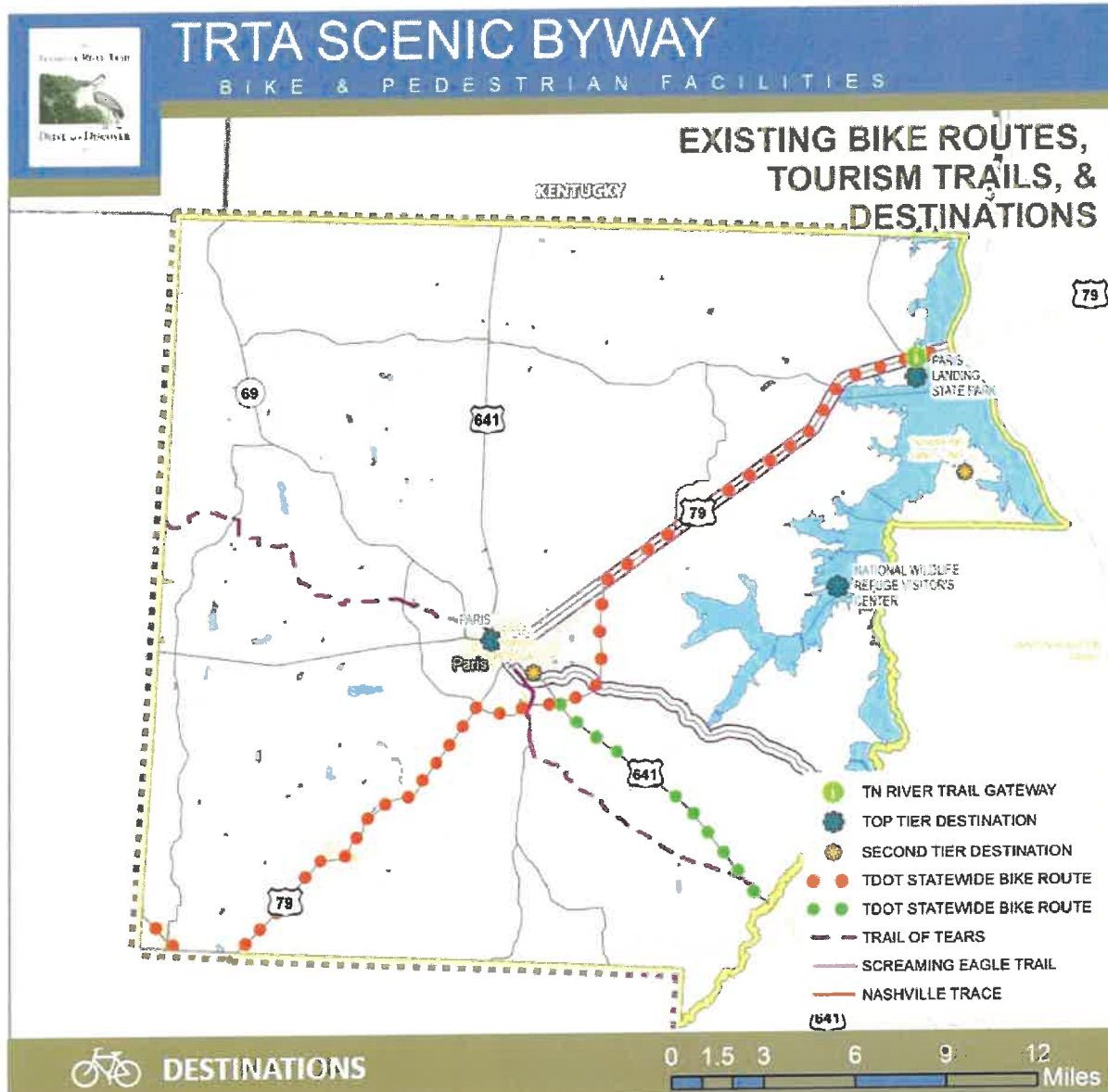


PROFILE

DESTINATIONS

Routes, Trails, and Major Destinations

A number of existing bicycle routes, tourism trails, and historic trails exist in the TRTA region. These are important for understanding how visitors are currently entering, traveling within, and exiting the region. Associated trail points-of-interest help to identify the county's destinations which are currently being marketed to tourists. For purposes of this plan and the identification of the regional route network, these destinations are broken down into primary and secondary categories. Routes, trails, and byways that pass through Henry County, as well as key points-of-interest are illustrated in Figure 56.



LEGEND

- MUNICIPALITIES
- HENRY COUNTY
- WATER BODY
- COUNTY BOUNDARY
- TRTA BOUNDARY
- TRTA PRIMARY AUTO ROUTE
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS
- PUBLIC LANDS



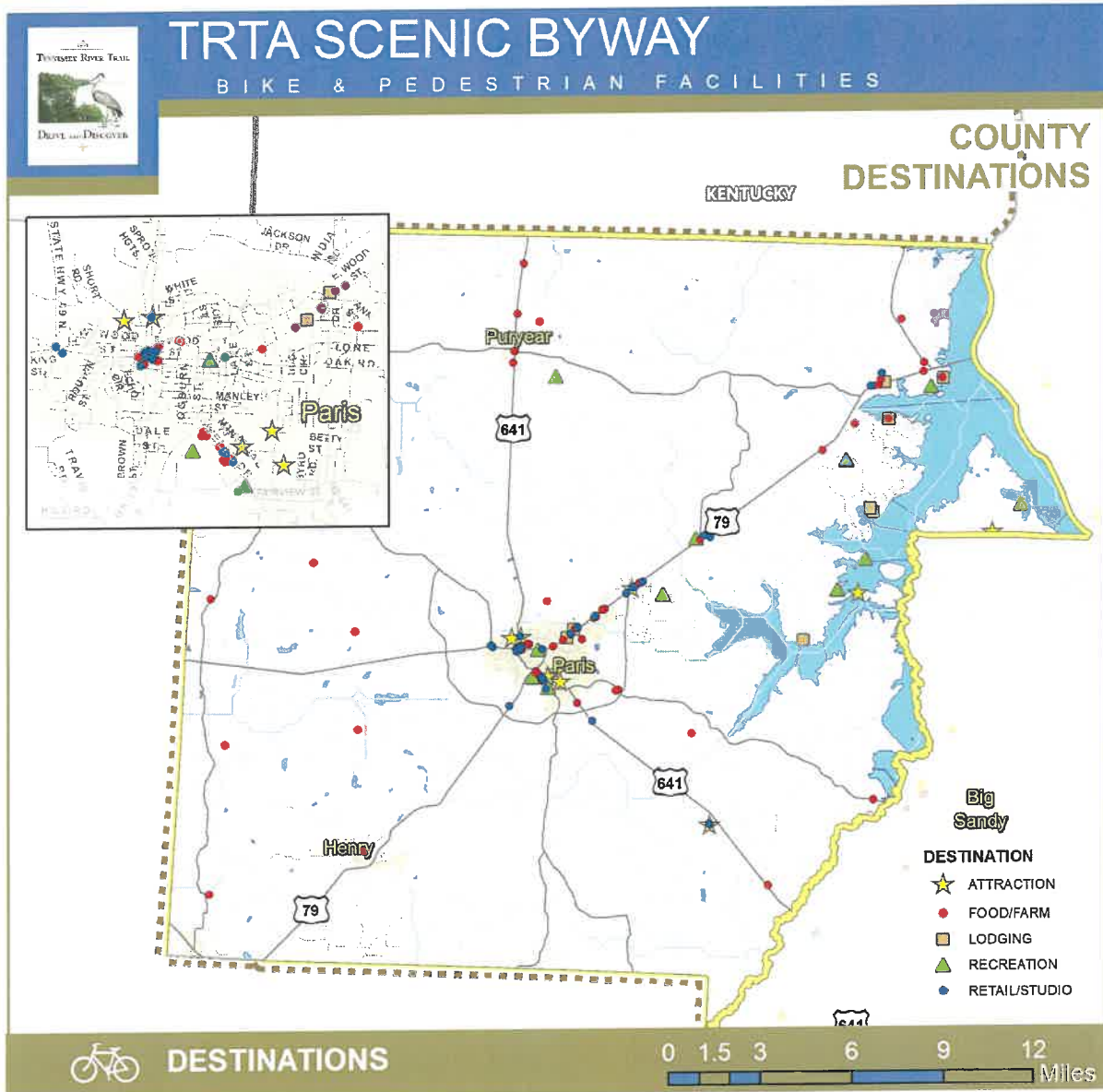
HENRY COUNTY

Figure 56 Henry County Routes, Trails, and Major Destinations



County Destinations

In the early stages of the plan's development process, destinations including lodging, dining, retail, and recreation opportunities were geo-coded for each county. These destinations, shown in Figure 57, are relevant for understanding the level of support a county provides tourists, pedestrian connectivity in TRTA communities, and the identification of a recommended route network.



LEGEND

- MUNICIPALITIES
- HENRY COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS
- INTERSTATE



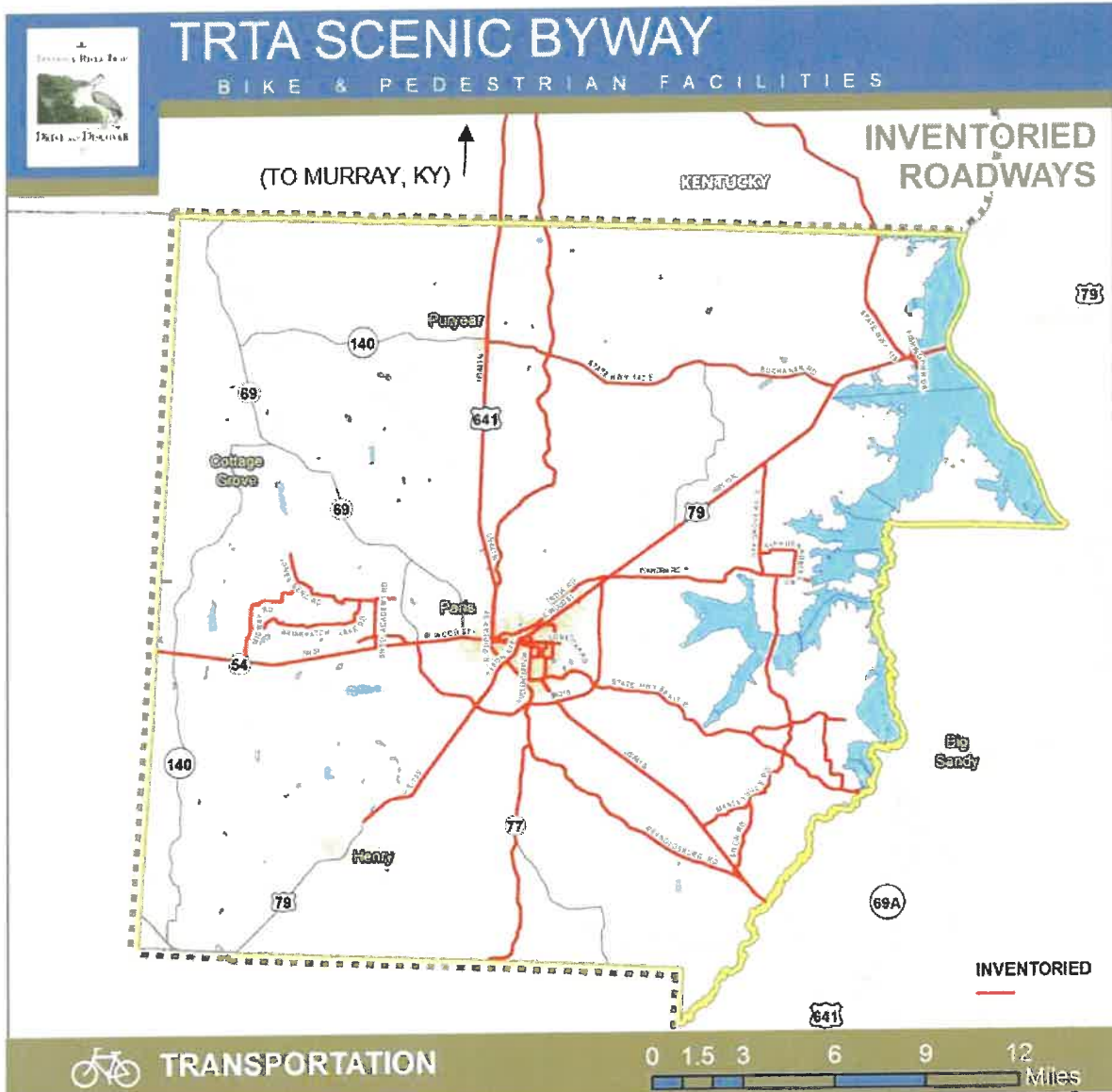
HENRY COUNTY

Figure 57 Henry County Destinations

Transportation

Information contained in this section consists of data gathered from both TDOT, as well as the plan's field inventory. TDOT roadway data exists for functionally-classified collector roadways and above, meaning no data exists for those classified as local. As such, it should be noted that maps in this section reflect available data. Of Henry County's approximate 1,125 miles of roadway, 202 miles (18%) were inventoried (illustrated in Figure 58).

4.0 EXISTING CONDITIONS



LEGEND

- MUNICIPALITIES
- HENRY COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HENRY COUNTY

Figure 58 Henry County Inventoried Roads

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

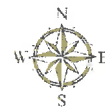
Functional Classification

According to the Federal Highway Administration (FHWA), there are three main roadway functional classifications, including arterials, collectors, and locals. Classifications are determined by the level of traffic service that the roadway is intended to provide, which includes degree of land access and traffic characteristics. Arterials are intended for long-distance travel and, therefore, are often associated with higher traffic volumes and speed limits, whereas local roads are intended for a high degree of local accessibility meaning speed limits and traffic volumes are often low. Collectors provide a balance between the two types, especially emphasizing connections to residential areas. The functional classification of roadways for Henry County, as well as those that have gravel surfaces, are illustrated in Figure 59.



LEGEND

- MUNICIPALITIES
- HENRY COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HENRY COUNTY

Figure 59 Henry County Functionally-Classified and Gravel Roads



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

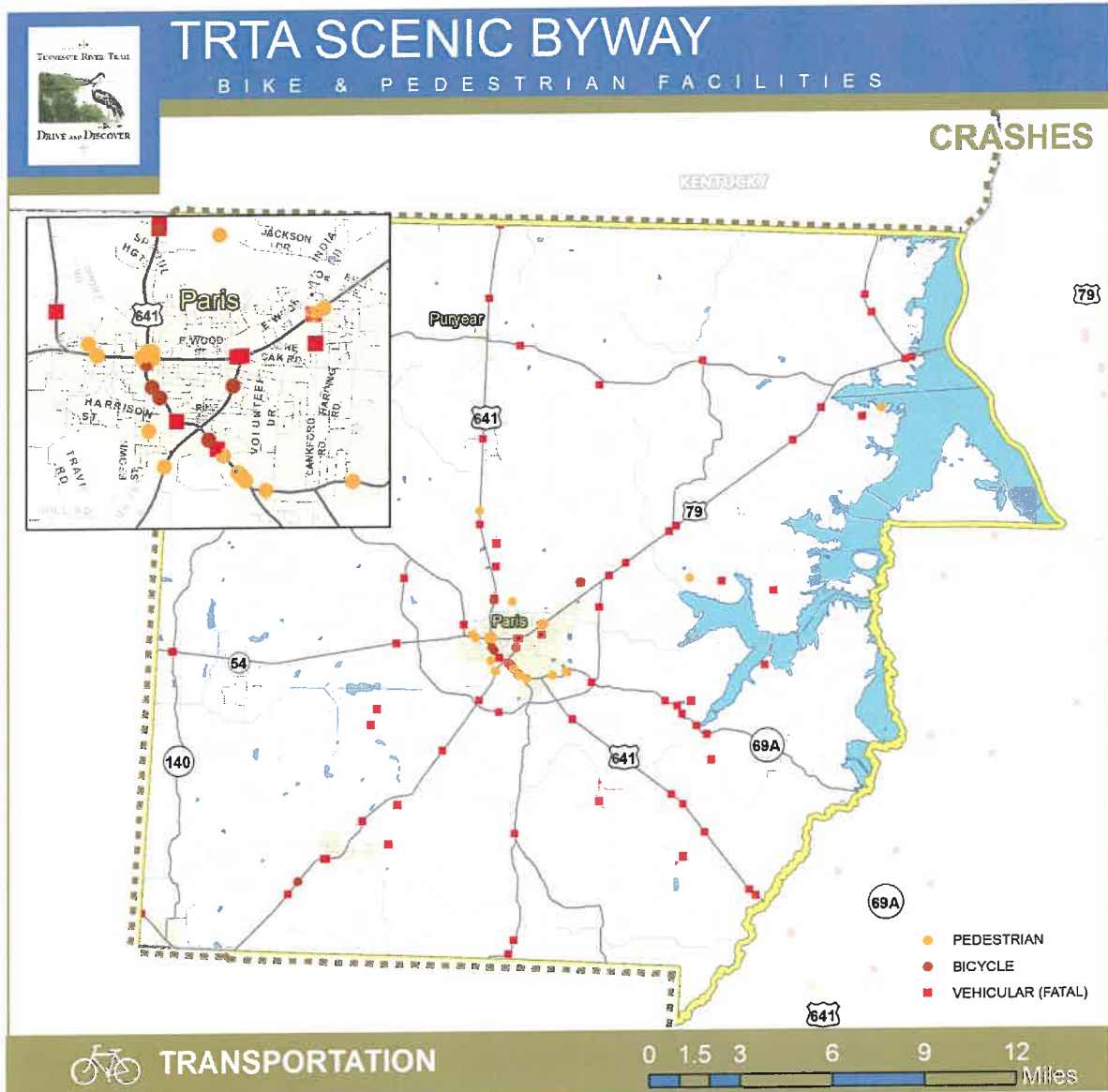
Crashes

An important component in route planning, crash data illustrated in Figure 60 includes pedestrians, bicyclists, and fatal vehicular crashes that have occurred in the past 10 years in the county. In addition, Table 28 describes the numbers of these crashes. TDOT's numbers do not include those occurring on parking lots and private property as well as those with less than \$400 in damage.

	PED	BIKE	VEHICLE (FATAL)
HENRY	30 (1 FATAL)	11 (2 FATAL)	82

Table 28 Henry County Crashes (2006-2016)

4.0 EXISTING CONDITIONS



LEGEND

- MUNICIPALITIES
- HENRY COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HENRY COUNTY

Figure 60 Henry County Crashes



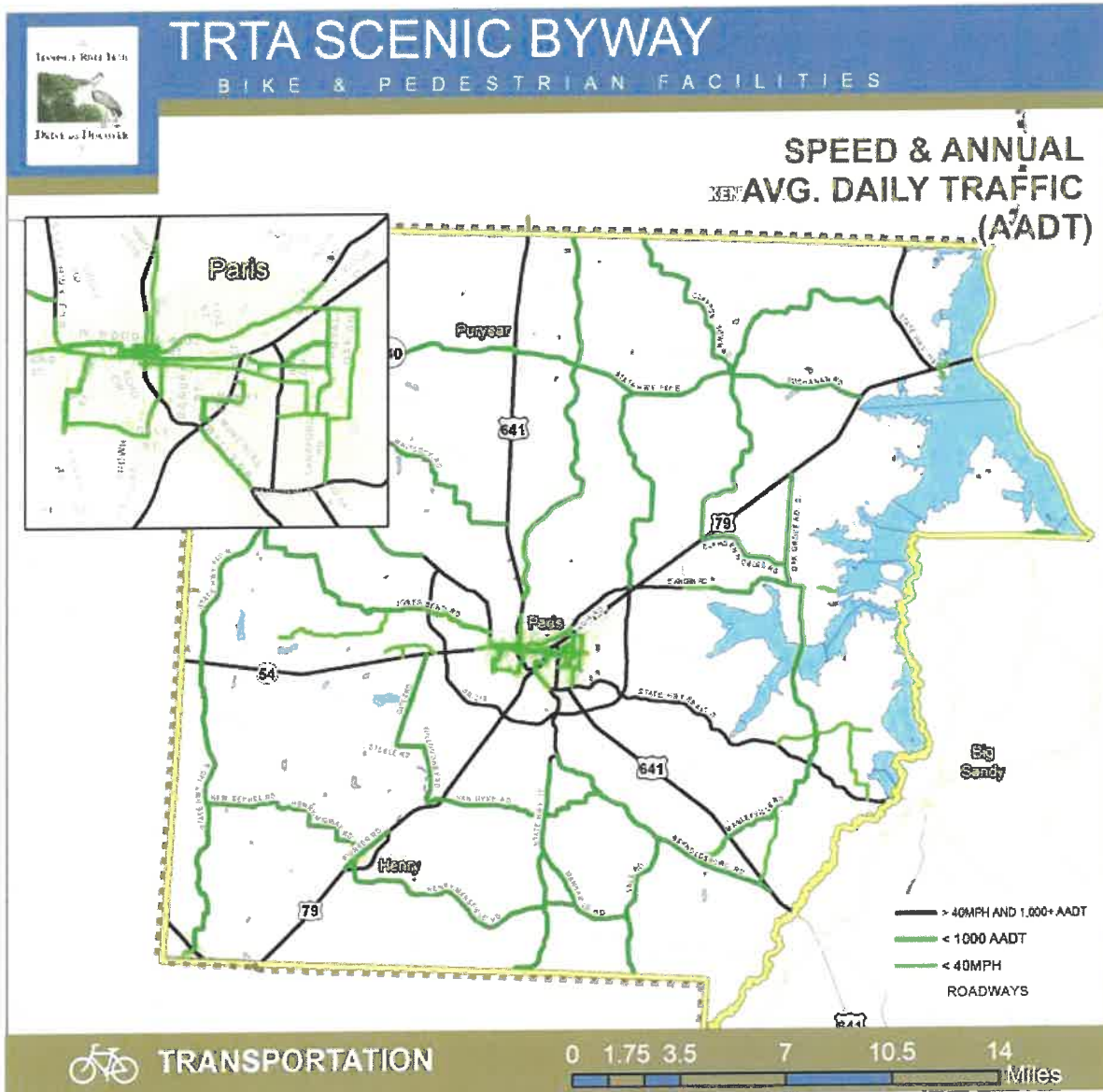
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Speed and Average Annual Daily Traffic (AADT)

Posted speed limits and traffic volumes are two of the most important roadway elements for cyclists determining preferred routes. The map in Figure 61 illustrates roadways with a posted speed less than 40 mph as well as those with less than 1,000 vehicles per day. Total mileage for the county broken down by these attributes is displayed in Table 29. TDOT traffic count station data was used when available, however, volume assumptions were assigned for roadways lacking count data based on averages experienced across similar roadways in the county.

	MILES WITH AADT <1,000	ROADWAYS WITH NO COUNT DATA BUT LIKELY LOW VOLUMES	TOTAL MILEAGE-LOW VOLUME ROADWAYS	SPEED LIMIT LESS THAN 40 MPH (TRIMS+INVENTORY)
HENRY	202	798	1000	47

Table 29 Henry County Speed Limit and AADT Mileage Data



LEGEND

- MUNICIPALITIES
- HENRY COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HENRY COUNTY

Figure 61 Henry County Speed Limit and AADT Data



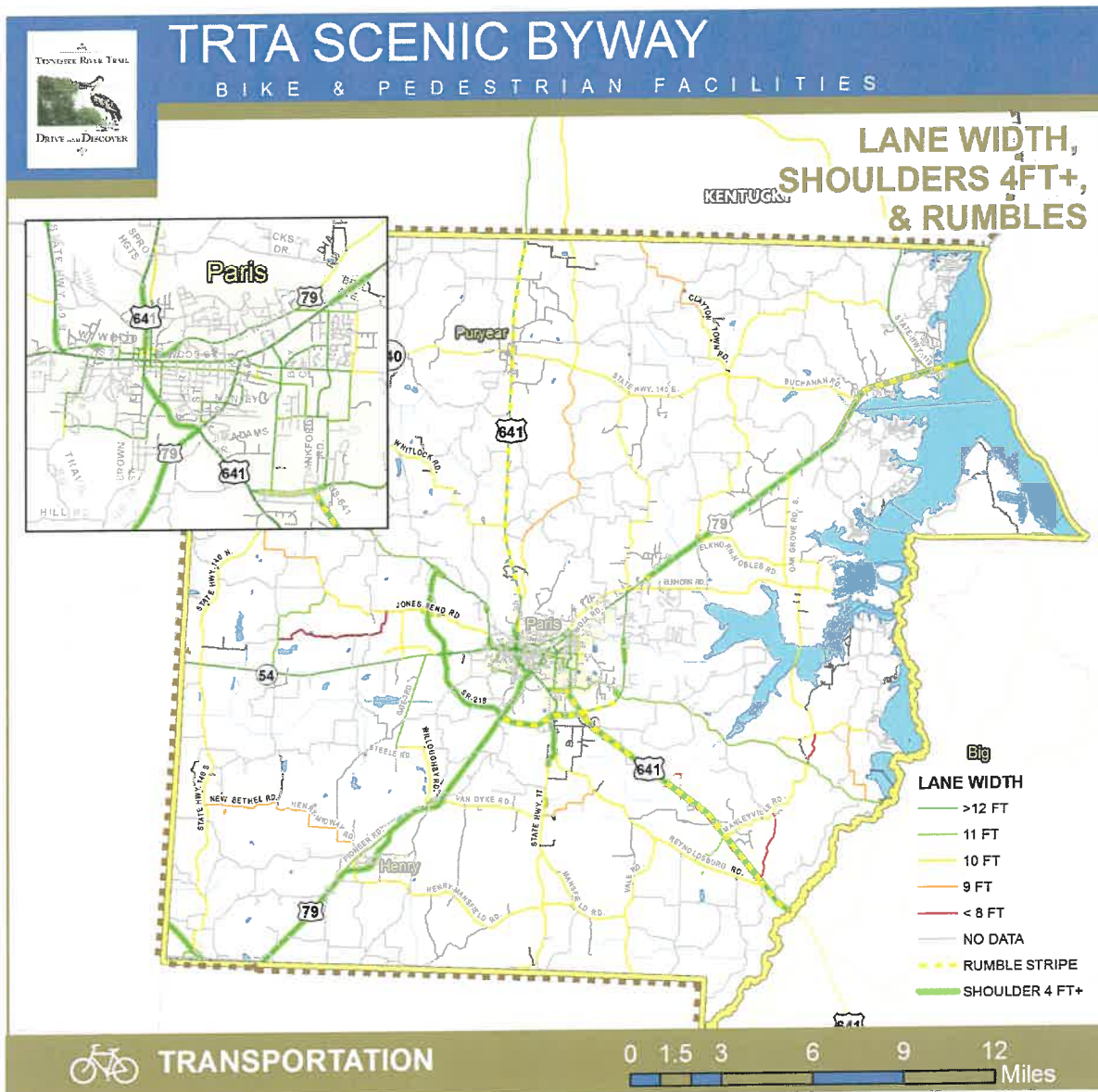
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Lane Widths and Shoulders

Lane widths, and especially the presence of shoulder facilities, are two additional roadway elements critical for bicycle route planning. Depending upon an individual's ability and comfort levels, shoulder width can be a sole determination for a preferred route, regardless of the road's speed limit and traffic volumes. Henry County lane widths, shoulders, and rumble strips are illustrated in Figure 62 and described in Table 30.

	LAND WIDTH 12+	SHOULDERS 4FT+	RUMBLE STRIP/STRIPE
HENRY	108	55	29

Table 30 Henry County Lane Width and Shoulder Mileage Data



LEGEND

- MUNICIPALITIES
- HENRY COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HENRY COUNTY

Figure 62 Henry County Lane Width and Shoulder Data



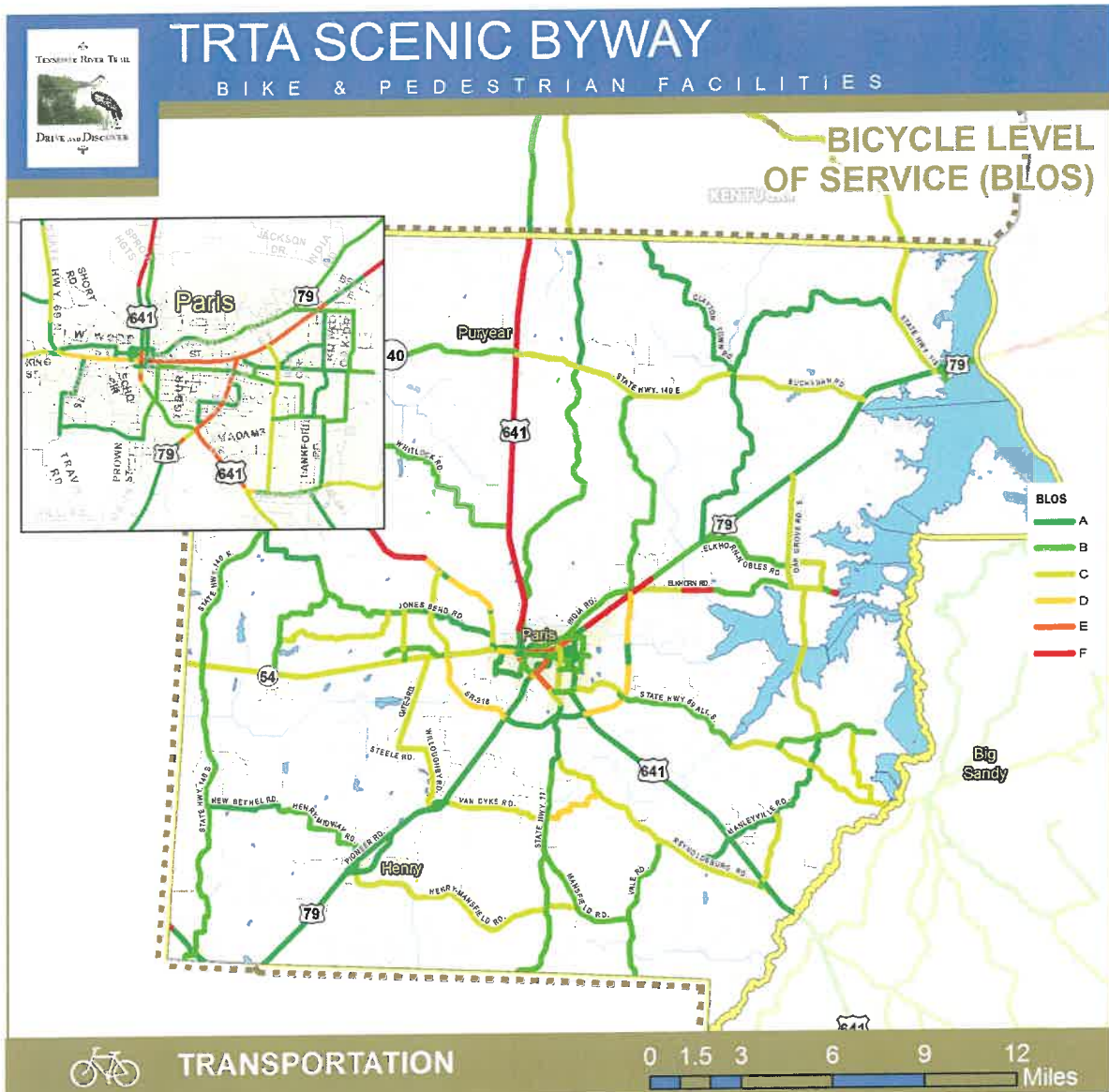
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Bicycle Level-of-Service (BLOS)

As previously mentioned, BLOS is an algorithm that uses a variety of roadway variables to help quantify a cyclist's quality of travel by scoring roadways using an A to F grading scale, A being the highest and F being the lowest. Scores A, B, and C are generally considered acceptable with greater concern for roadways assigned a D, E, or F. A score of E or F, however, does not necessarily disqualify a roadway from being a route, it just means that extra diligence is required for analyzing the safety and comfort of that roadway section. BLOS scores for Henry County roadways are illustrated in Figure 63 and described in Table 31.

	BLOS A-C	BLOS D-F
HENRY	310	48

Table 31 Henry County Bicycle Level of Service Mileage



LEGEND

- MUNICIPALITIES
- TRTA BOUNDARY
- HENRY COUNTY
- COUNTY BOUNDARY
- WATER BODY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS

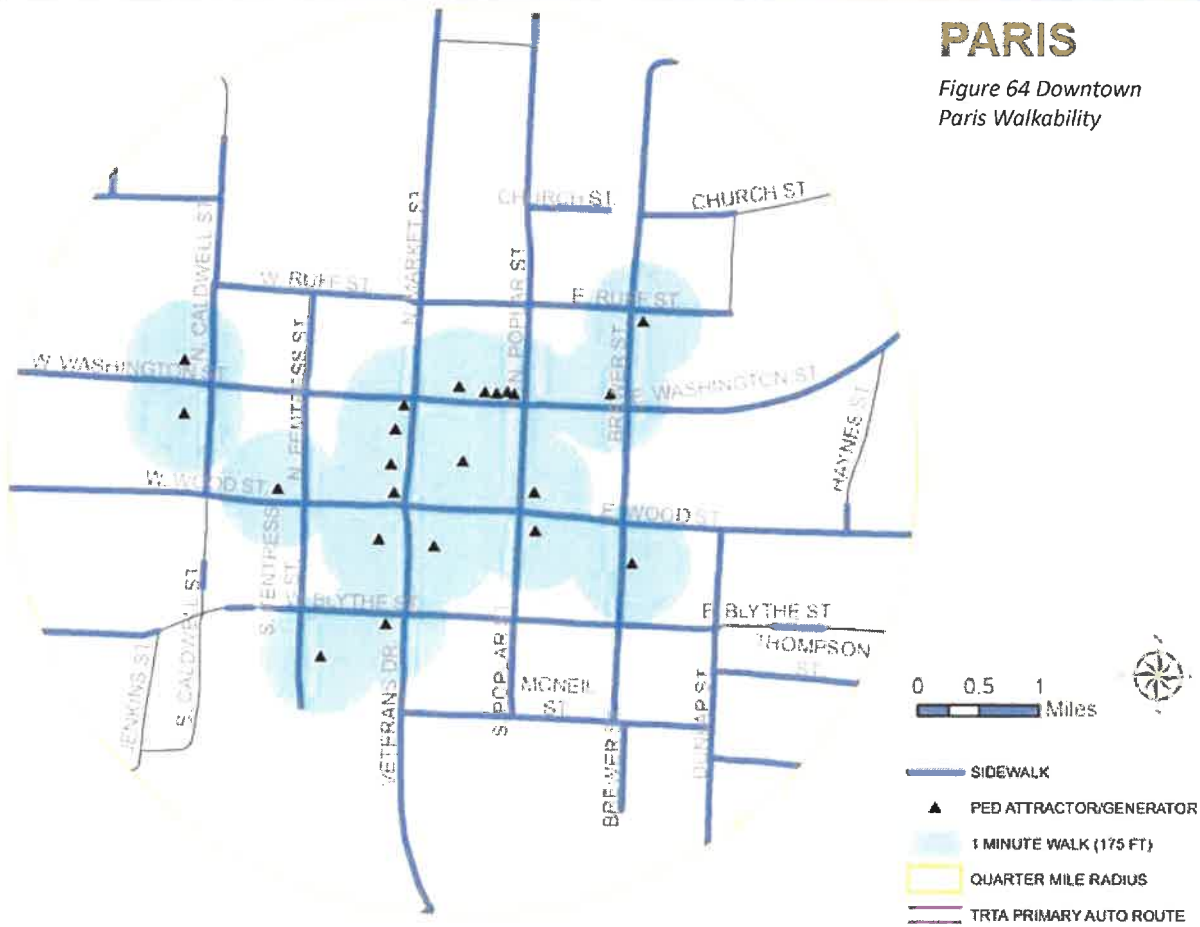


HENRY COUNTY

Figure 63 Henry County Bicycle Level of Service

PROFILE

SPOTLIGHT ON WALKABILITY



PARIS SIDEWALKS	
MILES OF ROADWAY WITH A SIDEWALK ON AT LEAST ONE SIDE IN DOWNTOWN PARIS (SHOWN IN FIGURE 64) - MILEAGE TOTAL	4.1 MILE (24% ON STATE ROUTES)
MILES OF ROADWAY WITH A SIDEWALK ON AT LEAST ONE SIDE IN PARIS – MILEAGE TOTAL	23.6 MILES (27% ON STATE ROUTES)

Table 31 Paris Sidewalk Mileage

Each county’s largest community, typically the county seat, acts as a destination for tourists and residents. Providing walkable environments within these communities is an important component to supporting the TRTA’s overall economic development, tourism, and livability goals, as well as the recommendations of this plan. Figure 64 illustrates roadways that have a sidewalk on at least one side of the roadway within a quarter mile radius from the county courthouse (except for Parsons, which uses the main downtown intersection). Pedestrian attractors and generators, such as parks, civic buildings, and other retail and restaurant destinations, are shown in order to demonstrate the existing level of connectivity provided by sidewalk infrastructure relative to locations where pedestrian activity is likely. This information provides communities with a basic understanding of where future sidewalk investments may be most beneficial within the downtown.

PROFILE

CONCLUSIONS

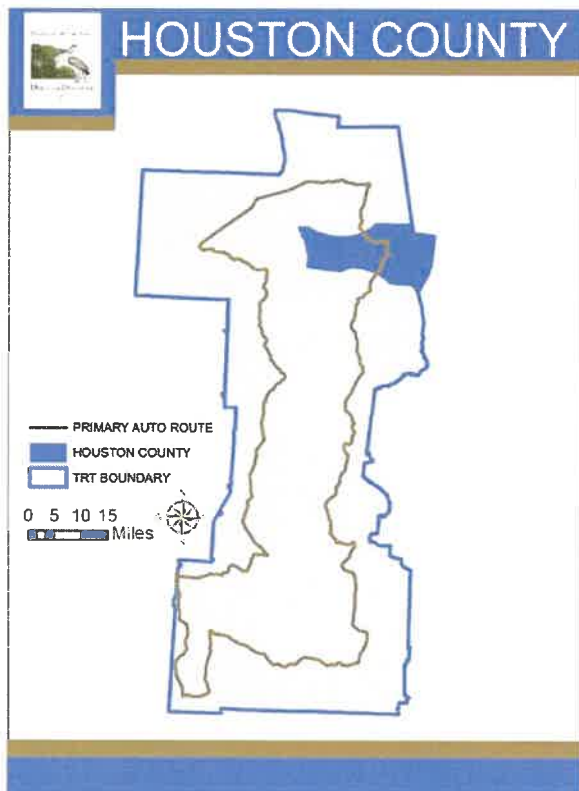
HENRY COUNTY

Henry County has several major destinations currently drawing a number of visitors, including downtown Paris, Paris Landing State Park, and the Tennessee National Wildlife Refuge's Big Sandy Unit Visitor Center. Secondary attractions include a number of marinas and campgrounds that line Kentucky Lake and Big Sandy River's banks as well as the twelfth largest Eiffel Tower replica in the world located in Paris. Most of these destinations are located either in the central portion of the county or to the east of Paris along the water.

Henry County's U.S. and State Highways carry some of the region's highest average traffic volumes, likely due to their role in providing cross-regional and cross-state connections, as well as Paris' role as a micropolitan in this area of the state. U.S. Highway 79 carries a high amount of traffic, but with the presence of wide shoulders (at least 10 feet in most portions outside of Paris city limits) this roadway provides an acceptable degree of safety and comfort for cyclists. U.S. Highway 641 south of Paris is similar in nature, although the highway north of Paris is very poor given no shoulder facilities, use of rumble strips, and high speeds. The abundance of local roadways in the county's rural portions, which are almost laid out in a loose and disjointed grid pattern street network, increases route choices for riders in a low traffic environment. The relatively flat topography and scenic countryside adds to a generally favorable riding environment for cyclists in Henry County.

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HOUSTON COUNTY



4.4.5. Houston County

Houston County, Tennessee is located in the northeastern section of the TRTA Region as illustrated in Figure 65. The county has approximately 8,426 residents who are generally older and less diverse as compared to the state's averages (displayed in Table 33). Municipalities include Erin, which acts as its county seat, and Tennessee Ridge and Cumberland City.

Figure 65 Houston County's Location within TRTA Region

	HOUSTON COUNTY	TRTA REGION	TENNESSEE	SOURCE
County Seat	Erin	-	-	-
Land Area (sq mi)	200.3	4,207	41,235	U.S. Census 2010
Water Area (sq mi)	6.7	179.2	909.4	U.S. Census 2010
County Population (2010)	8,426	151,826	6,346,105	U.S. Census 2010
County Population (2014 Estimate)	8,375	151,075	6,451,365	ACS 2014
Persons Younger than 18 Years	23.3%	21.1%	23.1%	ACS 2014
Persons 65 Years and Over	18.3%	19.1%	14.2%	ACS 2014
Percent Minority	5.1%	6.7%	21.8%	ACS 2014
Percent Households Living Below Poverty Line (below \$25,000 for family of four)	22.7%	20.1%	16.6%	ACS 2014
Percent Households Living With No Vehicle	7.3%	6.1%	6.4%	ACS 2014
Adventure Tourism District	-	-	-	-
TN River Resort District	Yes	-	-	-

Table 33 Houston County Overview

4.0 EXISTING CONDITIONS

Destination Mileage

Table 34 following consists of mileage between various communities and key destinations within in the county. Mileage was calculated using Google Map’s bicycle routing feature. Information may be especially useful for trail publication materials as well as providing a general understanding of cycling distances within the county.

	Benton-Houston Ferry	Cumberland City	Erin	TN Ridge
Benton-Houston Ferry		22.7	15.5	10.5
Cumberland City	22.7		7.3	12.3
Erin	15.5	7.3		5
TN Ridge	10.5	12.3	5	

Table 34 Houston County Riding Mileages

Climate

Climate data, displayed in Figure 66, can influence information contained in trail guide materials, such as the types of gear that may be needed for touring cyclists, as well as provide a helpful tool when planning cycling events.

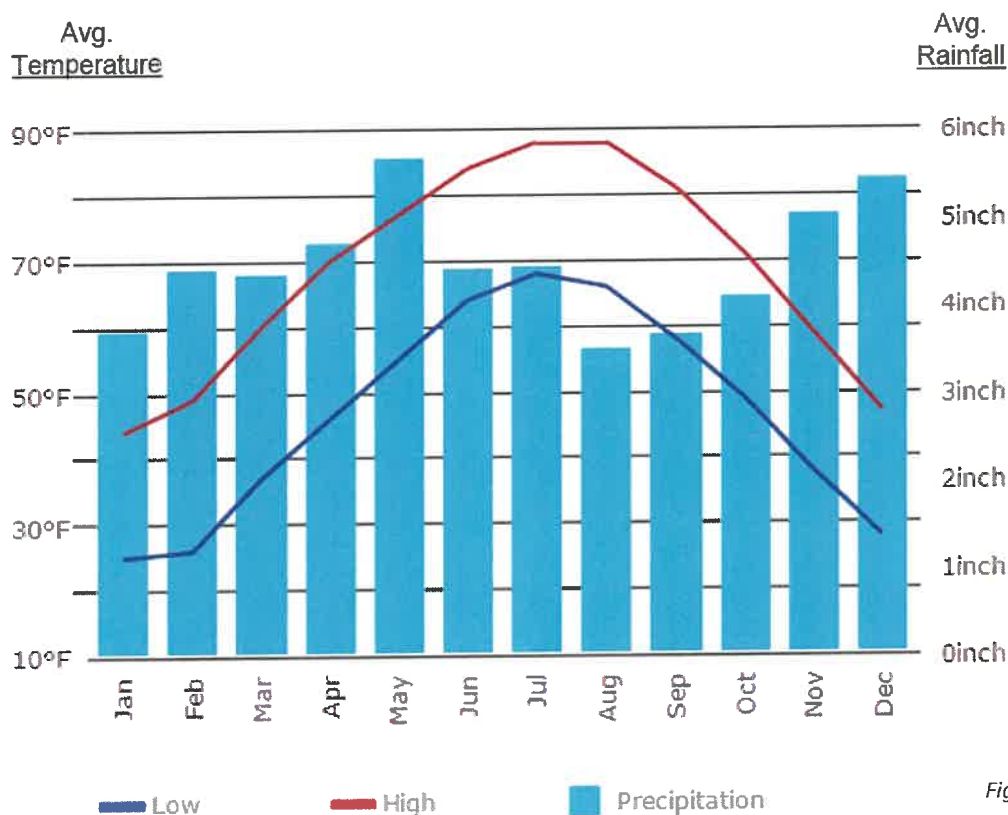


Figure 66 Houston County Climate Data
Source: www.usclimatedata.com

Demographics

Households with No Access to a Vehicle and Living below Poverty Line

Households without access to a vehicle, as well as those living below the poverty line (\$25,000), are more likely to rely upon non-motorized transportation. Figure 67 contains a Demographic Map Series that illustrates the County's distribution of these demographic groups by Census Block. Understanding where these households are generally located within a county can help to prioritize improvements by ensuring public investments meet the needs of those that especially are impacted. Overall, 7.4% of Houston County households do not have access to a vehicle, while 22% live below the poverty line, as compared to Tennessee's respective 6.4% and 16.6%.

Percentage of Non-Active Adults and Adults with Access to Exercise Opportunities

Tennessee's high rates of lifestyle-related diseases and conditions has prompted the Tennessee Department of Health to shift its traditional philosophy of treatment to a preventative one. This strategy centers upon enabling residents to make more active and healthy lifestyle choices, including walking and biking. County Health Rankings is a national data resource the Department uses to assist in tracking various health measures that are influencing Tennesseans' length and quality of life, including percent of adults that report no leisure-time physical activity and the percentage with access to exercise opportunities. These points of data, as well as variety of additional measures, such as access to health care, tobacco use, and income, yield a health factor score that provides a basic understanding of elements contributing positively or negatively to health in each county. Counties with especially poor health can now qualify for new Department of Health programs that provide funding assistance for sidewalk and greenway projects.

Houston County's 2016 Health Factor score ranking is 65th out of Tennessee's 95 counties. 36% of residents were considered as inactive, while 33% of Houston County residents had reasonable opportunities for physical activity as illustrated in Figure 67. Thirty five percent of residents met the criteria for being obese according to County Health Rankings. Table 35 illustrates the county's historic obesity levels as compared to the state of Tennessee and the United States.

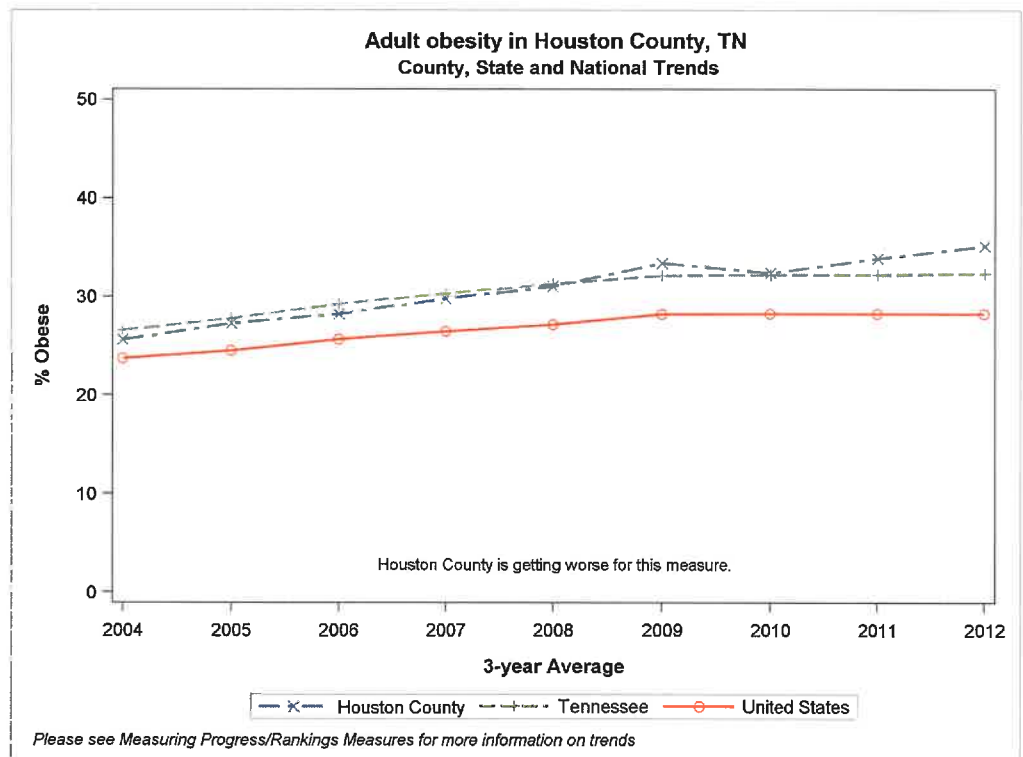
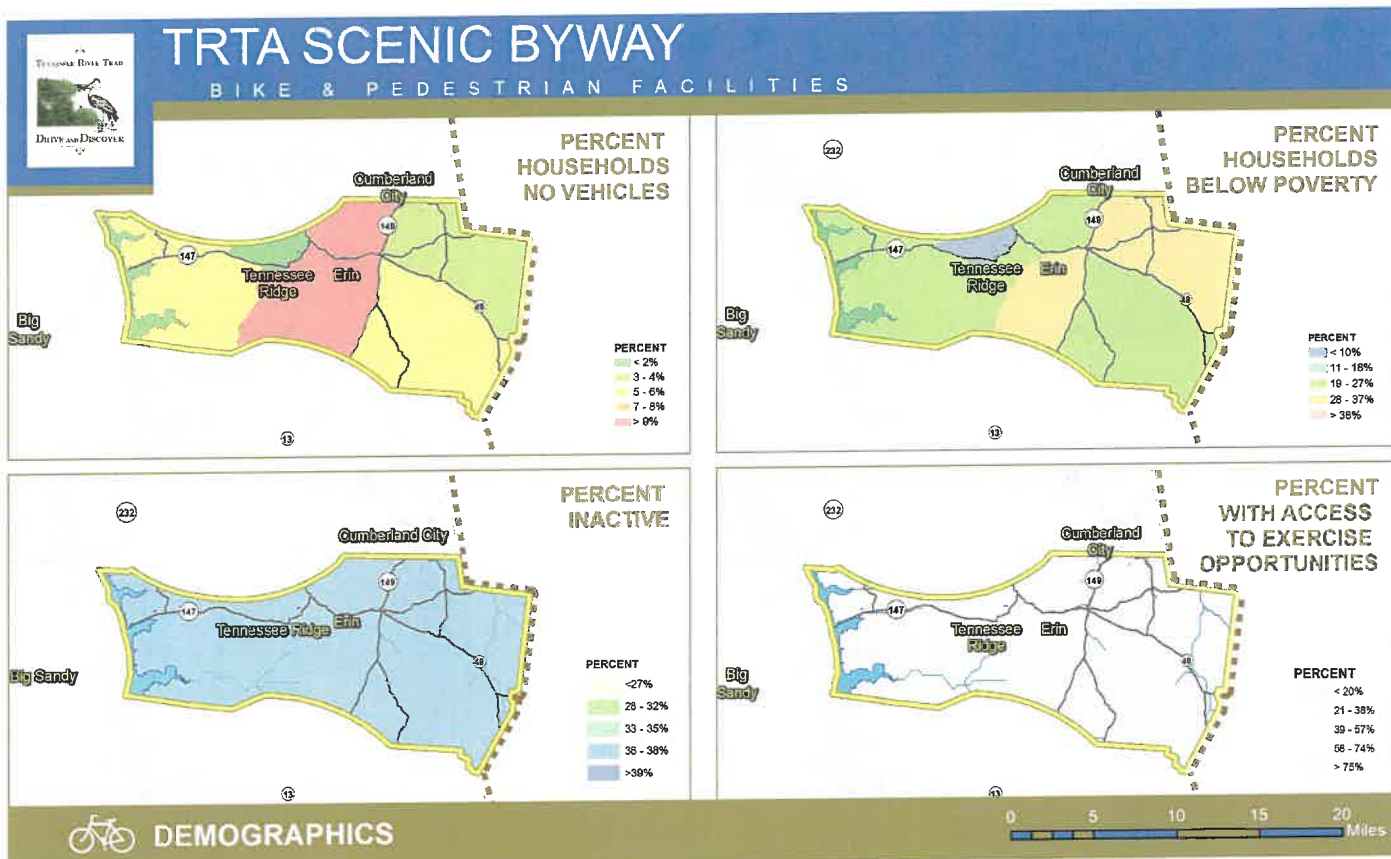


Table 35 Houston County Obesity Levels

PROFILE

DEMOGRAPHICS



LEGEND

- HOUSTON COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- COUNTY BOUNDARY
- STATE ROUTES
- INTERSTATE



HOUSTON COUNTY

Figure 67 Houston County Demographic Map Series



Environment

Ecoregions and Land Cover

According to the United States Geological Survey (USGS), ecoregions denote areas of similarity in ecosystems as well as the type, quantity, and quality of environmental resources. There are three ecoregions within the TRTA region:

-Interior Plateau: According to the USGS, this ecoregion is characterized by a series of grassland plateaus and forested uplands, with Oak-Hickory stands being the most common forest type. The relatively flat nature and fertile lowlands particularly attracted early settlement and agriculture uses in this eco-region, the TRTA region's largest.

-Mississippi Valley Loess: Irregular plains primarily characterize this ecoregion's topography, which is only found in the northwestern portion of Henry County. Its distinguishing characteristic is the thick, highly erodible loess deposits (top soil). While these soils are often poor in nutrients and organic matter, the use of fertilizers allow lands to be easily cultivated.

-Southeastern Plains: This expansive ecoregion is characterized by relatively flat plains as well as croplands, forests, and wetlands. Although growing seasons are long and precipitation is abundant, relatively poor sandy soils limit agriculture uses as compared to other regions. Once covered in natural forests, heavily managed timberlands (largely pine plantations) now are prevalent, which poses a risk to cyclists given the amount of logging truck activity.

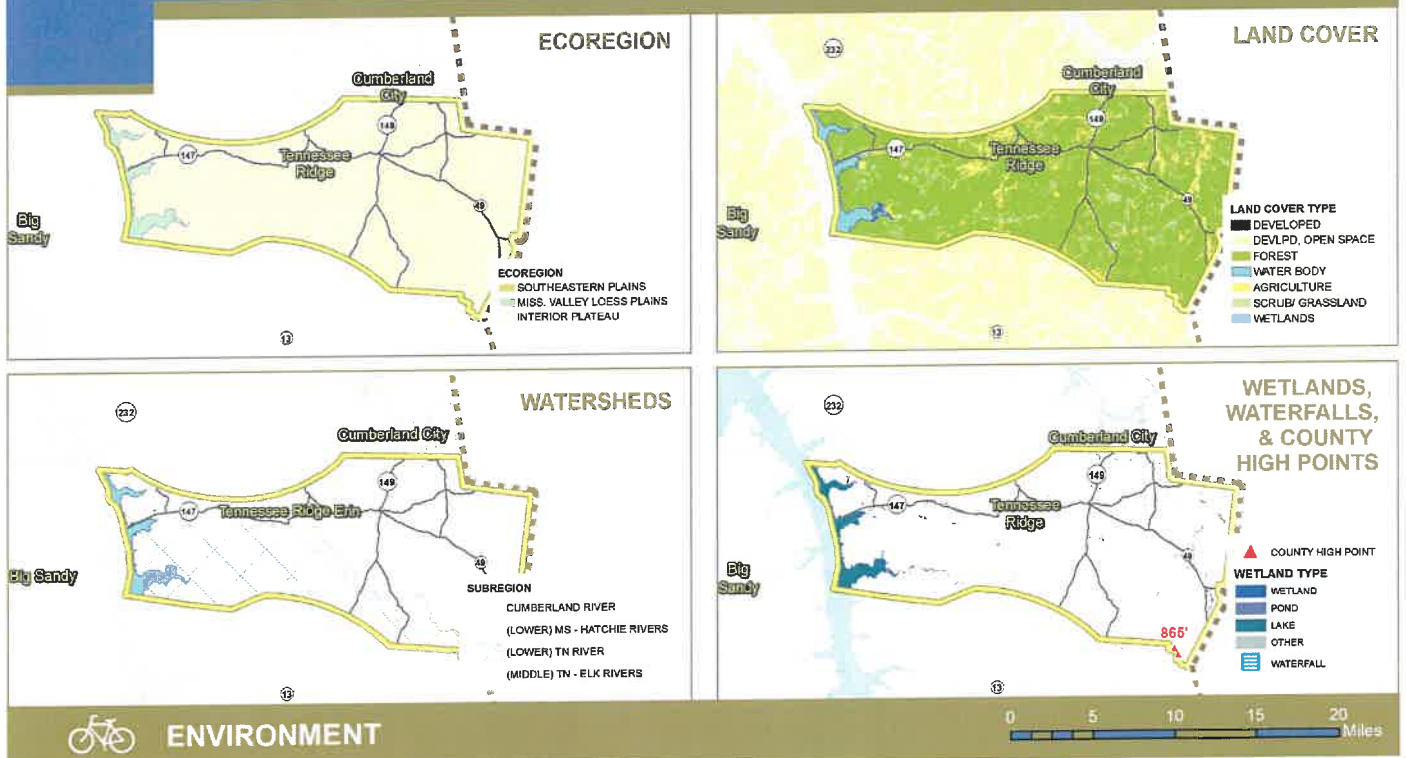
Houston County is made up of one ecoregion, Southeastern Plains, as illustrated in Figure 68. Except for impacts from human activity (i.e. land use), ecoregions inform the types of vegetation found at the Earth's surface. Land cover is relevant to bicycle route planning in terms of evaluating the general types of land uses or environment types a route might pass through, as well as the likeliness (although at a high level) for tree coverage along a desired route. Houston County's land cover is also illustrated in Figure 68.

Watersheds and Wetlands, Waterfalls, and County High Points

Watersheds refer to the land area by which surface water drains into a given body of water. These hydrological units are commonly associated with water quality and water management plans. Watershed boundary information, wetlands, and waterfalls are relevant to both route planning, the development of supportive route materials, as well as providing information to assist the region in protecting the health of its water bodies through increased resident awareness of the water cycle and its processes. These hydrological features as well as the county's high point are illustrated in Figure 68.

TRTA SCENIC BYWAY

BIKE & PEDESTRIAN FACILITIES



LEGEND

- HOUSTON COUNTY
- TRTA REGION BOUNDARY
- CREEKS & RIVERS
- COUNTY BOUNDARY
- STATE ROUTES
- INTERSTATE



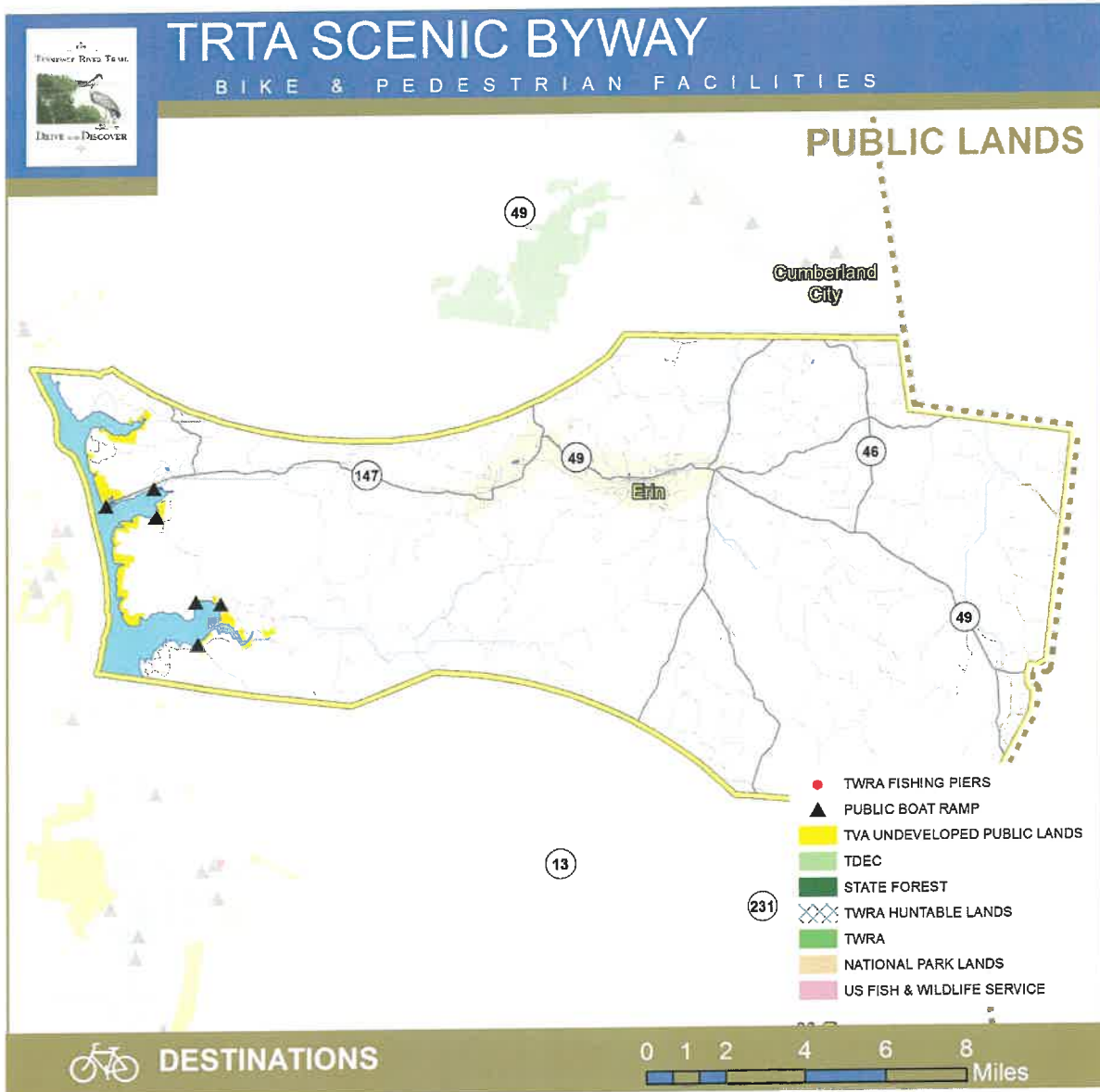
HOUSTON COUNTY

Figure 68 Houston County Environment Map Series

Destinations

Public Lands

Public lands under the management of state and federal agencies provide active and passive outdoor recreation opportunities in the TRTA region. Public fishing piers as well as boat ramps are included in Figure 69 to help identify further public opportunities to experience the Tennessee River. While there is an abundance of these lands, public engagement revealed that many residents are not aware of the public use rules and associated walking and biking opportunities these lands provide.



LEGEND

- MUNICIPALITIES
- HOUSTON COUNTY
- ▭ COUNTY BOUNDARY
- WATER BODY
- ▨ TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HOUSTON COUNTY

Figure 69 Houston County Public Lands

PROFILE

DESTINATIONS

Routes, Trails, and Major Destinations

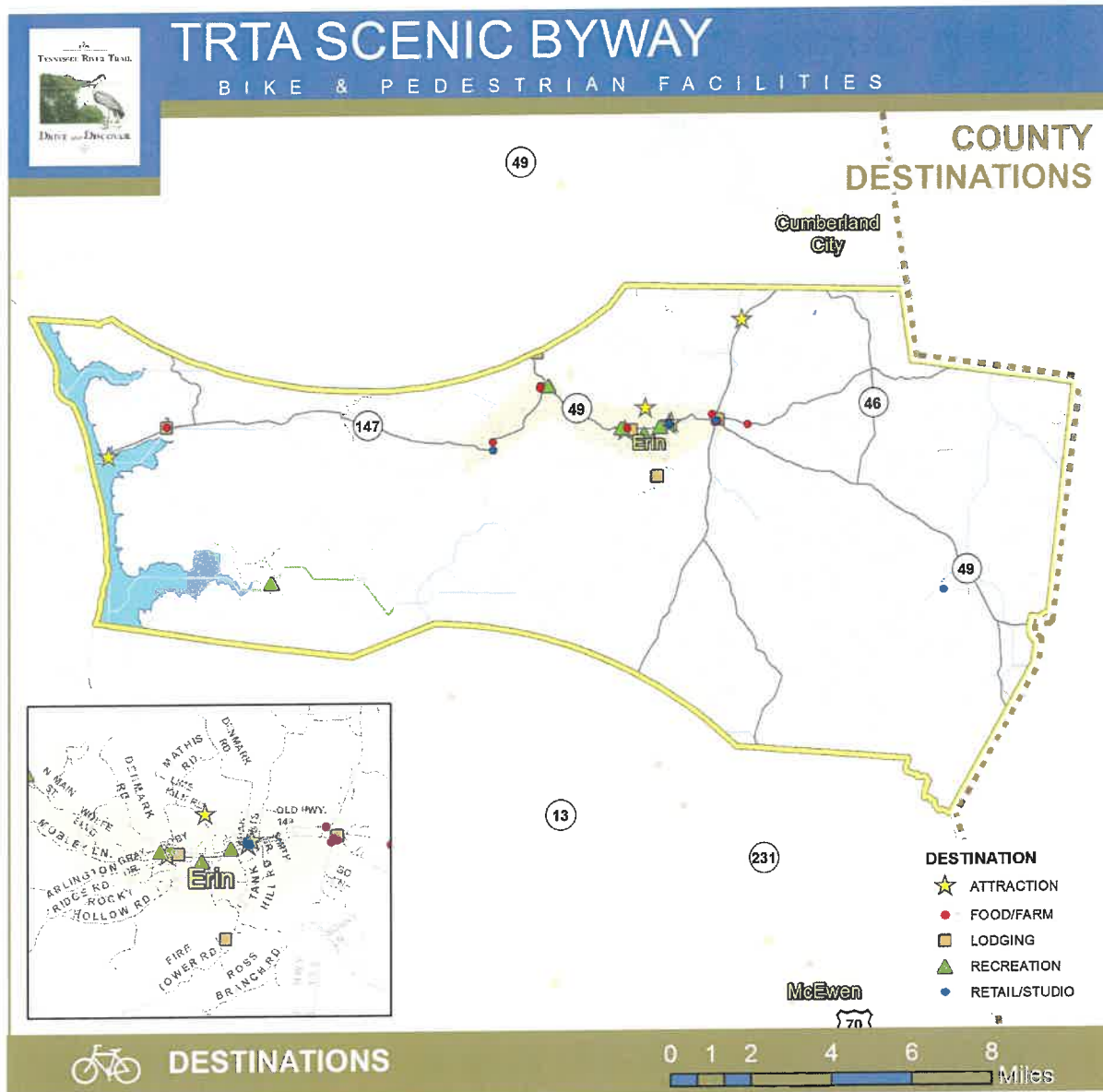
A number of existing bicycle routes, tourism trails, and historic trails exist in the TRTA region. These are important for understanding how visitors are currently entering, traveling within, and exiting the region. Associated trail points-of-interest help to identify the county's destinations which are currently being marketed to tourists. For purposes of this plan and the identification of the regional route network, these destinations are broken down into primary and secondary categories. Routes, trails, and byways that pass through Houston County, as well as key points-of-interest are illustrated in Figure 70.



Figure 70 Houston County Routes, Trails, and Major Destinations

County Destinations

In the early stages of the plan's development process, destinations including lodging, dining, retail, and recreation opportunities were geo-coded for each county. These destinations, shown in Figure 71, are relevant for understanding the level of support a county provides tourists, pedestrian connectivity in TRTA communities, and the identification of a recommended route network.



LEGEND

- MUNICIPALITIES
- HOUSTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS
- INTERSTATE



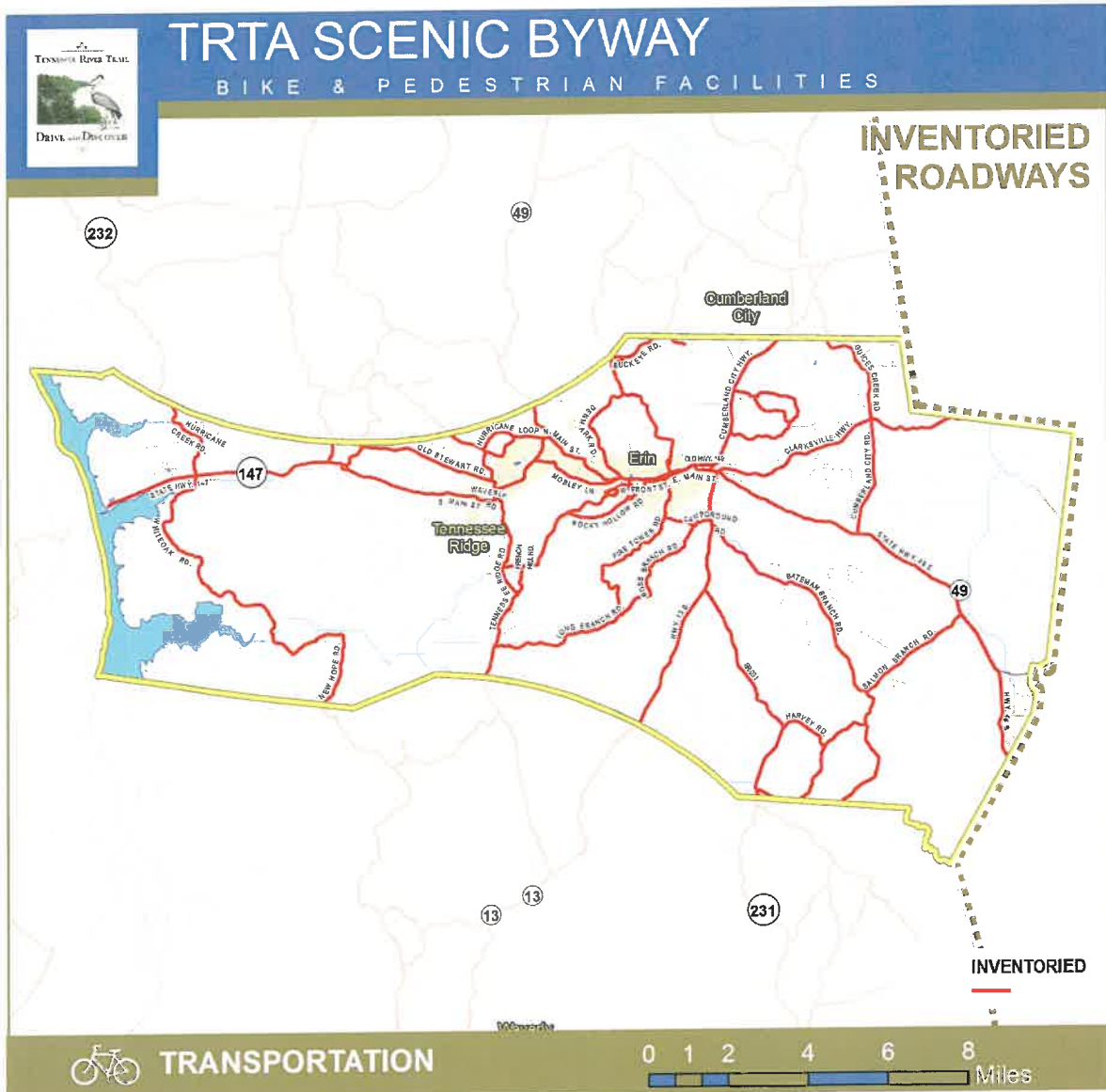
HOUSTON COUNTY

Figure 71 Houston County Destinations



Transportation

Information contained in this section consists of data gathered from both TDOT, as well as the plan's field inventory. TDOT roadway data exists for functionally-classified collector roadways and above, meaning no data exists for those classified as local. As such, it should be noted that maps in this section reflect available data. Of Houston County's approximate 411 miles of roadway, 146 miles (36%) were inventoried (illustrated in Figure 72).



LEGEND

- MUNICIPALITIES
- TRTA BOUNDARY
- HOUSTON COUNTY
- ROADWAYS
- COUNTY BOUNDARY
- STATE ROUTE
- WATER BODY
- CREEKS & RIVERS



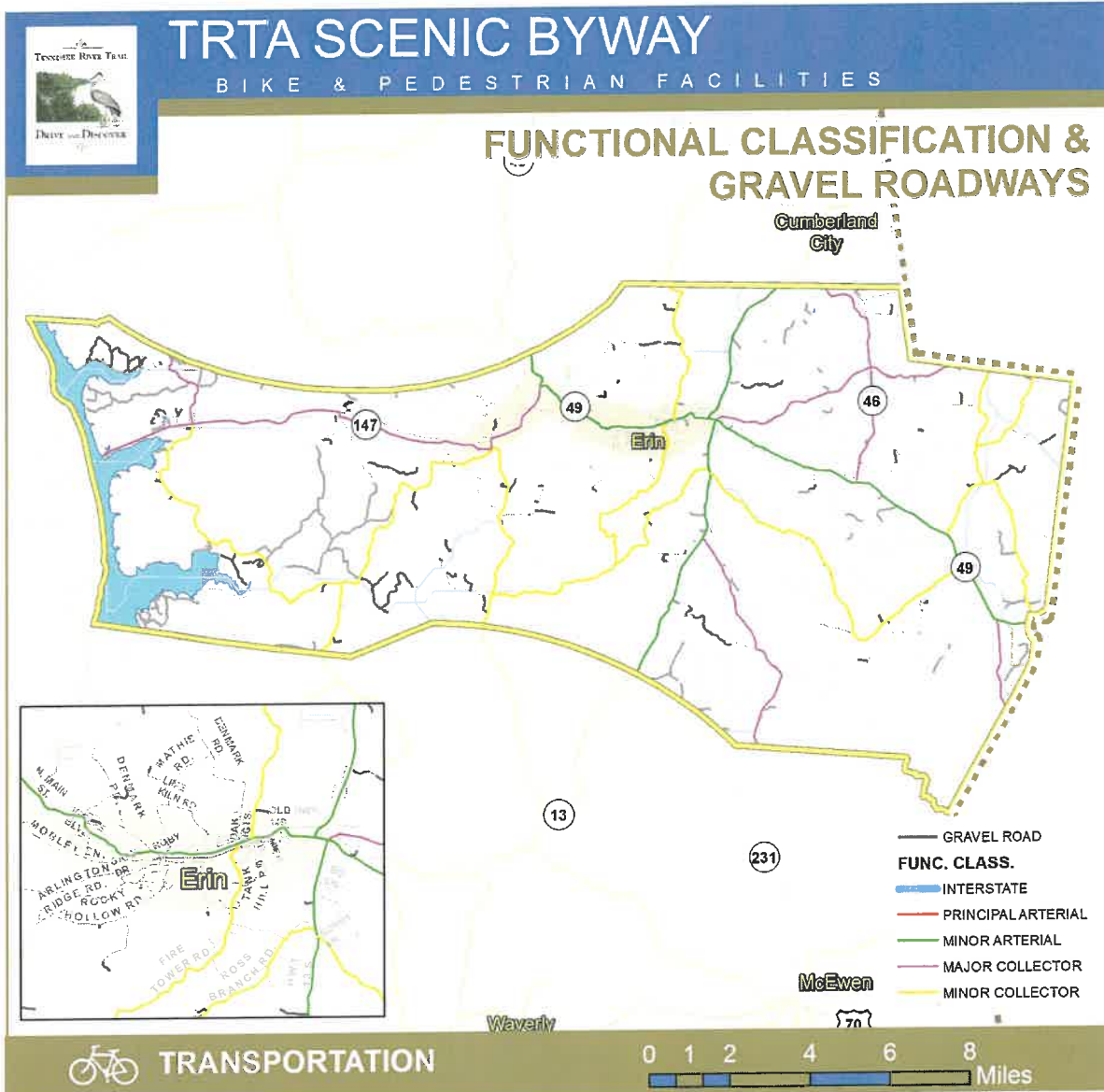
HOUSTON COUNTY

Figure 72 Houston County Inventoried Roads

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Functional Classification

According to the Federal Highway Administration (FHWA), there are three main roadway functional classifications, including arterials, collectors, and locals. Classifications are determined by the level of traffic service that the roadway is intended to provide, which includes degree of land access and traffic characteristics. Arterials are intended for long-distance travel and, therefore, are often associated with higher traffic volumes and speed limits, whereas local roads are intended for a high degree of local accessibility meaning speed limits and traffic volumes are often low. Collectors provide a balance between the two types, especially emphasizing connections to residential areas. The functional classification of roadways for Houston County, as well as those that have gravel surfaces, are illustrated in Figure 73.



LEGEND

- MUNICIPALITIES
- HOUSTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HOUSTON COUNTY

Figure 73 Houston County Functionally-Classified and Gravel Roads

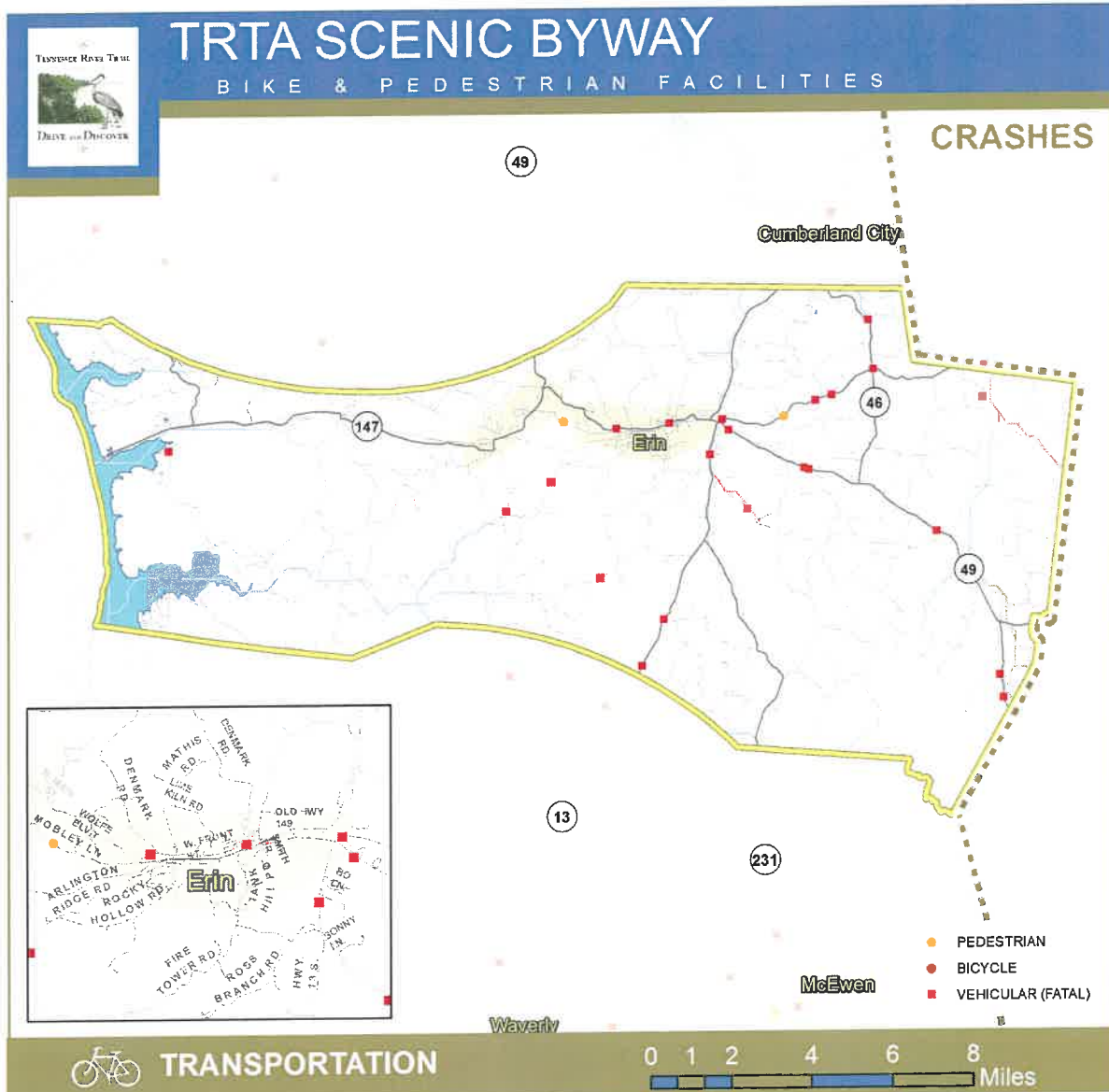
BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

Crashes

An important component in route planning, crash data illustrated in Figure 74 includes pedestrians, bicyclists, and fatal vehicular crashes that have occurred in the past 10 years in the county. In addition, Table 36 describes the numbers of these crashes. TDOT's numbers do not include those occurring on parking lots and private property as well as those with less than \$400 in damage.

	PED	BIKE	VEHICLE (FATAL)
HOUSTON	2	0	24

Table 36 Houston County Crashes (2006-2016)



LEGEND

- MUNICIPALITIES
- HOUSTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HOUSTON COUNTY

Figure 74 Houston County Crashes

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

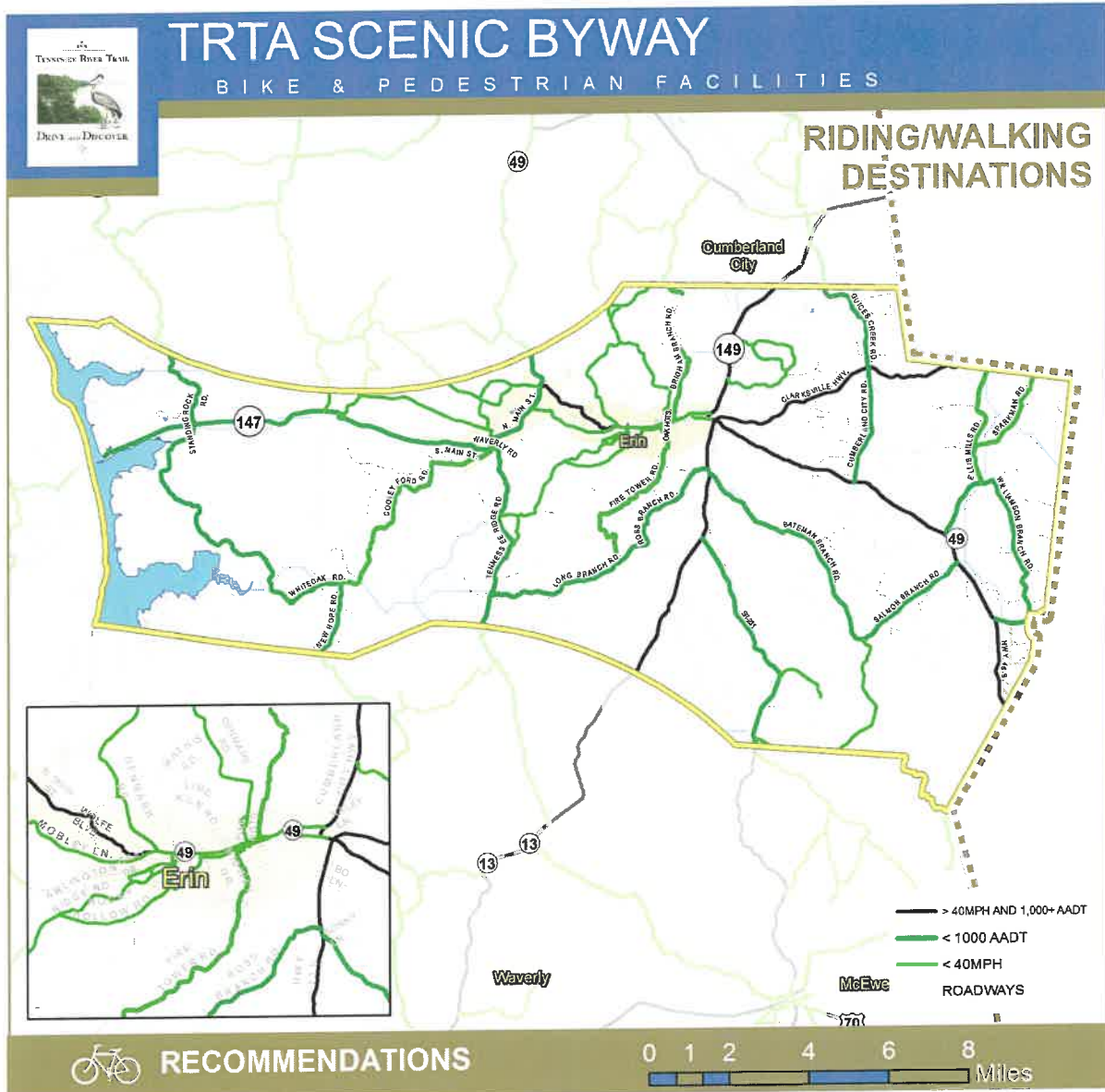
Speed and Average Annual Daily Traffic (AADT)

Posted speed limits and traffic volumes are two of the most important roadway elements for cyclists determining preferred routes. The map in Figure 75 illustrates roadways with a posted speed less than 40 mph as well as those with less than 1,000 vehicles per day. Total mileage for the county broken down by these attributes is displayed in Table 37. TDOT traffic count station data was used when available, however, volume assumptions were assigned for roadways lacking count data based on averages experienced across similar roadways in the county.

	MILES WITH AADT <1,000	ROADWAYS WITH NO COUNT DATA BUT LIKELY LOW VOLUMES	TOTAL MILEAGE-LOW VOLUME ROADWAYS	SPEED LIMIT LESS THAN 40 MPH (TRIMS+INVENTORY)
HOUSTON	87	288	375	66

Table 37 Houston County Speed Limit and AADT Mileage Data

4.0 EXISTING CONDITIONS



HOUSTON COUNTY

Figure 75 Houston County Speed Limit and AADT Data



BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

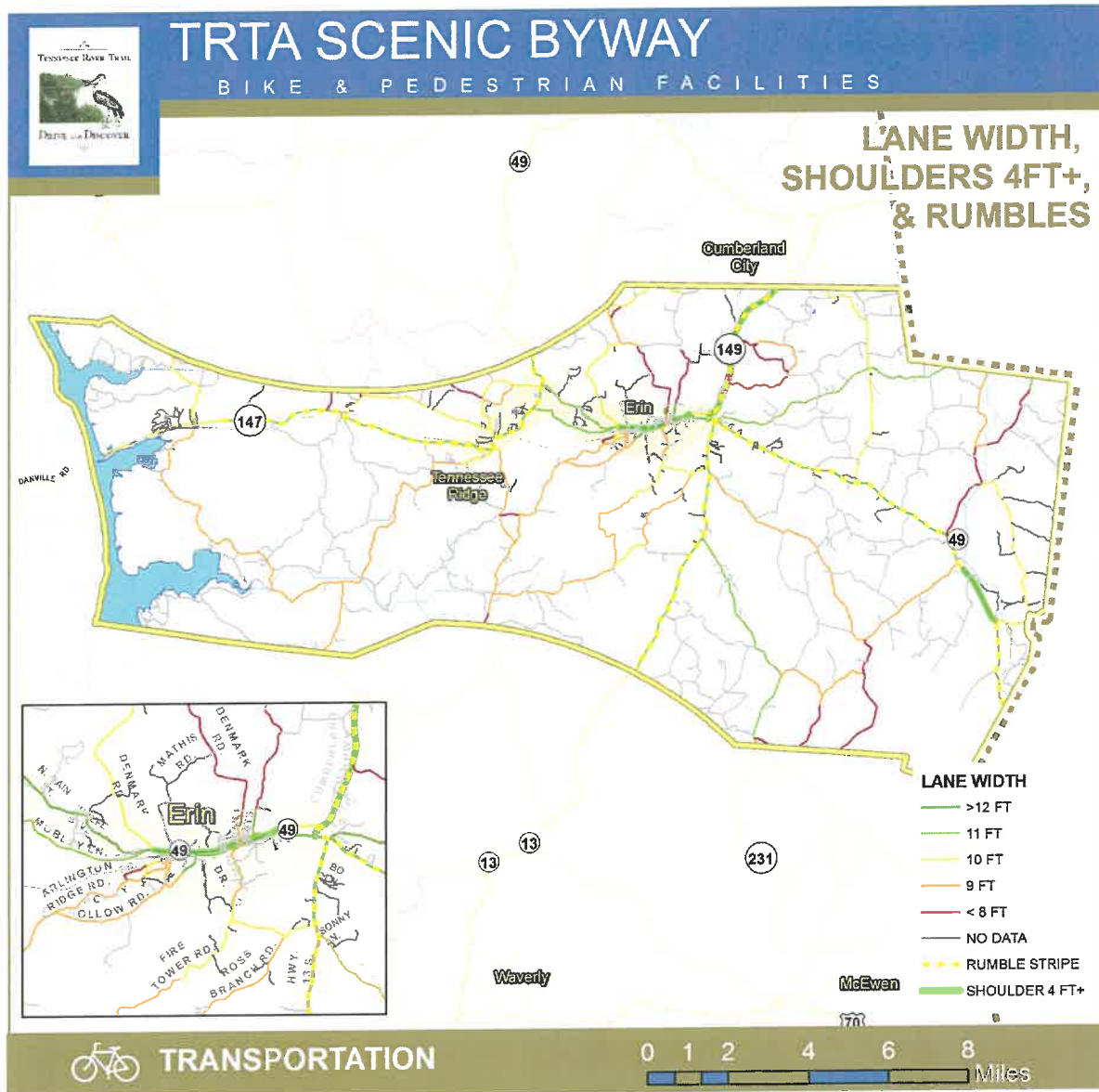
Lane Widths and Shoulders

Lane widths, and especially the presence of shoulder facilities, are two additional roadway elements critical for bicycle route planning. Depending upon an individual’s ability and comfort levels, shoulder width can be a sole determination for a preferred route, regardless of the road’s speed limit and traffic volumes. Houston County lane widths, shoulders, and rumble strips are illustrated in Figure 76 and described in Table 38.

	LAND WIDTH 12+	SHOULDERS 4FT+	RUMBLE STRIP/STRIPE
HOUSTON	16	7	31

Table 38 Houston County Lane Width and Shoulder Mileage Data

4.0 EXISTING CONDITIONS



LEGEND

- MUNICIPALITIES
- HOUSTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HOUSTON COUNTY

Figure 76 Houston County Lane Width and Shoulder Data

BIKE AND PEDESTRIAN FACILITIES MASTER PLAN

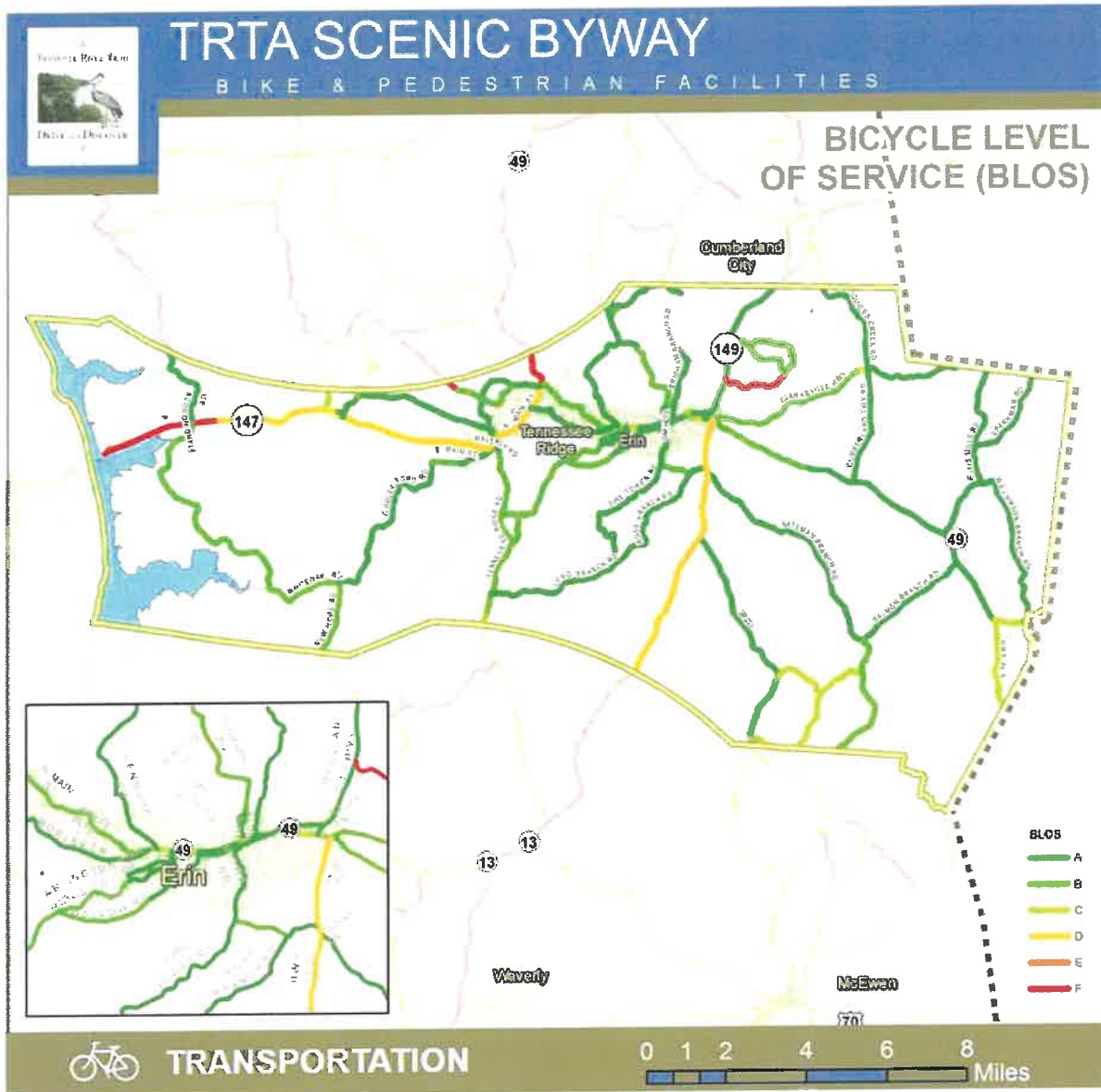
Bicycle Level-of-Service (BLOS)

As previously mentioned, BLOS is an algorithm that uses a variety of roadway variables to help quantify a cyclist's quality of travel by scoring roadways using an A to F grading scale, A being the highest and F being the lowest. Scores A, B, and C are generally considered acceptable with greater concern for roadways assigned a D, E, or F. A score of E or F, however, does not necessarily disqualify a roadway from being a route, it just means that extra diligence is required for analyzing the safety and comfort of that roadway section. BLOS scores for Houston County roadways are illustrated in Figure 77 and described in Table 39.

	BLOS A-C	BLOS D-F
HOUSTON	146	22

Table 39 Houston County Bicycle Level of Service Mileage

4.0 EXISTING CONDITIONS



LEGEND

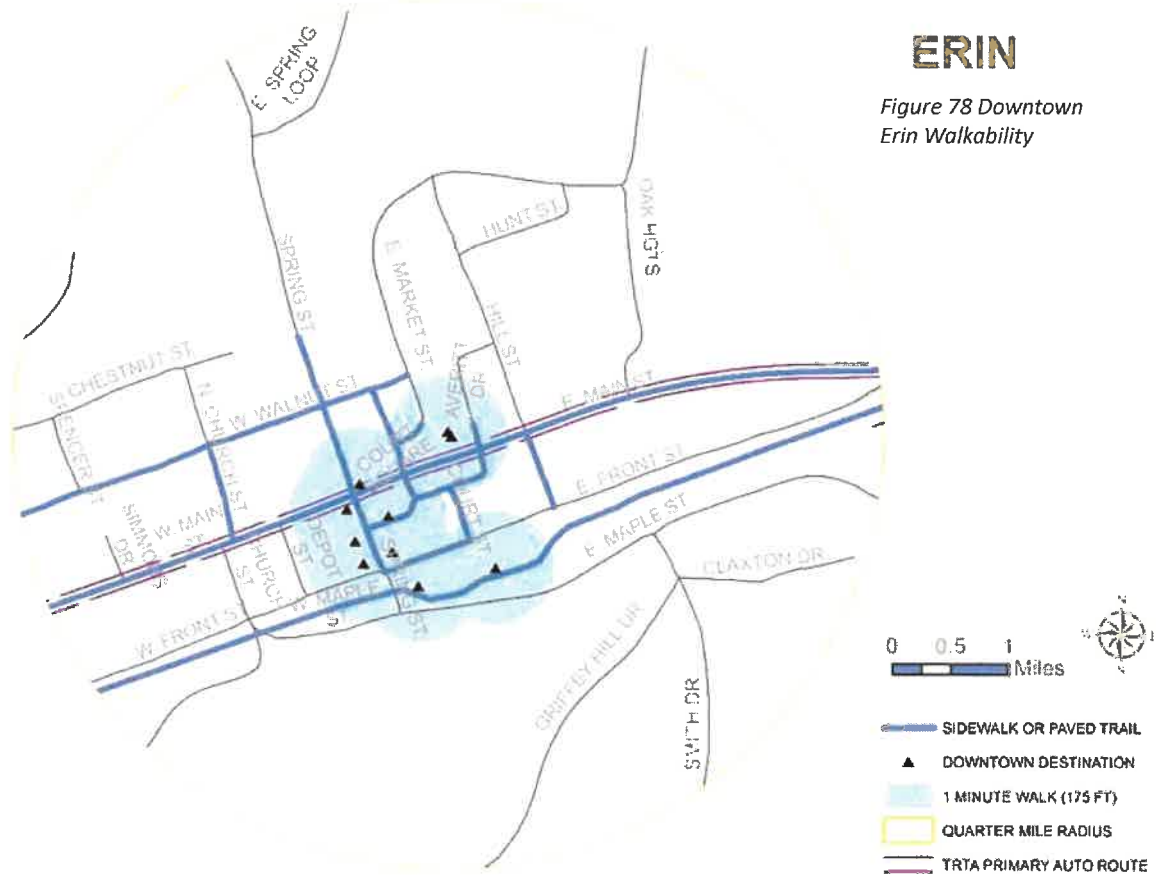
- MUNICIPALITIES
- HOUSTON COUNTY
- COUNTY BOUNDARY
- WATER BODY
- TRTA BOUNDARY
- ROADWAYS
- STATE ROUTE
- CREEKS & RIVERS



HOUSTON COUNTY

Figure 77 Houston County Bicycle Level of Service





ERIN SIDEWALKS	
ROADWAYS WITH A SIDEWALK ON AT LEAST ONE SIDE IN DOWNTOWN ERIN (SHOWN IN FIGURE 78) - MILEAGE TOTAL	1.7 MILES (29% ON STATE ROUTES)
ROADWAYS WITH A SIDEWALK ON AT LEAST ONE SIDE IN ERIN - MILEAGE TOTAL	4.4 MILES (27% ON STATE ROUTES)

Table 40 Erin Sidewalk Mileage

Each county's largest community, typically the county seat, acts as a destination for tourists and residents. Providing walkable environments within these communities is an important component to supporting the TRTA's overall economic development, tourism, and livability goals, as well as the recommendations of this plan. Figure 78 illustrates roadways that have a sidewalk on at least one side of the roadway within a quarter mile radius from the county courthouse (except for Parsons, which uses the main downtown intersection). Pedestrian attractors and generators, such as parks, civic buildings, and other retail and restaurant destinations, are shown in order to demonstrate the existing level of connectivity provided by sidewalk infrastructure relative to locations where pedestrian activity is likely. This information provides communities with a basic understanding of where future sidewalk investments may be most beneficial within the downtown.

PROFILE**CONCLUSIONS****HOUSTON COUNTY**

Houston County is the TRTA region's smallest county in land area (roughly 200 square miles) and has the least amount of shoreline along the Tennessee River; however, the county provides unique cultural and historical aspects important to the greater region's story. These include the Double Stack Lime Kilns, the community of Erin, the historic L & N rail line that fueled early development in the region, and structural remnants from early economic activity at the historic Danville Wharf, which was used for grainery and steamboat landings. The County's Magnolia Bridge Park is a unique destination not only for Houston County, but for the greater TRTA region given the opportunity for users to enjoy an "off-the-beaten-path" swimming hole. Finally, the Benton-Houston Ferry's location on the west side of the county and the Cumberland City Ferry located approximately 7 miles northeast of Erin positions Houston County as a key link between these two attractions, which uniquely sets the TRTA region apart from the rest of the state.

Relative to the TRTA region, Houston County experiences low amounts of traffic volumes on all roadways, including highways. While State Highway 147 between the River and Tennessee Ridge has smaller lane widths, minimal shoulder, and rumble stripes, the bikeability of this section of the highway is relatively high given the low number of vehicles. State Highway 149 conversely has higher traffic volumes, but wide shoulders (greater than 5 feet) allowing for cyclists to safely travel between Erin and Cumberland City. Terrain is particularly challenging for cyclists in Houston County. Most state highway facilities travel within valleys likely providing routes with the least amount of/most gradual elevation changes, while county roadways tend to have more drastic elevation changes. While difficult for many riders, some advanced cyclists seek out these steep topography changes, which Houston County could uniquely emphasize, especially given the low amount of average traffic volumes.

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