

Plan for Transportation-Based Tourism and US 64 Corridor Management

City of Ducktown, TN

July 2018



On the cover: *Trail linking the solar farm to the Ducktown Basin Mining Museum (photo by Ross Daniels, WSP)*
Terminus of the Ocoee Scenic Byway along US 64 (photo by Ross Daniels, WSP)
Tubing on the Lower Ocoee (photo courtesy of Outdoor Adventure Rafting)
Hiwassee River Rail Adventures (photo courtesy of Tennessee Valley Railroad)

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1 EXISTING PLANS, PROJECTS & ACTIVITIES

1.1 Project Purpose

The City of Ducktown has identified the need to plan for the impacts of expected growth in traffic along US Highway 64/74, which runs through the southern portion of Ducktown and serves as its primary linkage to the major transportation system.

The Tennessee Department of Transportation (TDOT) is proposing to make road improvements to US 64 – known as Corridor K in the Appalachian Development Highway System –to create a safe, reliable, and efficient east-west transportation route to improve regional transportation linkages and support economic development in this mountainous region of southeast Tennessee. Preserving environmental quality is also an important goal of the Corridor K project, since US 64 runs through the scenic Ocoee River Gorge and portions of Cherokee National Forest. US 64 is the country’s first designated National Forest Byway and is also a state scenic byway.

One of the new planning factors established by the Fixing America’s Surface Transportation (FAST) Act is to consider the travel and tourism aspects of the transportation system. This can include planning for the economic opportunities that byway-related tourism can bring. It can also include planning to ensure that the transportation system is prepared to accommodate the impacts of tourism-based travel.

Located at the convergence of Tennessee, North Carolina and Georgia, Ducktown is within driving distance for tourists from several metropolitan markets, including Atlanta. With whitewater rafting, hiking, camping and other outdoor recreational opportunities, the area is a popular weekend destination. Some of the tourists who visit the area ultimately decide to purchase a second home in Polk County.



The recent opening of a new Harrah's casino in Murphy, NC has resulted in some traffic increase along US 64. This activity has helped to draw the City's attention to the importance of planning for the future impacts of Corridor K. It is also the City's desire to work with TDOT to plan for appropriate access and design along this section of US 64. Since the corridor is commercially zoned, the city anticipates development will occur in the area as regional tourism and other traffic continues to increase. Ducktown recognizes the importance of sound planning to ensure that its economic development goals can be met (1) without compromising the safety and mobility benefit of Corridor K, and (2) while remaining consistent with the purpose of the nationally and state-designed scenic byway.

To support these planning efforts, the City of Ducktown was awarded a TDOT Community Transportation Planning Grant to analyze the potential to capitalize on transportation-based tourism and to develop a US 64 corridor plan. The scope of this project includes:

- ▶ A summary of existing plans, projects and activities in the Ducktown vicinity;
- ▶ Identification of transportation-based tourist assets in the area
- ▶ Recommendations for the City to capitalize on these transportation assets through improved connections, circulation, and traveler guidance;
- ▶ Recommended policies for future development along Ocoee Scenic Byway (US 64) to meet traveler needs, improve safety for walking and cycling, and promote consistency with the byway's scenic purpose.



1.2 Ducktown’s Location, History and Context

Location

Ducktown is located within the southeast corner of Tennessee, sometimes called the Three Corners area because it is in the area where Tennessee, North Carolina and Georgia meet. The City sits in the center of a large valley with low lying hills that became known as the Copper Basin (Basin) after copper ore was discovered there in 1843.

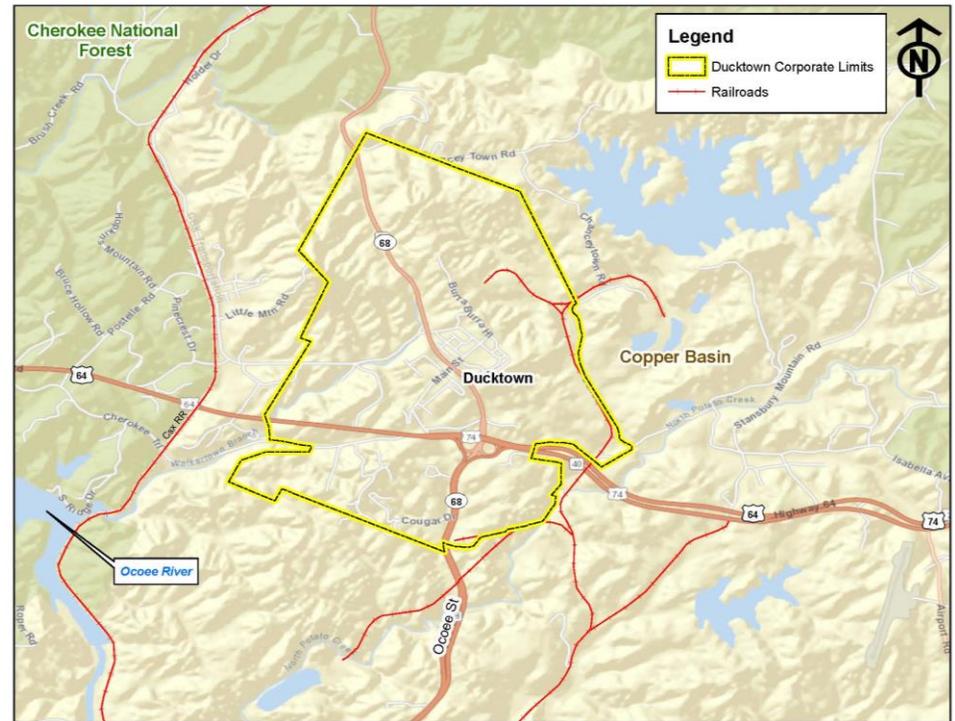
The Copper Basin is surrounded by the Cherokee National Forest, with the Ocoee River running through the Basin’s southwest quadrant (**Figure 1**). The Cherokee Indians lived in the area until the 1830s; in fact, the name “Ducktown” is believed to come from a Cherokee chief named Duck.

History

Ducktown is home to the historic Burra Burra Mine, which employed thousands and extracted over 15 million tons of copper ore between 1850 and 1958. As the Basin became the largest metal mining operation in the Southeast region, it generated the demand for more transportation infrastructure. The first major transportation project was the construction of “Copper Road” – now US Highway 64 – through the Ocoee Gorge in 1853, connecting the Basin with Cleveland, TN, to the west. Even with the new highway built, it was a long trip over challenging terrain. On the return trip, it took an extra half-day to climb the uphill grade. Ore haulers therefore camped overnight at a location known as the Halfway House, now a designated historic site along US 64.

Mine operations ceased during the Civil War, and when they resumed they encountered additional challenges, including a decrease in the quality of local ore and competition from the rise of overseas mining. To remain competitive, mine operators sought to further lower their transportation costs. In the 1890’s the Marietta & North Georgia Railroad and the

Figure 1: City of Ducktown, Tennessee and the Copper Basin

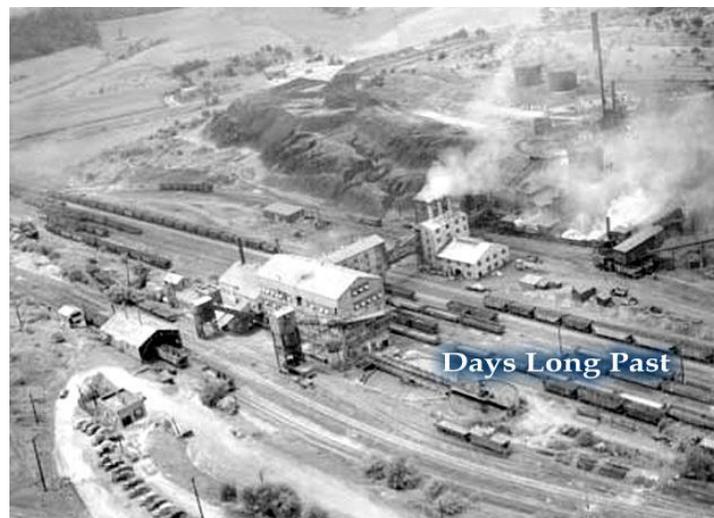


Knoxville Southern Railroad were built to connect the Basin to Knoxville, TN and Marietta, GA. Part of this railroad connection was a difficult switchback that was eventually replaced in 1898 with an 8,000-foot circle around Bald Mountain in Farner, TN. This famous “engineering marvel,” Hiwassee Loop, is a highlight of the Hiwassee River Rail Adventure which now operates between Etowah and Copperhill, TN.

By the turn of the 20th century, the Tennessee Copper Company owned most of the mines in the Basin. It opened a new smelter in Copperhill, also connected by rail to the Burra Burra Mine site in Ducktown. However, the new smelter released a large amount of sulfur dioxide into the air, resulting in acid rain. The acid rain and additional logging caused over 50 square miles (approximately 32,000 acres) of the Basin to become barren, a striking contrast to this otherwise heavily forested region. After lawsuits emerged over the environmental damage and impacts to farmers, the company began converting the gas into sulfuric acid.

Increasing competition from overseas led to the shutdown of the Burra Burra Mine in 1958, and the closure of the remaining mining operations in the 1970s and 1980s. The production of sulfuric acid – originally intended to reduce the amount of sulfur dioxide gas being released from copper smelting – eventually replaced copper itself as one of the area’s major products. After the copper mines closed, sulfur continued to be brought in by rail for acid production until the plant in Copperhill finally closed in 2000.

Environmental restoration efforts in the region, which had begun in the 1930s, ramped up as the mines in the area closed. A major motivator was the Environmental Protection Agency’s (EPA) investigation efforts under the Superfund Act to add the Basin (now a contamination site) to the EPA National Priorities List. However, an alternative solution was reached between EPA and OXY USA, Inc, a subsidiary of Occidental Petroleum Co., with enforceable legal agreements.



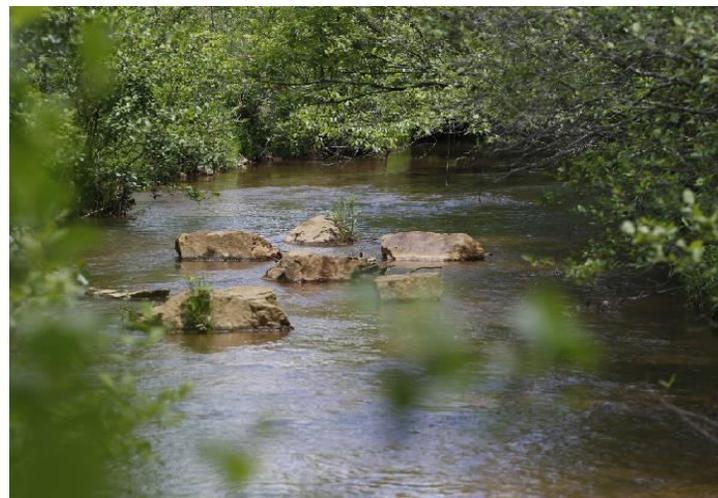
From City of Ducktown website



In the early 2000s, a \$50 million settlement agreement was announced by EPA, the Tennessee Department of Environment and Conservation (TDEC), and OXY USA, Inc. to clean and restore the environmentally degraded Copper Basin and enhance economic growth. The current landowner of the Burra Burra Mine site, the Occidental Petroleum Corporation (through its clean-up subsidiary Glenn Springs Holdings, Inc.), is still funding clean-up and restoration activities on the 1,400-acre site. More than 16 million trees have been planted, soil loss has been reduced, and water quality has improved measurably in two watersheds.

The city's mining heritage has been preserved through the efforts of the Ducktown Basin Museum, opened in 1978 by a group of Ducktown citizens. The original Museum was located on Main Street but later moved to the Burra Burra Mine site, now on the National Register of Historic Places. Three hundred acres of the Burra Burra Mine site was set aside as a memorial to the devastation in the Copper Basin. In addition to the Museum, the mining site contains the historic *Hoist House* which hoisted people, equipment, and ore in and out of the mine, and the *Boiler House*, which created steam to power the hoist. The Museum's collection provides visitors with an opportunity to see numerous local mining artifacts, photographs, mining records and other documents.

The Museum's exhibits also tell the story of the various environmental restoration efforts that have taken place over decades. Some of the Museum staff remember planting pellets as children to help with the city's reforestation, and the surprising appearance of wildlife as the region began to return to a more natural state. A few long-time residents say that they miss the barren landscape that they had been accustomed to when growing up there.



Dan Henry, Chattanooga Times-Free Press



Regional Context

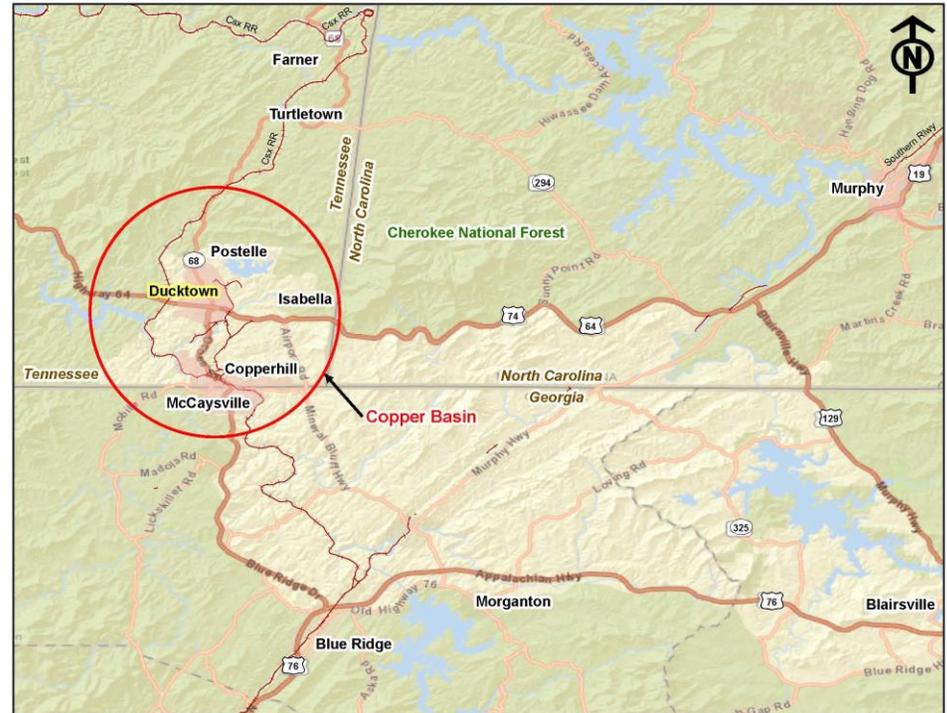
Most of the Copper Basin lies within Polk County, TN with a small section extending into Fannin County, GA. In total, the Basin covers 60,000 acres and contains relatively little development apart from the City of Ducktown and the neighboring City of Copperhill. The historic Postelle community, located just northwest of Ducktown along SR 68, is a rural residential area just to the east of the path of the Hiwassee River Railroad excursion. Another rural community, Isabella, is located east of Ducktown and situated along US 64, just outside the Cherokee National Forest.

Southeast of Ducktown is the City of Copperhill, located along the Tennessee-Georgia state line. The two cities are linked by SR 68 (Ocoee Street). Copperhill is the most economically active area in the Basin, having developed into a tourist-oriented destination with restaurants, shopping, and outdoor recreation opportunities along the Ocoee-Toccoa River. Its downtown area is shared with its “sister city,” McCaysville, Georgia. Copperhill also serves as a rail stop for two different heritage rail excursion companies. To the north, the Hiwassee River Railroad operates an excursion that begins in Etowah, TN and travels through the Gee Creek Wilderness, then returns to Etowah after a two-hour stopover in Copperhill. To the south, the Blue Ridge Scenic Railway runs tours along the Toccoa River between Copperhill and Blue Ridge, GA.

The majority of visitors traveling through the Basin stay either in Murphy, NC or Blue Ridge, GA. (See **Figure 2.**) The town of Murphy is located 25 miles east of Ducktown along US 64. Although its population is less than 1,700 people, the town is home to various lodging, restaurants and retail, including Harrah’s Cherokee Valley Casino resort.

Blue Ridge lies about 15 miles south of Ducktown, reached via Tennessee’s SR 68 and Georgia’s SR 5. Like Murphy, the city has fewer than 1,500 residents but has become known as a tourist destination with a vibrant artist community, eclectic retail, restaurants and a community theater.

Figure 2: Regional Context



1.3 Stakeholder Input

In the first stage of this study, the project team spoke with Ducktown city staff, the Tennessee Department of Transportation (TDOT), the Southeast Tennessee Development District, US Forest Service, Polk County Chamber of Commerce, The Lyndhurst Foundation, the Ducktown Basin Museum, Tennessee Overhill Heritage Association, Southeast Tennessee Tourism Association, Glenn Springs Holdings, Inc., and various local business owners. These agency and stakeholder interviews provided insight on Ducktown’s strengths, weaknesses, opportunities, and potential threats in relation to transportation and tourism, further discussed below.

STRENGTHS

- ▶ ***Adjacent to Cherokee National Forest and Ocoee Scenic Byway.*** The City of Ducktown currently brands itself as “Gateway to the Cherokee National Forest,” which helps associate it with the popular outdoor recreational activities available on these public lands. This includes whitewater rafting on the Ocoee River, hiking or bicycling on the Forest’s many trails, picnicking, fishing, and recreational drives along US 64, also designated as the Ocoee Scenic Byway. All of these activities are made available immediately adjacent to Ducktown, without requiring any maintenance or operating costs from the City.
- ▶ ***Ducktown Basin Museum.*** The Ducktown Basin Museum is the City’s most important tourist asset. As mentioned previously, the Museum contains an array of mining artifacts and educational exhibits, a view of the encapsulated Burra Burra Mine site, and is beginning to further develop the other historic resources on the 300-acre site, such as the Hoist House. The Museum attracts a wide variety of visitors ranging from retirees, students, families on vacation, and families who live nearby and are entertaining visiting friends or relatives.



- ▶ ***Ducktown Solar Farm.*** In recent years the City has constructed a solar power generating facility on the north side of town which provides for an impressive 60 percent of Ducktown’s electric power needs. The solar farm reinforces the Museum’s message that environmental restoration and stewardship are an important part of the City’s past, present and future.

- ▶ ***Other public attractions.*** Ducktown City Park, constructed on one of the city’s highest points, offers expansive scenic views of the surrounding Cherokee National Forest, although it is primarily oriented to local residents. Various community arts and beautification projects have also been launched, resulting in Friendship Park – a “pocket park” with outdoor seating located in a vacant space between buildings on downtown Main Street – and a roadside mural painted on a retaining wall along the SR 68 corridor.

- ▶ ***Recreational Activities.*** In addition to the activities available in the Cherokee National Forest, the City has its own recreational resources to offer visitors and residents alike. Walking trails travel through and highlight the rejuvenated Copper Basin, connecting the Ducktown Basin Museum, the Solar Farm and the nearby North Potato Creek watershed. A nine-hole golf course is located along SR 68. South of US 64, the Thunder Rock BMX Park offers dirt-track bicycle motocross racing.

- ▶ ***Available land.*** A considerable amount of available, open and/or vacant land within the City of Ducktown is owned by large entities such as the City of Ducktown, State of Tennessee, Fourth Fractional Partnership, and the Occidental Petroleum Corporation. This means that if a major initiative were proposed, it would not be necessary to coordinate with a large number of landowners in order to site a new park, campground, or other large facility.



- ▶ **Regional partnerships.** The Tennessee Overhill Heritage Program website does an excellent job promoting all activities and lodging within the Copper Basin, providing one place for information on area attractions. Ducktown also benefits from the promotions of the Southeast Tennessee Tourism Association (SETTA). SETTA is housed at the Southeast Tennessee Development District, a regional government agency composed of cities and counties in the greater Chattanooga region, including the City of Ducktown.

WEAKNESSES

- ▶ **Isolation.** The City of Ducktown is surrounded by the Cherokee National Forest and is geographically located within a basin. Both factors have resulted in the City being somewhat secluded from major metropolitan areas. The construction of Copper Road (US 64) and the rail lines built for the mining industry, along with the widening of SR 68, are the only major transportation infrastructure investments that have been made in the area. Residents and businesses look forward to the improvements proposed for Corridor K, but the ultimate completion of that project is likely more than a decade away. Apart from the major federal and state highways, the area has not been able to keep up with the needs for local infrastructure. Some stakeholders describe local streets as very poor, with the need for improvements such as roadway repaving and restriping. Finally, Ducktown lacks a rail station, and with one already existing in Copperhill, it is not clear whether rail excursions would add another stop so close to the end of the line.
- ▶ **Tourism support services.** Stakeholders identify a need for services that cater to the needs of visitors. Ducktown currently lacks restaurants, retail, and other services such as bicycle rental that could support the nearby adventure tourism activities. There is interest in attracting additional stores that would offer supplies both for tourists and local residents. A one-stop visitor center for the Copper Basin area was also suggested. Lack of lodging is



frequently cited as a challenge for drawing visitors to the Ducktown area. More campgrounds, cabins, and short-term rentals by homeowners are viewed as the best answer to this need.

- ▶ **Accessibility/visibility.** Another concern is the major interchange at US 64 and SR 68. Although its scale seems to express the importance of the area, which could be a plus for Ducktown, visitors must make a conscious choice to take the exit ramp at the SR 68 interchange and drive north into the city. Since the core of the city is located over a large hill and out of sight from US 64, there are no immediate attractions in view that would motivate travelers to leave the byway and venture into the city. Signage could help, but existing signage for the area is not highly visible and stakeholders say a cohesive “brand” is needed to capture travelers’ attention.
- ▶ **Resources.** With a population of fewer than 500 people, the City of Ducktown does not receive much revenue from local and state-shared taxes. It has been challenging to attract new jobs and residents of working age, perhaps in part due to Ducktown’s distance from major metropolitan markets. In recent years, the City has been very successful in winning grant funds to make various community investments (see Section 4), but ongoing resources are needed to operate community services and maintain the condition of local infrastructure.



OPPORTUNITIES

- ▶ **Expand ecotourism.** One of the area’s original weaknesses – its barren landscape – has been turned into an opportunity to attract and educate visitors. The Basin is now one of the most complex and comprehensive environmental restoration sites in the U.S. The Ducktown Basin Museum provides an interpretation of these activities for visitors, as does Glenn Springs Holdings, which sponsors environmental education to describe the remediation

efforts to enhance the biological integrity of the area. A cohesive brand having to do with Ducktown’s history and/or ecotourism would help market to tourists traveling through the area.

- ▶ **Celebrate local culture.** According to stakeholders there has been some discussion of bringing back the “Picking Parties” to enjoy live performances of bluegrass music, said to be a hobby for many former coal miners in the area. One suggestion is to host the parties at the Burra Burra Mine’s Hoist House. There is also interest in an “art trail” to be developed by local students to connect the existing walking trails to Friendship Park, Ducktown Basin Museum and the Solar Farm. In fact, the roadside mural along SR-68 was painted by local high school students to pay tribute to the mining history – and now the biological integrity – of the City of Ducktown.
- ▶ **Build on outdoor recreation.** As noted, Ducktown is well positioned to offer its visitors a wealth of outdoor recreational resources, including the Forest’s hiking and biking trails and whitewater rafting on the Ocoee River (site of the 1996 Olympics events). There are opportunities for Ducktown to create more of these opportunities closer to its own central business district. The Museum is located on about 1,400 acres of reclaimed mine property owned by the Occidental Petroleum Corporation; this property has the potential to be a future location for additional walking/hiking, biking or horseback riding trails.
- ▶ **Target additional visitor markets.** Stakeholders also suggest developing “niche tourism” that appeals to specialized markets such as dog lovers, motorcyclists and retired persons. Supporting retail could include motorcycle bars or shops, dog parks, and antique shops.



Barker Brothers at Miner’s Homecoming Festival



Smokymountainrider.com

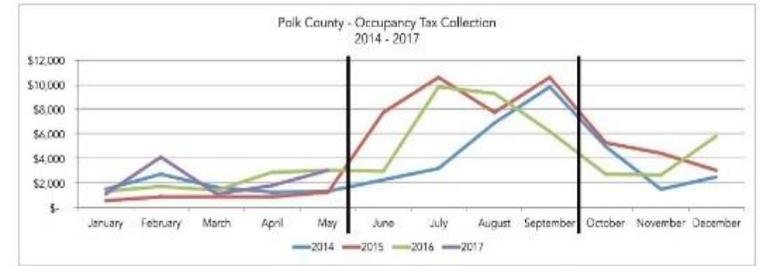
- ▶ **Redevelop Kimsey Junior College.** Another identified opportunity is to redevelop the vacant Kimsey Junior College for redevelopment, which could house any number of projects as it sits on approximately 300 acres owned by the Fourth Fractional Township. In the past, satellite colleges have looked at this property.
- ▶ **Hands-on mine education.** Some stakeholders note that visitors would enjoy seeing a former mine if it were possible to re-open a portion of a closed facility.
- ▶ **Be creative with lodging solutions.** According to stakeholders, there are a number of homes in the Ducktown area that have been purchased by people who make it a vacation home for weekend visits or a part-time second home, perhaps spending winters in warmer states. With the rise of Internet websites for home-sharing (such as AirBnB), the City may have an opportunity to encourage these homeowners to consider short-term rental to visitors. Ducktown’s downtown area (Main Street), where much of the property is currently owned by the City, would be a convenient location for additional inn-style lodging; at least one bed and breakfast establishment already operates there. For any structures that qualify as historic, tax credits may be available for redevelopment of the property as lodging.
- ▶ **Transportation related opportunities** include improvements to infrastructure (both road and rail) to draw traffic from US-64 north to SR-68 to Ducktown’s downtown area. Currently, there are two major proposed highway projects which might help draw more traffic to the area: the Corridor K (US-64) project in Tennessee and the Highway 5 Bypass project in Georgia which will connect to SR-68. In addition, the two rail excursions that stop in Copperhill are bringing visitors into the area. Stakeholders express interest in attract some of those travelers to stay longer or make a return visit to Ducktown.



Hiwassee River Rail Adventures

- ▶ **Polk County partnerships.** Polk County has just completed a Tourism Asset Development Plan which identifies many of the same strengths and weaknesses that were shared by Ducktown area stakeholders for this plan. With limited resources, communities can likely address certain gaps more effectively than if they worked separately. It is true that coordination in Polk County can be somewhat challenging due to the physical separation of the eastern and western parts of the county by the Cherokee National Forest. Certain public services that rural communities typically cannot afford to duplicate are nonetheless handled independently by each part of the county, due to the difficult logistics of consolidation. The chamber itself has two offices: one in East Polk County and one in West Polk County. However, promoting tourism has proven to be more effective at larger scales, especially when the goal is to attract visitors for longer stays, because people want to line up multiple activities in the same area.

**Tourism Season for Polk County
May-September**



Polk Co. Tourism Asset Development Plan (ChandlerThinks)

THREATS

- ▶ **Overreliance on rafting.** Some stakeholders have concern about a potential decline in the whitewater rafting market, a major reason that people visit the Ocoee Gorge. The market has fluctuated in the past, possibly due to a lack of tourist amenities and/or concerns that Ocoee Dam would be shut down. The seasonal nature of outdoor tourism makes it challenging for local businesses to manage finances and maintain local employment through the “slow” winter months. In diversifying the tourist industry, the City needs ways to spread visitor activities to the off-season months.

- ▶ **Temporary disruptions.** Construction of Corridor K, the highway improvement project along US-64 through the Ocoee River Gorge, could temporarily prevent or significantly hinder tourists from traveling through and/or to the City of Ducktown from the west. During this time, the City of Ducktown should consider focusing their marketing efforts towards other gateways to the Basin, such as Murphy and Blue Ridge. Similarly, rock slides in other areas on US 64 have created, and will likely continue to create, temporary road closures that could affect tourist-oriented businesses.

- ▶ **Not planning for US 64 development.** Like many communities, Ducktown is pursuing multiple angles for local economic development, including both tourism and new/expanded industries. A city industrial park has been developed on the west side of the city, with an outlet to US 64 located about a half-mile west of the city’s main gateway (US 64/SR 68 interchange). Given the potential to market the City’s location along a national scenic byway—US 64 is designated by the U.S. Forest Service as the Ocoee Scenic Byway—it is important to consider what Ducktown wants visitors to experience as they drive the portion of the route that falls within the city limits. Stakeholders indicate that there is some discussion of building a truck stop near the US 64/SR 68 interchange. If there is a desire to encourage certain other types of tourist-oriented development along US 64, or to maintain a certain scenic aesthetic, now is the time to develop and implement such policies.

- ▶ **Not taking action.** Perhaps the most significant threat is not to take any action to promote economic development, including tourism. With the decline of the mining industry and its local population, stakeholders agree the City needs to attract new investment, residents and business owners to ensure the community’s long-term survival.



Dan Henry, Chattanooga Times-Free Press

1.4 Plans and Grants Recently Completed or Underway

Through research and interviews with stakeholders, the project team identified previous studies, grants underway or recently completed in the area, and other ideas and initiatives that have been discussed but may not be in the form of a written plan. These are summarized in **Table 1**. Although the Asset-Based Economic Development Plan Update was not available until after the SWOT analysis was complete for this project, many of the same issues were identified, indicating consistency of stakeholder input.

Table 1: Existing Plans and Grant Projects for the Ducktown Vicinity

PLAN / PROJECT	SPONSOR	DESCRIPTION	STATUS
Future Use Plan for Copper Basin Site	Glenn Springs Holdings (OXY)	Identifies opportunities for trails and other amenities on the reclaimed mine site.	Complete. New plan reportedly underway for completion in 2018.
Safe Routes to School grant	TDOT	No infrastructure. Grant funded walking/biking safety education at elementary school .	Complete
Recreational Trails Program grant	TN Dept of Environment & Conservation	Phase I of Ducktown Greenway.	Complete
Transportation Alternatives grants (3)	TDOT	Sidewalk construction and/or reconstruction along Main St. and Five Points Dr., add streetlights, crosswalks. (1) Five Points Dr. and Main Street west of SR 68 (2) Main St. from SR 68 to City Hall (3) Main St. from City Hall to Vine St.	Projects 1 and 2 complete. Project 3 under construction.
Solar Farm	Community Development Block Grant -Energy Efficiency	Construction of a 28-kilowatt solar photovoltaic system on City property (north side of the City)	Completed 2012
Brownfield grant	SETDD	EPA brownfields grant that is examining redevelopment potential at the former Kimsey Junior College	Phase 1 environmental site assessment underway in 2017
Roadscapes grant	TDOT	Planting maple trees and other native plants at the US 64/SR 68 interchange for beautification	Design complete in 2015. On hold.
Polk County Tourism Asset Development Plan	TN Dept. of Economic & Community Development	Recommends ways to expand local tourism, including generation of funds for ongoing promotion efforts	Completed 2017
Asset-Based Economic Development Plan Update	City of Ducktown	Describes existing socioeconomics, facilities and services, and intrinsic qualities. Identifies outdoor recreation, heritage tourism, second home ownership and partnerships as key to city success.	Completed 2017

1.5 Existing Development Patterns

Land Use and Zoning Regulations

In its zoning ordinance, the City of Ducktown promulgates permitted land uses, prohibited land uses, and land uses permitted on appeal for properties in each district. Each zoning district also establishes yard area, lot width, height, parking, access control, and signage requirements for each property.

The Ducktown zoning ordinance provides for six designated land use districts in the city:

- **Central Business District:** Established to provide for the placement of retail and service businesses. It is envisioned that the Central Business District will contain businesses within close proximity to each other, and to generate significant pedestrian traffic.
- **Highway Commercial:** Intended for amusement, specialized sales, and travel accommodations to serve vehicle travelers. Lot sizes and development standards in the Highway Commercial District will be of sufficient size to allow for the free movement of traffic to continue unimpeded.
- **Industrial:** Intended for the location of manufacturing/assembly plants, processing, storage, warehousing, and distribution. The Industrial Zoning District is designed for most of the noise, odor, dust, and glare of operations to be confined within their buildings, with limited interaction with adjoining residential or commercial districts.
- **Low Density Residential:** Intended for single family residential dwellings. Located in areas with relatively low population densities, the Low Density Residential District is designed to be protected from the encroachment of adjoining districts that contain land uses incompatible to a residential environment.



- **Medium Density Residential:** Intended for a combination of single family and multifamily residential dwellings in areas with medium population densities. A key goal of land use regulation in the Medium Density Residential District is to prevent overcrowded buildings, traffic congestion, and overburdened sanitary facilities. Single- and two-family dwellings are permitted in the Medium Residential District, as well as bed and breakfasts. The Ducktown zoning ordinance provides an area requirement of 15,000 square feet for lots containing two dwelling units (20,000 square feet for lots on septic), with an additional 5,000 square feet for each additional unit.
- **High Density Residential:** Intended for a combination of single family and multifamily residential dwellings in areas with high population densities. A key goal of land use regulation in the High Density Residential District is to prevent overcrowded buildings, traffic congestion, and overburdened sanitary facilities. The primary distinctions between the High Density Residential and Medium Density Residential District are the permitted uses and area requirements that promote greater density in the High Density Residential District. The High Density Residential District allows for the same uses as allowed in the Medium Density Residential District. It also allows for multi-family dwellings and single-wide manufactured homes on single lots. The Ducktown zoning ordinance provides an area requirement of 10,000 square feet for lots containing two dwelling units (25,000 square feet for lots on septic), with an additional 5,000 square feet for each additional unit.



Existing Land Use and Zoning

As identified earlier, the City includes a significant amount of undeveloped land and vacant properties such as the commercial buildings in the northwest quadrant of the US 64/SR 68 interchange (a former motel and a tanning salon/video store). On the far north side of Ducktown, the former site of Kimsey Junior College is being evaluated for potential redevelopment. The City also owns several vacant or undeveloped properties along Main Street.

Table 2 shows the approximate acreage designated for various zoning categories. The City covers about 2,180 acres, or about 3.4 square miles. Nearly 60 percent of all land in Ducktown is zoned for residential use, mostly for low density residential use. Highway commercial and industrially zoned land each make up about 20 percent of the citywide total. Less than 1 percent of the City’s total area is included in the Central Business District.

As shown in **Figure 3**, areas designated for low density residential use are located primarily in the northern portion of the City and west of the Copper Basin Medical Center, south of Cherokee Trail. The medium density residential district is located just north of US 64, surrounding Main Street and College Street. Land zoned for high density residential use is primarily located in two areas: on the west side of SR 68, just north of Five Point Drive; and along the east side of Industrial Drive, where the zoned land encompasses the site of an existing nursing home. Several public, quasi-public, and institutional uses such as the Ducktown Basin Museum, Police Station, the Mine City Baptist Church, Ducktown City Park, and the Solar Farm are also located in residentially zoned districts.

The Highway Commercial District runs the full length of the US 64 corridor throughout the City. It also extends roughly a half-mile from the US 64/SR 68 interchange to the southwest and northeast. Highway Commercial zoning encompasses the area that currently includes the Copper Basin Medical Center, the local elementary and high schools, banks, gasoline, a grocery store, a discount store and a motel.

Table 2: Zoning Districts by Area

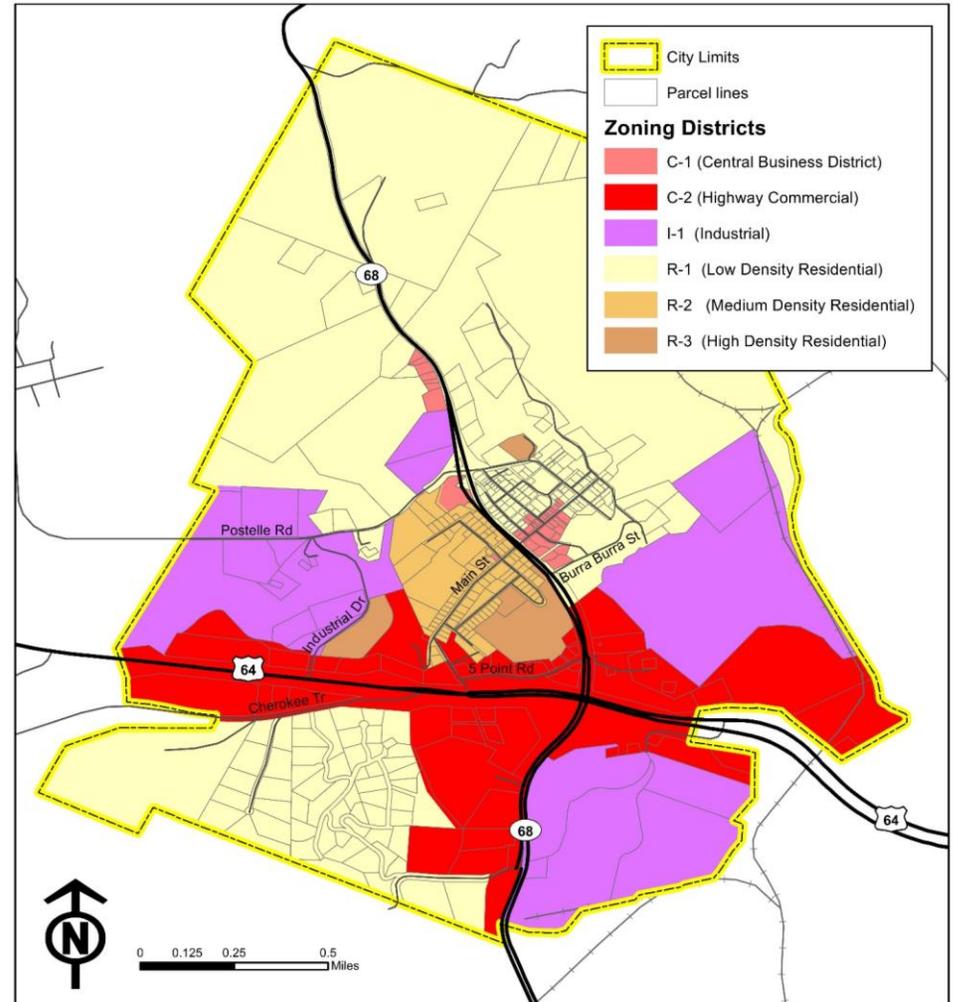
ZONING DISTRICT	AREA (IN ACRES)	PERCENT
Central Business District	18.8	0.9
Highway Commercial	414.8	19.0
Industrial	446.9	20.5
Low Density Residential	1,192.7	54.6
Medium Density Residential	72.8	3.3
High Density Residential	37.8	1.7
Total*	2,183.8	100

**Totals may not add precisely due to rounding*

Industrial land represents approximately 20 percent of all land use. The city industrial park, located on the west side of the city, north of US 64, is home to Preferred Medical Products. On the opposite side of the city, the former Burra Burra Mine forms a large tract of industrially zoned property that is being redeveloped for less intensive land uses. A smaller industrial district northwest of the SR 68/Postelle Road intersection is home to Angio Systems, Inc., a medical supply firm, and Blue Ridge Textile. South of US 64, in the southeast area of the city, is a large industrial tract consisting of former mine property and currently housing a State Forestry Division office.

The Central Business District includes property along Main Street between SR 68 and Vine Street, where City Hall is located along with a law office, dentist, salon, a game store, thrift shop and two bed and breakfast facilities. CBD zoning is also designated in two other small areas along SR 68 north of Main Street; one includes a child care center, and the other does not have any apparent commercial operations.

Figure 3: Ducktown Zoning Map



Data as of May 2016, provided by the Southeast Tennessee Development District

2 TRANSPORTATION-BASED TOURISM

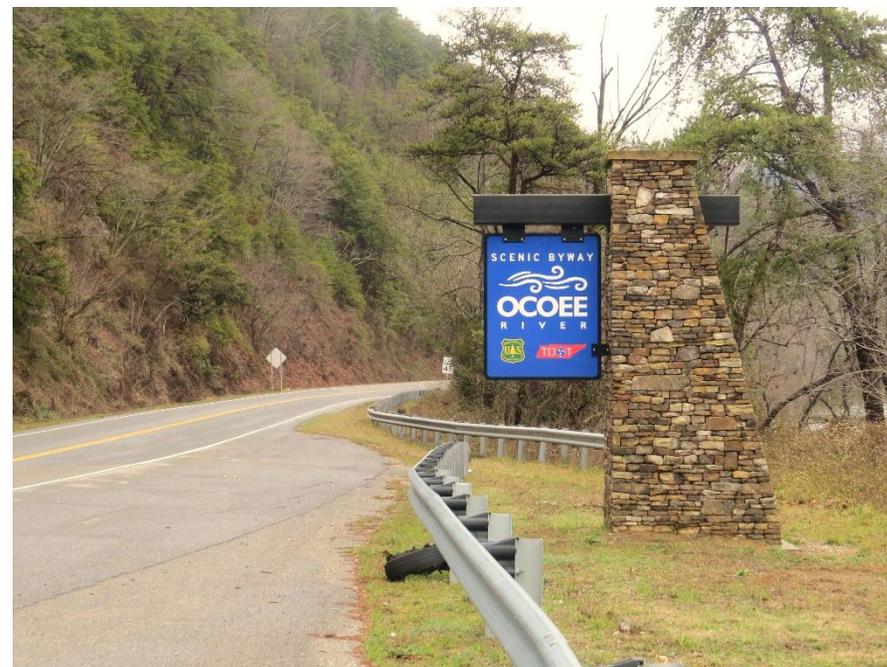
This section discusses the multiple transportation-based tourism assets that are located within or within a few miles of Ducktown, and suggests strategies for the City to capitalize on them.

2.1 Roads and Driving Routes

Ocoee Scenic Byway. Old Copper Road, now US 64, was originally built and utilized to transport copper ore through the Ocoee River Gorge. In addition to this historic importance, US 64 has another notable designation in the region: it is designated as the Ocoee Scenic Byway, which was the first National Forest Service byway in the nation. The official byway designation begins and ends at the Cherokee National Forest boundaries, less than a mile from Ducktown.

The byway totals 26 miles in length, including 19 miles along US 64 and a seven-mile spur that follows Forest Service Road 77 up Chilhowee Mountain to the Oswald Dome Overlook. The section through the gorge is primarily a narrow two-lane roadway with periodic places to pull off. Approximately one mile west of the Ocoee Whitewater Center, the byway was expanded to a four-lane divided roadway to accommodate traffic from the 1996 Olympics.

A set of attractive roadside signs have recently been installed on US 64 to mark the official byway boundaries. The Ocoee Scenic Byway's national designation means it has been chosen for an exclusive set of routes where drivers can be sure they will experience outstanding scenic and historic resources. Although the federal byways program that once provided grants for improvements has not received funding from Congress for many years, national byways still have a special reputation and are promoted on major websites that promote recreational driving and tourism.

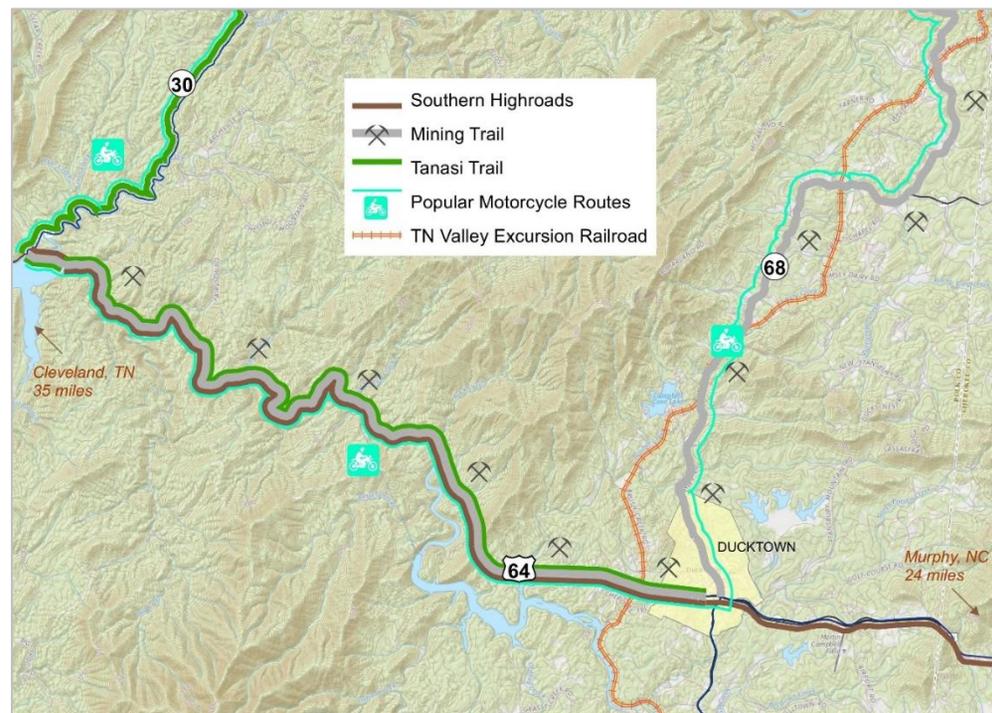


Driving Tours. Ducktown is located along a number of other recreational driving routes. Many of them have been created to promote rural tourism by designating certain roads as linked to natural and/or cultural themes for visitors to learn about and enjoy.

- ▶ The City’s portion of US 64 is part of the **Southern Highlands Route**, which travels through 13 counties and four states, and promotes heritage tourism for the Southeast region. The route is advertised as the juxtaposition of the “old and new,” particularly “ancient historical sites and modern day conveniences.” The route’s website offers information for adventure sports, nature, and history enthusiasts.
- ▶ Ducktown is also located along the **Tanasi Trail** designated by the Tennessee Department of Tourist Development. The Tanasi Trail, which routes drivers along the Ocoee Scenic Byway and continues on US 64 through the City, offers exploration of “rails, trails and roads, including early Native American footpaths, the passages of the early westbound settlers, the railroads that changed life and commerce forever, and today’s protected scenic byways and gorgeous overlooks.” Highlighted sites along the route include the Ducktown Basin Museum.

The brochure which was originally printed for the Tanasi Trail included a “River Country” section describing the Ocoee River as a thrill-seeking mecca, as well as a “Copper Mining” section describing the area’s history of economic development and ecological deterioration – and highlighted the ongoing reclamation efforts. The brochure no longer appears to be available on the state tourism website, and promotion of the Tanasi Trail for the Polk County area now appears to be focused on the whitewater rafting experience. Ducktown may wish to post some of the original brochure on its own website, given the key role of copper mining in the City’s tourist activities.

Figure 1: Driving Tours and Excursion Railroad



- ▶ The **Southeast Tennessee Mining Trail** also runs along US 64 but turns northward to follow SR 68 through the City. This trail, promoted by the Southeast Tennessee Tourism Association, navigates drivers through various mining and manufacturing sites in Southeast Tennessee, including museums and sites along the way that interpret the region’s mining history. The organization provides tourists with the trail information in a variety of ways: interactively on its website, through a downloadable brochure, and via a smartphone application.

Sites highlighted on the Mining Trail include the Ducktown Basin Museum and the Old Copper Road (now US 64). The Burra Burra Mine is also highlighted as the center of copper refining and related sulfuric acid production in Copperhill. The Central Headframe – which is visible from many parts of Ducktown as well as US 64 and SR 68 – is not mentioned in the trail’s promotional materials, but could be considered for future inclusion since it is on the National Register of Historic Places.

Motorcycle routes. Both US 64 and SR 68 are also publicized as popular roads for travel by motorcyclists, both for the area’s scenery and for the exciting driving experience along steep and sharply curving highways.

The City should work with the Southeast Tennessee Tourism Association to provide local businesses with promotional materials about the driving trails, and encourage them to share them with visitors. As Ducktown adds new lodging and dining options, it should ensure these establishments are included in promotions as appropriate.



2.2 Rail

Two excursion railroads operate near Ducktown, traveling north and south from downtown Copperhill.

- ▶ **Tennessee Valley Rail** currently offers two excursions southward from Etowah. One is a 3 ½-hour trip through Cherokee National Forest and the lower Hiwassee River Gorge, and over the historic Hiwassee Loop (an “engineering marvel” built in the days of copper mining to shorten the time required for transporting materials). This is a 50-mile round trip with no stops.

The second excursion is a day-trip that follows the same path southward from Etowah to the Hiwassee Loop, but continues on to the depot in downtown Copperhill. Passengers arrive in Copperhill around lunchtime for a 90-minute layover before returning to the L&N Depot in Etowah, a round trip of about 90 miles.

- ▶ The **Blue Ridge Scenic Railway** provides regular scheduled trips to and from the historic downtown depot in Blue Ridge. Its 26-mile excursion north to Copperhill takes about four hours round-trip, following the Toccoa River on its route. Passengers can choose open-air rail cars or “vintage, climate-controlled” cars, according to the company’s website. Upon arriving in Copperhill (located on the state line directly adjacent to its sister city of McCaysville, Ga.), passengers are given a two-hour layover for shopping, lunch, snacks and walks along the river.

Although there has been some discussion of a potential station/stop in Ducktown, the excursion line passes through the area more than a mile from downtown. Even if a depot and connections were established, the rail companies are unlikely to stop twice in the space of a few miles. However, there are other opportunities for Ducktown to capitalize on the rail excursion and the proximity of the Copperhill layover. Some tourists who post on-line reviews of



Hiwassee River Rail Adventure, ttrail.com

the rail excursions say they became impatient with the length of the trip. This is especially true for families with children since the novelty of a train ride can wear off after a couple of hours.

Ducktown could market itself as another excursion for passengers who are ready to stop after the first leg of their rail trip. The City would provide a shuttle pickup in downtown Copperhill, when passengers are dropped off at lunchtime, to take visitors up to the Ducktown Basin Museum. Visitors could browse Main Street before or after touring the museum, then be driven back in the late afternoon to the rail station where they began their trip. Since the rail company collects its ticket fare at the beginning of the excursion, intercepting passengers at Copperhill will not affect its revenue.

Blue Ridge Scenic Railway passengers may be a better opportunity for Ducktown to target for an afternoon museum excursion. The road trip from the museum back to Blue Ridge is only a half-hour, as opposed to more than an hour's travel to the Etowah depot. However, the trip to Etowah could be marketed as an opportunity for visitors to be driven along the Ocoee Scenic Byway, whose impressive views can be difficult to appreciate if you are the driver and must pay attention to the sharp curves.



2.3 River

The Ocoee River is perhaps the best-known tourism asset the City has, and one that is already well-marketed by the state, the Southeast Tennessee Tourism Association, Tennessee Overhill, and other partners. Multiple whitewater rafting companies are located in or at the edge of the City, and use US 64 to access the river put-in sites.

Tubing the Lower Ocoee River is an activity that the City may not have promoted as heavily, and should consider targeting for tourists. Not all outdoor enthusiasts are looking for a thrill as intense as whitewater rafting, and may not realize they can enjoy the Ocoee's calmer Class I and II

rapids. Large groups of visitors might choose to split up so each can pursue their desired level of adventure for the day. Families with younger children may especially prefer tubing as an introduction to river sports.

Alternatively, the City could direct visitors to the Toccoa River, where a tubing company is located in McCaysville, Ga. However, promoting the Ocoee is more likely to bring visitors back to Ducktown after their trip, since it is the closest town to the tubing drop-in point.

Most of the local outdoor adventure companies offer tubing excursions in addition to guided whitewater rafting trips. It is simply a matter of including photos and descriptions of tubing in the marketing materials that the City uses, and reminding local businesses to mention it as an option. The “extreme sports” theme is valuable in attracting young visitors from the greater Chattanooga and even the Atlanta areas, but the nation’s population overall is aging, and older visitors tend to have more time to travel and more money to spend. It is worth diversifying to attract a broader audience for the Ocoee.

2.4 Trails

As described in the Existing Plans and Initiatives report, the City has been developing an internal trail system that links the museum and solar farm, then continues generally northeast from the solar farm along an abandoned railbed. Plans are to continue to extend this greenway along the railbed turning south and heading toward Copperhill. Though outside the City’s immediate jurisdiction, a long-range trail connection to Copperhill could offer opportunities to encourage cycling between the two cities.

The City anticipates building a new trail system within the Burra Burra Mine Site once environmental remediation has been completed. At the time this plan was developed, the site owner indicated it is not yet possible to determine future trail locations in the North Potato Creek watershed because the site’s comprehensive development plan is outdated and a new plan is not yet underway.



Credit: Outdoor Adventure Rafting, ocoee.com

Just outside the city, Cherokee National Forest offers a wealth of trails for both hiking and mountain biking. (Some trails allow both activities, while others are designated solely for hikers.) The closest are about two miles west of the city limits, where the Brush Creek and Boyd Gap trails provide a combined 12-mile trip for mountain bikers. The Brush Creek Trailhead is about a mile and a half west of the city limits, just east of the #3 Dam Road.

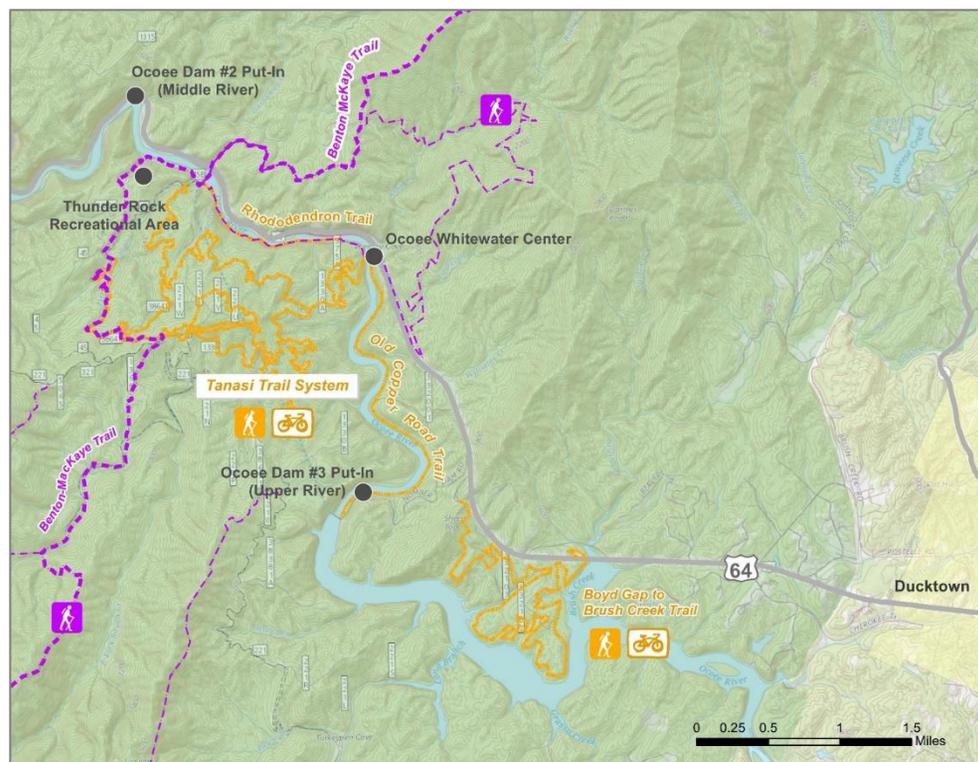
Other Forest Service trails that are readily accessible from Ducktown and US 64, and suitable for a broad range of ability, include:

- ▶ The **Rhododendron Trail** is a 1.2-mile (one way), ADA-accessible trail that begins at the Ocoee Whitewater Center picnic area and heads west to the Thunder Rock Campground. The trail follows the Ocoee River, giving hikers a view of rafters and kayakers passing by.
- ▶ The **Old Copper Road Trail** is 5.6 miles, also beginning at the Ocoee Whitewater Center but heading eastward along the Ocoee River to the Ocoee Dam #3 put-in. Users note that the trail gets heavy use by mountain bikers during summer weekends, so hikers should be alert if using the trail during those times.

Both trails are connections within the larger Tanasi Trail system.

Ducktown is also located very near the **Benton McKaye Trail**, a backcountry trail of nearly 300 miles through portions of north Georgia, Southeast Tennessee and Western North Carolina. It crosses US 64 less than four miles from Ducktown. The City is listed on the official trail website as a town where long-distance hikers can replenish supplies. A Ducktown motel is mentioned as a place where hikers can stay overnight, do laundry, take advantage of Internet service, and use the motel shuttle to get to/from the trail.

Figure 2: Hiking and Mountain Biking Trails in the Immediate Vicinity



3 RECOMMENDATIONS FOR VISITOR ROUTING, SIGNAGE, AND CONNECTIONS

This section of the plan recommends projects and strategies to help Ducktown boost its visibility along the US 64 corridor and provide visitors with a clear set of routes and signage to find their way among its key destinations. It also recommends new connections and downtown area enhancements to help attract and keep visitors close to redeveloping businesses along Main Street.

3.1 Gateway at the US 64/SR 68 interchange

The Issue

- ▶ Downtown, where the City would like to encourage commerce, is not visible from US 64. Based on existing highway signs, it is not necessarily obvious to visitors that they are already in the city. In addition, out-of-town travelers driving along US 64 may be somewhat reluctant to exit at the interchange because of the sense that they are completely departing their route.

Marking the US 64/Main Street intersection as the official entrance to the city is an option, but would draw traffic northward on Main Street into residential areas. What is needed is something to encourage visitors to use the interchange, and make it clear that they are heading for a desirable destination.

Recommendation

- ▶ **Construct a landscaped gateway** that includes a city sign, placed on the north slope of the SR 68 interchange facing travelers who are driving east along US 64. Placing it on the north side of US 64 will help visually communicate to drivers which side of the interchange Ducktown is on.



Although the project would be in the state right-of-way, there are examples along I-40 in Knoxville and other communities around Tennessee where TDOT has permitted this type of gateway to be constructed at a highway interchange.

Figure 3 (next page) offers a visualization of what this project might look like. As shown, the sign would be built of stone with attached metal lettering, using long-lasting materials that will not require frequent maintenance. The stone pattern, size and color are similar to those used for the monument signs at each entrance to the Ocoee Scenic Byway, helping the City emphasize its association with the byway and the other scenic resources of Cherokee National Forest.

Ornamental shrubs and grasses would surround the sign, planted in terraces to minimize slope erosion. If the owner of the motel adjacent to this location is interested, additional plantings could be placed to help screen the concrete block wall that encloses the swimming pool.



Implementation

- ▶ **Apply to the TDOT Gateway Monument program**, whose guidelines were published by TDOT in 2014. Projects permitted under this program may include a city welcome sign, but must also include significant landscape or architectural features that create an attractive gateway. The local government submitting the application must agree to maintain the significant features, although TDOT will perform the types of routine maintenance that were done for the road prior to the gateway's construction (for example, litter pickup). Maximum gateway project dimensions are 25 feet wide, 20 feet in height, and 10 feet deep.

The City could explore the possibility of redirecting resources from its previous Roadscapes grant, which has not been implemented, to fund this project.

Figure 3: Proposed Gateway at the US 64 / SR 68 Interchange



3.2 Improve signage and reduce sign clutter

The Issues

- ▶ Over the years, numerous signs have been posted along US 64, SR 68 and other significant city streets. In many locations, signs are difficult to read because they have deteriorated or are so closely spaced that they block each other.
- ▶ The number of signs and their inconsistency in style does not give travelers the impression that there is an organized effort to attract and guide visitors. The age of some signs may suggest to visitors that the resources they are publicizing may not be in good repair either.

Recommendations for Signage

- ▶ **Upgrade, replace and relocate road signs along US 64 to meet current engineering standards and create a more consistent, appealing impression on visitors.**

Signage along the US 64 corridor should be reviewed and modified to improve traveler guidance and safety information. Making changes to specific road signs must be done as a result of an engineering study and approved by TDOT. However, there are a number of issues that are apparent throughout Ducktown's portion of the corridor that the engineering study should address.

- ❖ Overall **size** of the sign and the **font** that is used. USDOT performs ongoing safety research to test various sign styles to see which ones can be most easily seen, read, and understood. Many of the newer road signs have been designed and tested for readability by older drivers. Given the mix of heavy truck traffic, recreational vehicles and passenger vehicles and the lack of nighttime lighting, it may be particularly important to install signs on US 64 that meet the latest standards.



Cluttered signage at the US 64/SR 68 interchange, where visitors must quickly decide whether to exit to Ducktown, and choose the correct turn.

- ❖ **Spacing.** The engineering study should look at whether advance directional signs are located far enough in advance for drivers to absorb the information and react in time. The total number of signs may also need to be reduced, or some signs relocated to less crowded areas, particularly on US 64 near the SR 68 interchange.
- ❖ **Hospital.** Given the potential for serious injury in adventure sports such as whitewater rafting, it is critical in this region to provide accurate information about medical facilities. TDOT's criteria for posting directional signs to hospitals requires that the facility be open for emergency care 24 hours per day, seven days per week. Due to recent budget issues, Copper Basin Medical Center has unfortunately been forced to cut back on services. The hospital sign on US 64 near the SR 68 interchange should likely be removed, subject to confirmation by the necessary engineering study.

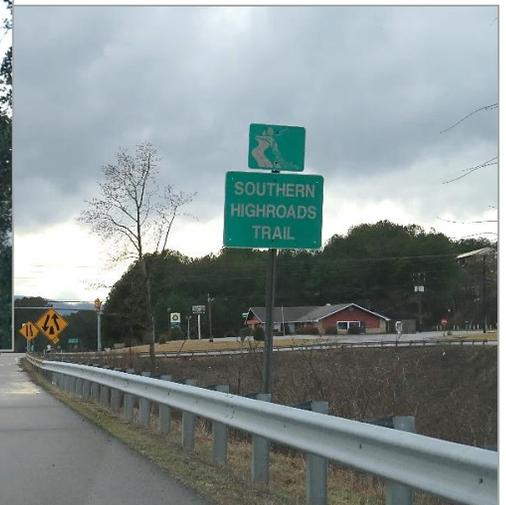


This Ducktown Basin Museum sign should be relocated to a place along US 64 where other signs do not compete with its message.

▶ **Create visually consistent signage to improve visitors' appreciation and understanding of the resources available to them.**

Over the years, many initiatives have arisen to publicize various items of natural and cultural interest, including the driving tours described in Section 1. Without consistency in color, size, or font, the traveler does not receive the impression of an organized program. Currently there are signs that publicize the same resources but do not even resemble each other.

Similar to the review of official highway signs along US 64, Ducktown and its tourism partners should review the various cultural road signs and replace them as needed. One decision to make is how to promote the Discover Tennessee Trails and Byways, since the state no longer prints the brochures and the state tourism website is continually changing. If the underlying information is difficult to find, the road signs for the driving routes are no longer useful.



► **Establish a City wayfinding system, using a distinctive style of signage.**

Visitors' attention is drawn to signage that stands out from the normal roadway signs that surround them during their trip. As drivers exit the US 64 interchange and drive north on SR 68, there should be visual cues to let them know that their destination is just up the hill. The same distinctive looking signs should be repeated at regular intervals along the road. This system re-assures strangers that they have not missed a turn, and that someone has planned a route that will be regularly marked along the way.

In Ducktown, the key destinations that should be listed on wayfinding signs are the museum, Main Street/downtown, the solar farm and the US 64 corridor. At the City's option, the signs might also direct visitors to the community park, a high point in the city which offers an outstanding view.

Recommended sign placement for in-bound travelers includes:

- ❖ On the east side of SR 68 at Burra Burra Road. This sign would replace the museum's entrance sign at this location, since museum visitors would be re-routed up SR 68 to turn right on Main Street (further detail in Section 2.3).
- ❖ On the east side of SR 68 in advance of the Main Street intersection, indicating a right turn for Main Street/Downtown, the Museum and the Solar Farm.
- ❖ On Main Street at Muncher Street, indicating a right turn on Muncher Street for the Museum and straight ahead for Main Street and the Solar Farm. Friendship Park might also be added as a destination to the signs on Main Street.

Similar signs would be placed in the opposing direction to help guide out-bound visitors back to the US 64 corridor.



At top: an example of a wayfinding sign from Rock Hill, SC designed for roadside installation, with large text that can be easily read from a car.



Below: example of a wayfinding sign from downtown Franklin, TN which is designed at a pedestrian scale and is appropriate to place along a sidewalk or beside a building.

As new signage is developed, Ducktown should consider using some of the same visual elements as the Ocoee Scenic Byway signs that were recently erected on US 64 near the Cherokee National Forest boundaries.

Images of the iconic Central Headframe have been used in various signs around the Copper Basin. As shown at right, the angle of the Headframe echoes the angle of the stone structures used for the new byway signs, perhaps providing some design inspiration for whatever new signs are developed.

Sign materials could include stone where appropriate, reminding visitors of the rocky slopes they drive past while traveling through the Ocoee River Gorge, and the rocks in the river itself. Copper might also be used in signage for its obvious historic connection to the region.



Other sign ideas could involve using symbols like a pickaxe and a kayak paddle. For example, the graphic below quickly communicates the city's two primary tourist draws: mining history and adventure sports.



A simple logo – with or without the city's name on it – could be used in many ways to draw attention to Ducktown's unique identity:

- ❖ Mounted on structures, like the US Forest Service symbol on this bridge at the Ocoee Whitewater Center (*photo at upper right*);
- ❖ Stamped into concrete, as the three-star symbol for Tennessee has been added to this bridge (*photo at lower right*); or
- ❖ Used on banners for light poles throughout the city.

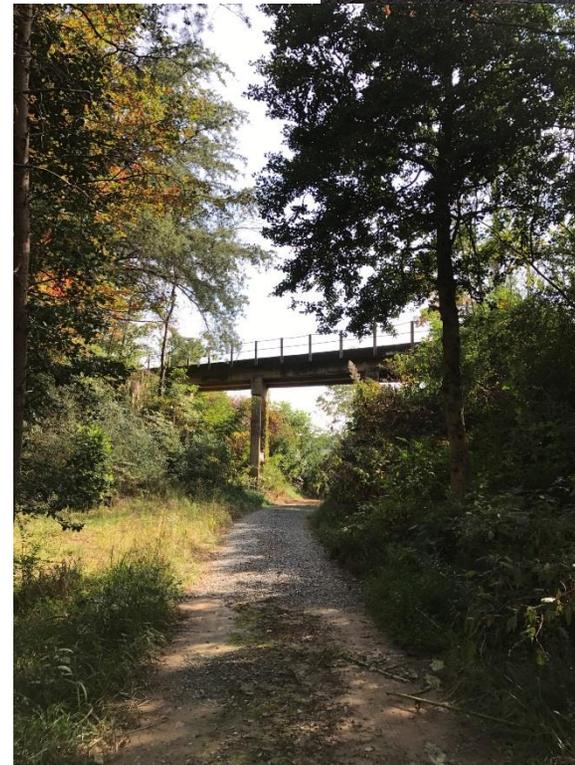
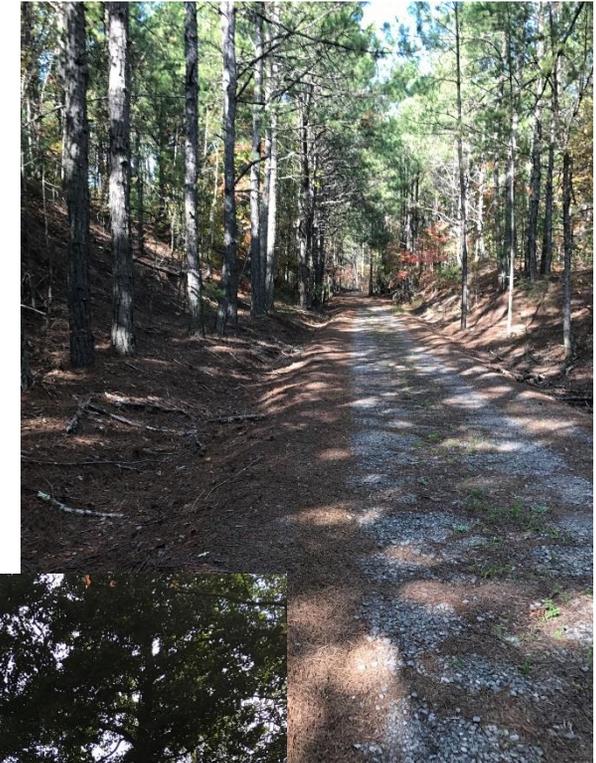


▶ **Add signs along the City trail that links the museum and solar farm.**

Although the trail between the museum and solar farm is relatively short, it offers a quiet walk through a wooded area where it is not always possible to see more than a short distance ahead. There is charm in not being able to see the end of your path, since it provides a sense of adventure. However, visitors on an unmarked trail may be a little uneasy about whether they are on private property and whether there is anything at the end of the trail.

The City should install a few small, simple signs that let visitors know the trail is official, and what they will find there. Three signs are recommended: at the museum trailhead, at the solar farm trailhead, and a third sign posted along the path a short distance after the walker has passed under the old bridge heading toward the solar farm.

As the City continues to extend the trail past the solar farm along the abandoned railbed, additional signs can be posted to indicate the next waypoint.



Implementation – Signage Recommendations

Improve signage and reduce sign clutter along US 64

- ▶ Work with the Region 2 office to request a review of signs along the US 64 corridor to determine which ones do not meet current standards, and evaluate placement of signs to help motorists see and understand sign information early enough to react. Funding to replace the signs will be the state’s responsibility; some may already be scheduled for replacement due to recent requirements for sign retroreflectivity.

Establish a City wayfinding system

- ▶ TDOT has policies and regulations for cities to use in designing their wayfinding system and individual signs. The next step for Ducktown is to have someone design a local system that is consistent with local residents’ tastes while also meeting TDOT requirements. Transportation Alternatives grants could potentially be used to fund the signs and installation.

Add signs along the City trail that links the museum and solar farm

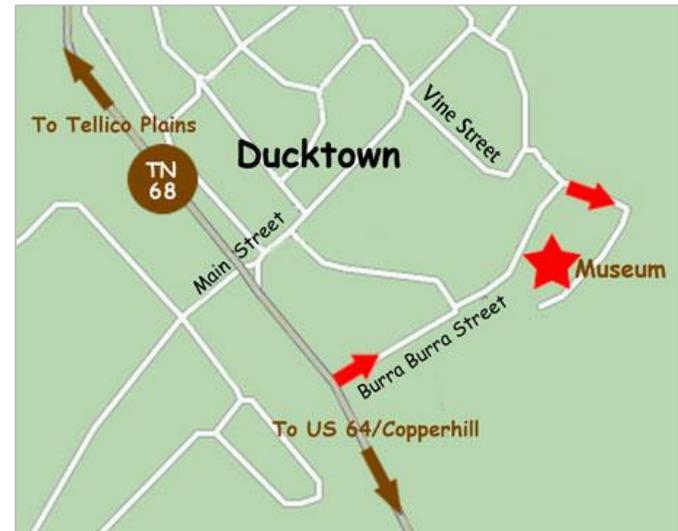
- ▶ Since the proposed trail signs are not on a public road, they can be of any design and material that the community chooses. This is a project that may be appropriate for a civic group to fund and carry out.



3.3 Enhanced connections among key points in and around downtown

The Issues

- ▶ The City wants to revitalize downtown commerce, especially along the Main Street corridor. It has taken a number of steps toward that goal, adopting design standards to help preserve downtown’s historic character, reconstructing and adding sidewalks along Main Street, and actively recruiting new businesses to occupy city-owned buildings. Private property owners have made attractive improvements such as Friendship Park, a landscaped mini-park created on a vacant lot.
- ▶ The museum is unquestionably the City’s foremost attraction, and is located just off the Main Street corridor. However, visitors currently use Burra Burra Street to access the museum, meaning they have turned off SR 68 without ever coming downtown. Burra Burra Street is narrow and steep, and has limited sight distance for drivers turning onto SR 68.
- ▶ Once visitors have been brought to Main Street, the best option to guide them to the museum is along Muncher Street. However, in its present condition Muncher Street does not make a favorable impression on visitors. The City owns a large paved area along this street which is currently being used to store equipment and materials associated with the downtown sidewalk project, as well as the stage used for the Miners’ Homecoming Festival.



Map from the Museum brochure directing visitors to use Burra Burra Street.

Recommendations for Enhanced Connections:

- ▶ **Re-route museum traffic to Main Street, then Muncher Street, in order to bring visitors downtown.**

As mentioned in Section 2.2, the museum sign on SR 68 at Burra Burra Street would be replaced by a wayfinding sign pointing the way to downtown (including the museum and solar farm).

- ▶ **Re-design Muncher Street to create an inviting link between Main Street and the museum.**

The museum is located close enough to Main Street for visitors to walk back and forth if the weather is pleasant. In fact, the museum’s campus already includes a self-guided walking tour with sites that are within view of Muncher Street. Encouraging people to stay on foot is likely to keep them downtown longer, and after a walk, people may be ready to patronize local businesses by sitting down for lunch, purchasing ice cream, and so on.



Friendship Park, located downtown along Main Street, is a place that visitors could sit down to enjoy a drink or an ice cream cone.

To serve as the connection, Muncher Street needs to be designed to safely accommodate both vehicular traffic and pedestrians and cyclists. It also needs trees, not just for appearance, but to provide welcome shade for people walking along the street in summertime.

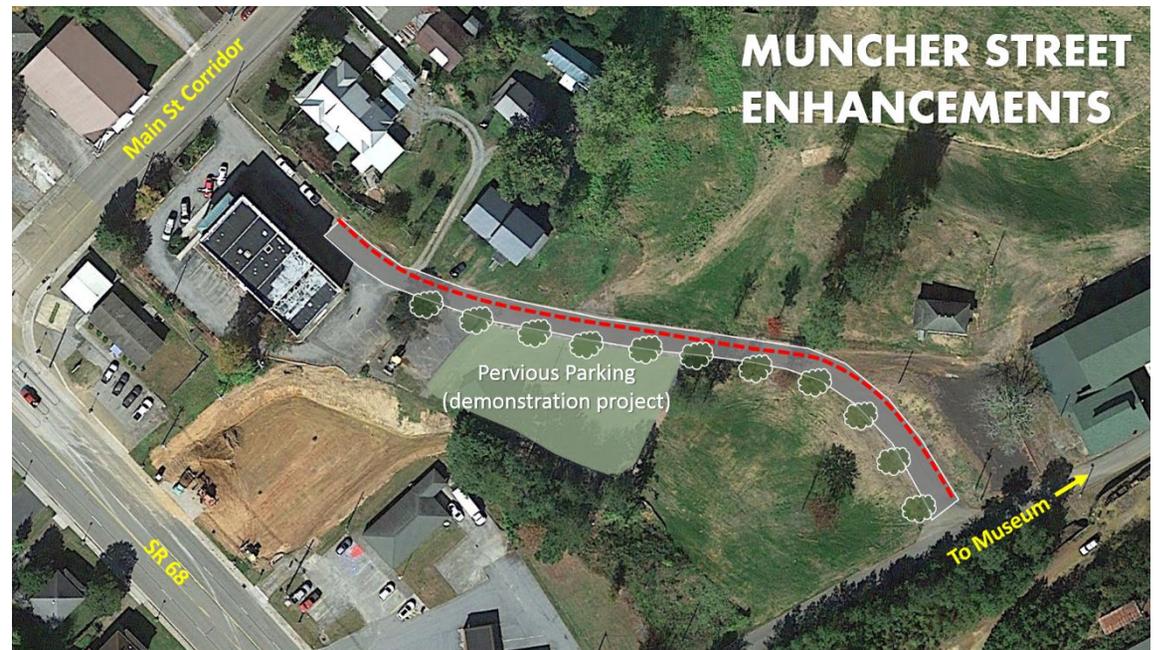
The paved area currently being used for equipment and material storage can be retained for parking. While there is not typically a shortage of parking at the museum, it would be wise to plan for it. Based on its location, the parking area would also accommodate overflow from the parallel spaces along Main Street as new businesses continue to locate downtown.

Larger vehicles such as tour buses and RVs could also be directed to park in the lot on Muncher Street. This would allow them to avoid driving the steep hill going up to the museum, or trying to use on-street parking along Main Street. If the City decides to create a shuttle to transport railroad excursion passengers from Copperhill, this parking area would also be an ideal location for pickup and drop-off in Ducktown.

As shown, Muncher Street would be re-designed and striped to include a multimodal path. The parking area would be reconstructed using environmentally friendly pervious pavers and lined with trees. For a photosimulation, see **Figure 4** on the following page.



EXISTING



MUNCHER STREET ENHANCEMENTS

Figure 4: Proposed Enhancements to Muncher Street



While the City can choose to maintain a traditional asphalt parking area along Muncher Street, this plan recommends pervious pavers for a number of reasons.

Unlike asphalt, pervious pavers allow water to filter through into the ground instead of running off. This helps with stormwater management and can improve water quality. Pervious pavers typically generate less heat than a traditional paved parking lot. Grass can grow up through the pavers, providing a more natural look.

Constructing a new public parking area with pervious pavers also provides a new opportunity for the City to show its environmental consciousness, similar to the solar farm project built several years ago. There are “green infrastructure” grants that could assist with the parking project as a demonstration site.

Numerous types of permeable pavers are available, including some that can bear the load of heavier vehicles if the City opts to designate the Muncher Street parking area for tour buses and RVs.



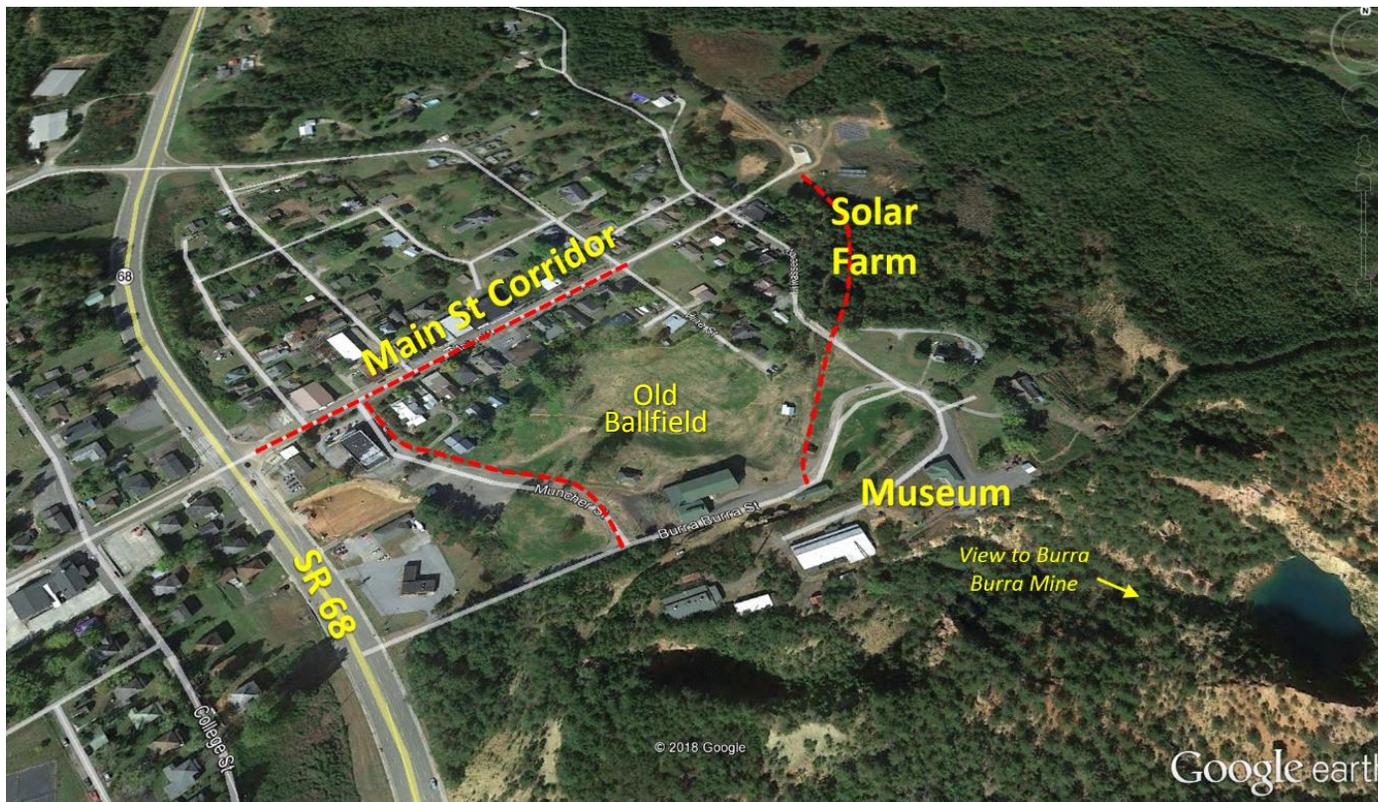
Pervious pavers allow rainwater to filter through, reducing flooding problems as compared with asphalt pavement.



► **Activate the space between Main Street and the museum by encouraging use of the Old Ballfield.**

As shown below, the city's key visitor destinations are generally located within a short walk of each other. A trail already connects the museum and solar farm, and sidewalks are completed or underway along Main Street from SR 68 to Vine Street. Re-designing Muncher Street to incorporate walking and biking would add another important link among these destinations, along with extending Main Street sidewalks from Vine Street to the solar farm.

The City could further create close ties between Main Street and the museum by establishing a public space in the area that separates them.



Historically, the open space between the museum and Main Street was the “Old Ballfield,” where much of the community gathered to watch their team play. *Tennessee’s Great Copper Basin*, a history of the area written by Harriet Frye, notes that the mining company supported a semi-professional baseball team in Copperhill with some members who had played in the minor leagues. The ballfield eventually became part of the historic property on which the museum is now located. In recent years, the museum has cleared away the overgrown vegetation, finding at least one of the old bases, and reclaimed the old ballfield as open space.

The old ballfield has a prime location at the center of downtown’s key attractions – Main Street, the museum, walking trails and solar farm – and an important role in community history. Ducktown has an opportunity to collaborate with the museum to use the old ballfield once again as a place for local entertainment.

An outdoor amphitheater, including terraced seating along the slope down from the museum’s Hoist House, could provide a performance space for Miners Homecoming Festival activities each year. At other times, it could be used for other concerts, local plays, or by the museum itself to give presentations to large groups of schoolchildren or tourists. When the amphitheater itself is not in use, the outdoor seating could still be a pleasant spot for visitors (and residents) to take a picnic lunch or pause while strolling between the museum and Main Street.

Approval from the Tennessee Historical Commission and the Ducktown Mining Museum Board would be required to implement the project. However, as seen in the photo at bottom right, there was formerly seating on the slope for baseball spectators, so the proposal may not be too far removed from the property’s historic use.

Figure 5 shows a photosimulation of what an outdoor amphitheater and hillside seating might look like on the old ballfield. Exact building materials would be determined by the Historical Commission and museum board to ensure compatibility with the other historic resources on the property.



Above: Photo of the 1910 Ducktown baseball team, published in Tennessee’s Great Copper Basin (by Harriet Frye) by courtesy of Doris Quintrell Abernathy.

Below: a later Ducktown baseball team photo, courtesy of the Ducktown Mining Museum. Note the bleacher seating installed on the slope toward the Hoist House.



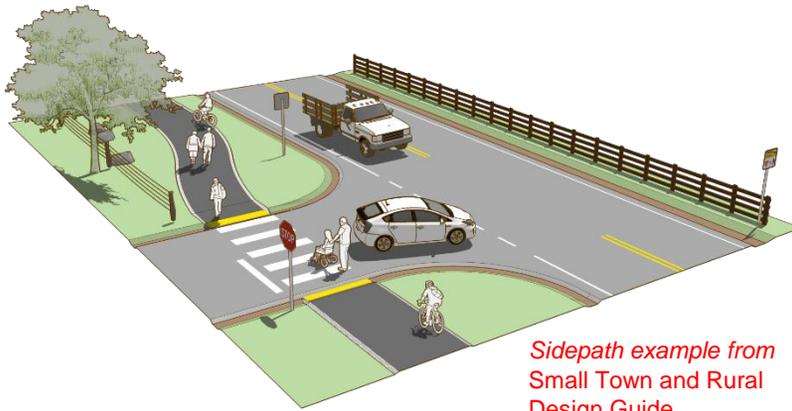
Figure 5: Proposed Re-Use of the Old Ballfield for an Amphitheater/Outdoor Seating



► **Provide connections to activities on the south side of US 64.**

Although most of the recommendations focus on downtown, where Ducktown particularly wants to revitalize and draw visitors, there are public facilities south of US 64 that many residents could access more safely with improved walking/cycling connections. Recommendations include:

- ❖ Build new sidewalk along Cherokee Trail, from US 64 to the Copper Hill Community Center entrance just west of Pineview Lane. This would improve access to the community center, recreational ballfields and related facilities.
- ❖ Install crosswalks and pedestrian signals at the US 64/Main Street intersection, where there is an existing signal.
- ❖ Construct about 500 feet of multi-use path along the south side of US 64 from Main Street to Cherokee Trail. Given the large amount of right of way the state owns along US 64, the path can be located well away from the highway, and/or could be physically separated with railing similar to that used along Newfound Gap Road Scenic Byway (*photo at lower right*).



Sidepath example from Small Town and Rural Design Guide



4 RECOMMENDATIONS FOR US 64 CORRIDOR DEVELOPMENT AND DESIGN

This section of the plan recommends development guidelines for the City's portion of US 64 that will support local goals for economic development while also:

1. **Maintaining the quality of appearance associated with the nationally designated scenic byway** that ends just to the west of the city limits. While visitors are expecting more development than they would see in the Cherokee National Forest, it is desirable to make a smooth transition and offer an impression of the city that is harmonious with the scenic views of the byway.
2. **Preserving the safety and mobility benefits of Corridor K**, the Appalachian Development Highway that connects Southeast Tennessee's economy to other national markets.

4.1 Compatibility of Development with Scenic Byway

As discussed, the Ocoee Scenic Byway officially ends at the Cherokee National Forest boundary located just west of the city. However, the city benefits from being immediately adjacent to the byway and located along the same route, US 64. To best market its connection to the byway, the city should maintain visual quality within the corridor. Drivers entering the city should see Ducktown as an extension of the byway's pleasant environment, with the added advantage of being a place where they can obtain services and goods.

Ducktown has designated most of the property adjoining US 64 as the **Ocoee River Adventure Tourism District**. This action allows certain businesses within this district to receive a jobs tax credit under a state law enacted in 2011 to encourage tourist-related economic development in rural communities. Such



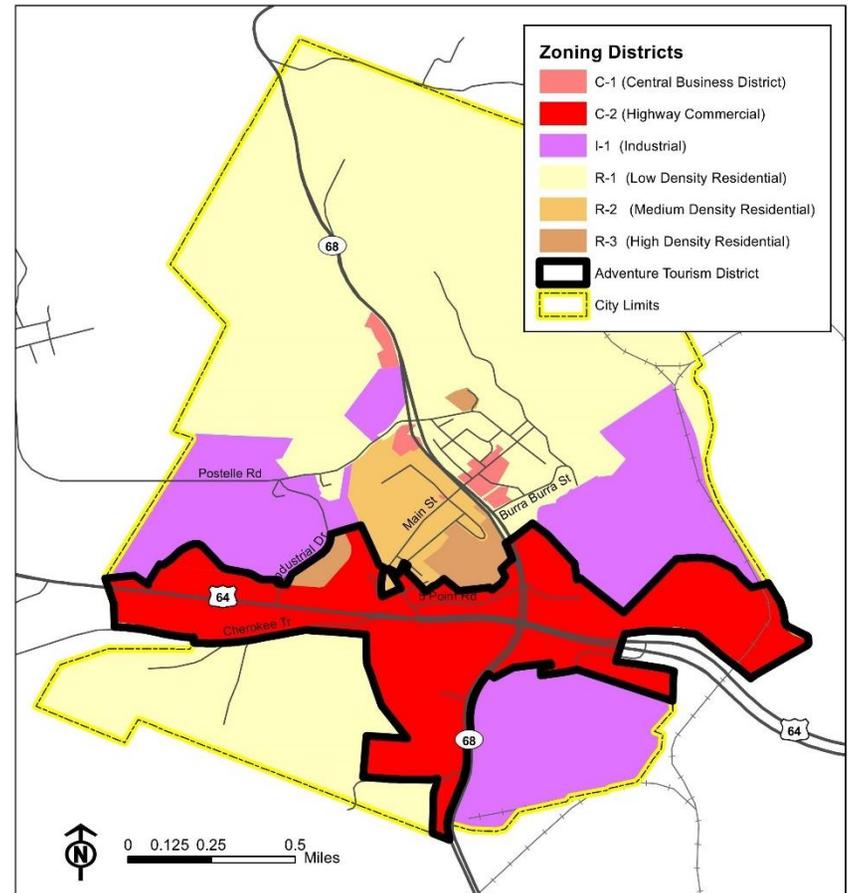
businesses include restaurants and lodging establishments, and attractions that make the minimum required capital investment of \$500,000. In addition to being eligible for special tax credits, businesses in certified Adventure Tourism Districts may also receive promotional support from the state Department of Tourist Development.

All of the land within the Ocoee River Adventure Tourism District is zoned **C-2 Highway Commercial** except the parcel where Life Care Center of the Copper Basin is located, which is zoned R-2 Medium Density Residential. According to the City’s zoning ordinance, the intent of the C-2 district is to provide services to travelers and local residents who will typically be accessing the establishment by vehicle. This classification makes sense in terms of where these uses should be located within the city, since SR 68 and US 64 are the two major highways.

The Issues

- ▶ Most of the properties in this district, especially along US 64, enjoy high visibility from the road. To some degree, they serve as advertisement for the rest of the city’s attractions. Their appearance will affect drivers’ level of interest in turning off the highway to visit the rest of the city.
- ▶ Numerous stakeholders interviewed for this plan identified a need to provide a greater variety of lodging and dining facilities in the area. However, C-2 zoning does not list hotels, motels or restaurants as permitted uses. The zoning ordinance says that the city may *consider* allowing commercial activities similar to the ones permitted by right, but not unless the Board of Mayors and Commissioners amend the zoning ordinance to allow them.
- ▶ The C-2 Highway Commercial zone does permit certain land uses which likely would detract from the scenic environment desirable to attract visitors. For example, C-2 permits:
 - Sales of building materials, hardware, and garden supplies
 - Auto repair and parking

Figure 6: Existing Zoning



Recommendations

▶ Amend the C-2 district to allow lodging and dining as permitted uses by right.

Investors who are looking to launch businesses generally prefer communities where all of the factors required for approval are known in advance. Given the level of interest that stakeholders expressed in attracting additional dining and lodging, Ducktown may therefore wish to amend the C-2 district to allow these uses without requiring additional government action.

If it is the potential appearance of the business that is of concern – not the business itself – then the City could adopt design guidelines, which it has already done for the downtown historic district.

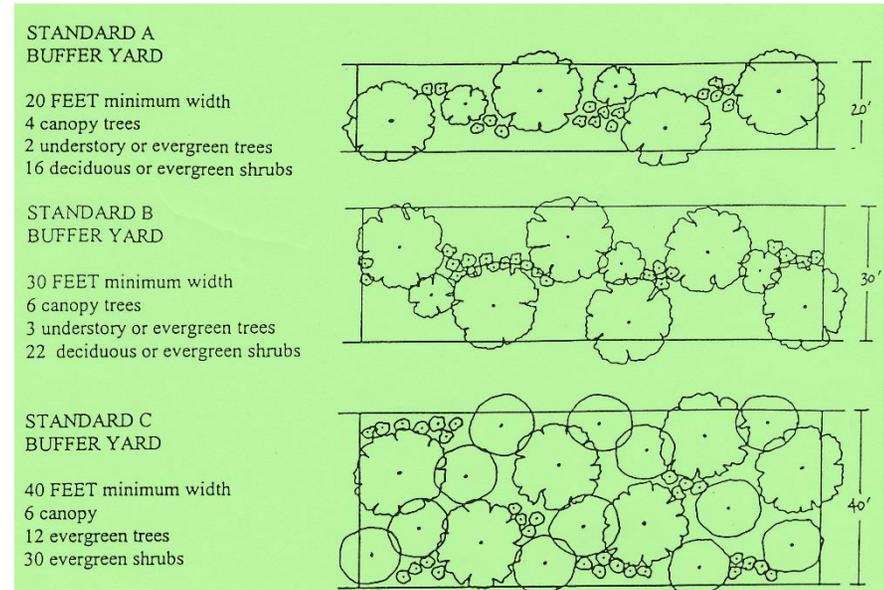
▶ Amend the C-2 district to remove certain uses, or add screening requirements for outdoor storage.

As mentioned, C-2 zoning currently permits sales of building materials, hardware, and garden supplies, as well as auto repair and parking.

Each of these business types could well be of interest to an out-of-town visitor – cars break down during a trip, people may need rope or other materials for camping and other outdoor activities, and so on. However, for the City’s overall development goals, it may be better for these types of business to be located on commercially zoned property that is not prominently visible from the scenic byway.

Building material sales often involve outdoor storage and display that is likely not compatible with the scenic experience desired for the roadway. Likewise, auto repair and parking would likely require extensive screening to preserve an attractive appearance from the highway.

The C-2 zone already requires landscaped buffer yards if the property abuts a residential area. So if the City does not wish to prohibit these uses in C-2, another option could be to require additional buffer yards if they front US 64.



Example buffer yard requirements from the zoning ordinance for Nolensville, TN

▶ **Work with TDOT and adjoining property owners to make other general corridor enhancements as resources permit.**

This plan recognizes the City’s current emphasis on revitalizing the downtown area, so the recommended enhancements for the US 64 corridor are limited to efforts that are low-cost, offer opportunities to involve partners, or are long-term initiatives. These include:

- ❖ Plant vinca (periwinkle) or similar low-maintenance, attractive ground cover on the slopes of the stormwater detention areas along US 64 through the city. Potential resources include transportation enhancement grants, state or regional tourism grants, and volunteer help from area youth or other civic groups. Permission will be needed from the TDOT Region 2 office.
- ❖ Add roadway lighting at the US 64/Main Street intersection and the US 64/SR 68 interchange. In late evening and nighttime, well-lighted areas signal to travelers that they are approaching an area of commerce, and raise their comfort level in stopping there. Interchange lighting is expensive, but if and when the City decides to pursue it, TDOT has a grant program in which the cost may be shared with local governments at a 50/50 match.
- ❖ Work with the local electric utility to re-configure the power lines in the vicinity of the US 64 / Main Street intersection and Five Points Drive. Although likely not noticeable to those who live in the area and see them every day, they are very noticeable to visitors and create a cluttered impression at one of the City’s key entrances off US 64.



4.2 Transportation Safety and Mobility

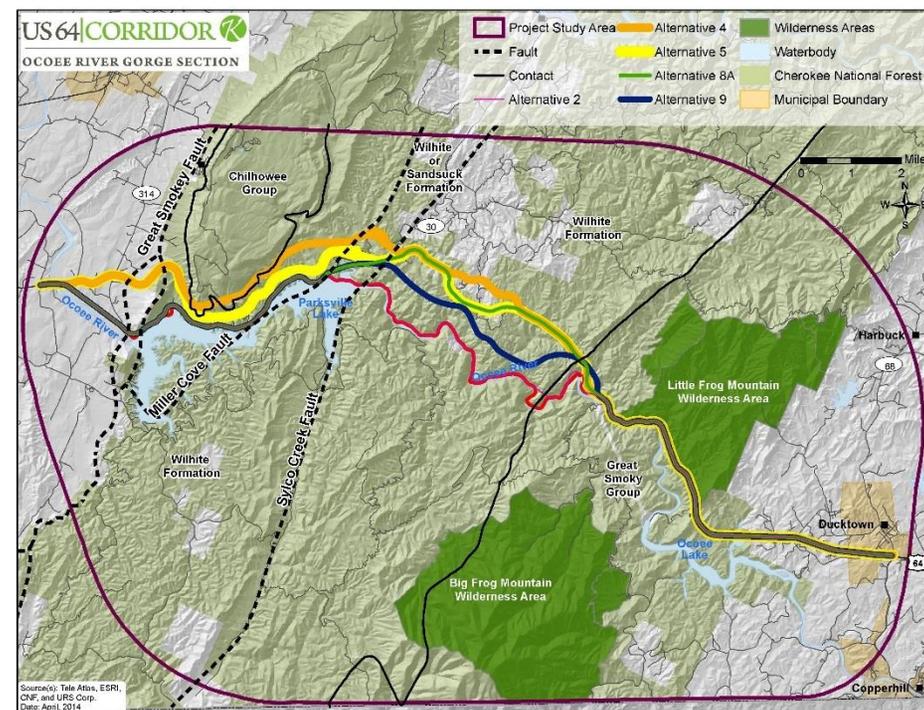
Much of US 64 between Cleveland and Ducktown is a four-lane median divided highway with speed limits ranging from 45 to 55 miles per hour. Within the winding Ocoee River Gorge, the road narrows to two lanes (except near the Ocoee Whitewater Center) and has extremely limited shoulders in many areas and speed limits as low as 15 mph at some curves. The highway is periodically closed because of rock slides or crashes involving drivers who underestimated their ability to make the sharp curves.

Given the very limited east-west routes through the region, closure of US 64 creates long detours and great inconvenience, both for truckers and other motorists.

To address these transportation concerns, TDOT is working on plans to widen or provide an alternative to the two-lane section of US 64. Funding for this project was allocated many years ago by the Appalachian Regional Commission as “Corridor K,” part of a planned major highway system to boost economically depressed areas of the Appalachians. Several options are still being considered for this stretch of US 64 that runs through the Ocoee River Gorge and Cherokee National Forest, a very environmentally sensitive area.

Regardless of the final solution, one of the primary purposes of completing Corridor K is to improve economic access to, from, and through this portion of Tennessee. The route is intended to provide convenient, fast thru-travel for people and freight.

Once Corridor K is completed, Ducktown can expect increasing traffic volumes through the area, and therefore greater opportunity to capture some of that traffic. As the city grows, one of its tasks is to identify ways in which the local economy can benefit from US 64 access, and develop the adjoining properties, while not impeding thru-traffic.



Map of Corridor K alternatives from the draft environmental impact analysis being performed by TDOT. The section being studied is west of Ducktown.

Smooth traffic flow is largely related to the number of opportunities to turn onto or off the highway. This is why we are able to travel at higher speeds, and have fewer crashes, on interstates and other access-limited highways.

The Issues

- ▶ The entirety of US 64 running through Ducktown is zoned commercial. This provides opportunities to provide dining, lodging, and other services in the corridor for visitors and local residents. It may also create pressure for new driveways to be approved on US 64 to serve those commercial establishments. The fewer new driveways, the better the conditions for safety and traffic flow.
- ▶ A significant percentage of traffic along US 64 is heavy trucks, and that can be expected to increase once Corridor K is complete. Many of the other vehicles attracted to the area are also oversized, including RVs, vehicles hauling boat trailers, horse trailers, etc. This underscores the importance of maintaining safety and designing new development so that larger vehicles have room to maneuver.

Recommendations

- ▶ **Ensure that all new development in the C-2 zoning district follows the zoning ordinance requirements regarding driveways.**

Ducktown’s zoning ordinance specifies that on parcels that front more than one street, the planning commission may require access from commercial and industrial developments to be provided on the street of lowest classification (the more minor street).

The city is fortunate that many of the parcels adjacent to US 64 already have frontage on a secondary road. Under this provision of the zoning ordinance, many of the existing parcels fronting US 64 can be required to access Five Point Drive, Main Street, Cherokee Trail, Industrial Drive, Windy Ridge Road, Medical Center Drive or Cougar Drive. See **Figure 7**.



Figure 7: Parcels that May Need Direct Access to US 64 (marked with star)



If any of the parcels with secondary access are proposed to be subdivided, the planning commission should carefully review the plat to ensure that each new lot has direct frontage on, or other permanent legal access to, the secondary road.

It is important to note that the zoning ordinance provision about secondary access only applies to commercial and industrial development in the C-2 district. It appears that residential uses are not permitted in C-2, but if they are or will be in the future, the City may wish to amend the zoning ordinance so that residential uses are subject to the same access requirements.

▶ **Consider increasing the minimum required lot width for parcels fronting on US 64.**

Several of the properties shown in Figure 7 that will need direct US 64 access are larger than 5 acres, and may eventually be subdivided into multiple lots for development. Unless the property developer chooses to build an internal street system, it should be assumed that each of the newly subdivided lots will have a driveway on US 64.

Current City Requirements

Under Ducktown’s existing zoning ordinance, the following regulations apply to lots that front on a major thoroughfare such as US 64:

- ▶ A lot having between 50 and 200 feet of frontage may have only one access point onto the major thoroughfare. Lots with more than 200 feet of frontage may have additional access points as long as they are spaced at least 200 feet apart from each other.
- ▶ If an existing lot (lot of record) has less than 100 feet of frontage, the planning commission will first attempt to obtain joint access with an adjacent property or access to a frontage road. If this is not feasible then a driveway will be permitted.

Current State Requirements

These local regulations are generally compatible with the standards in TDOT’s *Manual for Constructing Driveway Entrances on State Highways* (adopted



2015). Like the City, the state allows more than one access point for lots having more than 200 feet of frontage. However, it requires a traffic impact study to demonstrate the need. Ducktown may wish to add language to its zoning ordinance to clarify that if the proposed development would access a state highway, there are TDOT requirements that need to be satisfied in addition to the city's.

Reviewing the above requirements, it seems that from the City's and TDOT's viewpoint the desirable spacing of driveways on US 64 is at least 100 feet, preferably 200 feet.

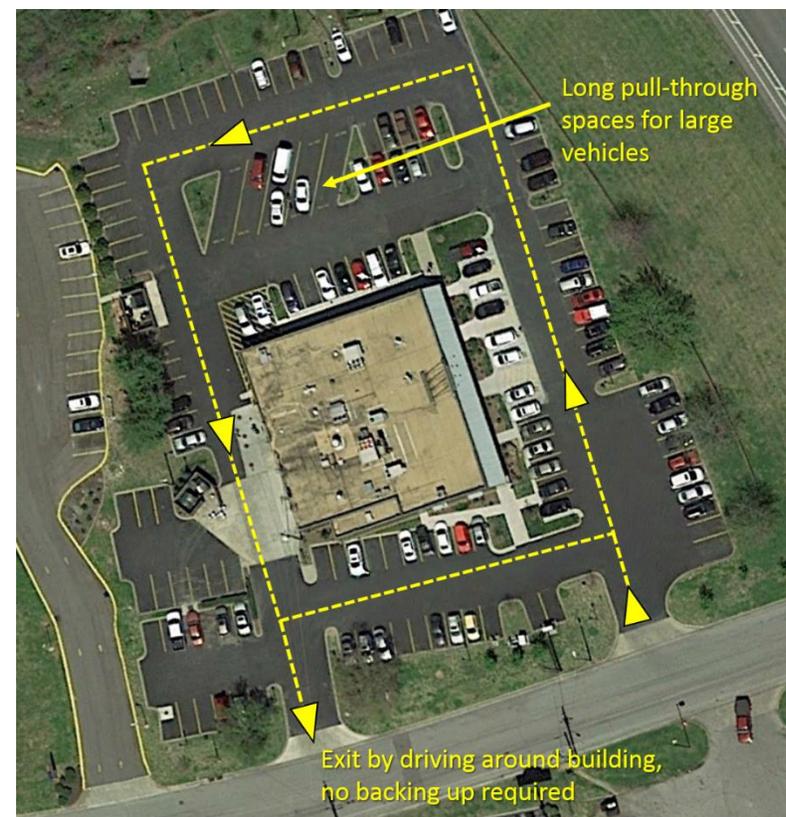
However, in the C-2 zoning district, the current minimum lot width is 50 feet. This creates the potential for situations where owners must attempt to obtain joint easements in order to subdivide, and/or owners are requesting new driveways spaced more closely than the City finds desirable for safety and traffic flow.

The recommendation is to amend the C-2 district to require a minimum lot frontage width of at least 100 feet. A minimum lot width of 200 feet would be preferable. However, it may not be practical without creating a separate overlay zone for properties fronting on US 64, since the C-2 district also includes properties that front on minor streets where driveway spacing can be closer.

► **Consider large vehicle types when reviewing parking and circulation for new site plans.**

New development along US 64 should also be designed for the types of vehicles that are expected. Given the popularity of outdoor recreation in the area, a significant portion of the visitor traffic is likely to be driving larger vehicles. This could include cars or trucks that are towing boat trailers and campers as well as recreational vehicles and even tour buses.

Sites that are likely to attract this type of traffic need to be designed to accommodate the length and turning radius of these larger vehicles. The business should consider designing its parking area with longer spaces and/or pull-through spaces, and allowing room on the site for a large vehicle to exit by driving around the rear of the building rather than backing up or turning around.



Cracker Barrel restaurants, like the one above, typically feature many of the site design characteristics that help large vehicles to maneuver safely.

Driveways are the other important consideration in designing development for easy access by larger vehicles. The Florida DOT suggests that if more than two or three trucks or buses are expected per hour, the driveway should be designed for those larger vehicles. The primary design difference is in driveway width and turning radius.

A tight turning radius forces a driver to slow down more before being able to make a turn into the driveway. This tends to improve safety on the site, since drivers are then entering the property at a low rate of speed.

However, when drivers are on a higher speed roadway, forcing them to slow down and/or brake heavily for a turn can contribute to rear-end accidents. Large vehicles can also have difficulty making tight turns, and their wheels may end up running over a curb or off the pavement. Both of these issues should be a consideration for driveways along US 64.

Current City Requirements

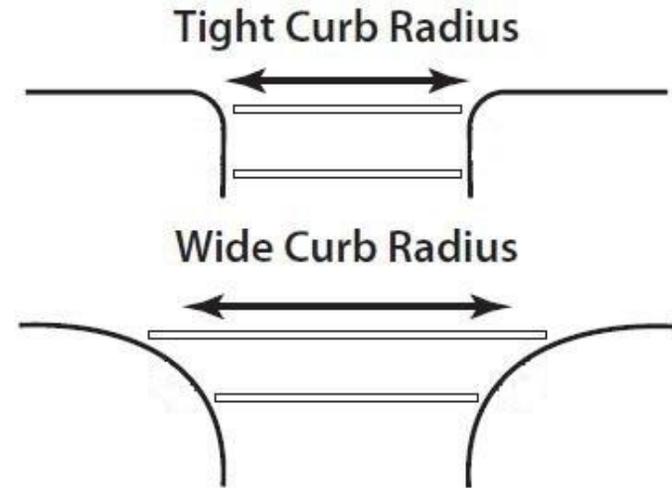
Ducktown's zoning ordinance limits driveway width to 30 feet (measured at the property line) unless the development generates high traffic volumes, in which case the driveway may be wider but must be channeled in order to separate entrance and exit movements.

Current State Requirements

TDOT's *Manual for Constructing Driveway Entrances on State Highways* recommends that a two-way commercial driveway be at least 24 feet wide, up to a maximum of 40 feet. TDOT also notes that where a driveway is expected to serve a "substantial volume" of heavy vehicles, the maximum width may be increased to a maximum width of 50 feet.

Turning radius (called "radius of curvature" in TDOT's manual) is required to be at least 20 feet for commercial driveways, with 40 feet recommended for entrances with a significant number of single-unit trucks or tractor trailers.

Ducktown may wish to amend its zoning ordinance to permit wider driveways on state routes if consistent with TDOT's requirements. Reference could also be made to TDOT's *Manual for Constructing Driveway Entrances on State Highways* rather than adding new specifics on issues such as turning radius.



The US 64 entrance to Industrial Drive is an example of a driveway with a wide turning radius to allow easy turns by trucks. This driveway is also channeled.

