

Visibility of Sustainable Development Efforts: Assessment of Kentucky Trail Towns

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Abstract

Many communities work on trail projects as opportunities for sustainable development. Kentucky Trail Towns are accomplishing certification through a systematic state-wide program that guides communities, established in geographically advantageous locations, through a resource-based approach to community and economic development. Kentucky Trail Town communities proactively assess and explore physical assets, economic feasibility, and marketing strategies to capitalize on trails associated with adventure tourism. Since 2013, 17 Kentucky Trail Town certifications have been celebrated, particularly in and around publicly protected and managed areas, such as national and state parks and trail systems among other types of recreational destinations pertaining to adventure tourism.

This study systematically evaluated 16 Kentucky Trail Towns with a focus on wayfinding systems and communication of trail-related amenities and services emphasized in the program guidelines. This study found the effectiveness of trail towns in Kentucky to be in its infancy from a short-term perspective. As a long-term strategy, Kentucky Trail Towns should continue their efforts to sustain and strengthen their relationships between core areas of town and major destination trails along with implementing visible indicators throughout the community. Further planning and design considerations can complement existing trails to enhance visitor experiences while also supporting the host community to preserve their landscape characteristics and place identity.

Keywords: adventure tourism, communication, community development, resource-based planning, sustainable development, trail town, wayfinding

1. Introduction

1.1 Tourism, Trail Development, and Trail Town

With environmentalism and sustainability a wide concern since the late 20th Century, tourism practices such as geotourism and adventure tourism which align closely with sustainable tourism and ecotourism efforts have spearheaded the need to address more conscious tourism practices, including operation and management, that are less destructive to the host communities and their long-term sustainability (Dowling, 2013; Fritsch, & Johannsen, 2004; Gordon, 2018; National Geographic Partners, LLC, 2016; Hall & Weiler, 1992, in Weber, 2001). Geotourism and adventure tourism are types of tourism that sustain or enhance the distinctive geographical character of places with the goal to protect and manage tourism destinations and unique places as well as enlighten stewardship. While both adhere to respecting the environment, heritage, aesthetics, culture, and well-being of host communities, adventure tourism is further associated with experiencing risk while gaining insight of the destination environment. Some strengths of adventure tourism are that it promotes resilience, attracts high-value customers, and supports local economies while encouraging sustainable practices (UNWTO, 2014). Communities located near such recreational resources and destinations can tap into adventure tourism as a source of economic means. Some aspects of ecotourism and geotourism may be considered adventure tourism in that they incorporate rigorous activities in a range of natural environments such as mountains, rivers, and caves that cater to extended outdoor recreational experiences between individuals and tourism destinations (Dowling, 2013; Weber, 2001; Fritsch, & Johannsen, 2004).

Trail development in more urban environments has evidenced positive effects whether economic, environmental,

historical, cultural or health-related (Bichis-Lupas & Moisey, 2001; Crompton, 2001; The Progress Fund, 2016; Starnes, Troped, Klenosky, & Doebling, 2011). In addition to the conventional urban practice of transit-oriented development (TOD), the concept of trail-oriented development (TrOD) has emerged as an adaptive form of TOD where development is centered around infrastructure and programs supportive of bicycles and other forms of active transportation whereby communities can capitalize on trails as amenities and leverage placemaking for trail-based economic development (ULI, 2016; Moreno-Long, 2017). This practice can be evidenced in non-urban communities as well where trail development has not only encouraged physical activity but also attracted businesses and revitalized communities (Bowker, Bergstrom & Gill, 2007; OPRD, 2004; The Progress Fund, 2016).

Similar in concept but at an expanded scope, the idea of a “trail town” as a gateway community to access trails has been emerging both informally and formally in the context of small towns and rural areas. Since the 1980s-1990s, development around trails has garnered considerable interest and been successful to certain degrees in small towns and rural areas, particularly in communities which host bicycling and hiking tourists such as in Appalachian communities in the U.S. Although slow, the trail town concept has steadily gained momentum with incremental successes over the years (Appalachian Trail Conservancy, 2016; Gallagher & Camp, 2011; Roe, 2013). Since the early 2000s, the concept of “trail town” has been widely promoted more formally by the Allegheny Trail Alliance (ATA) and The Progress Fund in order to advertise bicycling-based tourism experiences in the Appalachian regions of Pennsylvania and western Maryland (Gallagher & Camp, 2011; The Progress Fund, 2015). A more natural grass-roots approach evolution of such recreation-based tourism can be traced back to the 1980s in Damascus, VA. This small, rural town had lost much of its economic sector but gradually transformed itself into a natural trail town. After multiple years of steady trial and error, Damascus now attracts visitors from far beyond their region (Appalachian Trail Conservancy, 2016; Bowker, Bergstrom & Gill, 2007; Roe, 2013).

1.2 Kentucky Trail Towns - a Resource-based Community Development

1.2.1 Kentucky Trail Town Program

Historically, Kentucky communities developed in and around environments where they flourished or sustained in association with resource-based economies in close proximity to natural resources, such as forests, minerals, and rivers, to exploit and efficiently transport harvested products. With changing times and trends, in a growing global economy, many small-town Kentucky communities have experienced negative impacts such as a decline in manufacturing and other quality employment opportunities, as businesses either close or relocate out of their communities or out of state. These negative impacts contribute to the urban/rural divide in economic performance (Davis, 2009). Furthermore, advances in technology and their implications on our lifestyle have not been favorable for many non-urban communities. In particular, although towns located further away from economic and cultural centers strive to secure businesses and jobs to stabilize their communities, small towns and rural communities, once dependent on commodity agriculture and manufacturing, are struggling to sustain their livelihoods as results of out-migration seeking employment, education, etc. (Cromartie, 2018a and 2018b; Kingsolver, 2018).

Although challenging, small communities have the potential to thrive through diversified economic activities and compete with major urban centers where services and resources are more convenient to access, and there is a concentration of cultural activities. There are many small and/or rural towns that have natural advantages to tap into recreation spending due to their environmental characteristics, geographic locations and potential for economic promise, especially through the tourism sector with an emphasis on adventure tourism (Bichis-Lupas & Moisey, 2001; Fritsch, & Johannsen, 2004; Weber, 2001; Outdoor Recreation Association, 2017). The state of Kentucky identifies distinct tourism regions for visitors to explore that reflect and represent a range of natural resources and cultural heritage partly due to their geographic characteristics and geologic structures. All of Kentucky's tourism regions provide opportunities to attract and benefit from a mix of tourists engaging in recreational activities, from hiking, cycling, paddling, and caving, to all-terrain vehicle riding in trail networks and systems for adventure tourism activities (Kentucky Department of Travel and Tourism, 2016). Additionally, the Cross Kentucky Master Trail Plan and state-wide bicycle routes, which identify existing and proposed trails and corridors with potential connections for communities, provide a long-term foundational vision for enhancing the health and livelihood of all potential trail users (Kentucky Department of Travel, Office of Adventure Tourism (KYT OAT) and Bluegrass Area Development District (BADD), 2014; Kentucky Transportation Cabinet (KYTC), 2018).

In a more formal approach, the Kentucky Department of Travel, Office of Adventure Tourism (KYT OAT) initiated the Kentucky Trail Town program at the state level in 2012 to support potential gateway communities as

trail towns near and along established trails. The Kentucky Trail Town program defines a “trail town” as a vibrant destination community near a trail system that welcomes trail users in a hospitable manner. The core of the program is based on the idea that these geographically advantageous communities will benefit from capitalizing on increased adventure tourism opportunities along recreational trails, rivers, and preserved natural resources and environments. This state agency has been educating, guiding and facilitating communities near renowned established recreational trails in ways to better connect with them. The program provides tools that communities can utilize to create a vibrant, healthy tourism economy while preserving their sense of place; ideas for development practices; and quality planning and implementation tools (KYT OAT, 2012a).

The rigorous Kentucky Trail Town program process and goals depend on trails and trail networks as an overall resource-based community and economic development approach. The Office of Adventure Tourism staff facilitates the state-wide effort to help communities utilize existing trails or develop new trails that connect to trail systems, particularly working with landowners and managers for trail access to core areas of their town. While the ATA and The Progress Fund are focused on connecting towns by way of development along a major trail system, the Kentucky Trail Town program is dependent on the numerous renowned and newly developing trail systems located throughout the state (KYT OAT & BADD, 2014). Communities are guided through three topical phases in creating a working trail town: community building, physical assessments (trail and town), and economic structures and promotions which is adapted from the National Main Street program approach. Afterward, communities test their trail town initiative and structure an action plan with a set of target goals (KYT OAT, 2012a, 2012b, 2012c and 2014).

1.2.2 Kentucky Trail Towns

Since 2013, 17 applications have been certified and celebrated as Kentucky Trail Towns in 18 counties, 16 of which are located in the Appalachian region of Kentucky (Figure 1). Most certified Kentucky Trail Towns are established near renowned recreational trails in national or state parks, along rivers or major bicycling routes, or in other recreational areas such as a rail-to-trail location. In particular, several Kentucky Trail Towns are located in Appalachian communities in and around the Daniel Boone National Forest, which is governed by the USDA Forest Service and includes the Sheltowee Trace National Recreation Trail, a 269-mile stretch crossing counties from southeast to eastern Kentucky. Additionally, the Cumberland Mountains area near the Virginia border is another natural resource where a handful of certified Kentucky Trail Towns are located. The 120-mile long Pine Mountain State Scenic Trail has been under development in this area, connecting the Cumberland Gap National Historical Park to the Breaks Interstate Park. The Mammoth Cave National Park region is another centrally located natural resource that is being tapped into by communities to expand tourism opportunities (KYT OAT, 2014). Furthermore, some certified Kentucky Trail Town communities have expanded their efforts to identify and establish their network of local to regional trail systems important to their potential tourism economies, such as on and off-road cycling routes, equestrian routes, water trails and also multi-use trails. Many communities have been able to expand their trail events to attract visitors from beyond their regions (KYTC, 2018).

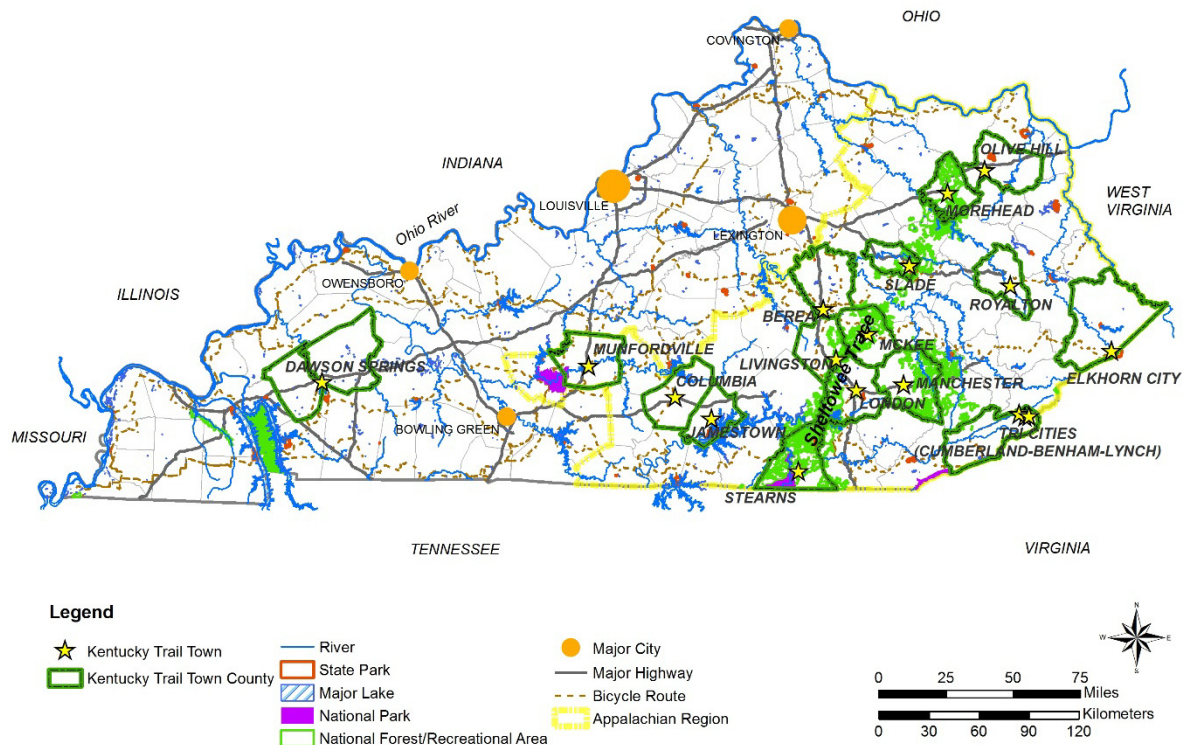


Figure 1. Certified Kentucky Trail Towns as of 2017

The context of Kentucky Trail Towns varies depending on natural resources, protected areas (federal and state), cultural resources, and existing trails. Major population centers (cities) and proximity to major roads are a few factors that may influence visitors to trail towns. (Mapped by Author, Data Source: Kentucky Department of Fish & Wildlife Resources (KY FWR), 2016a; Kentucky Department of Travel, 2017; Kentucky Division of Geographic Information (DGI), 1998; KY DGI, 2001; KY DGI, 2006; Kentucky Department of Parks, 2009; Kentucky Transportation Cabinet (KYTC), 2017; KYTC 2018; USGS, 2017)

1.3 Trail Development Influences on Communities

Trail development has been found to be beneficial to trail towns as evidenced in Damascus, VA, which is located at the midpoint of the 34-mile long Virginia Creeper Trail (rail-trail) between Abington and Whitetop Station, VA. Bowker, Bergstrom, and Gill (2007) concluded that the estimated aggregate net economic value and total economic impacts of the trail make it a highly valuable asset for both trail users and the local communities that benefit from tourist expenditures. With the success of a tourism economy such as in Damascus along the Virginia Creeper Trail, there has been an interest for an extension of the trail to North Carolina (Roe, 2013). While the role and function of gateway communities along trails are vital for trail users, the success of gateway communities near renown trails may be subject to conflicts between trail user groups. Local leadership and affected communities may also need to plan for compatible uses amongst various trail users (Kazmierski, Kornmann, Marcouiller, & Prey, 2009).

Trail users seek their recreational destinations and attractions for a variety of reasons. With a better understanding of what motivates trail users, whether for health and fitness, nature encounters or exploration, businesses and communities along or near trails and trail systems can target those needs and develop targeted marketing strategies to capitalize on trail-based tourism opportunities (Bichis-Lupas & Moisey, 2001). Services and amenities established for trail users can also benefit the host community's residents with enhanced infrastructure. While active living initiatives in urban environments have improved sidewalks, crosswalks, and bike lanes to provide opportunities for residents to be more active in daily routines, rural areas are typically more dispersed and have a weaker downtown setting where work, play and recreation opportunities are not as concentrated within a connected, walkable environment (Hansen & Harley, 2015; Schasberger *et al.*, 2009). Although environmental challenges exist in rural communities, walking trails have been found to encourage daily physical activity and contribute to improved overall health (Park, Eyler, Tabak, Valko, & Brownson, 2017;

Starnes, Troped, Klenosky, & Doehring, 2011).

Due to limited resources, services and capacity, small towns and rural communities need to work effectively and efficiently to fully benefit from trail-based projects through a balanced approach for both trail users and host community residents. Such community-based efforts should be grounded in empowering the host community to propel and sustain their tourism development endeavor and not be driven by the tourism industry itself or by outsiders with potentially conflicting long-term goals. Therefore, as much as the economic development goals are essential for trail and trail town development, a commitment to balancing overall community needs with the needs of tourists is important (Blackstock, 2005). It is essential that the spear-heading entities strive for buy-in from their residents before embarking on a long-term community-wide endeavor. The cooperation of local businesses and trail maintenance groups is crucial for successful trail towns, but individual services providers (businesses) may experience trial and error setbacks or failures. Local policies and overall community systems should support trail town visions as community development endeavors where everyone nurtures the potentially long-term effort of hosting tourism activities, not limited to a short-term trial (Fritsch, & Johannsen, 2004; Scott, McSpirit, & Foley, 2017).

While the earlier Trail Town Program[®] delivered by The Progress Fund and the ATA focuses more on bicycling tourism, the trail town concept is evolving and being adapted into formal programs being utilized beyond the Appalachian region, such as in North Country Trails crossing 7 states from New York to North Dakota in the northern part of the U.S. (North Country Trails Association & Land Information Access, n.d.). Ideally, a trail town will strengthen their community's capacity, enhance their physical environment, and develop services and hospitality opportunities to welcome its users, the residents and visitors. Established communities have an opportunity to re-envision their foundations/infrastructure for the future of their communities while addressing and adapting to economic, cultural, tourism and recreational trends. Among the many features in the trail environment, signage systems have an important role to clearly inform and guide trail users and tourists in and around often long-distance recreational destinations. Likewise, trail users can have better experiences with clear and frequent trail signs (physical or interpretive) to diminish frustration while on explorations in the newly visited area. The presence of appropriate wayfinding signage systems in and along tourism destinations gain importance with increasingly self-guided trail activities (Bichis-Lupas & Moisey, 2001; Lamont & Causley, 2010; MacLeod, 2016).

1.4 Goals and Objectives of the Study

The Kentucky Trail Town program has certified trail towns state-wide through their rigorous certification process which also assesses the preparedness of a community's physical environment, including visibility of trail user support features. The goal of the research presented in this article was to assess from a design perspective whether Kentucky Trail Towns were functioning as originally outlined in the certification program documents in regard to trail development and complementing wayfinding systems (signage). For instance, among the program's proposed community area committees, the trail route advisory committee (TRAC) and the signage committee are tasked to develop trails and complementing signage to help users travel between significant points of interest. Similarly, the funding/PR/education committee is guided to develop and create promotion plans that include an online presence and communicate with media at local, regional and state levels (KYT OAT, 2014).

With KYT OAT's emphasis on the need to visually communicate and support the travel experience of trail users (physically and online), the following research questions were structured for this research study:

- *How are the Kentucky Trail Towns performing from the physical assessment perspective?*
- *Do all Kentucky Trail Towns visibly provide resources with clear indications of and connections to the trails that they are promoting?*
- *Where are all the services and amenities located that the Kentucky Trail Town program recommends and are they visible within the community's environment in that visitors can readily help themselves to the adventure tourism experiences?*
- *How are Kentucky Trail Towns promoting their resources and services and are the trail towns clearly visible and communicated well?*

The objectives of the research presented in this article were to: 1) identify the existing adventure tourism support services and amenities in certified Kentucky Trail Towns; 2) assess the effectiveness of the wayfinding systems for visitors from a prospective trail user's perspective, such as clearly communicated access/guidance to trails and to the town; and 3) assess whether the built environment strengthens the relationship between the established trail(s) and town center (where trailheads, services, and amenities are typically located) that theoretically should

support a well-functioning trail town.

2. Method

2.1 Certified Kentucky Trail Towns

This study assessed all Kentucky Trail Towns that have been certified since 2013, when the first trail town was celebrated, and 2017. The Kentucky Trail Towns each have a structured trail-based adventure tourism destination that is hosted and supported by the community. The certified Kentucky Trail Towns vary in geographical location, size, demographics, and the types and numbers of trails they are promoting to their adventure tourists. The author structured a series of steps to assess the existence and effectiveness of the physical features, amenities, and services outlined in the Kentucky Trail Towns program guide resources. The research team was composed of five undergraduate students who were hired and trained as trail town assessors. The research team systematically assessed a total of 16 certified Kentucky Trail Towns during the summers of 2016, 2017, and 2018. The first 13 trail towns were initially assessed in the summer of 2016, and some were visited again in 2017 or 2018. On average, the initial wayfinding systems were assessed less than 3 years since the Kentucky Trail Towns were certified (Table 1). The later 3 Kentucky Trail Towns, certified in late 2016 and 2017, were initially assessed in the summers of 2017 and 2018 when their wayfinding systems had been installed less than a year since certification.

Table 1. Year of Kentucky Trail Town certification, population of host communities, and the number of years certified during the initial assessments

Year of Certification	Kentucky Trail Town	Population of Town or community as of 2010 Census	Number of Years Certified during Initial Assessment
2013	Dawson Springs	2,764	3
	Livingston	226	
2014	Morehead	6,845	2
	Olive Hill	1,599	
2015	London	7,993	1
	Stearns*	1,586	
	Elkhorn City	982	
	Jamestown	1,624	
	Manchester	1,255	
	Royalton**	-	
	Berea	13,561	
	Columbia	4,452	
	Tri-Cities	-	
	(Cumberland, Benham & Lynch)	(2,237/500/747)	
2016	McKee	800	1
2017	Slade**	-	<1
	Munfordville	1,615	

Note. * census-designated place, ** unincorporated community (Data Source: Kentucky Department of Travel, 2017; U.S. Census Bureau, 2013)

2.2 Procedures

2.2.1 Pre-visit Planning

The author instructed the research team on how to plan for their Kentucky Trail Town visits and post-visit

assessments. Visits were organized to emulate an average person's trip planning process in the digital age to an unfamiliar place or destination. For each Kentucky Trail Town, the students web-surveyed and compiled relevant adventure tourism information from readily available online sources, such as from local government websites (city hall, county office, chamber of commerce, tourism commission, parks departments, etc.), publicly available data (GIS data, aerial imagery, Google Street Views, etc.), travel search/reviews (Trip Advisor, etc.), and social media (Facebook) that provided information, directions, or reviews of trail-related experiences in the Kentucky Trail Towns under evaluation. The team created basemaps identifying all gathered information to be confirmed and assessed in each Kentucky Trail Town. From the planning and design perspective of host communities, the author created a Trail Town wayfinding assessment survey with a total of 24 questions structured under 10 main questions regarding wayfinding features as well as tourism services and amenities indicators that would theoretically inform and welcome tourists. The questions were based on what the Kentucky Trail Town program assessment and workbook documents identify and suggest for implementation in an ideal trail town to serve trail user experiences at the gateway community as well as along internal and adjacent trails. This also includes planning and coordinating the development of complementary signage that might be necessary between the gateway community and other trails and communities in the region (KYT OAT, 2012c and 2014).

2.2.2 Assessment of Kentucky Trail Towns

The research team split up and visited each Kentucky Trail Town in this study between May and August during each of the three summers previously identified. In addition to the Trail Town Wayfinding assessment questionnaire, the team utilized adapted physical planning and design questions from the First Impressions tool (Lewis, Schneider, Brown, & Greil, 2014) which also overlapped with topics from the Kentucky Trail Town program checklist (KYT OAT, 2012c and 2014). All members of the research team were trained on use of the instruments to ensure reliable assessments. On average, most trail towns were visited by three research team members. For each Kentucky Trail Town, team members recorded experiences from the major road to the main trailhead(s). Once at the trailhead, the team members selected trails that were visibly promoted by the community and navigated their way to the entrance of that trail. For most Kentucky Trail Towns, the research team centered their attention on one or two of the major trails being promoted by that town. The team focused on evaluating the clear visibility and communication of trail user amenities and services adjacent to the major trailhead in that town. Each evaluator filled out the survey and took photos of relevant features/elements the Kentucky Trail Towns offered.

2.2.3 Post-visit Compilation and Discussions

Lastly, the research team compiled the data and discussed their experiences relative to each Kentucky Trail Town and lessons learned from the Kentucky Trail Town planning and design outcomes. The team also prepared recommendations pertaining to wayfinding for individual Kentucky Trail Towns as well as for the state-wide efforts.

3. Results

3.1 Kentucky Trail Towns in the Work

The research team systematically assessed 16 certified Kentucky Trail Towns out of the 17 that have been certified as of summer 2017 (although certified as a Kentucky Trail Town, Russell Fork is a water trail which flows through Elkhorn City). Some of the assessed Kentucky Trail Towns have been visited a second time to obtain additional data or to confirm features that were not found during the first visit. Informal second or third visits were made to some Kentucky Trail Towns in different years, which unintentionally provided a time-lapse snapshot of progress in communities that embraced the initiative and were moving forward. A number of matured Kentucky Trail Towns have closely addressed and implemented design aspects of the Kentucky Trail Town program, such as in Dawson Springs (Figures 2-5), the first certified Kentucky Trail Town, Livingston, Olive Hill, and Stearns which have clearly invested in the development of their trailheads. Although certified, trail development and wayfinding efforts for the other 9 Kentucky Trail Towns were not clearly visible during the first year the team visited them for evaluation in 2016. However, during visits in the second and third year of the study, the research team observed that since their initial certification, some Kentucky Trail Towns have continued to progress and enhance their wayfinding efforts with features to better guide their visitors, such as the towns of Morehead and Olive Hill. In others, evidence shows the Kentucky Trail Towns have increased available services or amenities, such as new convenience stores established in the smallest Kentucky Trail Towns, Royalton and Livingston located deep in the Daniel Boone National Forest in Appalachian Kentucky. On the other hand, the trailhead development or wayfinding features of some Kentucky Trail Towns were questionable as they were not as explicitly visible or strategically planned and laid out for the trail user. In addition, tourism

relevant businesses (such as local food) struggle to sustain in some Kentucky Trail Towns.

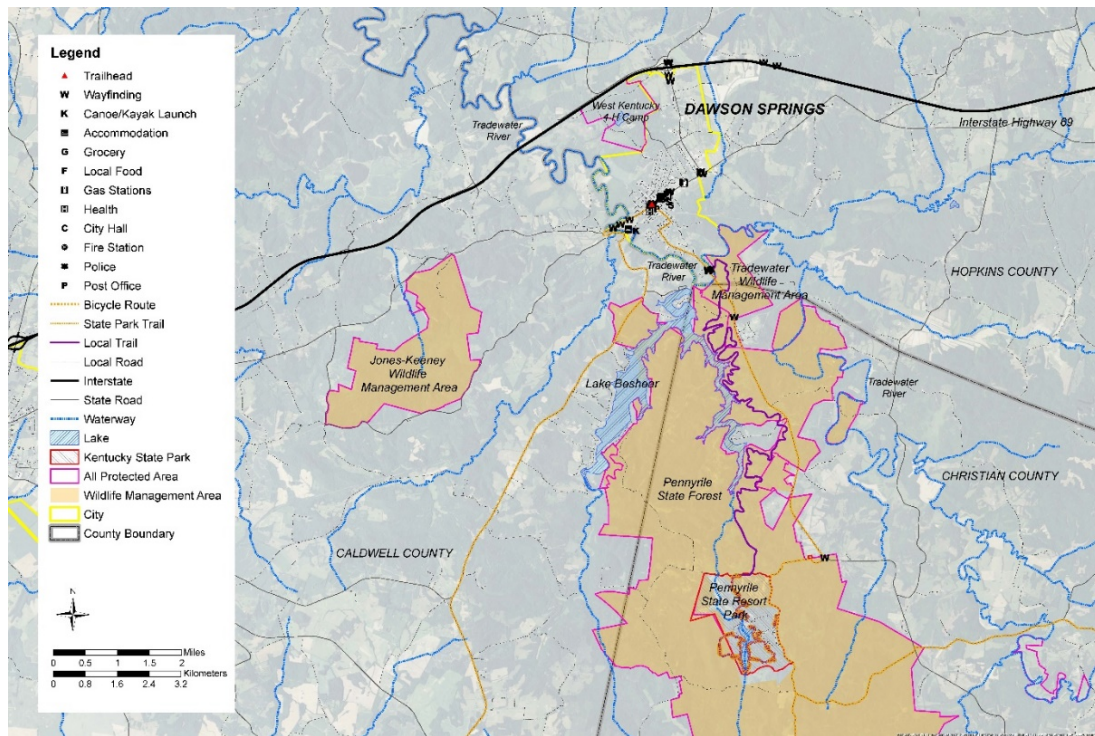


Figure 2. Trail town amenities, resources and wayfinding features around Dawson Springs, Kentucky

Dawson Springs (2010 population 2,764) is the first certified Kentucky Trail Town in western Kentucky where their local trails (land and water) connect to the Pennyryle State Resort Park trail system among other adventure tourism destinations (Mapped by Author, Data Source: KY FWR, 2016a, 2016b, and 2016c; KYT, 2017; KY DGI, 1998, 2001, and 2006; Kentucky Department of Parks, 2009; Kentucky State Parks, KY DGI, US Forest Service, US Parks Service, n.d.; KYTC, 2017 and 2018; USDA FSA NAIP, 2016; USGS, 2017)

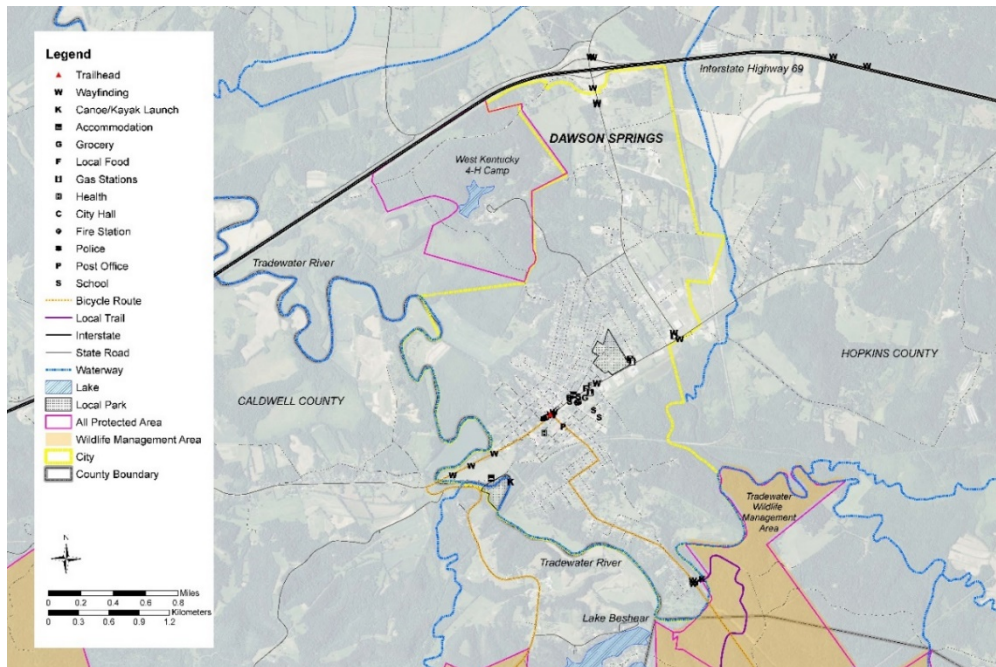


Figure 3. Trail town amenities, resources and wayfinding features in and adjacent to Dawson Springs, Kentucky
A range of wayfinding features are located at the edge of and within Dawson Springs to guide trail users to points of interest (parks, forest, river, and lake) (Mapped by Author, Data Source: KY FWR, 2016a, 2016b, and 2016c; KY DGI, 1998, 2001, and 2006; Kentucky Department of Parks, 2009; Kentucky Infrastructure Authority, 2007; KYTC, 2017 and 2018; USDA FSA NAIP, 2016; USGS, 2017)

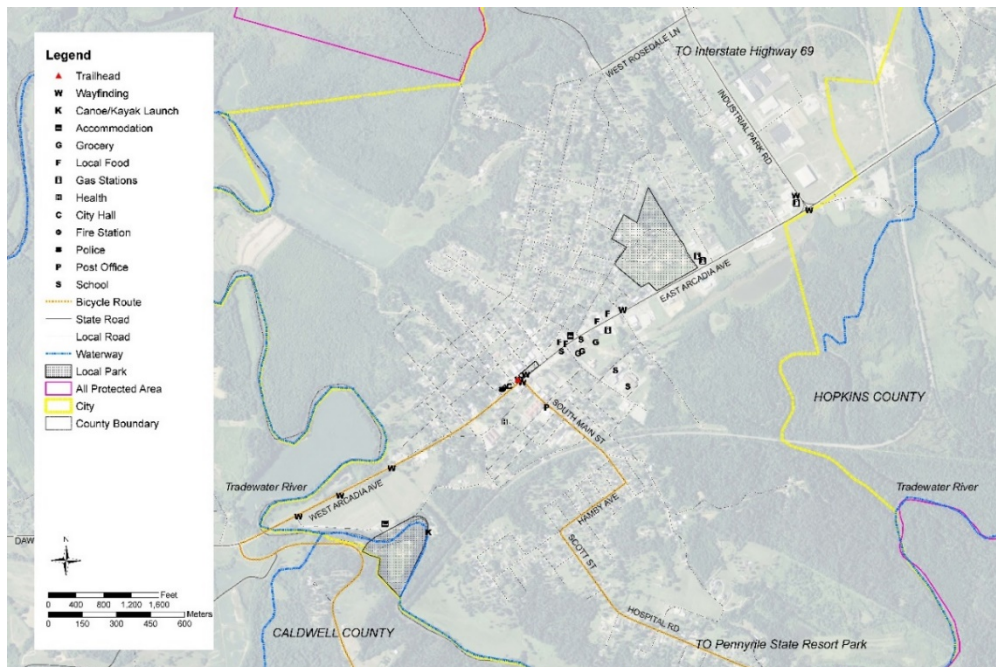


Figure 4. Trail town amenities, resources and wayfinding features in Trail Town Dawson Springs, Kentucky
Dawson Springs' trailhead is centrally located along Arcadia Avenue (main street) with several wayfinding features directing trail users to their destinations (Mapped by Author, Data Source: KY DGI, 1998, 2001, and 2006; Kentucky Infrastructure Authority, 2007; KYTC, 2017 and 2018; USDA FSA NAIP, 2016; USGS, 2017)



Figure 5. Visible trail town amenities and wayfinding features in and around Dawson Springs, Kentucky

Photos: (a) Kentucky Trail Town sign on Interstate highway, (b) Kentucky Trail Town tourism sign along state road, (c) Kentucky Trail Town logo used as a street sign, (d) public space across Dawson Springs trailhead with public parking, (e) Dawson Springs trailhead with trail maps and seating, (f) directional signs reflecting a number of trails near Dawson Springs, and (g) trails near Dawson Springs mapped and displayed at the trailhead (2016 Photos by Morgan Dunay and Erin Lockwood)

3.2 Wayfinding Findings

From a physical assessment perspective, the evaluated Kentucky Trail Towns present a variety of forms in regard to what a trail town looks and feels like. According to the state office, each Kentucky Trail Town is free to be as unique as they choose to be (KYT OAT, 2012a). However, from the perspective of a potential trail user and visitor, the Kentucky Trail Towns' performances often exhibited questionable wayfinding systems typified by dissimilar or inconsistent signage within the town and their respective trails. The evaluated Kentucky Trail Towns offered varied aesthetics regarding their branding and wayfinding system designs which provided a wide range of navigation experiences among the trail towns assessed. The visual inconsistency of wayfinding systems within and amongst Kentucky Trail Towns is both a strength and a weakness that could potentially either be capitalized on or addressed through the state-wide program (Table 2). Not all of the Kentucky Trail Towns provide visibly clear indicators for connections to the trails they were promoting. Often there was some form of sign or information in a kiosk at the trailhead, but once away from the trailhead there was little if any signage or information present in a consecutive or frequent manner. Visitors could easily get lost unless they were utilizing an electronic hand-held device that provided the needed information. On-the-ground communication was a weakness in several communities.

Table 2. Initial findings of visibility of wayfinding system features and their effectiveness in 16 Kentucky Trail Towns (2016-2018)

	Dawson Springs	Livingston	Morehead	Olive Hill	London	Stearns	Elkhorn City	Jamestown	Manchester	Royalton	Berea	Columbia	Tri-Cities	McKee	Slade**	Munfordville**
Certified years during first assessment visit	3	3	2	2	1	1	1	1	1	1	1	1	1	1	<1	<1
Total certified years*	5	5	4	4	3	3	3	3	3	3	3	3	3	3	1	1
Official state KY Trail Town sign at major road exit*	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	N	N
KY Trail Town logo sign(s) in explicitly visible location(s) in town	Y	Y	N	S	S	Y	S	Y	N	N	N	N	S	N	S	S
Helpfulness of signage system	Y	Y	N	S	N	Y	S	S	N	S	N	N	N	N	S	S
Convenient location of trailhead	Y	Y	N	Y	Y	Y	Y	Y	S	Y	Y	S	N	Y	Y	S
Resourceful trailhead	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	Y	N
Other types of relevant wayfinding elements exist	Y	Y	S	Y	Y	Y	S	Y	N	Y	Y	Y	N	Y	N	Y

Note. * as of 2018, ** Kentucky Trail Towns initially visited less than a year since certification, Y=yes, N=not at the time, S=somewhat existed

Each of the certified Kentucky Trail Towns featured a different mix of amenities and services that were laid out by the Kentucky Trail Town certification process. For this study, Kentucky Trail Town tourism amenities were defined as services and features that could benefit trail users such as public amenities (trailheads, parking,

benches, lighting, parks, plazas, open space, wayfinding, etc.) and civic services (public buildings and properties, school grounds, etc.). Kentucky Trail Town tourism-related services were defined as activities and businesses that would be available for trail users to consume or benefit from such as rentals, food, accommodations, gas, arts, crafts, etc. From our assessment, tourism amenities and services tend to be clustered; however, where they are located in the towns differed depending on the town's size and their proximity to major roads (Table 3). Often there was a short distance between amenities that were clustered near the center of towns or downtown districts where trailheads typically existed, while services were either clustered in downtowns or newly developed areas away from the downtowns but around major access/exits to roads which often included chain businesses. Services and amenities were not plentiful near the main trailhead of several Kentucky Trail Towns which could be partially due to the size (population) of the host community. Often the cluster of services and amenities were located a distance away from the center of towns where trailheads have been established. Therefore, visibility of directions to trails, amenities, and services within the trail town's environment was not clear which made it difficult for visitors to readily access the adventure tourism experiences the host community has planned and promoted online and offline.

Table 3. Initial findings of visibility of services and amenities in 16 Kentucky Trail Towns (2016-2018)

	Dawson Springs	Livingston	Morehead	Olive Hill	London	Stearns	Elkhorn City	Jamestown	Manchester	Royalton	Berea	Columbia	Tri-Cities	McKee	Slade**	Munfordville**
Tourism-related amenities near the trailhead or internal trails	Y	Y	N	Y	Y	Y	Y	Y	S	Y	Y	Y	S	Y	Y	S
Amenities located elsewhere in town	Y	Y	Y	Y	Y	S	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Tourism-related services near the trailhead or internal trails	Y	Y	S	Y	Y	Y	Y	S	N	N	Y	Y	S	S	S	S
Services located elsewhere in town	Y	Y	Y	Y	Y	S	Y	Y	Y	Y	Y	Y	S	S	S	Y

Note. ** Kentucky Trail Towns initially visited less than a year since certification, Y=yes, N=not at the time, S=somewhat existed

Most Kentucky Trail Towns did not have an independent, clearly explicit presence online for promotion and communication. All of the Kentucky Trail Towns were promoted through the state program's website (<https://www.kentuckytourism.com/outdoors/trail-towns/>) but required several mouse clicks down the menu level of webpage hierarchy from the agency's main page (<https://www.kentuckytourism.com/>) which is susceptible to updates, changes, and broken links. At the Kentucky Trail Town level, not all local governments or local hosts widely publicized their Kentucky Trail Town status. In many cases, locating the main trailhead in a Kentucky Trail Town was not clear or even possible by a simple search during the trip planning phase. Among various online local government websites, it was difficult to search for several of the towns' Kentucky Trail Town status.

3.3 Baseline Data

All Kentucky Trail Towns were promoting more than one type or route of trails for visitors. Depending on the proximity of the Kentucky Trail Town to the renown trail system, the assessment indicated the successfulness of the wayfinding system and trail town features. The completeness or comprehensiveness of the trail town tends to depend on the base demographics allowing for structured services. Demographic elements that affect completeness vary and include the trail town's population, size of the town center or downtown, and the number and types of trails being promoted. For example, the smaller the trail town population, the fewer readily

available services and amenities were present in the trail town.

4. Discussion

4.1 Enhancing Experiences through Visible Wayfinding Support

As a tourism development endeavor, it is essential for Kentucky Trail Towns to be user-friendly. The visible trail amenities, features, and services in Kentucky Trail Towns provide explicit environmental cues for trail users that their visits are welcomed by the host community. Achieving certification indicates that communities have dedicated much effort into developing actionable plans to attract adventure tourists to their trail towns which include implementation of signage. However, a systematic assessment evidenced that such sustainable tourism development efforts are still in its infancy for several Kentucky Trail Towns due to lack of a coherent signage system or gaps in them. The Kentucky Trail Town program certification process emphasizes host communities to support the trail user experience with appropriate signage systems including information kiosks and other forms of visible wayfinding aids. As a result, all Kentucky Trail Towns constructed trailheads and/or connector trails to the established trail(s) and/or trail system(s) near their communities with complementing wayfinding systems. However, there still are some Kentucky Trail Towns that could further effectively connect their towns and trail(s) more explicitly by strengthening their wayfinding system to enhance trail user experiences and potential tourism spending.

Does visibility matter? Effectively guiding first-time trail users, who may become return visitors or trail town ambassadors, between a community's central commercial area and the trails of interest is an essential task which requires carefully curated efforts to capitalize on their economic spending. With a weak wayfinding system, often users will be at a loss regarding where or which direction to head to reach the entrance of the trail they are interested in experiencing. While certified, some Kentucky Trail Towns have considerable work that should be done to enhance their wayfinding systems and built environment qualities to support the overall positive recreation tourists' experiences. Trekking around unfamiliar locations is in itself an adventure, but the experience could be more fulfilling if navigation information between a trailhead and the trails of interest is demarcated so that it is effective and convenient for visitors to process with ease and less frustration. The frequency of signs and a coherently laid out sequence of signage throughout the town and to and along trails could better communicate and support navigation experiences. The use of the Kentucky Trail Town logo on both independent signage and embedded in other forms of wayfinding aids can also enhance trail experiences through a consistent branding effort.

Compared to other efforts of Kentucky Trail Town development, the implementation of a wayfinding system can be a low hanging actionable item that can be accomplished in the short-term by communities. With a consistent family of signage, the navigation support system can lessen the unfamiliarity of places to be explored while also increasing a sense of identity for residents and achievement for visitors.

4.2 Existence of Adventure Tourism Support Services and Amenities

The user-friendliness of Kentucky Trail Towns, particularly at the intersection of trails and core areas of towns, needs continued effort to support stronger centers of economic, cultural and recreational activities. Hospitality features and amenities aimed to enhance trail-based adventure tourism activities are identifiable indicators for achieving short- and long-term goals for trail town endeavors. Such tourism support amenities and services need to be sought and established close to trailheads and entrances to trails in a clearly visible manner. Often, trail users have needs and fulfill those needs at their tourism destination. Even for visitors who prepared ahead of time, tourism related services at destinations such as near the trailhead or entrances to trails help visitors with their adventures and travels while communities gain economic means. Ideally, the trailhead area which functions as a gateway should be equipped with amenities and services for visitors accessing trails. Despite being part of the certification assessment features, some of the earlier certified Kentucky Trail Towns still lack amenities and services near their major trailheads, core areas of town or near the entrances of trails. Also, several Kentucky Trail Towns are lacking fundamental features, such as public restrooms and potable water in the form of water fountains, which are essential for a positive trail user experience. Although providing such amenities may be a challenge, especially for smaller communities, such support services need to be provided to continue to attract trail users and achieve community economic development goals. Stand-alone features or amenities can be implemented independently, such as wayfinding features, but often a longer-term maintenance plan may be needed for amenities such as public restrooms and potable water features.

From a business perspective, development of businesses relevant to Kentucky Trail Town users is essential for sustaining the collaboratively organized community effort to benefit from adventure tourism activities. To ground economic restructuring efforts aiming for longer-term trail town goals put forth by trail town committees,

businesses and potential businesses should continuously research, forecast, and expand their understanding of trail users' and adventure tourists' needs. Kentucky Trail Towns should be open-minded and innovative with their endeavors which may need to consider entrepreneurial decisions and practices to address 21st-century tourism trends and visitor behavior patterns. A challenge to prepare in advance would be planning business schedules and capacity to align with tourist demands during peak seasons as well as sustaining capacity during low, off-season periods. Ultimately, such private sector efforts need to be visible in the host Kentucky Trail Town communities. Once trail users have a pleasant experience, repeat visits and positive word of mouth referrals will be rewarded.

4.3 Strengthening Trail/Trail System and Town Relationships

Through our study, we found that there is a time-lapse between the celebration of Kentucky Trail Town certification and when gateways (core commercial areas of town) are equipped with the amenities and services for trail users. Also, major trailheads in Kentucky Trail Towns did not always exist in the core areas of town or near the entrances of trails. Some Kentucky Trail Towns visibly furnished their trailheads with wayfinding features and tourism amenities and services since their certifications. Other Kentucky Trail Towns were still working on their preparations as host communities after their certification celebrations. On average, trail towns that were close to 3 years since their certification tend to be better equipped with wayfinding features, amenities, and services while Kentucky Trail Towns with less than 2 years since their certification were not as prepared with necessary trail town elements. In some Kentucky Trail Towns, we have observed continuing efforts toward a successful trail town endeavor since our preliminary wayfinding systems assessments. During subsequent visits, we evidenced additional wayfinding features, tourism amenities, adjustments to existing conditions, or new businesses. However, in other Kentucky Trail Towns, the certification status is questionable as we have not seen much-needed improvements since our initial visits. For example, in some communities wayfinding systems were ineffective or tourism amenities and services for gateway experiences were lacking. In other cases, we learned that a community's trail development efforts are on hold due to conflicts of interest which ultimately impact other trail-related work for their trail town endeavors. Therefore, the relationship between the town and trail/trail system would benefit from more effective and visible longer-term planning and design considerations. A trail town's adventure tourism development needs should be planned holistically in advance yet phased into short-term and long-term practices and implementation phase which can be achieved accordingly.

Every certified Kentucky Trail Town community has worked diligently on their certification process by identifying and extending connector trails to more than one trail or trail type. Narrowing the physical or psychological gaps between the trail and the town with visible wayfinding systems is important to enhance strong gateway experiences for trail users. Further expansion and diversification of a trail system can extend a visitor's length of stay and increase opportunities for activities in town. For a long-term perspective, regional partnerships and expanded trail town initiatives offer synergetic opportunities to develop with neighboring communities that may have other resources or services available; therefore, multiple community efforts offer opportunities for strengthening and improving trails and towns for extended visits. The partnership can have a far-reaching impact, particularly on smaller Kentucky Trail Towns with limited resources and capacity through effective synergy. There has been evidence of previously certified Kentucky Trail Towns extending bicycling trails/routes to other nearby Kentucky Trail Towns, and more currently the Office of Adventure Tourism suggests collaborating on regional efforts. For example, a bicycle route for the annual Redbud Ride starting in London has extended to Livingston and surrounding areas to the north of London, Kentucky.

4.4 Further Planning and Design Suggestions for Sustainable Trail Towns

Sixteen Kentucky Trail Towns out of around 30 applicant communities have celebrated their initial certification phase; however, the program requires annual reviews for continuation of the certification status and to uphold the branding effort. Adventure tourists tend to be avid about their trail adventures; therefore, making the rest of the adventure as memorable as possible will benefit host communities by capitalizing on the behaviors of adventure tourists continuously. A visibility enhancement effort that Kentucky Trail Towns should take full advantage of is by attracting potential trail users through digital technology. Kentucky Trail Towns should effectively utilize web-based applications and services to promote and communicate their community's assets while also sustaining their Kentucky Trail Town status. While not all Kentucky Trail Towns are equipped with digital infrastructure that fully supports advanced technology, ultimately, a continuous relationship between all participating parties through whatever relevant means possible is necessary for the long-term sustainable development effort of Kentucky Trail Towns.

As a long-term vision pursued congruously, the community-based sustainable development practice will help

Kentucky Trail Towns plan for their overall sustainability, including considerations for their wider environmental management efforts which include their built environments. Kentucky Trail Towns have the responsibility as host communities to preserve their landscape characteristics and place identity, not only for trail-based economic development purposes but also to sustain their livelihoods for generations to come. Development of tourism activities should be sustainable and help enhance and educate visitors and residents about the community's environment, heritage, and culture. Through the Kentucky Trail Town program initiative, communities should further consider resource management goals to preserve their landscape characteristics, place identity and foundations for health that would appeal to their residents and not just trail town visitors. Therefore, it is essential that trail town residents buy-in to the community-wide Kentucky Trail Town endeavor and trail infrastructure should also address and serve the needs of the host communities to simultaneously benefit from the support of adventure tourism efforts.

Like the pieces of a puzzle that create a larger picture, successful Kentucky Trail Towns can only succeed and sustain through the efforts of their communities. Communities should strategically plan for and invest in public amenities and support tourism-related businesses and service providers that support strong gateway experiences. A healthy trail town is one that is user-friendly and can efficiently guide their visitors to established trails. Haphazard planning and design need to be discouraged. It is important to identify properties adjacent to existing and future trail(s) and trail system(s) to further expand and decisively protect resources and prevent ineffective outcomes.

4.5 Limitations of Study

This study initially aimed to explore and assess the performance of wayfinding implementation in the first 13 Kentucky Trail Towns; however, by the time we decided to revisit a number of towns due to lack of evidence or missed observations, 3 additional Kentucky Trail Towns had become certified. The revisits and new first time visits were conducted by a different team of trained students which could have introduced bias or discrepancies in the assessments. By the second year of the observations, some trail towns had implemented missing wayfinding pieces while other towns had not progressed. Additionally, although a state-wide snapshot was attempted the findings from this study cannot be comparable amongst Kentucky Trail Towns as all host communities are unique, possess different potentials and capacities, and had different timeframes in which to showcase their achievements. In the future, the findings from this study could serve as a comparable temporal constant for individual Kentucky Trail Towns through a periodic reassessment of their wayfinding system implementation, which could provide a fuller understanding of the potential of Kentucky Trail Towns' performances over time.

5. Conclusion

The state-wide Kentucky Trail Town program has successfully guided and certified 16 Kentucky Trail Towns for their efforts to pursue a diversified economic performance capitalizing on their unique natural, cultural and historic resources. To date, there has not been one overall Kentucky Trail Town outcome. The communities are capitalizing on different types of trails and aim to attract a range of trail users. With room for improvement, Kentucky Trail Towns need to continuously strive to understand the types of trail users their towns are currently attracting and identify ways to support them better. Further planning and design considerations can complement existing and potential trail infrastructure with the aim to enhance visitor experiences.

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