

Executive Summary of Findings: Market Analysis of Mountain Biking in the Southern Appalachian National Forests



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Deborah Caffin
USDA Forest Service
Southern Region
1720 Peachtree Road, SW
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Dear Ms. Caffin,

In accordance with Contract # AG3187B140010 and Task Order 3AG-43ZP-K-0025, CHM Government Services is pleased to present our observations and findings as contained within this Final Market Analysis of Mountain Biking in the Southern Appalachians. Our report is subject to the Assumptions and Limiting Conditions stated therein.

It has been a pleasure to be of service to the United States Forest Service ("USFS"), Southern Region. If we may be of further assistance, please do not hesitate to contact us.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'G Baekey', is written over a light gray circular stamp.

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1. EXECUTIVE SUMMARY

The USDA Forest Service (“USFS”) provides multiple use trails including those that support mountain biking. Mountain biking has expanded significantly in the last two decades and the initial USFS trail systems design use was not exclusively for mountain bikes. As the interest in mountain biking increases the demand for more mountain bike trails and mileage is growing as well as an interest in having trail systems optimized for mountain bike trail usage.

In 2015, the USFS Southern Region completed its Sustainable Recreation Strategy. This strategy builds on the idea that a well-aligned and sustainable recreation program is one that meets five critical success factors: Shared Vision, Visitor Satisfaction, Protection of Natural and Cultural Resources, Effective Management and Financially Sustainable.

To be responsive to expanding user demand requests as well as to be in alignment with the Southern Region Recreation Strategy, the USFS Southern Region identified a need for a mountain biking market analysis for the Southern Appalachians National Forests. For this report, the Southern Appalachian Region begins in Virginia and continues through Georgia. The National Forests included in this analysis are:

- George Washington & Jefferson National Forests, (NFs) Virginia (“GW&J”)
- Nantahala & Pisgah National Forests (“NFs”), North Carolina
- Francis Marion & Sumter National Forests (“NFs”), Andrew Pickens Ranger District, South Carolina
- Cherokee National Forest (“NF”), Tennessee
- Chattahoochee – Oconee National Forests (“NFs”), Georgia

The objectives for this report were identified as:

1. Engage mountain bike stakeholders including public agency staff, nonprofit and for-profit agencies to identify issues and opportunities for mountain biking within the Southern Appalachian Region.
2. Identify and verify the sources of data that can be used to understand supply and demand dynamics for mountain biking.
3. Collect and analyze said data sources to create an independent and objective review of supply and demand dynamics for mountain biking.
4. Identify at a macro level where there are supply and demand gaps to assist the USFS and its Stakeholders in mountain biking planning and development processes.

The USFS, Southern Region engaged CHM Government Services (“CHMGS”) for a market analysis to provide an understanding of the following:

- Demand
 - Trends in Mountain Biking
 - Mountain Biker User Profile
 - Potential Growth Areas
- Supply
 - Develop Criteria for Best Locations to invest (e.g. NF, single vs multi use trails, # of miles, difficulty, experience type, amenities, fees, etc.).
 - Potential Growth Areas
- Fiscal
 - Financial Aspects of Managing this use type.

The CHMGS work included three phases and sub analysis tasks.

1. Phase 1: Data and Information Gathering and Review
 - a. Agency Data Review
 - b. Trail Inventory
 - c. National Visitor Use Monitoring Data
 - d. Planning Documents (e.g. Forest Plans, Trail Plans)
 - e. Competitive/Comparable Supply Analysis
 - f. Trail Inventory
 - g. Mountain Bike User Profiles
 - h. Mountain Bike Industry Data
2. Phase 2: Stakeholder and Market Provider Interviews
 - a. Local and Regional Mountain Bike Organizations
 - b. Local Stakeholders (e.g. event organizers, community representatives)
 - c. State Trail Representatives
 - d. Other Federal Agency Representatives (e.g. BLM, TVA)
3. Phase 3: Deliverable Development and Presentation of Findings
 - a. Synthesis of Findings
 - b. Development of Draft and Final Report

The following provides an Executive Summary of the Market Analysis Study findings.

NATIONAL MACRO-ECONOMIC/DEMOGRAPHIC AND SOCIAL TRENDS

Macro-economic factors indicate a favorable climate for continued investment in all recreational activities. While the population is aging, the median age of the U.S. population still is within the demographic for mountain bikers.

PROFILE OF MOUNTAIN BIKE INDUSTRY

The bicycling manufacturing industry forecasts continued revenue growth of approximately one (1%) percent over the next five years. Mountain bikes are a stable percentage of overall bike manufacturing. Bike manufacturers are continuing to develop product offerings to meet changing user needs. E-Bikes are a new market segment that the industry is promoting to address the changing age demographic.

NATIONAL RECREATIONAL PARTICIPATION TRENDS FINDINGS

National recreation trends indicate that mountain bicycling has approximately 8.6 million participants who ride at least one time per year. The participation rate for mountain biking has increased at a compound annual growth rate (CAGR) of approximately 2.5 percent over the last ten years and has increased to four percent per year over the last five years. The growth rate of mountain biking is on par with other trail-based activities. Equestrian participation rates are not available, but research indicates that horse owners remain concerned about trail access. State recreation participation rates indicate that mountain bicycling ranks behind hiking/backpacking but ahead of equestrian use.

PROFILE OF THE MOUNTAIN BIKE USER

The southern region of the U.S. supports the second highest participation rate in the nation for mountain biking. Seventy percent of mountain biking participants are male, and 58 percent are between the ages of 25 to 54. Forty-eight (48%) of all mountain biking participants have a household income above \$75,000. Core mountain bikers (13+ times per year) profile closely resemble the profile of the overall mountain biking profile. The crossover outdoor activities participated in by mountain bikers includes numerous settings that exist on USFS lands. Mountain bike riders will typically drive up to two hours or 120 minutes to take advantage of larger trail systems mileage (25 to 50 miles) and desire basic amenities (e.g. parking, bathrooms, trail signage) proximate to the trail experience.

NATIONAL FOREST RECREATION PARTICIPATION TRENDS

The highest visitation within the Southern Appalachian NF's is the Nantahala and Pisgah NFs at over four million visitors. The Nantahala & Pisgah NFs, Francis Marion & Sumter NFs and George Washington & Jefferson NFs all experienced decreases in visitation ranging from .3 to ten percent CAGR over their most recent five-year NVUM period. The other two NF's (Cherokee NF and Chattahoochee-Oconee NFs) had CAGR visitation growth from three to nine percent. Several of the NF's (e.g. Cherokee NF, Francis Marion & Sumter, Nantahala & Pisgah NFs) are approaching their next five-year mark for NVUM which will be critical to review as the most recent visitation data is between three and five years old.

The travel distance of visitors on several NF's changed and would appear to indicate a shift in visitor profile. The George Washington & Jefferson, Nantahala & Pisgah and Chattahoochee-Oconee NFs have experienced growth in visitors traveling from over 100 miles. This would appear to indicate that these NF's are becoming weekend recreation destinations and in the case of the Nantahala & Pisgah

NFs weekend getaways. The Cherokee NF experienced increases in visitation from less than 50 miles indicating increases in local use.

On all NF's, biking participation represents a higher percentage of participation than equestrian but is significantly lower than hiking/walking. On only one of the five NF's biking participation rates are increasing at rates higher than hiking/walking and equestrian. The Chattahoochee-Oconee NF's are the only NF's that has an equestrian growth rate that exceeded mountain bikes.

CURRENT SOUTHERN APPALACHIAN REGION MOUNTAIN BIKE SUPPLY.

Using supply inventory data from the MTB Project, CHMGS has identified that the Southern Appalachian Region (e.g. VA, NC, SC, TN, GA), has approximately 2,300 trail units providing approximately 5,800 trail miles. Virginia and North Carolina represent over 57 percent of the trail inventory and approximately 55 percent of the trail mileage. Within the mountain bike trail inventory, the mean trail length representing the average trail distance ranges from 2.0 to 3.5 miles. The mode, which represents the number repeated most often, ranges from is .5 to 1.1 illustrating the abundance of trail inventory that is shorter in length.

The National Forests of the Southern Appalachian Region represents approximately 34 percent of the total trail inventory and 36 percent of the overall trail mileage within the five states included in the Southern Appalachian region of analysis. This identifies the essential position of the NF's in providing mountain bike settings for users. The average NF trail system length is 25 miles which aligns with the desires for ride lengths for weekend rides. The MTB Project data indicates that 40 percent of NF's trail systems in VA and NC are in the top ten ranking. This is a function of cumulative mileage as well as unique characteristics (e.g. setting, difficulty, etc.). Of the top ten trail rankings for difficulty, most of the NF trails rankings are intermediate to difficult which interviews confirmed.

CHMGS evaluated by state the top 75 trail segments from Single.Tracks.com to understand the distribution of trail difficulty. This analysis identified that 50 to 60 percent classify as Intermediate level difficulty and less than three percent were Expert. Beginner trail systems were typically less than 18 percent in most states with South Carolina the outlier at close to 30 percent. Interviews indicated a desire for loop systems that could allow for a variety of levels of difficulty.

CURRENT SUPPLY AND DEMAND ANALYSIS

The supply analysis identified the distribution of mountain bike trails and their mileage characteristics. The demand analysis identified where the population of mountain bike demand exists, the volume of demand and where this demand is located in relation to National Forests settings. The supply and demand analysis is designed to address the following question:

- ***Which National Forest(s) are located in areas in which the supply and demand for mountain bike trail use is underserved outside of the National Forest and as such, the addition or enhancement of mountain bike trail systems on the National Forest will provide a solution to address this issue?***

The underlying premise in assessing a market's underserved needs is to identify and recognize a reasonable travel time for a mountain biker to access a NF setting and trail system. CHMGS' qualitative research with USFS staff as well as mountain bike stakeholder groups (i.e. IMBA and SORBA) identified insight to both daily as well as weekend event drive times typically associated with mountain bike users. These interviews concluded that the most desirous weekend travel time was approximately 120 minutes based upon the combination of highway vs. backroad driving. CHMGS used the travel time of 120-minutes as the guiding principal for our supply and demand analysis.

CHMGS notes that casual and core mountain bikers travel desires are different. The interviews with mountain bike stakeholder groups likely represents more of the core rider cohort. However, these

interviews also identify that the core mountain biker does travel at times with a family member likely categorized as a casual biker (e.g. children or potentially spouse). As such the desire for mountain bike trail segments that appeal to varying skill levels is critical.

CHMGS analysis of travel time distances identified that the following MSA's had the highest mountain bike demand but did not reach most of a NF within 120 minutes.

1. Raleigh, NC
2. Washington D.C.
3. Nashville, TN

However, the needs for trail expansion on the Southern Appalachian Region NF's needs to be evaluated considering the supply of mountain bike trails that exist between where the mountain bike demand is located, in relation to the Southern Appalachian Region NF's.

FUTURE SUPPLY AND DEMAND ANALYSIS

The future supply and demand analysis appear to indicate that demand for mountain biking is likely to continue at a CAGR of approximately 2.0 percent over the next five years. This rate of growth is lower than the historical growth rates for hiking. Economic indicators and population growth appear to be increasing at CAGR's between one and two percent. Supply additions are harder to confirm, but interviews with state and local stakeholders indicate a continue desire to expand local and state resources for mountain bike trails. The extent of the expansion and timing of the expansion is not certain.

Other factors that can impact supply additions include landscape settings, trail characteristics and funding availability. Landscape settings change due to natural resource changes (e.g. climate change) as well as human impacts. Trail characteristics should be driven by management decisions but are also impacted by users which then may cause preventative management design decisions. Over the last decade there has been an increase in capabilities external to the USFS for trail design and development. Supply additions need to consider trail characteristics that meet the needs of the user market which could be either local (e.g. backyard) or destination (e.g. individuals who travel for experiences). Supply additions should take into consideration the best practices in trail design and development. The BLM and IMBA have taken an initial first step in identifying design standards that the USFS should consider. Leveraging external resources for trail design and development is a trend the USFS should consider. Funding for trail maintenance and improvements through USDA Forest Service Appropriated Fund Sources for CMTL will continue to be a small portion of what is needed. This federal resource has remained stable or slightly decreasing over the last ten years. This means the future of mountain bike existing trail enhancements as well as new development will result in a need to recognize and focus efforts on alternative funding strategies and resources (e.g. philanthropy, social impact bonds, user fees, etc.).

CLOSING THE SUPPLY AND DEMAND GAP

Most recreational development strategies rely upon assembling resource inputs from one owner. This is not the case with the USFS and this specific recreational land use (e.g. mountain biking). Development of mountain bike trail systems will be most successful when the resource inputs come from a variety of resources (e.g. public, private, nonprofit). Depending on the availability of those resources, the outputs will be different.

CHMGS notes that the Southern Region is responsible for stewarding trail systems for multiple uses and mountain biking is just one of those uses. However, the ability of the mountain biking community to bring to the National Forests additional resources can assist in providing capacity for ensuring long term stewardship and availability of mountain bike trail systems.

A key finding of this analysis is that addressing issues related to any new mountain bike supply additions, requires a combination of resources to all align for ultimate success. The CHMGS analysis framework and impressions from interviews identified that some National Forests are in a better position to close the supply gaps.

OBSERVATIONS AND RECOMMENDATIONS FOR CLOSING THE SUPPLY AND DEMAND GAPS

CHMGS notes that the NFs within the Southern Appalachian are not consistent in their approaches to planning, managing, and maintaining mountain bike trails. As such, the stakeholders see this issue and choose to be tactical vs. strategic with the NF.

CHMGS is of the opinion that the external stakeholder community for mountain bikers (e.g. IMBA/SORBA chapters) provides a unique opportunity for the USFS, Southern Region. The capacity and competency of this external stakeholder group is a significant resource. CHMGS believes the greatest obstacle in harnessing these resources is a gap in external stakeholders understanding of the Southern Region's overall strategy, limitations, and tools and techniques need to direct and accelerate strategy. Also, despite many of the individual chapters being part of a larger entity (e.g. SORBA), most operate as individual chapters and as a result there is a lack of strategic priorities within SORBA to the USFS, Southern Region. This results in tactical strategies that impact Ranger Districts, vs. National Forest vs. Southern Region National Forests. There are tactical decisions requested by SORBA that are not aligned with USFS, Southern Region priorities.

Additionally, CHMGS notes there appears to be a knowledge competency gap between the NFs and the external stakeholders regarding trail design and development. The external stakeholders appear to have a higher level of competency in this area. Some NF units embrace this, and others have not leveraged this capacity. Conversely, there is a knowledge gap between the external stakeholder community and the NFs regarding resource capacity and processes and procedures for NEPA. All parties recognize and respect the role of NEPA, but each NF is resourcing the process differently (e.g. elements completed in house vs. externally). This is an example of a lack of consistency within the NFs that causes confusion with the external stakeholders and frustration within some NF units.

Closing the gaps, in strategic alignment and skills and competencies should be a high priority focus area for both the NF and its stakeholders.

MARKET ANALYSIS CONCLUSIONS

The objective of the Southern Appalachian Region NF Mountain Biking Market Analysis was to provide the Southern Region of the USFS an independent assessment of supply and demand factors for mountain biking that exists in the Southern Appalachian Region. The findings of this report can then be used to evaluate and prioritize opportunities for planning enhancements to mountain biking opportunities.

CHMGS's Market Analysis for Mountain Biking in the Southern Appalachian Region identified that the greatest supply and demand imbalance in relation to need for mountain biking within the Southern Appalachian Region NF's is occurring within the states of Virginia and North Carolina. This imbalance is in part due to the significant mountain bike demand (71%) that these two states represent within the Southern Appalachian Region.

The mountain bike demand emanating from the Washington D.C and the Richmond & Virginia Beach - Tidewater area in Virginia currently cannot be met with the supply of mountain bike trails existing between these population centers and the GW&J NFs. As such, contemplating adding and enhancing mountain bike trails on the northern and central Ranger Districts (e.g. North River, Lee, Glenwood & Pedlar) GW&J NFs should be a priority. Additionally, supporting state and public agency initiatives for expansion of other trail opportunities should be encouraged.

Within North Carolina, there is significant mountain bike demand emanating from the Raleigh/Durham area which also appears to be undersupplied with mountain bike trails. While the Uwharrie NF lies between Raleigh and the Pisgah NF, the settings are not similar. The Uwharrie NF may provide a location for consideration of beginner mountain bike trails. However, unless there is significant trail development in the western part of the State, demand for quality mountain bike trails systems on the Pisgah & Nantahala NF's will continue. Therefore, ensuring that the trail systems on these two forests are resilient and where possible expanded, is a priority.

While there is a supply and demand imbalance within the state of Tennessee, the location of the demand (e.g. Nashville and Memphis) is greater than the 120 miles west of the Southern Appalachian NF's. Therefore, supply additions on the Cherokee NF will not likely address the mountain bike demand issues. Other public lands in central and western Tennessee are more likely to meet the needs of Nashville and Memphis.

The state of South Carolina has the lowest level of mountain bike demand and the smallest inventory of mountain bike trails. The Andrew Pickens RD is the location that has been evaluated by the USFS for additional mountain bike trails to link with the larger Palmetto Trail system. This RD is located close to Greenville. This area, including the Clemson due west, has the highest concentration of mountain bike trails in the state. Overall, the relationships between the demand and supply would indicate additional trail needs, and investment in new trails due north of Columbia will provide some benefit.

The state of Georgia appears to have a large supply of mountain bike trails between Atlanta and the Chattahoochee NF as well as a large inventory on the Chattahoochee NF. Trail improvements vs. additions would be a higher priority for this state.

If a trail enhancement/addition is contemplated, it is critical that the USFS identify what trail experience niche it seeks to address in relation to the profile of the existing supply in the area. This research has noted that among the Southern Appalachian Region NF's, approximately 50 to 60 percent of the trail inventory ranks as Intermediate level and less than three percent were Expert. Beginner trail systems were typically less than 18 percent in most states with South Carolina the outlier at close to 30 percent. The ratio of mountain bike participants between Casual and Core is (50/50).

However, the number of times a Core Rider participates is twice as much as casual. Overall, if we look holistically at the data vs. market specific, creating beginner trails as well as developing expert trails are currently gaps that need to be filled. This strategy supports the needs of both casual as well as core riders. However, it is critical that proposed mountain bike development take in to consideration location specific mountain bike trails distribution of trail difficulty.

Both the quantitative and qualitative research from this report indicates that loops trails that can connect for longer trail mileage (i.e. 25 to 50 miles) is highly desired by core riders. Additionally, supply inventory data indicates that within the Southern Appalachian Region the mountain bike trail mode is less than one mile. Therefore, strategies that take existing trail segments and improve/reconfigure them to create larger loops and different levels of difficulty should be considered. Qualitative research confirms a desire for single use trail systems from the user base while the USFS has primarily managed for multiple use trail systems. Qualitative research indicates that the user base recognizes the role of multiple use trails and is supportive of shared use systems that allow for alternating use days or trails.

Finally, CHMGS's Market Analysis has been undertaken at a macro level. Any future planning should leverage the data within this study to allow for supply and demand dynamics to be evaluated at a micro level (e.g. National Forest, Ranger District and local counties). Request for trail enhancements and additions as well as decisions on alterations to the length and difficulty of trails should be evaluated considering local supply and demand characteristics.