

Economic Impact of Mountain Biking in the Grand Mesa, Uncompahgre & Gunnison National Forests

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Image Credit: Carl Zoch



Executive Summary of Study

Grand Mesa, Uncompahgre and Gunnison National Forest (GMUG) is an important American mountain biking destination.

Mountain bikers visited the GMUG over 150,000 times per year. An estimated 70% of these visits were from persons living outside the GMUG and surrounding region.

Over 576 mountain bikers from around the nation responded to our survey collecting their economic expenditures on their most recent trip to the GMUG.

Based on the economic impact analysis and NVUM visitation figures, the research team estimates:

1. Mountain bike visitors who are not local residents annually spend \$24 million in the GMUG.
2. Mountain bike visitors' expenditures in the GMUG support 315 jobs and \$7.9 million in job income within the region.



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Meet Your Research Team

DR. JAMES N. MAPLES is an associate professor of sociology at Eastern Kentucky University, where he examines the political economy of renewable tourism. His research interests include the economic impact of outdoor recreation and social change in rural areas. In his free time, he is conducting an oral history of rock climbing in Kentucky's Red River Gorge. He is also an Eagle Scout, Girl Scout dad, and metal detectorist.



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DR. MICHAEL J. BRADLEY is an associate professor and director of graduate studies in the Department of Recreation and Park Administration at Eastern Kentucky University. His professional and academic interests include human dimensions of natural resource and wildlife management as well as sustainable recreation practices as it relates to outdoor recreation.



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CONTACT INFORMATION FOR FUTURE STUDIES

Our research team regularly conducts economic impact studies, surveys, assessments, interpretation studies, and other kinds of community-driven studies. If you or your organization is interested in conducting a study, please contact lead researchers Dr. James Maples or Dr. Michael Bradley (emails above) for further information.

Methodological Notes

STUDY PURPOSE

The purpose of this study is to examine the annual economic impact of mountain biking visitors in the GMUG based upon expenditures from most recent 2017 or 2018 visit.

DATA COLLECTION

The researchers collected data using an online survey available from July 14, 2018 until August 24, 2018. This is best treated as a convenience sample. The final survey language is available upon request. The survey included questions examining economic expenditures across fifteen sectors and are outlined in this report. The survey included questions about where the respondent lives the majority of the year, the size of the group accounted for in the respondent's economic impact questions, and a lodging selection. The research team used all of these questions in creating the economic estimates.

ANALYSIS

This study uses established techniques utilized in previous peer-reviewed economic impact studies. First, respondents were sorted by local residents (respondents who self-reported as being a resident of the GMUG and immediate surrounding area) and visitors (respondents self-reporting as living outside the GMUG area). Local residents are separated from the economic impact estimates as their expenditures, while important, are not typically treated as true economic impact. Their mean expenditures are, however, reported as a supplement to the economic impact estimates.

Second, mean expenditures were established for mountain biking visitors in each study area for each of the fifteen economic impact categories. Means are also included for expenditures outside the study area but still within the state of Colorado.

Third, group sizes in expenditures are addressed by dividing the respondent's reported expenditures by their reported group size.

Fourth, respondent cases in each mean with values higher than the third standard deviation were marked as missing data. This technique prevents overestimating economic impact and provides reliable, conservative means.

Fifth, these means are entered into IMPLAN, an industry-leading economic impact calculation system, which uses input-output modeling to establish economic impact across three measures: output, value added, and job income.

Sixth, these estimates are shaped by visitation data from the National Visitor Use Monitoring survey conducted by the Forest Service. Visitation data were verified with the International Mountain Bicycling Association and broken down by study area to create a more nuanced economic estimate by study area.

Study Regions

This study includes four study areas: Grand Junction, Crested Butte, West Slope, and Ouray. Each are explained in detail below. The economic impact study areas are built around common outdoor recreation destinations and the cities and towns where outdoor recreation users are most apt to spend funds as part of their trip.

REGION ONE: GRAND JUNCTION

The Grand Junction study area includes mountain biking opportunities in Grand Mesa, Cedaredge, and McClure Pass areas, as well as the Uncompahgre Plateau, Montrose, Norwood, and Paonia / Northfork areas. Expenditures are modeled in Mesa County, Delta County, Montrose County, and San Miguel County. These counties include cities and towns such as Cedaredge, Paonia, Crawford, Hotchkiss, Montrose, Norwood, and Telluride. It also includes the Grand Junction metropolitan statistical area.

REGION TWO: CRESTED BUTTE

The Crested Butte study area includes Crested Butte, Gunnison, and Taylor Park mountain biking opportunities. It is modeled in Gunnison County, which includes both Gunnison and Crested Butte.

REGION THREE: WEST SLOPE

The West Slope study area is the Western Slope of the Monarch Pass area. This aggregated area includes Canyon Creek Trail, Monarch Crest, Agate Creek Trail, Cochetopa Hills, and Colorado Trails. The study area is modeled in Gunnison County and Chafee County, which includes Gunnison and Salida as likely locations for expenditures.

Table 1A

Economic Indicator Summary of Grand Junction	
<i>Indicator</i>	<i>Value</i>
Gross Regional Product*	\$8,043,682
Total Personal Income*	\$8,987,203
Total Employment	129,873
Number of Industries	298
Land Area (square miles)	7,996
Population	230,013
Total Households	91,470

Table 1B

Economic Indicator Summary of Crested Butte	
<i>Indicator</i>	<i>Value</i>
Gross Regional Product*	\$817,151
Total Personal Income*	\$710,875
Total Employment	13,044
Number of Industries	176
Land Area (square miles)	3,239
Population	16,408
Total Households	7,165

Table 1C

Economic Indicator Summary of West Slope	
<i>Indicator</i>	<i>Value</i>
Gross Regional Product*	\$1,470,259
Total Personal Income*	\$1,473,027
Total Employment	24,937
Number of Industries	203
Land Area (square miles)	4,252
Population	35,466
Total Households	15,758

*Gross Regional Product and Total Personal Income listed in 1000s

Study Regions, Continued

REGION FOUR: OURAY

The Ouray study area includes mountain biking in Ouray and Ridgway, Telluride, Silverton, and Lake City. The study area is modeled in San Miguel, Hinsdale, and Ouray counties.

Table 1D

Economic Indicator Summary of West Slope	
<i>Indicator</i>	<i>Value</i>
Gross Regional Product*	\$815,090
Total Personal Income*	\$888,412
Total Employment	4,181
Number of Industries	181
Land Area (square miles)	2,946
Population	13,662
Total Households	6,151

Visitor Mean Expenditures

Tables 2A - 2D detail overall mean visitor expenditures inside the study areas. Mean expenditures are an averaged figure of what economic activity one outdoor recreation visit (on average) to the study area creates.

Mean expenditures were separately created for visitors and local residents across fifteen common economic impact categories covering most every facet of expenditures on a typical trip to the GMUG study areas.

Each table includes means that have previously had all cases above three standard deviations recoded as missing data to discourage points of influence that overstate economic impact. The means and standard deviations listed in the table are the result of this process, hence they may still include cases three deviations above the new estimates.

Table 2A

Visitor Mean Expenditures in the Grand Junction Study Area (Estimated 27,440 annual visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	108	\$16.88	25.60	0	100
Sit-down dining	111	\$90.49	89.42	0	500
Grocery Stores	110	\$59.19	84.07	0	500
Gas station food	112	\$7.63	13.21	0	50
Gasoline & oil	112	\$73.09	63.38	0	300
Retail gear	114	\$30.93	63.76	0	500
Retail, non-food	110	\$9.95	21.24	0	100
Rental gear	114	\$3.22	19.98	0	180
Guide service	115	\$0.22	2.33	0	25
Rental Car	114	\$0.00	0.00	0	0
Taxi / Uber / Lyft	113	\$0.36	2.40	0	20
Adventure tourism	115	\$0.00	0.00	0	0
Entertainment	114	\$5.82	17.05	0	100
Hotels & resorts	114	\$77.95	163.96	0	900
Camping	114	\$10.00	23.87	0	100

In the Grand Junction study area (**Table 2A**), the largest expenditures were in sit-down dining (e.g. with wait staff) at \$90.49 per trip and lodging at \$77.95. Per visit expenditures for visitors to the Grand Junction study area averaged \$385.73.

*Gross Regional Product and Total Personal Income listed in 1000s

Visitor Mean Expenditures, Continued

In the Crested Butte study area (Table 2B), the greatest expenditures were again sit-down dining (\$126.84) and lodging (\$160.53). The next highest mean expenditure was at grocery stores (\$64.99). The typical mountain bike visitor to Crested Butte spends \$493.77 per visit.

Table 2B

Visitor Mean Expenditures in the Crested Butte Study Area (Estimated 37,583 Annual Visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	161	\$8.35	15.04	0	100
Sit-down dining	178	\$126.84	108.1	0	500
Grocery Stores	177	\$64.99	80.59	0	500
Gas station food	176	\$6.72	10.99	0	50
Gasoline & oil	176	\$47.06	35.78	0	200
Retail gear	178	\$37.65	99.52	0	1000
Retail, non-food	170	\$21.14	31.92	0	150
Rental gear	176	\$1.66	10.39	0	100
Guide service	180	\$3.80	32.19	0	400
Rental Car	180	\$0.00	0	0	0
Taxi / Uber / Lyft	179	\$0.39	3.065	0	30
Adventure tourism	177	\$2.43	11.3	0	83
Entertainment	178	\$3.86	11.21	0	50
Hotels & resorts	178	\$160.53	253.8	0	1000
Camping	161	\$8.35	15.04	0	100

In the West Slope study area (Table 2C), the highest average expenditures are in sit-down dining (\$78.79) and lodging (\$48.15), with gasoline (\$45.00) and groceries (\$41.05) close behind. West Slope mountain bike visitors spend \$263.41 per trip.

Table 2C

Visitor Mean Expenditures in the West Slope Study Area (Estimated 9,843 Annual Visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	39	\$5.51	12.5	0	50
Sit-down dining	44	\$78.79	71.74	0	350
Grocery Stores	43	\$41.05	58.67	0	300
Gas station food	43	\$8.14	12.77	0	50
Gasoline & oil	43	\$45.00	41.68	0	200
Retail gear	43	\$14.51	25.66	0	125
Retail, non-food	43	\$10.11	21.64	0	100
Rental gear	44	\$1.14	7.538	0	50
Guide service	43	\$1.16	7.625	0	50
Rental Car	45	\$0.00	0	0	0
Taxi / Uber / Lyft	43	\$2.03	6.507	0	25
Adventure tourism	44	\$2.27	11.83	0	75
Entertainment	44	\$3.07	11.11	0	50
Hotels & resorts	45	\$48.15	101.3	0	300
Camping	44	\$2.48	9.439	0	55

Visitor Mean Expenditures, Continued

In the Ouray study area (Table 2D), mean expenditures continue to reflect high expenditures in dining and lodging. Here, the highest expenditures are sit-down dining (\$112.74) and lodging (\$85.35). Ouray sees an estimated 13,422 mountain bike visitors per year, each spending an average of \$327.51.

Table 2D

Visitor Mean Expenditures in the West Slope Study Area (Estimated 10,738 Annual Visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	28	\$8.10	15.39	0	50
Sit-down dining	31	\$112.74	112.00	0	400
Grocery Stores	30	\$38.69	48.73	0	166
Gas station food	30	\$1.44	3.38	0	10
Gasoline & oil	30	\$43.19	49.76	0	200
Retail gear	30	\$2.56	6.30	0	25
Retail, non-food	31	\$14.36	28.68	0	100
Rental gear	30	\$1.11	6.08	0	33
Guide service	30	\$0.00	0	0	0
Rental Car	30	\$0.00	0	0	0
Taxi / Uber / Lyft	30	\$0.33	1.826	0	10
Adventure tourism	30	\$1.00	5.47	0	30
Entertainment	30	\$11.31	38.4	0	200
Hotels & resorts	30	\$85.35	199.5	0	750
Camping	30	\$7.33	24.77	0	120

Economic Impact Terminology

In the following paragraphs, three terms describe economic impact: *direct effect*, *indirect effect*, and *induced effect*.

Direct effect is the economic impact created by the presence of the economic activity. For example, if a local restaurant sells \$1K in food, its direct effect would be \$1K.

Indirect effect is economic activity created when local businesses purchase goods and services from other local industries as a result of the direct effect.

Induced effect is the estimated local expenditures by local households and employees as a result of income created from the direct effect.

Labor income impact is measured by the estimated labor income created by the economic activity in the region. This is a conservative measure of economic impact.

Value added is a measure of the increase in the study region's gross domestic product. Gross domestic product is a measure of all goods and services produced in the study area and is treated as a measure of the size of the economy.

Output is a measure of the increase in business sales revenue in the study area as a result of the economic impact being studied. It includes business revenues as well as costs of doing business. It includes value added as part of its calculation.

Economic Impact Modeling

Table 3A summarizes the economic impact of mountain bike visitors in the Grand Junction study area. In this study area, mountain biking visitors' expenditures support 100 jobs and \$2.6 million in labor income.

Table 3A

Economic Impact Summary of Mountain Biking Visitors in Grand Junction Study Area				
<i>Impact Type</i>	<i>Jobs Supported</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Output</i>
Direct	78.1	\$1,883,807	\$2,633,029	\$4,496,209
Indirect	9.5	\$333,429	\$582,496	\$1,222,202
Induced	13.3	\$464,113	\$839,764	\$1,566,116
Total Effect	100.9	\$2,681,349	\$4,055,289	\$7,284,528

Table 3B summarizes the economic impact of mountain biker visitors in the Crested Butte study area. There, mountain bike visitors support an estimated 167 jobs and over \$3.9 million in labor income.

Table 3B

Economic Impact Summary of Mountain Biking Visitors in Crested Butte Study Area				
<i>Impact Type</i>	<i>Jobs Supported</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Output</i>
Direct	137.3	\$3,022,165	\$3,874,813	\$7,173,569
Indirect	13.7	\$460,375	\$924,102	\$1,820,512
Induced	16.5	\$464,812	\$996,933	\$1,854,327
Total Effect	167.4	\$3,947,352	\$5,795,847	\$10,848,408

Table 3C lists economic impact for mountain bike visitors in the West Slope study area. There, their expenditures support 27 jobs and \$647,665 in labor income for workers.

Table 3C

Economic Impact Summary of Mountain Biking Visitors in West Slope Study Area				
<i>Impact Type</i>	<i>Jobs Supported</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Output</i>
Direct	22.0	\$503,299	\$643,433	\$1,182,793
Indirect	2.6	\$68,911	\$138,918	\$320,404
Induced	2.7	\$75,455	\$162,627	\$303,173
Total Effect	27.3	\$647,665	\$944,978	\$1,806,370

Table 3D describes mountain biker visitors' economic impact in the Ouray study area. These expenditures support the existence of an estimated 19 jobs and over \$640,000 in labor income each year.

Table 3D

Economic Impact Summary of Mountain Biking Visitors in Ouray Study Area				
<i>Impact Type</i>	<i>Jobs Supported</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Output</i>
Direct	15.9	\$510,431	\$1,017,965	\$1,539,167
Indirect	2.0	\$69,907	\$138,150	\$269,827
Induced	1.9	\$59,779	\$129,227	\$236,825
Total Effect	19.9	\$640,117	\$1,285,342	\$2,045,819

Taxation Generation Within the Study Areas

Table 4A

Annual Estimated Taxation Generated by Mountain Biking Visitors in Grand Junction Study Area		
<i>Tax Type</i>	<i>State & Local</i>	<i>Federal</i>
Employee Compensation	\$8,534	\$319,239
Proprietor Income	\$0	\$7,938
Tax on Production & Imports	\$475,466	\$60,710
Households	\$63,235	\$196,626
Corporations	\$5,786	\$47,684

Table 4A explains the tax contributions of mountain bike visitors' expenditures in the Grand Junction study area. There, mountain biking visitors add over \$553,021 in taxes to the state and local economy. At the federal level, mountain bike visitors add over \$632,197 in taxes.

Table 4B

Annual Estimated Taxation Generated by Mountain Biking Visitors in Crested Butte Study Area		
<i>Tax Type</i>	<i>State & Local</i>	<i>Federal</i>
Employee Compensation	\$12,447	\$429,305
Proprietor Income	\$0	\$13,231
Tax on Production & Imports	\$685,022	\$104,848
Households	\$96,251	\$293,567
Corporations	\$7,956	\$64,368

Table 4B lists taxes generated by mountain bike visitors in the Crested Butte study area. Mountain bike visitors generate \$801,676 in state and local taxes, as well as \$905,319 in federal taxes in this study area.

Table 4C

Annual Estimated Taxation Generated by Mountain Biking Visitors in West Slope Study Area		
<i>Tax Type</i>	<i>State & Local</i>	<i>Federal</i>
Employee Compensation	\$2,022	\$73,830
Proprietor Income	\$0	\$2,442
Tax on Production & Imports	\$116,043	\$16,542
Households	\$15,062	\$45,684
Corporations	\$1,110	\$8,888

Table 4C lists taxes supported by mountain bike visitors in the West Slope area. Here, mountain bike visitors support \$134,237 in state/local taxes. Their visits also generate over \$147,386 in federal taxes, including \$16,542 in taxes on production and imports.

Table 4D

Annual Estimated Taxation Generated by Mountain Biking Visitors in Ouray Study Area		
<i>Tax Type</i>	<i>State & Local</i>	<i>Federal</i>
Employee Compensation	\$1,859	\$70,859
Proprietor Income	\$0	\$4,227
Tax on Production & Imports	\$120,744	\$9,777
Households	\$16,556	\$50,372
Corporations	\$2,370	\$19,395

Finally, **Table 4D** summarizes taxes in the Ouray study area. Mountain bike visitors support over \$141,000 in state/local taxes, including \$120,000 in production and import taxes. Likewise, they support over \$154,630 in federal taxes, mostly collected through employee compensation taxes.

Visitor Expenditures Beyond Study Area But In State

Table 5 summarizes expenditures for visitors making trips to the GMUG and, in the process, also spending funds outside the study area. Each year, mountain bike visitors expend around \$103.60 outside the study area but still in Colorado as a result of trips to the GMUG. Their highest expenses are linked to travel-related expenditures, things like gasoline (\$21.01), general retail purchases (\$20.23), sit-down meals (\$16.99), getting mountain biking gear or even a new bike (\$15.44), and groceries for the trip (\$11.54).

Table 5

Tourists Spending Outside Study Area but still in Colorado					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	349	\$1.84	5.15	0	20
Sit-down dining	369	\$16.99	42.84	0	250
Grocery Stores	372	\$11.54	35.75	0	250
Gas station food	366	\$2.20	5.82	0	30
Gasoline & oil	369	\$21.01	43.12	0	300
Retail gear	378	\$15.44	80.00	0	1000
Retail, non-food	369	\$20.23	39.57	0	250
Rental gear	377	\$0.07	1.29	0	25
Guide service	379	\$0.00	0	0	0
Rental Car	374	\$0.00	0	0	0
Taxi / Uber / Lyft	376	\$0.04	0.49	0	8
Adventure tourism	377	\$0.00	0	0	0
Entertainment	375	\$0.71	6.11	0	75
Hotels & resorts	380	\$11.09	57.42	0	500
Camping	374	\$2.44	15.82	0	150

Local Resident Expenditures by Study Area

Tables 6A - 6D describe local residents' expenditures as a result to visits to one of the three study areas. Although local resident mountain bikers are not regarded as true economic impact in their local economies, local residents do make a noted contribution to the local economy while visiting the GMUG.

In the Grand Junction area (Table 6A), local resident mountain biker expenditures are focused in gasoline purchases (\$72.37), dining (\$57.37), and general retail sales (\$32.50). There is one category (retail gear) which had a larger than typical figure for this category compared to other study areas. This is likely due to a high number of mountain biking purchases on the most recent trip. As such, this statistic should be treated with caution.

Table 6A

Local Resident Expenditures in Grand Junction Study Area (Estimated 11,888 Annual Visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	60	\$4.92	15.40	0	100
Sit-down dining	66	\$57.37	112.10	0	500
Grocery Stores	66	\$31.01	81.98	0	500
Gas station food	65	\$4.43	11.51	0	50
Gasoline & oil	66	\$72.37	182.36	0	1000
Retail gear	65	\$279.30	837.15	0	4000
Retail, non-food	66	\$32.50	132.49	0	1000
Rental gear	67	\$1.27	7.90	0	60
Guide service	67	\$0.00	0.00	0	0
Rental Car	67	\$0.00	0.00	0	0
Taxi / Uber / Lyft	67	\$0.00	0.00	0	0
Adventure tourism	67	\$0.00	0.00	0	0
Entertainment	66	\$3.18	14.90	0	100
Hotels & resorts	69	\$2.90	24.08	0	200
Camping	69	\$0.00	0.00	0	0

Local Resident Expenditures by Study Area, Continued

Table 6B examines similar expenditures in the Crested Butte study area. There, locals' greatest contributions while going to the GMUG to ride are in dining (\$52.13), retail gear purchases (\$43.90), and gasoline (\$27.06).

Table 6B

Local Resident Expenditures in Crested Butte Study Area (Estimated 16,107 Annual Visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	56	\$5.36	27.52	0	200
Sit-down dining	56	\$52.13	76.41	0	300
Grocery Stores	56	\$15.25	29.13	0	100
Gas station food	57	\$1.06	3.48	0	20
Gasoline & oil	56	\$27.06	50.86	0	300
Retail gear	57	\$43.90	151.09	0	1000
Rental gear	58	\$0.00	0.00	0	0
Guide service	59	\$0.00	0.00	0	0
Rental Car	59	\$0.00	0.00	0	0
Taxi / Uber / Lyft	59	\$0.00	0.00	0	0
Adventure tourism	58	\$0.00	0.00	0	0
Entertainment	58	\$2.24	11.25	0	70
Hotels & resorts	61	\$9.84	44.55	0	250
Camping	61	\$0.00	0.00	0	0
Retail, non-food	55	\$2.52	9.17	0	50

Table 6C outlines local resident expenditures in the West Slope study area. There, the leading expenditures are in lodging (\$82.73), dining (\$58.96), and groceries (\$31.39).

Table 6C

Local Resident Expenditures in West Slope Study Area (Estimated 4,218 Annual Visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	11	\$6.06	9.87	0	30
Sit-down dining	12	\$58.96	68.54	0	200
Grocery Stores	12	\$31.39	37.64	0	100
Gas station food	12	\$6.67	10.32	0	30
Gasoline & oil	11	\$29.17	21.47	0	60
Retail gear	12	\$16.25	36.13	0	120
Rental gear	12	\$0.00	0.00	0	0
Guide service	12	\$0.00	0.00	0	0
Rental Car	12	\$0.00	0.00	0	0
Taxi / Uber / Lyft	12	\$7.92	15.29	0	50
Adventure tourism	12	\$0.00	0.00	0	0
Entertainment	11	\$0.00	0.00	0	0
Hotels & resorts	11	\$82.73	162.12	0	500
Camping	10	\$0.00	0.00	0	0
Retail, non-food	12	\$18.19	28.84	0	100

Local Resident Expenditures by Study Area, Continued

Finally, **Table 6D** lists local resident per visit expenditures for the Ouray study area. Here, expenditures were highest in retail gear (\$35.00), dining (\$29.08), and gasoline (\$18.34).

Table 6D

Local Resident Expenditures in Ouray Study Area (Estimated 4,602 Annual Visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	36	\$0.00	0.00	0	0
Sit-down dining	38	\$29.08	41.42	0	150
Grocery Stores	38	\$12.82	19.27	0	60
Gas station food	37	\$1.62	5.14	0	25
Gasoline & oil	38	\$18.34	25.95	0	100
Retail gear	36	\$35.00	81.85	0	400
Rental gear	38	\$0.00	0.00	0	0
Guide service	39	\$0.00	0.00	0	0
Rental Car	39	\$0.00	0.00	0	0
Taxi / Uber / Lyft	39	\$0.00	0.00	0	0
Adventure tourism	39	\$0.00	0.00	0	0
Entertainment	38	\$2.63	16.22	0	100
Hotels & resorts	38	\$1.97	12.17	0	75
Camping	39	\$0.00	0.00	0	0
Retail, non-food	35	\$0.51	2.13	0	10

Local Resident Expenditures Beyond Study Area But Inside State

Local residents also continue to spend funds outside the study area as a result of visits to the GMUG. For example, these expenditures might include travel to the GMUG and the costs of travel. Local residents spent an average of \$74.41 outside the study areas but still within the Colorado state borders as a result of recreating in the GMUG.

Table 7 summarizes expenditures of local residents outside the study area but inside Colorado. Expenditures of these kinds are highest in gasoline (\$20.77), rental gear (\$19.26), sit-down dining (\$12.69), and groceries (\$11.52). Again, these are expenditures that occur because of a trip to the GMUG to ride mountain bikes.

Table 7

Local Resident Expenditures Beyond Study Area but inside Colorado (Estimated 36,816 Annual Visits)					
<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Fast food	184	\$2.69	14.88	0	150
Sit-down dining	183	\$12.69	36.41	0	200
Grocery Stores	186	\$11.52	46.89	0	400
Gas station food	185	\$0.99	4.49	0	30
Gasoline & oil	186	\$20.77	76.88	0	750
Retail gear	183	\$5.16	28.52	0	200
Rental gear	182	\$19.26	90.21	0	1000
Guide service	185	\$0.32	4.41	0	60
Rental Car	186	\$0.00	0.00	0	0
Taxi / Uber / Lyft	186	\$0.00	0.00	0	0
Adventure tourism	185	\$0.11	1.47	0	20
Entertainment	186	\$0.00	0.00	0	0
Hotels & resorts	185	\$0.21	1.75	0	20
Camping	192	\$0.48	6.62	0	92
Retail, non-food	189	\$0.21	2.91	0	40

OMISSIONS & CONSIDERATIONS

During the research process, the research team identified minor issues that should be noted. First, as is always the case with economic impact studies, the findings in this report must be treated as estimations. This economic impact study utilizes mean figures to estimate expenditures that may vary from year to year, visit to visit, event to event, and person to person.

Second, this study does not account for length of visit. As point of reference, visitors in the study indicated staying an average of 4.8 days when staying at least one night.

Third, collecting economic impact data well after the initial day of expenditures can result in unavoidable errors in data collection. For examples, respondents rounding expenditures to the nearest dollar, forgetting expenditures, or misstating expenditures are common issues. As such, the research team recommends repeating this study by collecting data in the field at or around the day expenditures are made.

Fourth, this study uses generalized categories (e.g. mountain biking) to account for expenditures across more than one form of outdoor recreation. Individual outdoor recreation types may have unique spending patterns that are lost in aggregated data. The researchers suggest conducting future field studies on separate outdoor recreation categories to create a more nuanced economic estimate.

Fifth, NVUM visitation estimates are unable to account for every single visit that occurs into a particular area or study area. Outdoor recreation is particularly easy to undercount as outdoor recreation users are often less visible or in remote areas of a national forest.

Sixth, NVUM classification of visitor use includes generalized uses (e.g. bicycling) which may cause inflation in the actual number of visits for the use being studied. As well, NVUM data allow for recreational users to visit the GMUG for more than one purpose. As such, persons and expenditures represented in this study may also overlap with other user groups' economic contributions.

Seventh, this study makes the assumption that the majority of bicycle use in the GMUG is attributed to mountain biking. This may cause under or overestimations of economic impact as a result. Working with IMBA, it was estimated that 80% of the visits included in this category were mountain biking.

Eighth, the estimates in this report look to account for approximately 95% of visitors to the GMUG in a given year by focusing on the major areas of use. This may result in underreporting users of areas not included in the report.