Research Report

Tioga Recreation Area Mountain Biking 2022 Summer Visitor Profile

PREPARED FOR *Greater Minnesota Regional Parks and Trails Commission*

BY *Parks & Trails Council of Minnesota*

November 2022

About the Parks & Trails Council

Parks & Trails Council of Minnesota is a 501(c)(3) organization dedicated to acquiring, protecting, and enhancing critical land for the public's use and benefit. Founded in 1954, the Parks & Trails Council acquires threatened and critical parcels of land, advocates at the Minnesota Capitol, supports volunteers, and produces original research on issues and trends facing Minnesota's parks and trails.

More information about Parks & Trails Council is available at www.parksandtrails.org.

About the Greater Minnesota Regional Parks and Trails Commission

Greater Minnesota Regional Parks and Trails Commission is comprised of 13 members appointed by the governor, two members from each of the six districts, and one at-large member. The Greater Minnesota Regional Parks and Trails Commission was created to undertake system planning and provide recommendations to the legislature for grants from the Parks and Trails Legacy Fund to counties and cities outside of the seven-county metropolitan area that have been designated as regionally significant.

More information about the Greater Minnesota Regional Parks and Trails Commission is available at www.gmrptcommission.org.

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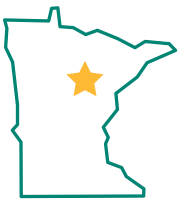
Executive Summary

Tioga Recreation Area
2022 Summer Visitor Profile



About: Tioga Recreation Area, located in Cohasset, is a 460-acre recreation area with more than 25 miles of singletrack that range from family-friendly beginner loops to expert double blacks. The trails are built on reclaimed mining lands and feature rocky slopes, dense forest and crystal clear lakes. Tioga has been part of the Greater Minnesota Regional Parks and Trails System since 2016.

Trail Traffic Estimates

Total Traffic

Summer total traffic at Tioga ranged from **≈16,000 on Gurley Flynn** to **≈1,000 at Good Vibrations**

Daily Patterns

12pm Weekend peak *

5pm Weekday peak *

* Average across all locations. Individual site patterns vary.

Weekend Traffic

41% of trail use occurred on weekends

Visitor Demographics

+ Men **72%**
+ Women **28%**
+ Average age **≈35**

+ Gen Z **34%**
+ Millennials **23%**
+ Gen X **31%**
+ Baby Boomers **13%**

+ White **97%**
+ Native American **2%**
+ Some other race **1%**
+ Asian **1%**, Hispanic **1%**

+ Bachelor's degree **73%**
+ Income over $100k **60%**
+ Disability **7%**

Trail Experience

92% mountain biking

73% visiting to improve physical health

63% visiting to experience nature

36% visiting with children

24% First-time visitors

84% Rated the trail "very good"

Trail Tourism

84% from Minnesota

64% tourists visiting Grand Rapids area

22 Different states represented + 4 countries

29% of overnight visitors stayed in campgrounds

55% stayed in the Grand Rapids area for 3+ nights

86% said the trails were part of the reason they visited Grand Rapids

> **Great family experience** here at Tioga. My little kids love it.
>
> ~ Visitor from Duluth, MN

> Amazingly well-designed trails and probably **the best in the state.**
>
> ~ Visitor from Rochester, MN

Rider Characteristics

- **10%** beginner level skills
- **50%** intermediate
- **32%** advanced
- **8%** expert

Information Sources

56% used trail apps to learn about the trail

Methodology: In 2022, the Greater Minnesota Regional Parks and Trails Commission contracted with Parks & Trails Council to conduct a visitor profile for Tioga Recreation Area's trail system. Automated counters were installed at 10 locations across the trail system and a systematic visitor intercept survey collected information on visitor characteristics (n = 382). Results are representative of summer (Memorial Day through Labor Day) visitors to Tioga's mountain biking trails during 2022, with a margin of error of +/- 5.0 percentage points.

For full results and methodology, see the full Visitor Profile Report.

Introduction

Tioga Recreation Area, located in Cohasset in northwestern Minnesota, is a unique and scenic 460-acre outdoor recreation area. Highlighting the beauty and history of northern Minnesota, Tioga is built on the steep slopes and rocky outcroppings of a reclaimed mine now characterized by rolling pine and hardwood forests, the crystal-blue waters of Tioga Mine Pit, and remnant 200-foot high overburden piles. Tioga is home to more than 25 miles of professionally built singletrack mountain biking trails that range from family-friendly beginner loops to expert double blacks, and include jump lines, skill tracks, tech trails, downhill flow trails, and miles of cross-country routes. The recreation area also offers two lakes and access to the Mississippi River, allowing for paddling, swimming and fishing. The Recreation Area was built and designed for mountain biking, but hiking is allowed on the trails and haul roads. Connecting trails link Tioga to nearby Grand Rapids and its many regional attractions.

Located on School Trust Land, Tioga Recreation Area was developed by the City of Cohasset in partnership with the Minnesota DNR and Itasca County. Maintenance of the trail system is overseen by the Grand Rapids Itasca Mountain Bicycling Association (GRIMBA), a local member-based organization. Tioga was designated and became a part of the Greater Minnesota Regional Park and Trail System in 2016.

In 2022, the Greater Minnesota Regional Parks and Trails Commission (GMRPTC) contracted with Parks & Trails Council of Minnesota (P&TC) to conduct a visitor profile of Tioga's mountain biking trails. GMRPTC is responsible for system planning and recommendations to the legislature for grants funded by the Parks and Trails Legacy Fund to counties and cities outside the seven-county metropolitan area. The visitor profile was undertaken to understand user numbers, visitor origination, trip characteristics, and basic demographics of trail users. This data is meant to help inform planning and marketing efforts by GMRPTC and collaborative partners.

This visitor profile consists of two parts. First, automated trail counters were installed at 10 locations across the trail system (Figure 1). The trail counters collected data on total traffic, travel direction, hourly patterns, and weekly patterns. Second, a systematic intercept visitor survey was conducted at the

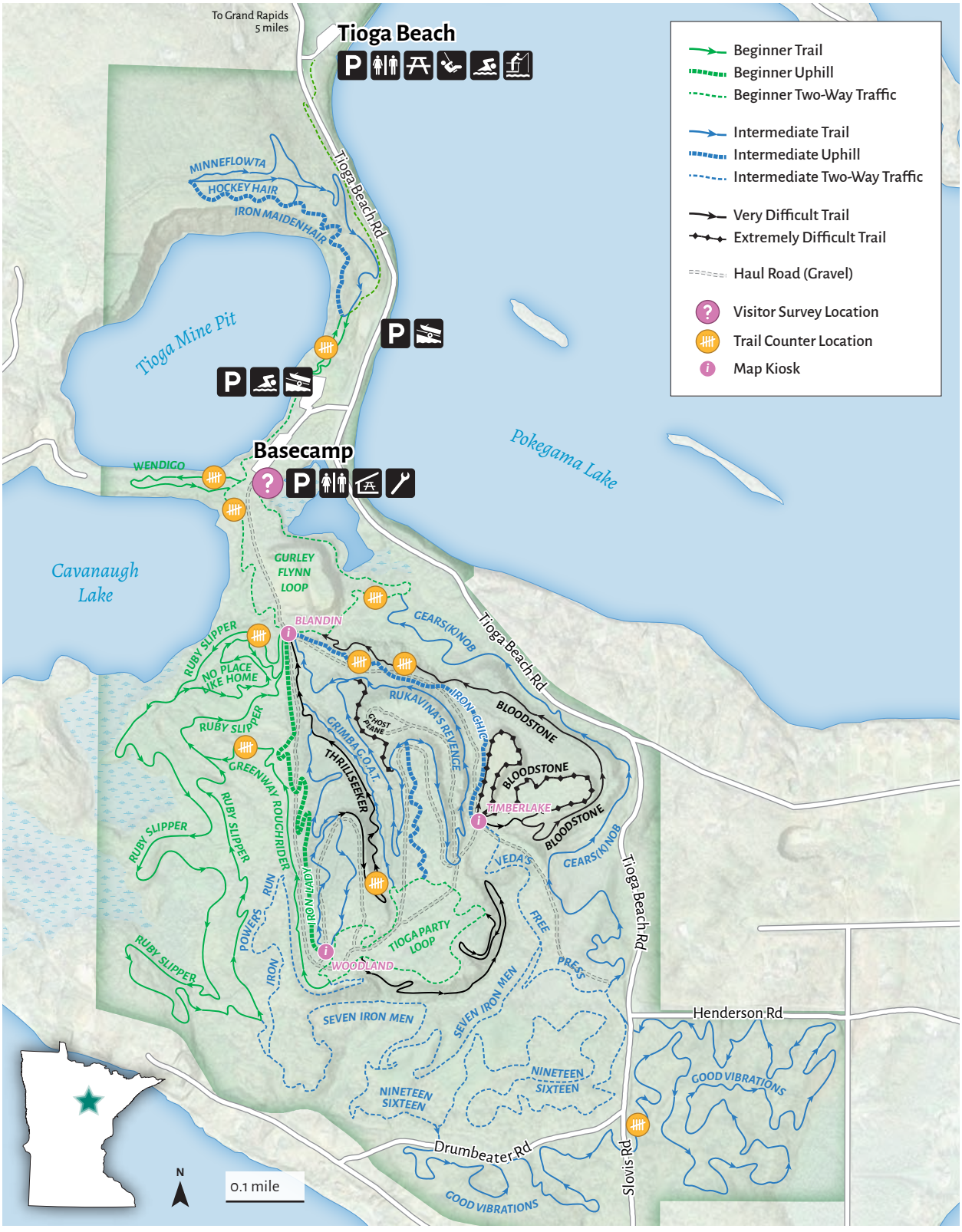
"Basecamp" trailhead and parking area (Figure 1). Staff used electronic tablets to collect surveys during high- and low-use periods. A total of 382 surveys were collected. Together, the trail counts and visitor surveys provide a snapshot of how many people use Tioga's mountain biking trails and who those people are. The visitor studies were conducted during the summer of 2022 and were designed to be representative of the summer season, defined as Memorial Day through Labor Day.

Tioga is a year-round destination. In addition to spring and fall use, the trails are also open for fat-tire biking and snowshoeing in the winter. The trail system is only one portion of Tioga's outdoor offerings and many visitors come to swim, fish and paddle and never step foot on the trails. *This report focuses exclusively on summer visitors using the trail system*. Visitors to Tioga during other seasons, or for other uses, were beyond the scope of this project.

For more details on this report's methods, see our methodology.

Figure 1

Tioga Recreation Area Trail System Map



Trail Traffic Estimates

Total summer traffic on Tioga's trails ranges from approximately 16,000 on Gurley Flynn to approximately 1,000 on Good Vibrations

Traffic volumes varied significantly across Tioga's trail system (Figure 2). Gurley Flynn, which serves as the primary access route to the larger system, was the busiest trail surveyed with total summer traffic on the western side of the loop surpassing 16,000. That number includes bicyclists and pedestrians traveling outbound (towards the trail system) and inbound (towards the parking area). The majority of visitors using the west side of Gurley Flynn were heading outbound (74%), signaling that most users use it as an access route to the larger trail

Figure 2

Estimated summer traffic flows

	Inbound	Outbound	Total Traffic
West Gurley Flynn	4,207 42 SADT	11,809 117 SADT	16,016 159 SADT
Windigo *	*One-way Trail*	10,794 107 SADBT	10,794 107 SADBT
East Gurley Flynn *	*Directional traffic not available*		9,030 89 SADBT
Iron Maidenhair	*One-way Trail*	8,393 83 SADT	8,393 83 SADT
Ruby Slipper	*One-way Trail*	3,969 39 SADT	3,969 39 SADT
Thrillseeker	*One-way Trail*	3,327 33 SADT	3,327 33 SADT
Greenway Rough Rider	*One-way Trail*	3,019 30 SADT	3,019 30 SADT
Iron Chic *	*One-way Trail*	2,715 27 SADBT	2,715 27 SADBT
Good Vibrations	*One-way Trail*	1,110 11 SADT	1,110 11 SADT
Bloodstone *	*One-way Trail*	1,041 10 SADBT	1,041 10 SADBT

Notes:
Summer defined as Saturday, May 28, 2022 through Monday, September 5, 2022 (Saturday of Memorial Day weekend through Labor Day).
* Bike counts only

SADT = Summer Average Daily Traffic.
SADBT = Summer Average Daily Bicycle Traffic

Figure 3

Gurley Flynn In/Out Traffic Flow

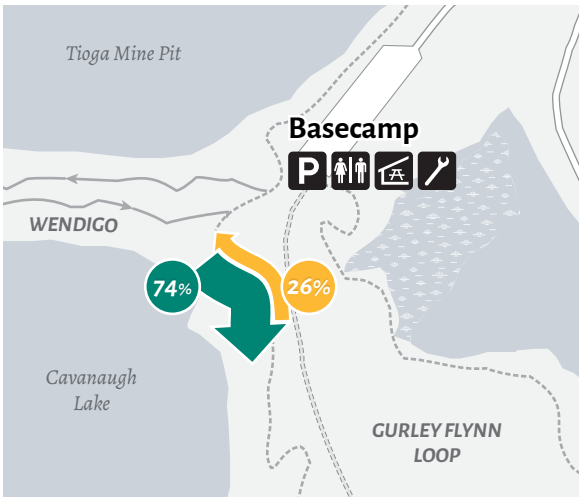


Figure 4

Trail Traffic Heat Map

Note: For graphic purposes, traffic at count location is assumed to be representative of the entire trail.

SADT = Summer Average Daily Traffic

network (Figure 3). The east side of Gurley Flynn and Windigo (a short beginner skills loop near the parking area) also receive significant use. An estimated 11,000 bicyclists rode around the Windigo loop during the summer; approximately 9,000 rode the eastern side of Gurley Flynn.[1]

The trails beyond the first trail hub ("Blandin," see Figure 1) received relatively equal use (Figure 4). The beginner cross-country Ruby Slipper Trail received the most use of any of the interior trails where counts took place, with summer traffic totaling close to 4,000. But other trails of varying difficulty received similar levels of use. Thrillseeker (expert downhill), Greenway Rough Rider (beginner downhill), and Iron Chic (intermediate uphill) all received approximately 3,000 summer "visits."[2] Other trails were less busy. Good Vibrations (an intermediate cross-country route located at the back of the trail system) and Bloodstone (an expert trail with a spur route rated as a double black diamond) both received around 1,000 "visits" during the summer.

1 "Bike only" counts were conducted on Windigo and East Gurley Flynn (and Iron Chic and Bloodstone) using pneumatic tube counters. Infrared counters, which count both bicyclists and pedestrians, were installed at the other six locations. Based on survey results, the vast majority of trail use at Tioga was by mountain bikers. See methodology for more details.
2 A "visit" in this sense refers to every instance one person rode the trail.

Tioga's northern unit, headlined by the Minneflowta downhill and Hockey Hair jump line, received less, but significant, use than the southern network of trails. Summer traffic on Ironmaidenhair, which serves as the access route to Minneflowta and Hockey Hair, totaled approximately 8,000.

Traffic volumes do not represent unique visitors. Depending on how visitors used the Tioga trail system, they could have been counted multiple times (e.g., riding any of the trails or loops multiple times), just once (e.g., entering via Gurley Flynn and exiting using the Haul Road) or not at all (e.g., entering and exiting using the Haul Road). And we don't know what portion of visitors rode both the northern section of trails (i.e., Ironmaidenhair) and southern section (i.e., Gurley Flynn) during the same visit. Since we don't have data on precise riding patterns, we're unable to estimate the number of unique trail visits Tioga received during summer 2022.

Weekends account for 41% of trail use

Tioga's trails were 1.8 times busier on the average weekend day than on the average weekday (Based on Gurley Flynn traffic; Figure 5). Saturday was the busiest day of the week (average Saturday daily traffic = 243) while Tuesdays were the slowest (average Tuesday daily traffic = 101). Overall, 41% of all trail use at Tioga occurred on weekends.

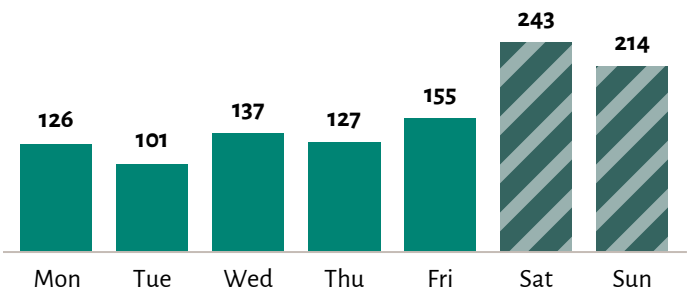
Daily use peaks in the late morning

Tioga's trails have distinct hourly patterns across weekends and weekdays. Weekend traffic across the trail system generally followed a standard "destination trail" pattern: the first visitors arrived around 7am, traffic picked up quickly in the mid-morning, peaked around the lunch hour,

Figure 5

Summer day-of-week traffic

Average total daily traffic on the Gurley Flynn Trail



1.8x
On average, weekends were 1.8 times busier than weekdays

41%
of all trail use **occurred on weekends**

Notes:
Summer is defined as Saturday, May 28, 2022 through Monday, September 5, 2022 (Saturday of Memorial Day weekend through Labor Day).

and then slowly tapered off through the afternoon. By dinner time on weekends, most visitors were off the trail (Figure 6).

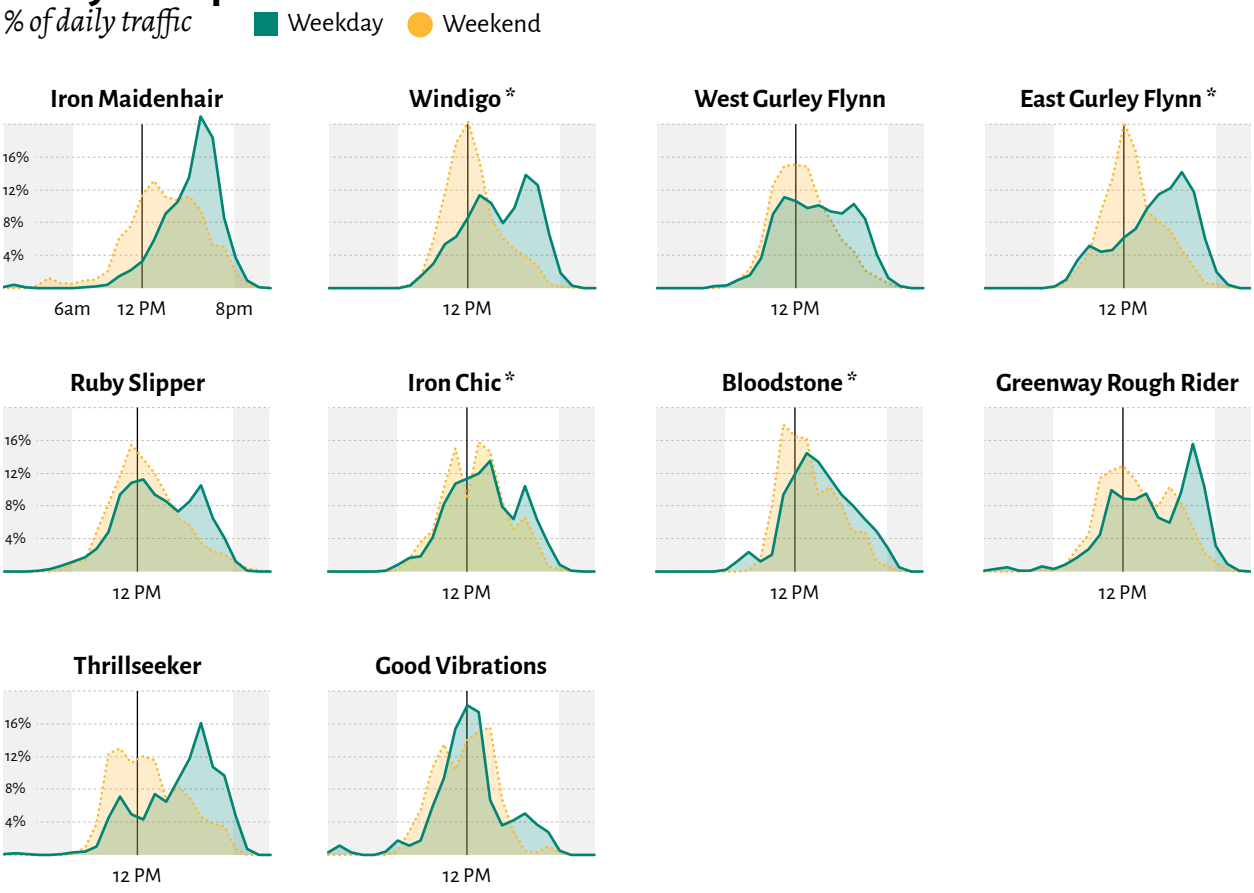
Weekday hourly patterns were more variable. The weekday pattern on the West Gurley Flynn trail, where traffic peaked late morning and stayed relatively consistent through the early evening, indicates Tioga's trail system as a whole received stable use throughout the average weekday. But patterns differed on other trails. Some trails — namely Iron Maidenhair, Thrillseeker, and East Gurley Flynn —were used primarily in the early evenings on weekdays, likely indicating locals visiting the trails after work or school. Other trails show more mixed use: Windigo, Ruby Slipper, Iron Chic, and Greenway Rough Rider all experienced one peak around noon and a second peak in the early evening.

Good Vibrations and Bloodstone were unique in that weekday hourly patterns mimicked weekend patterns, with one large peak in the middle part of the day.

Figure 6

Hourly traffic patterns

% of daily traffic



* Bike count only

Possible explanations for the weekday hourly patterns on Good Vibrations and Bloodstone may lie in the uniqueness of each trail. Good Vibrations is one of the farthest trails from the parking area, and the extra time it takes to get there likely makes it less conducive for rides later in the day. The explanation for Bloodstone's hourly pattern is less clear, but it is one of the most challenging trails at Tioga and may be more attractive to expert riders who are visiting and spending the middle part of the day riding the trails.

Fact sheets summarizing key trail count metrics for each location are available in Appendix A.

Visitor Demographics

Visitors to Tioga's trail system span a wide range of ages

The average adult visitor to Tioga's trail system was between 44 and 47 years old (median = 45; mean = 45.6; 95% C.I. [44.3, 46.8]). Among all adult visitors, the majority (54%) were in their 30s or 40s.

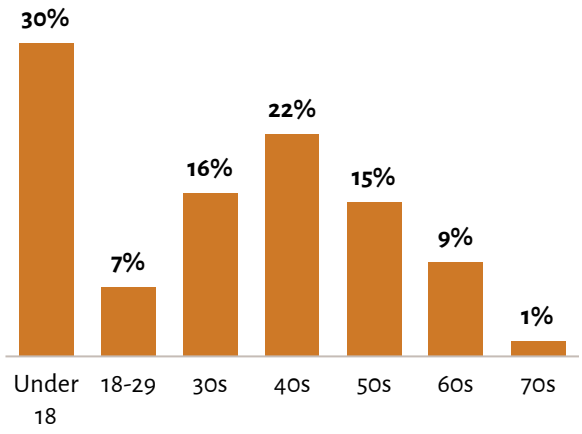
The average age of all visitors, however, was significantly younger. The survey did not directly ask for the ages of children visitors, but it did ask how many children were in each visitor group. Overall, 30% of all visitors were children under 18 (Figure 7). If it's assumed the average age of children visiting was 12, the average age of all visitors was approximately 35 years old.[1]

Generations provide another method of understanding visitors by looking at their place in life, whether young adult, middle-aged, or retired. Looking at generations is helpful because it provides a way to understand how different formative experiences (e.g., world events, technological advances) interact with visitors' life stages to form recreational preferences. Generation Z and younger (those born in 1997 or after) made up the largest share of Tioga's trail visitors (34%), with most of those visitors being children

Figure 7

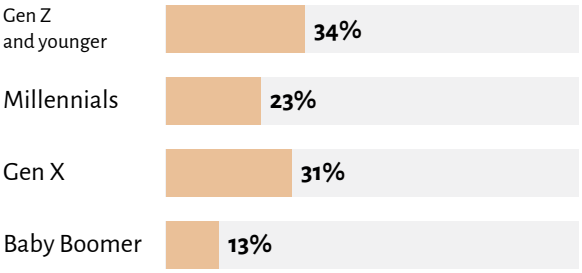
Visitors by age

% of all visitors



Visitors by generation

% of all visitors



Q22: What year were you born? (n = 378)

Notes: Ages were only asked of adult visitors. Percentage under 18 is calculated based upon group composition (Q11) and includes non-respondents and groups without adults. Generations are defined as Gen Z and younger (born 1997 or after; Age 25 and younger), Millennials (born 1981-96; Age 26-41), Gen X (born 1965-80; Age 42-57), and Baby Boomer (born 1946-64; Age 58-76). Percentages don't add up to 100% due to rounding.

1 The Loppet Foundation, a large organization that serves youth in Minneapolis, offers mountain biking camps for kids starting at age 7. Assuming a normal distribution of ages between 7 and 17, children on the trail have an average age of 12.

under age 18. Among adult visitors, only 6% were members of Generation Z. Generation X (age 42-57) were the second largest generation among Tioga's trail users, representing 31% of visitors. After Generation X, Millennials (age 26-41) were the next largest visitor cohort (23% of visitors), followed by Baby Boomers (age 58-76; 13% of visitors).

Males account for a significant majority of visitors to Tioga's trail system

Visitors to Tioga's trail system were predominately male. Nearly three-quarters (72%) of adult visitors identified as male, compared to only 28% of visitors who identified as female. Studies conducted on other trail systems support the finding that mountain biking is a predominantly male activity.

A small minority (fewer than 1%) of visitors identified as transgender. The majority of visitors (98%) did not identify as transgender, while 1% of visitors preferred not to answer (Figure 8).

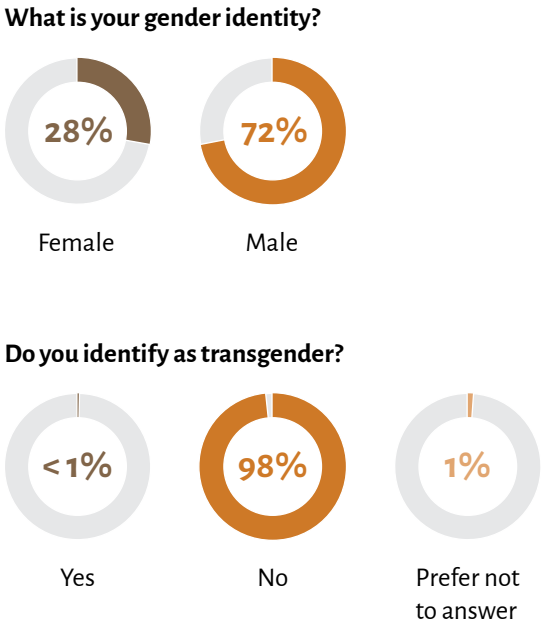
The majority of visitors are White , highly-educated, and high-income

A significant majority of visitors (97%) identified as White (Figure 9). Small minorities of visitors identified as Native American, First Nation or Alaskan Native (2%), Asian (1%) and Hispanic or Latinx (1%). Fewer than 1% of visitors were Black or African American. No respondents identified as Pacific Islander or Middle Eastern or North African.

Figure 8

Visitors by gender identity

% of adult visitors



Q23. What is your gender identity? (n = 375)
Q24. Do you identify as transgender? (n = 371)

Visitors to Tioga's trail system had disproportionately high-incomes compared to the statewide and local average; over half of visitors (60%) had annual household incomes of $100,000 or higher (Figure 10). For comparison, only 38% of Minnesota households, and only 23% of Itasca County households, make over $100,000 annually.[2] Visitors were also less likely to have below-average incomes. Only 10% of Tioga's trail

2 U.S. Census Bureau, 2021 estimate (statewide) and 2020 estimate (Itasca County).

visitors had household incomes below $50,000 annually, compared to 31% of Minnesota households and 45% of Itasca County households.

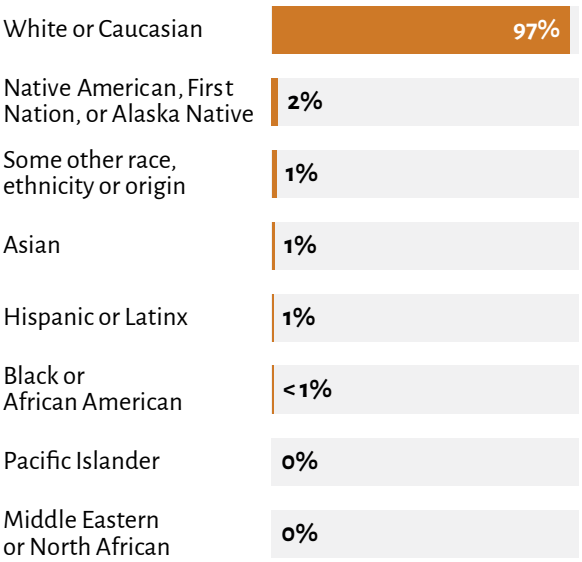
Visitors were also disproportionately highly-educated compared to the Minnesota average. Nearly three quarters (73%) of visitors had either a graduate degree or a bachelor's degree (Figure 11). For comparison, only 37% of Minnesotans over the age of 25 have a college degree.[3] In Itasca County, 25% of adults over 25 have a bachelor's degree or higher.

A minority (7%) of visitors reported having a physical, mental, or sensory disability or condition. In comparison, nearly 11% of Minnesotans — and 17% of people in Itasca County — have a disability. [4]

Figure 9

Visitors by race/ethnicity

% of adult visitors



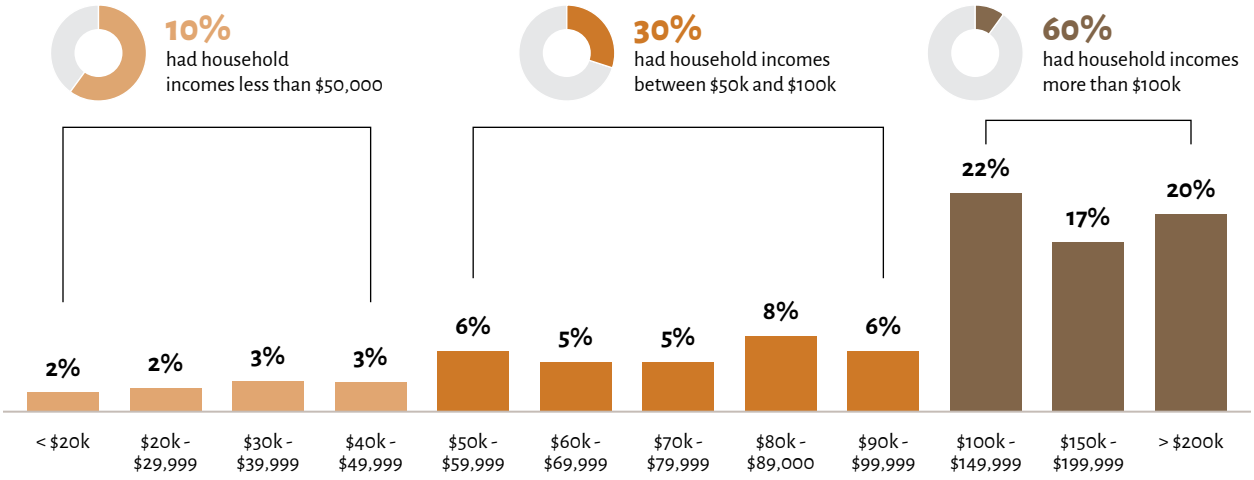
Q25. How do you describe yourself? *Select all that apply* (n = 376)

3 U.S. Census Bureau, American Community Survey (2020; 5-year estimates)
4 U.S. Census Bureau, American Community Survey (2020; 5-year estimates).

Figure 10

Visitors by annual household income

% of adult visitors



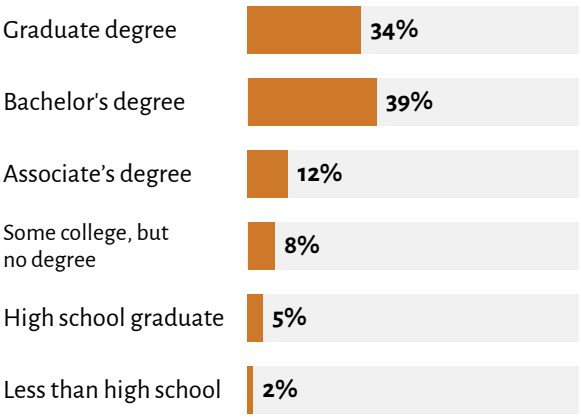
Q31. Please indicate your total household income before taxes last year (n = 332)

Note: Percentages don't add up to 100% due to rounding.

Figure 11

Visitors by educational attainment

% of adult visitors



Q29: What is the highest level of education you have completed? (n = 370)

Figure 12

Visitors with disabilities

7%

of adult visitors reported having a **physical, mental, or sensory disability or condition**

Q30. Do you, or does someone in your group, have a physical, mental or sensory disability or condition? (n = 363)

Trail Experience

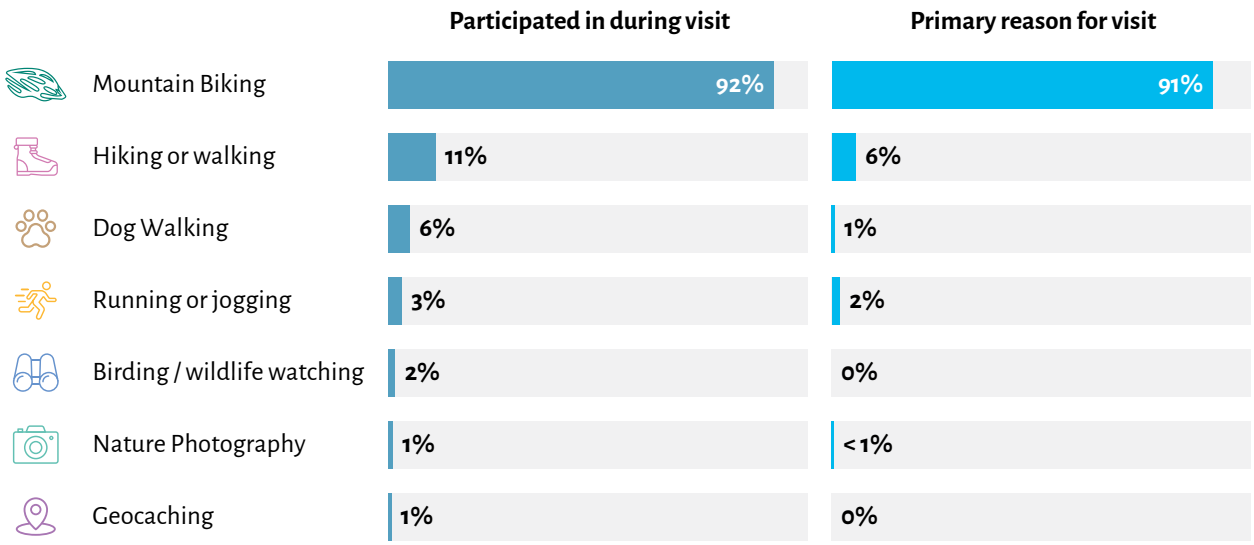
Tioga's trails are used primarily for mountain biking

The vast majority (92%) of visitors using Tioga's trails were mountain biking. Since the trails are designed and marketed primarily for mountain biking, this is not surprising. The trails were used for other activities, however: 11% of visitors were hiking or walking on the trails, 6% were dog-walking, 3% were running or jogging, 2% were birding or wildlife watching, 1% were doing nature photography, and 1% were geocaching (Figure 13). A relatively high number of visitors (16%) reported participating in multiple activities during the same visit. This can be explained by some activities being complementary (e.g., a mountain biker who also took nature photos) or people within a visitor group doing different activities (e.g., a parent hiked while their children rode). It's also possible some mountain bikers selected "hiking or walking" partly in jest, indicating they got tired and had to walk part of the way.

Figure 13

Participation in trail activities during visit

% of all visitors



Q1. Which trail activities are you and your group doing during your visit today? *Select all that apply* [Answers presented in randomized order] (n = 380)
Q2. Which one of these activities was your main reason for visiting this trail? (Includes non-respondents and groups without adults; n = 455)

Note: Percentages for primary reason to visit don't add up to 100% due to rounding.

Overall, mountain biking was the primary activity for 91% of visitors. Hiking was the primary activity for 6% of visitors.

There's a gender split across trail activities

Mountain biking was the primary trail activity for both male and female visitors: 95% of men and 80% of women said mountain biking was their primary reason for visiting. But women were significantly more likely than men to be visiting Tioga's trails for other activities. Nearly two-thirds (64%) of visitors who were hiking, dog-walking, running, or doing nature photography were women (Figure 14). Conversely, only 24% of mountain bikers were women.

Improving physical health is the top motivation for visiting

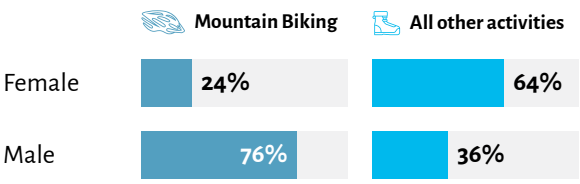
Visitors to Tioga's trail's were most often visiting to improve their physical health. Nearly three-quarters of visitors (73%) said improving their physical health was one of their most important reasons for visiting. Other frequently cited reasons for visiting included experiencing nature (63% of visitors), doing something exciting or adventurous (61%), and relaxation and/or stress relief (59%) (Figure 15). Spending time with family or friends (50%) and learning or practicing tricks and skills (42%) were cited by approximately half of visitors as important reasons for visiting.

Other reasons for visiting were generally less important to visitors. Only 13% of visitors said they were visiting to train for an event or competition, and only 12% said they were visiting to meet new people.

Figure 14

Gender split by trail activity

% of adult visitors



Q2. Which one of these activities was your primary reason for visiting this trail today (n = 382)
Q23. What is your gender identity? (n = 375)

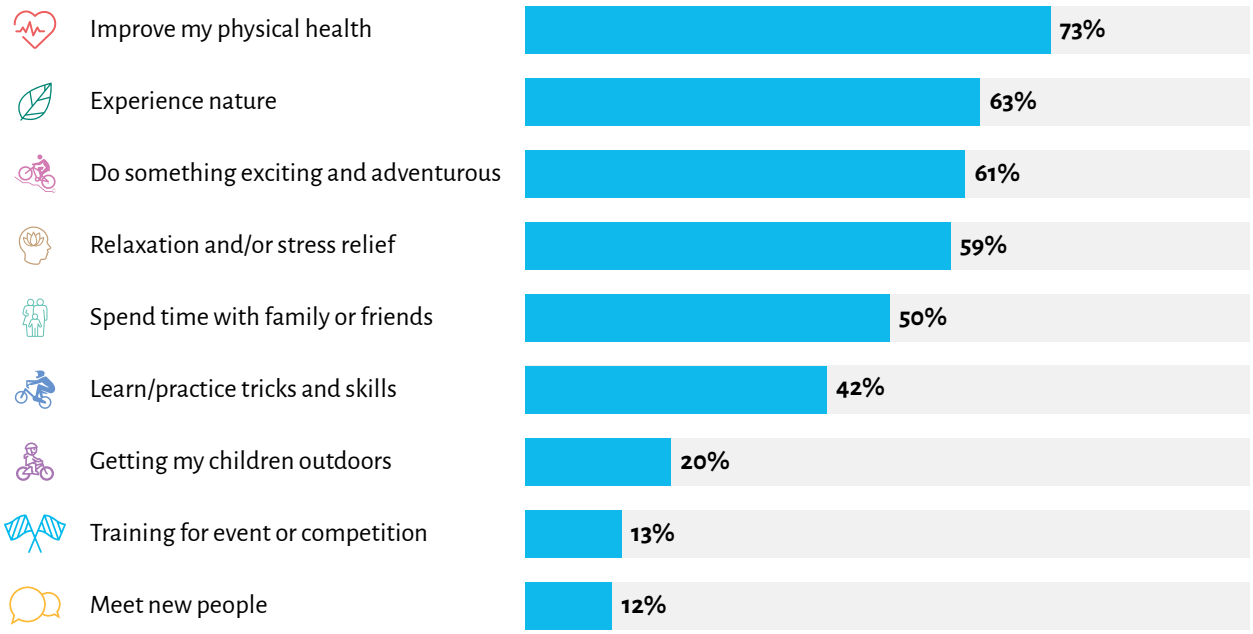
"Getting my children outdoors" was also a relatively infrequent reason for visiting. Only 20% of visitors said getting their children outdoors was an important reason for visiting, even though 36% were visiting with children. Groups with children did have some different reasons for visiting, however. Compared to visitors visiting without children, visitors with children were more likely to say experiencing nature (73% vs. 61%; $p < .05$), improving physical health (83% vs. 70%, $p < .05$), spending time with friends and family (87% vs. 41%, $p < .001$), and learning or practicing tricks and skills (55% vs. 38%) were important reasons for their visit.

Overall, motivations for visiting were consistent across visitor subgroups, but some notable differences emerged. Tourists,

Figure 15

Most important reasons for visiting the trail

% of adult visitors



Q7. What are your most important reasons for visiting the trail today? *Select all that apply* [Answers presented in randomized order] (n = 380)

for example, were more likely than locals to say doing something exciting and adventurous was a reason for their visit (67% vs. 51%, $p < .01$).[1] "Younger" visitors (Gen Z and Millennials) were more likely than Gen Xers and Baby Boomers to say relaxation and/or stress relief (70% vs. 53%, $p < .01$), doing something exciting and adventurous (70% vs. 58%, $p < .05$) and practicing tricks and skills (57% vs. 33%, $p < .001$) were important reasons for their visit. Spending time with friends and family was more important for women than men (63% vs. 46%, $p < .01$). Our analysis didn't find any statistically significant differences in trip motivations between first-time and repeat visitors or by mountain biking skill level.

Over half of visitors are "regulars"

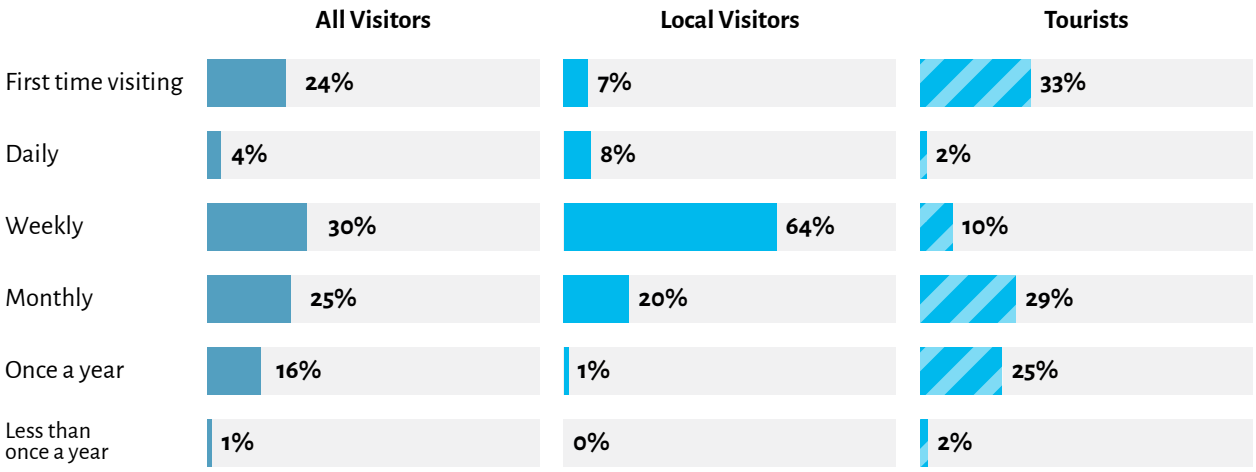
Over half of visitors (59%) were "regulars," meaning they visit at least once a month. The largest share of visitors reported visiting weekly (30%), while another 25% of visitors reported visiting monthly. Only a small share of visitors (4%) said they visit every day. Conversely, 16% of visitors said they visit Tioga about once a year (Figure 16). Approximately a quarter (24%) of visitors were visiting Tioga for the first time.

1 Tourists is defined as a visitor more than 50 miles away from home and/or spending at least one night away from home.

Figure 16

Visitation frequency

% of adult visitors



Q9. Approximately how often do you visit this trail during spring, summer and fall? (n = 378)

Notes: "Tourist" defined as visitor who lives more than 50 miles away and/or is spending a night away from home. Percentages don't add up to 100% due to rounding.

How often people visit Tioga depended heavily on whether or not they were a local or a tourist. Nearly two thirds of local visitors (64%) said they visit weekly; and another 8% reported visiting daily. A small, though not insignificant, minority (7%) of local visitors were visiting Tioga for the first time. A third (33%) of tourists were visiting Tioga for the first time.

While tourists don't visit as frequently as locals, many visit more than once per season. Nearly a third (29%) of tourists reported visiting monthly, and 12% visit at least weekly. The relatively high percentage of tourists who visit every week (or even daily) is likely due to visitors having vacation homes in the area and/or living close enough to do frequent day trips.

Most visitors spend between one and three hours on the trail each visit

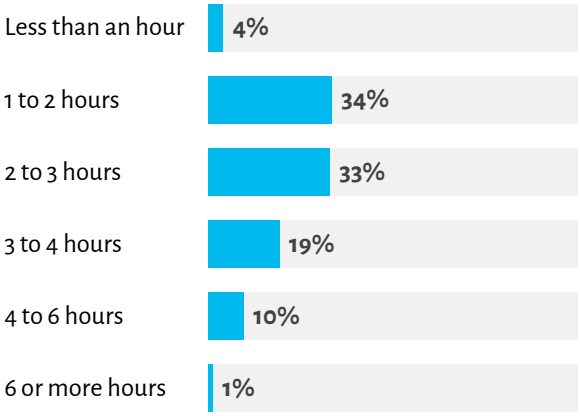
On average, visitors spent approximately 2.2 hours on the trail per visit (median = 2; mean = 2.2, 95% C.I. [2.1, 2.4]). Overall, however, there was broad diversity in how long people spent on the trail. The majority of visitors spent between one and three hours on the trail: 34% of visitors spent between one and two hours and 33% spent between two and three hours (Figure 17). But many visitors spent even longer on the trail: Nearly a third of visitors (29%) spent between three and six hours at Tioga. Only a small number of visitors fell on the extremes: 4% of visitors spent less than an hour and only 1% spent six hours or more.

Figure 17

Duration of trail visit

The average visitor spent **2.2 hours** at the trail

% of all visitors spending _____ at the trail



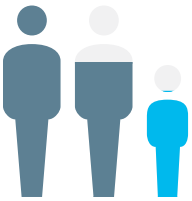
Q8. Approximately how much time did you spend at the trail on this visit? [Hours: Minutes] (n = 382)

Note: Percentages don't add up to 100% due to rounding.

Visit duration did not vary significantly across most visitor subgroups. Weekend and weekday visitors, first-time visitors and repeat visitors, those visiting with kids and those without, and both beginner and advanced riders all spent similar amounts of time on the trail per trip. The one exception was tourists, who spent an average of 2.5 hours at Tioga per visit. Locals only spent an average of 1.8 hours on the trails each visit ($p < .001$).

Figure 18

Group size and composition



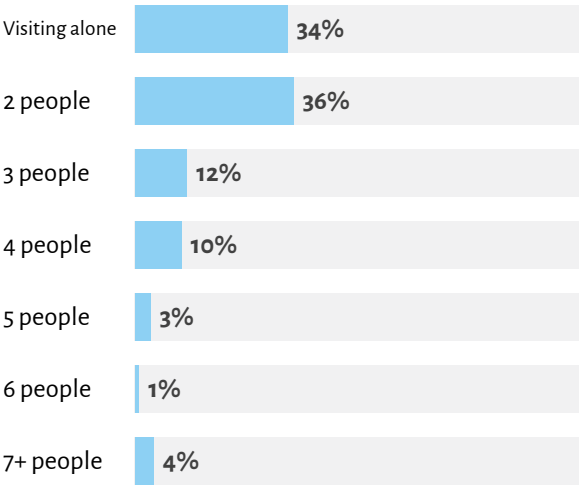
Average group:

2.5 Total people

1.7 Adults

0.8 Children

% of all visitor groups



36% of groups included children under 18 years of age

Q11. How many people are in the group you're recreating with today? [Adults 18 years and older, including yourself; Children under 18] (Includes non-respondents and groups without adults; n = 454)

The majority of visitor groups are pairs or individuals recreating alone

Most visitors (66%) were visiting Tioga's trails with other people (Figure 18). However, most groups were relatively small: 48% of visitors were visiting with one or two other people, whereas only 18% of groups

were four people or larger. Approximately one-third of visitors (34%) were visiting alone.

The average visitor group size was 2.5 people (median = 2; mean = 2.5, 95% C.I. [2.3, 2.7]). Approximately one-third of visitor groups (36%) included children, and such groups tended to be larger than groups without children. The average group with children had 3.4 people, nearly twice the size of the average group without children (1.9, $p < 0.001$).

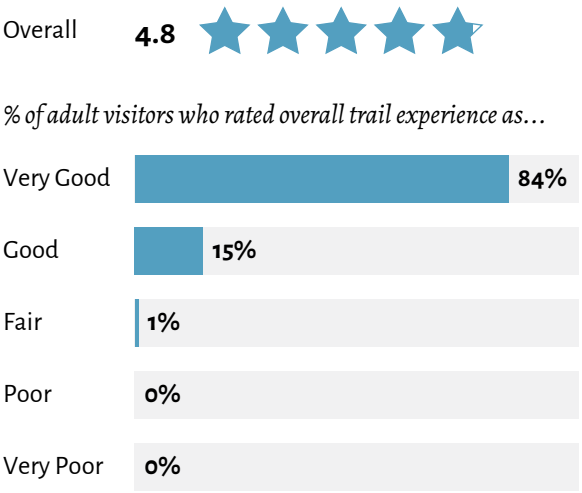
Visitors give Tioga's trail system very high ratings

Visitors rated their experiences at Tioga very highly. Nearly all visitors (84%) said their trail experience was "very good," and another 15% rated it as "good." Only 1% of visitors had a "fair" experience, and no visitors rated their experience as "poor" or "very poor" (Figure 19).

No significant differences in trail ratings were observed across visitor subgroups. Regardless if visitors were men or women, young or old, were mountain biking or not, had children with them or not, were first-time or repeat visitors, were tourists or locals, were beginners or advanced riders, or were weekend or weekday visitors, all the subgroups we analyzed gave the trails similarly high ratings. This speaks well of the trail system as a whole and its ability to appeal to a wide range of visitors.

Figure 19

Visitor ratings of trail experience



Q10. Overall, how would you rate your trail experience today? (n = 373)

Note: Overall rating based on scale where 5 = very good, 4 = good, 3 = fair, 2 = poor, and 1 = very poor

Rider Characteristics

Nearly all mountain bikers ride their own bike

Nearly all adult riders (94%) at Tioga were riding their own bike (Figure 20). Those not riding their own bike were either riding a rental bike (3%) or borrowing a bike from a friend or family member (3%). Approximately one-tenth of riders (9%) were riding a fat-tire bike.

Half of mountain bikers at Tioga trails are intermediate riders

A large majority of mountain bikers classified themselves as either intermediate or advanced riders. Half of riders (50%) reported having intermediate skills, while another third (32%) said they are advanced. Relatively few visitors were beginners (10%) or expert riders (8%) (Figure 21).

More advanced riders tended to differ from less advanced riders across several socio-demographic characteristics. More advanced riders were significantly more likely to be men (45% of male visitors said they were an advanced or expert rider, compared to only 26% of female visitors; $p < .001$). More advanced riders also tended to have slightly higher incomes (72% of advanced/expert riders had household incomes over $100,000, compared to 61% of beginner/intermediate riders; $p < .05$). More advanced riders were also more likely to be tourists. Whereas 46% of tourists said they are an advanced or expert rider, only 30% of local visitors said the same ($p < .01$).

More advanced riders also tended to be younger than beginner and intermediate riders, but only marginally so. The average

Figure 20

Bike characteristics

% of adult visitors, mountain bikers only

Q5. Are you riding a fat-tire bike today? (n = 343)
Q6. Are you riding your own bike today? (n = 349)

advanced/expert rider was 43 years old, compared to 46 years for beginner and intermediate riders ($p < .05$). Approximately half (47%) of Gen Zers and Millennials classified themselves as advanced or expert riders, compared to 37% of Gen Xers and Baby Boomers.

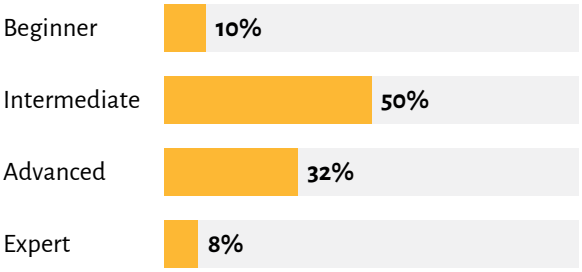
Despite some of the socio-economic differences, trip characteristics were generally similar regardless of skill level. Group size and composition, time spent on the trail, and motivations for visiting were similar across skill levels.

Skill levels on the survey were self-reported and the survey did not provide skill level definitions or descriptions. As such, results are based on each respondent's perception of their skills and their perception of what each skill level entails. Results should be interpreted with this caveat in mind.

Figure 21

Mountain biking skill level

% of adult visitors, mountain bikers only



Q3. What is your mountain biking skill level? (n = 346)

Mountain biker looking across Tioga Mine Pit. Photo from the City of Cohasset

Tioga and Cuyuna top Tioga's visitors favorite places to ride

Visitors' choices of their favorite place to ride helps identify the top mountain biking facilities in Minnesota. Over half (53%) of trail visitors said Tioga was their favorite place to go mountain biking in Minnesota. Another quarter (24%) listed Cuyuna State Recreation Area as their favorite. Beyond Tioga and Cuyuna, a wide variety of places were listed: Redhead (identified by 7% of visitors), Duluth (5%), the North Shore (3%), various trails in the Twin Cities Metro (3%), Giant's Ridge (3%), and the Iron Range (2%). Chippewa Forest, Maplelag, Mesabi Trail, and Red Wing also received mentions (Figure 22).

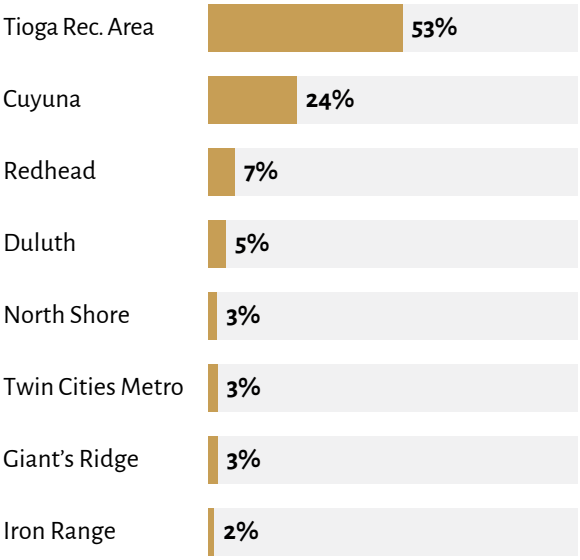
Figure 22

Favorite places to mountain bike

71%

of visitors reported having a **favorite place in Minnesota to go mountain biking**

% of visitors who said _____ is their favorite place to go mountain biking in Minnesota…



Q4. Do you have a favorite place in Minnesota to go mountain biking? (n = 342)
Q4a. If so, where? [Open ended response] (n = 234)

Note: Chippewa National Forest, Maplelag, Mesabi Trail, and Red Wing were all mentioned by fewer than 1% of visitors. "Duluth" includes Spirit Mountain. "North Shore" includes Jackpot and Split Rock Wilds. "Twin Cities Metro" includes Lebanon Hills, Lone Lake, and Theodore Wirth.

Trail Tourism

The majority of visitors to Tioga's trails are tourists

Nearly two-thirds of visitors (64%) to Tioga's trail system were tourists, defined as someone who was 50 miles or more away from home and/or staying at least one night away from home (Figure 23). A slight majority of visitors were overnight visitors (53%), while 11% of visitors were on day trips. Locals accounted for 36% of visitors.

The numbers above represent unique visitors rather than total use. Because locals visited much more frequently than tourists (see Figure 16 on page 16), they accounted for a disproportionate amount of Tioga's trail use. Based on how often visitors reported visiting and the share of local and non-local visitors, our tentative estimate is that local visitors accounted for approximately 68% of total trail use.

With a few exceptions, visitors tended to report similar trail experiences — and motivations — whether they were tourists or locals. Tourists and locals were equally likely to visit with children, recreate in similarly sized groups, give the trails similar ratings, and give similar reasons for visiting. On average, locals and tourists were also similar ages and had similar levels of education.

Several key differences did exist between tourists and locals, however. Tourists were more likely than locals to be mountain biking (97% vs. 81%, $p < .001$), tended to have more advanced mountain biking skills (46% advanced or expert vs. 30%, $p < .01$), were more likely to be male (78% vs. 63%, $p < .01$), and spent longer on the trail (2.5 hours vs. 1.8, $p < .001$). Tourist visitors also had higher incomes than local visitors, on average. Over

Figure 23

Visitor travel segments

% of all visitors

Q15. Do you live more than 50 miles from this trail? (n = 380)
Q16. Are you on a trip where you have or plan to stay at least one night away from home? (n = 378)

Note: "Local Visitor" defined as someone who lives within 50 miles and is not spending a night away from home. "Day Visitor" is someone who lives more than 50 miles away but is not spending a night away from home. "Overnight visitor" is someone spending at least one night away from home, regardless of how far away they live.

two-thirds of tourists (68%) had household incomes over $100,000 compared to 58% of locals ($p < .05$).

Tioga's trail visitors come from all over the country

Tioga's trails host visitors from all over the country: 22 different states were represented among survey respondents (Figure 24). Visitors came from as far away as Alaska, California, and Florida. International visitors came from Canada (Alberta and Manitoba), Mexico, and Chile.

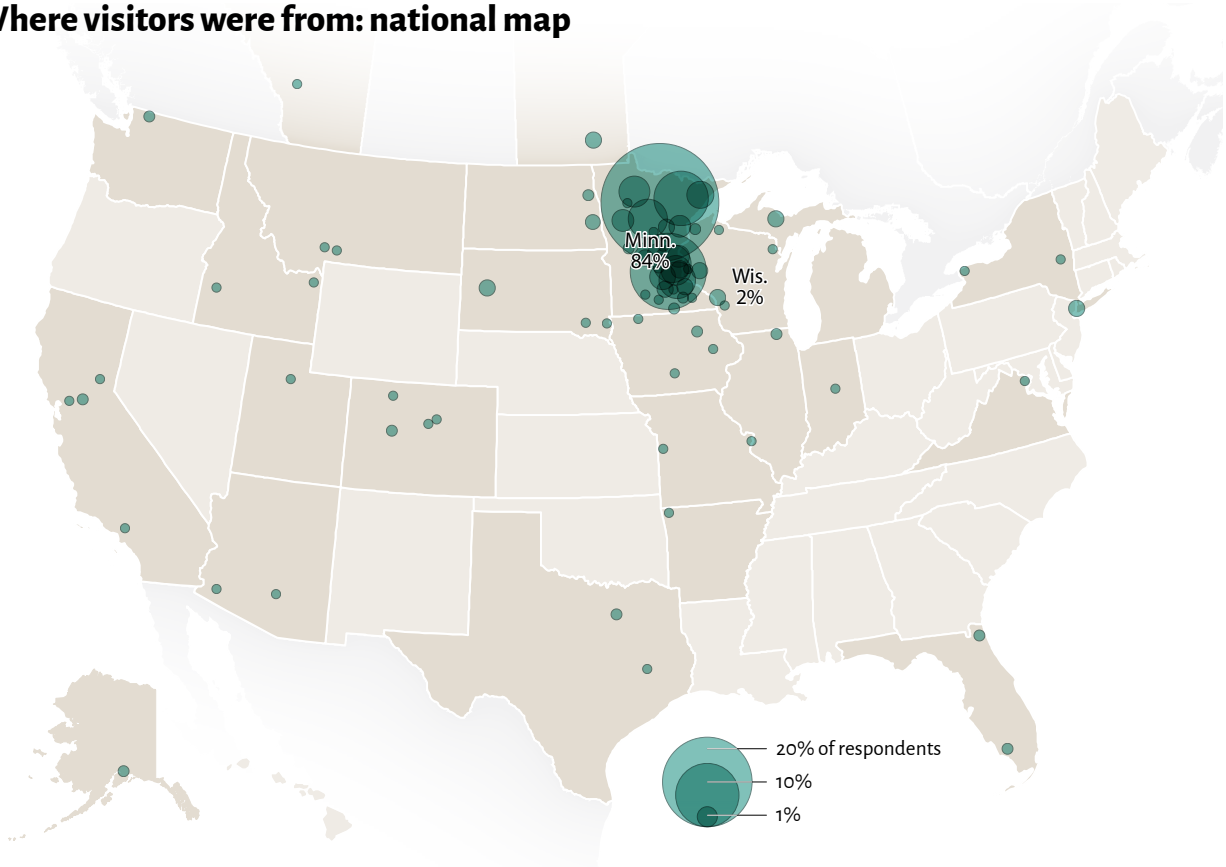
While visitors arrived from both coasts, the vast majority of visitors were from Minnesota and other Midwestern states. Most visitors (84%) were from Minnesota and another 5% were from bordering states (Iowa, North Dakota, South Dakota, and Wisconsin).

Itasca County is Tioga's largest visitor market, followed by the Twin Cities

Tioga's local market — Itasca County — accounted for the largest share of Tioga's trail visitors. Over a third (34%) of Tioga's trail visitors call Itasca County home (Figure

Figure 24

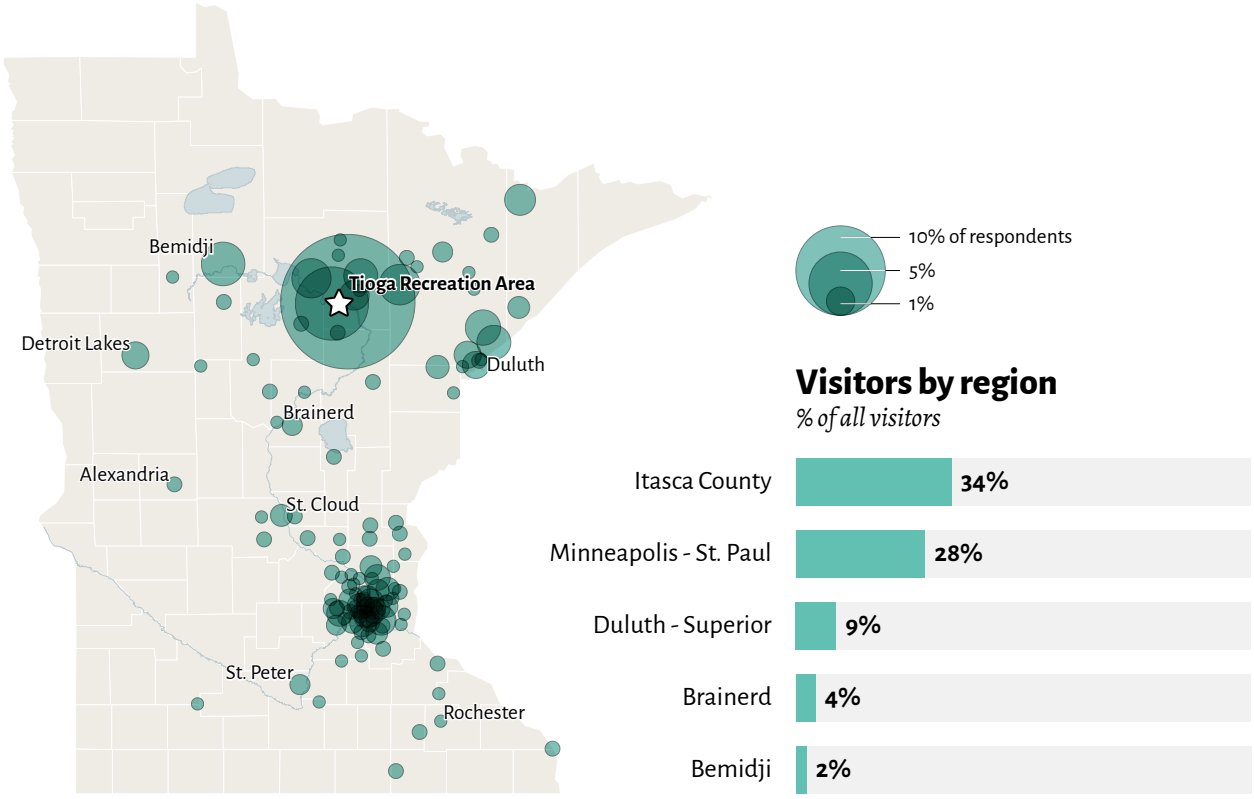
Where visitors were from: national map



Q21. What is the zip code of your home address, or what is your country of residence? (Data displayed at county level; n = 370)

Figure 25

Where visitors were from: Minnesota map



Q21. What is the zip code of your home address, or what is your country of residence? (Data displayed by zip code; n = 370)

25). Among local visitors (i.e., those living within 50 miles), the majority lived in Grand Rapids (57%) or Cohasset (18%). The remaining local visitors were split among Hibbing, Deer River, Bovey, Coleraine, Hill City, McGregor, and Taconite (Figure 26).

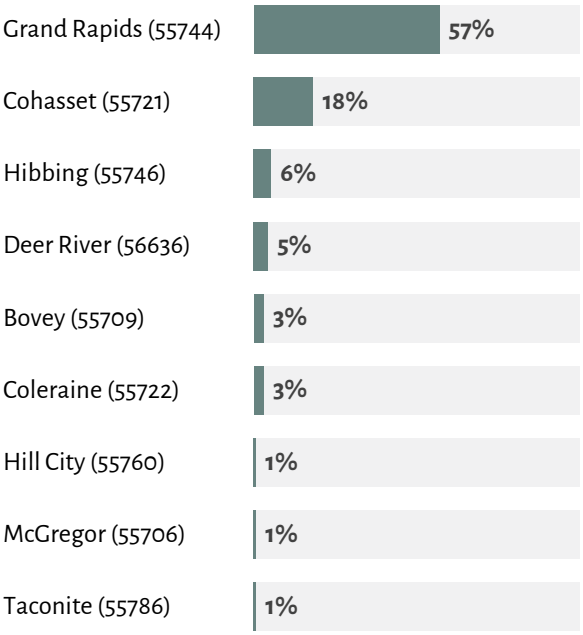
The Twin Cities metropolitan area was by far the largest tourist market for Tioga. Nearly a third of all visitors (28%) to Tioga's trail system were from the Twin Cities metropolitan area. Within the Twin Cities metro, Hennepin County accounted for the most visitors (49% of metro visitors), followed by Anoka County (12%), Dakota County (12%), Ramsey County (7%), and Carver County (6%). After the Twin Cities, the next largest tourist markets were Duluth-Superior (9% of all visitors), Brainerd (4% of all visitors), and Bemidji (2% of all visitors). No out-of-state market accounted for more than 1% of total visitors.

Not surprisingly, day tourists and overnight tourists tended to be from different places. Nearly all visitors from the Twin Cities metropolitan area stayed in the area overnight, though 10% of them made a long

Figure 26

Residence of local visitors

% of local visitors



Q21. What is the zip code of your home address, or what is your country of residence? (n = 132)

day trip of it. Only 42% of visitors from the Duluth area choose to stay in the Grand Rapids Area overnight.

Overnight visitors stay in a wide variety of accommodations during their visit

Overnight visitors to Tioga's trails stayed in a wide variety of accommodations during their visit, with a majority (60%) staying in some type of paid accommodation. Just under a third of overnight tourists (29%) stayed at campgrounds, 16% stayed in hotels or motels, 11% rented a vacation rental by owner, and 8% stayed in a resort or lodge (Figure 27). The remaining 40% of overnight visitors stayed in private accommodations; 28% stayed at the home or cabin of friends or family, while 12% stayed in their own vacation home.

Overnight visitors most often spend between one and three nights in the Grand Rapids area

Overnight visitors most frequently spent two nights in the Grand Rapids area, but there was a lot of variety in the length of tourist trips. Nearly two-thirds (63%) of overnight visitors spent one to three nights in the area (Figure 27). Another 21% of overnight visitors were on longer, week-long trips (4-6 nights). Extended stays beyond a week were less common; 12% of overnight visitors spent between seven and 13 nights in the area and only 2% of overnight visitors spent more than 13 nights.

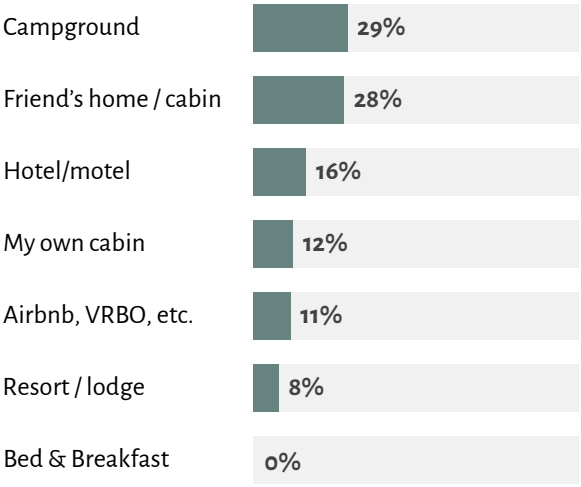
Most tourists at Tioga say the trails were a significant reason for their decision to visit the Grand Rapids area

There are all kinds of reasons tourists choose to visit different areas. Some tourists visit for a specific reason (e.g., to ride the trail everybody's talking about), others visit for a complex mix of reasons (e.g. the area has great food, stunning scenery, and lots of activity options to choose from), and others visit for completely unrelated reasons (e.g., they're attending a wedding and jump on the trail during their free time). Understanding whether tourists on Tioga's trails were visiting the area primarily

Figure 27

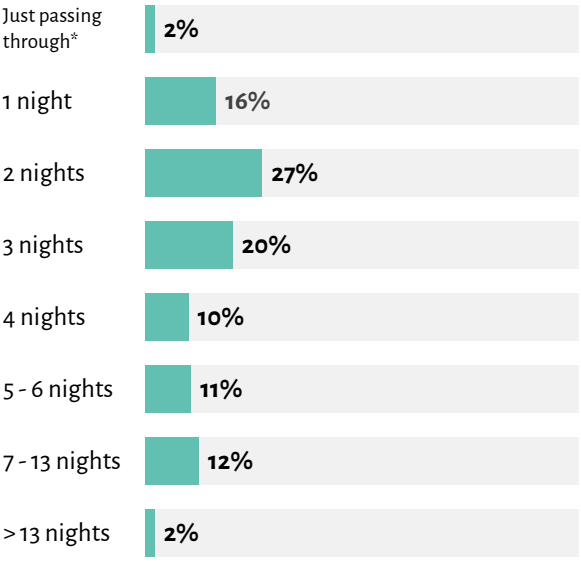
Visitor overnight accommodations

% of overnight visitors



Nights stayed in the Grand Rapids area

% of overnight visitors



Q17. How many total nights do you plan to spend in this area during your trip? (n = 196)
Q18. What type of overnight accommodations are you staying in during your trip? *Select all that apply*
[Answers presented in randomized order] (n = 197)
Note: Visitors on an overnight trip away from home but staying zero nights in the Grand Rapids area are classified as "just passing through."

for the trails themselves, or if they saw the trails as just one of many attractions in the area, is helpful for tourism marketing and planning.

For tourists on Tioga's trails, the trails themselves were usually part of the reason for their trip (Figure 28). Among all tourists, 52% said the trail was the primary reason they visited the area and another 12% said the trail was a significant reason. Only 14% of tourists said they would have visited the Grand Rapids Area regardless of Tioga's trails. Day tourists, unsurprisingly, were significantly more likely to say the trails were the primary reason for their visit than overnight visitors. Over two-thirds of day visitors (68%) said the trail was the primary reason for their visit, compared to 49% of overnight visitors. Even though overnight visitors had more nuanced reasons for visiting the area, Tioga's trails were a significant factor for most of them. Six out of 10 overnight visitors (61%) said the trail was a significant (or primary) reason for their visit, and only 16% of overnight visitors would have visited the Grand Rapids area without Tioga's trails.

There's a wide range in how far in advance tourists plan their visits

Tioga's tourists were split relatively evenly in terms of how far in advance they planned their trip. Most trips were planned with relatively little notice: Over a third of visitors planned their trip within a week of

arriving (35%), and another 28% of tourists planned their trip a few weeks to a month in advance (one to four weeks) (Figure 28). Significant numbers of tourists made plans further in advance, however. Nearly a fifth of tourists (16%) made plans one or two months in advance and another 22% of tourists made plans two months or more in advance.

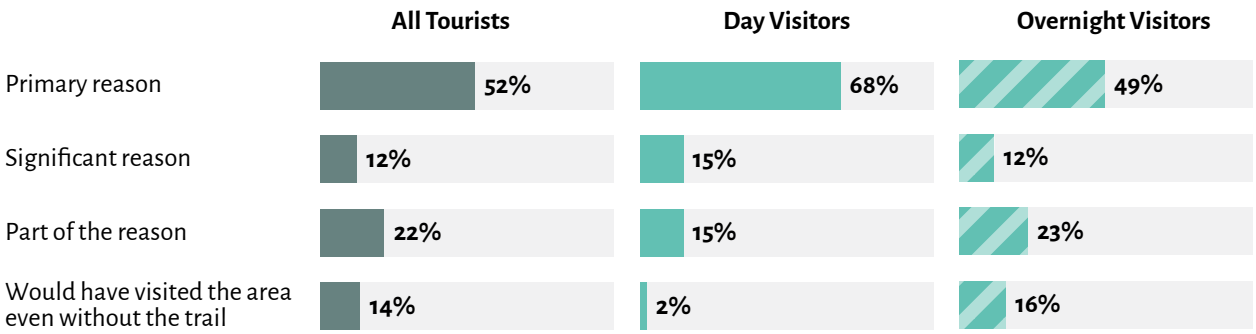
Day visitors were significantly more likely to make their plans at the last minute. Nearly three-quarters of day visitors (73%) made their plans less than a week in advance, and another 20% made their plans between one and two weeks in advance. Only 8% of day visitors planned their trips more than two weeks in advance. In contrast, nearly two-thirds (63%) of overnight visitors made their plans more than two weeks in advance.

Overlooking Iron Maidenhair, Hockey Hair, Minneflowta and Lake Pokegama. Photo from the City of Cohasset

Figure 28

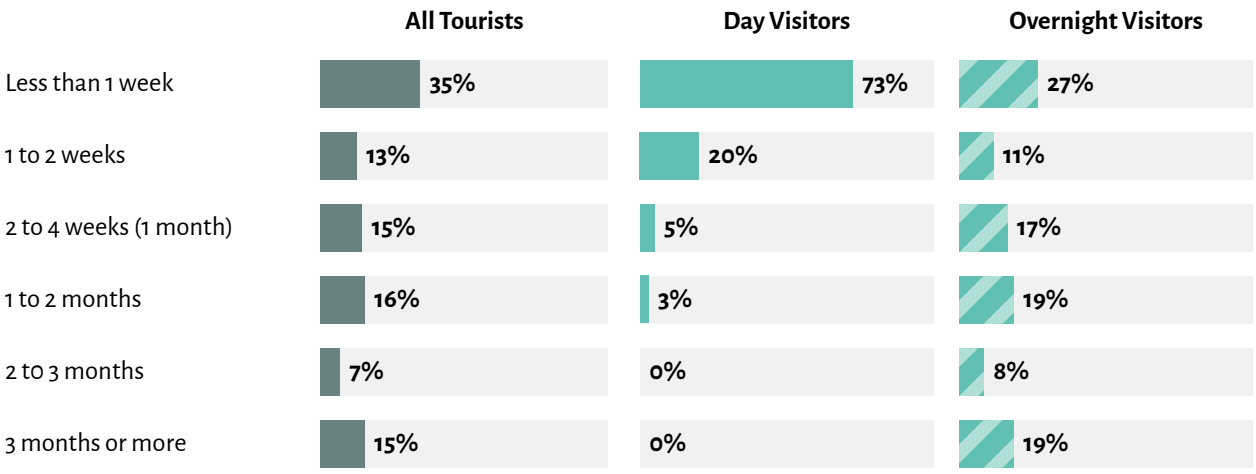
Importance of trail in decision to visit the Grand Rapids area

% of adult visitors, tourist visitors only



How far in advance tourists planned their trip

% of adult visitors, tourist visitors only



Q17. How important was the trail in deciding to visit this area? (n = 236)
Q20. How far in advance did you plan this trip? (n = 234)

Note: "Tourist" defined as visitor who lives more than 50 miles away and/or is spending a night away from home. "Day Visitor" is someone who lives more than 50 miles away but is not spending a night away from home. "Overnight visitor" is someone spending at least one night away from home, regardless of how far away they live. Percentages don't add up to 100% due to rounding.

Trip Planning

Visitors use a wide variety of information sources to learn about Tioga's trails

Over half of visitors (56%) used a trail app to get information about Tioga's trail system. No other information source is used by a majority of visitors, although Tioga Recreation Area's website (44%) and friends and family (42%) were also relatively common information sources (Figure 29). Social media sites such as Facebook or YouTube (used by 36% of visitors), internet searches (32%) and the GRIMBA website (25%) were also used by a substantial minority of visitors. Other information sources were only used by a small minority of visitors. The "Ride the Range" website (11%) was used by about one in 10 visitors. Other information sources, such as clubs and group rides, recommendations from businesses or visitor centers, the Visit Grand Rapids website, print publications, IronRange.org, the "Minnesota Great Outdoors" park and trail finder, and TV or radio were all used by less than than 10% of all visitors.

Among visitors who used trail apps, Trailforks (used by 63% of app users), Strava (27%), and MTB Project (23%) dominated the market. Approximately a quarter of app users (26%) also used TrailBot, a new app that updates users on trail conditions. Relatively few app users used All Trails (10%), Singletracks (7%), or MapMyRide (3%).[1]

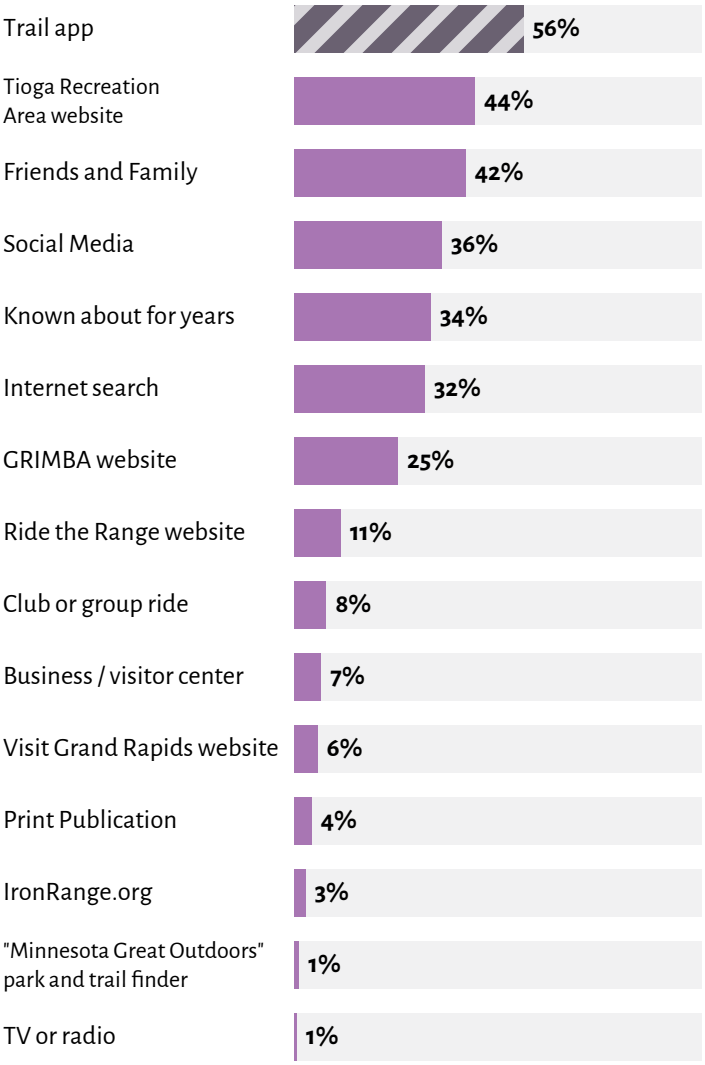
The relatively high use of trail apps should be of interest to trail managers and researchers alike, since trail apps track valuable data that can inform how trail systems are used. Both Trailforks and Strava, for example, provide heat maps of trail use based on data provided by their subscribers. Such trail app data is undoubtedly informative, but our data suggest it should be interpreted cautiously. Across numerous measures, trail app users are unrepresentative of visitors as a whole. For example, compared to other visitors, app users were more likely to be tourists, have higher skill levels, less likely to be visiting with children, and significantly more likely to be mountain biking (Figure 29). Compared to the average trail visitor, trail app users were also more likely to be male; spent longer on the trail per visit; and more likely to be motivated by physical fitness, adventure and excitement, meeting new people, and practicing tricks and skills. Data from trail apps should be interpreted with this context in mind.

1 The percentages don't add up to 100% because many trail app users report using more than one app.

Figure 29

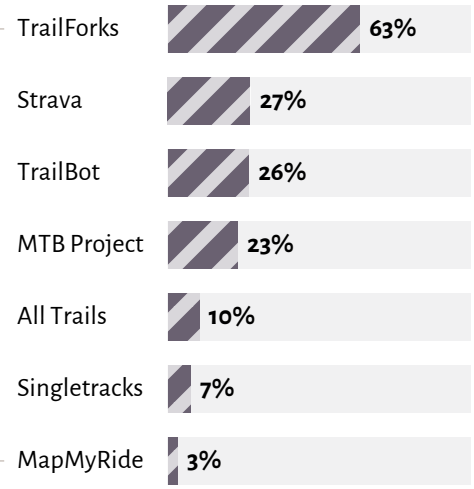
Information sources about the trail

% of adult visitors who use information source



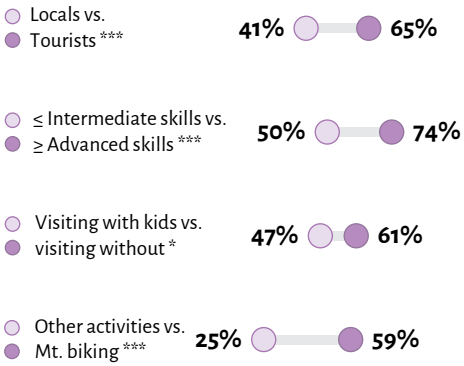
Most popular trail apps

Of trail app users, % who use…



Differences in use of trail apps

% of adults who use trail app



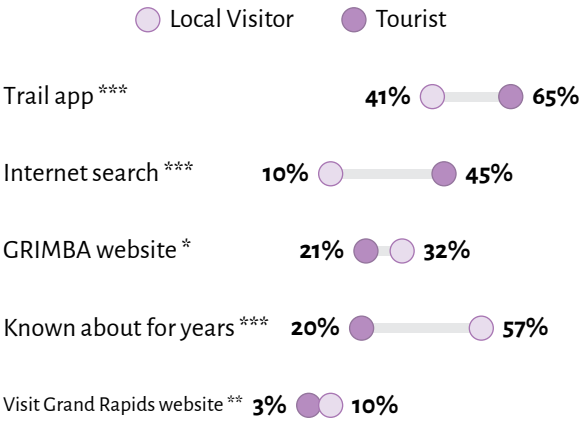
Q12. What information sources have you used to learn about this trail? *Select all that apply* [Answers presented in randomized order] (n = 381)

**** p < 0.001, ** p < 0.01, * p < 0.05.*

Figure 30

Local and tourist use of selected information sources

% of visitors who used information source



Q12. What information sources have you used to learn about this trail? *Select all that apply* [Answers presented in randomized order] (n = 378)

**** p < 0.001, ** p < 0.01, * p < 0.05.*

No statistically significant differences were found in locals and tourist use of family and friends, clubs or group rides, recommendations from businesses or visitor centers, social media, print publications, the Tioga Recreation Area or Ride the Range website, IronRange.org, the "Minnesota Great Outdoors" park and trail finder, or TV and radio.

Figure 31

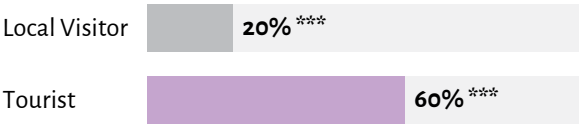
Pre-trip planning information

45%

of visitors **looked for information about the trail** before their visit

Tourists were more likely than locals to look for information before their visit

% of adult visitors who searched for information before their visit



Q13. To prepare for your visit , did you or your group look for information about this trail before you came? (n = 381)

**** p < 0.001, ** p < 0.01, * p < 0.05.*

Locals and tourists get their information about the trails from different places

There are several differences between how locals and tourists find their information about Tioga's trails (Figure 30). Many of these differences are intuitive. For example, locals were far more likely to have "known about the trail for years" (57% vs. 20%, $p < .001$). Locals were also more likely than tourists to get information from GRIMBA, an organization largely made up of local volunteers (32% vs. 21%, $p < .05$). Tourists were more likely than locals to rely on internet searches (45% vs. 10%, $p < .001$) and trail apps (65% vs. 41%, $p < .001$). Other differences are more counterintuitive; locals, for example, were more likely than tourists to use the Visit Grand Rapids website (10% s. 3%, $p < .01$).

Approximately half of visitors look for information about the trail before their visit

Not only do tourists and locals use different information sources, tourists were also more likely than locals to look for information in the first place (presumably because they were less familiar with the trails). Overall, approximately half of visitors (45%) looked for information about the trail before their visit (Figure 31). But that number rises to 60% for tourists, compared to only 20% of locals ($p < .001$).

When visitors look for information, they most often look for trail maps and trail conditions

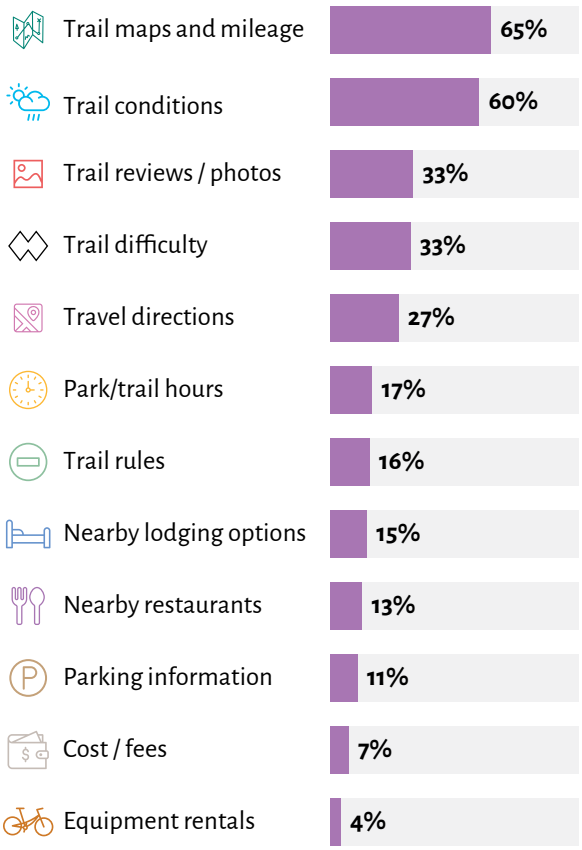
Trail maps and mileage (searched for by 65% of visitors who looked for information) and trail conditions (60%) were by far the most frequent types of information visitors looked for before visiting (Figure 32). No other types of information were searched for by a majority of visitors. Approximately a third of visitors searched for trail reviews and information about trail difficulty.

After information about the trails themselves, visitors were most likely to search for trip-related information. Over a quarter of visitors (27%) searched for travel directions, and between 10% and 20% of visitors searched for park/trail hours, trail rules, nearby lodging options, nearby restaurants, and parking information. Fewer than 10% of visitors looked up Tioga's fees (there are none) or equipment rentals (only 3% of visitors were riding a rental bike).

Figure 32

What information did visitors search for before their visit?

Of adult visitors who looked for information before their visit, % who searched for…



Q14. What information did you search for before your visit today? *Select all that apply* [Answers presented in randomized order] (n = 165)

Methodology

Overview

Data in this report was drawn from two complementary studies conducted at Tioga Recreation Area during the summer of 2022. First, to measure system use and traffic patterns, automated trail counters were installed at 10 locations across the system. Second, a visitor intercept survey contacted visitors at the Basecamp parking area and trailhead to collect responses on trail experience, trip characteristics, and demographics.

Trail counters were installed for varying lengths of time between May 28, 2022 (the Saturday before Memorial Day) and September 5 (Labor Day). Visitor surveys were collected between May 27, 2022 and September 5, 2022. Both studies were designed to be representative of the summer season, defined as the Saturday before Memorial Day through Labor Day. Focusing visitor studies on the summer season coincides with the peak visitation season and ensures comparability with other visitor studies conducted in regional and state parks and trails across Minnesota.[1]

While beyond the scope of this study, it should be noted that Tioga Recreation Area's trails are open all year, and use during other seasons (particularly the fall) may be significant. This report does not quantify the full, year-round regional impact of Tioga's trail system.

Trail use estimates

Data on trail use was collected primarily using EcoCounter PYRO boxes, which are passive-infrared automated trail counters that detect trail users as they pass by. The passive-infrared counters count all users, and occasionally wildlife, that pass by and do not differentiate between bikers and hikers. Field staff validated the counters after installation by hiking or riding past each counter 50 times to ensure they were counting properly.

The west side of the Gurley Flynn Trail was chosen as the primary trail count location. A trail counter was installed on the west side of Gurley Flynn permanently for the entirety of the summer season. The west side of Gurley Flynn is believed to be the primary route visitors use to access the larger trail network and so made sense as a primary counting location. There are

1 See "Regional Parks System Visitor Study Report" (Metropolitan Council, November 2016), "2017 State Park Visitor Survey" (Minnesota DNR, November 2017) , and "2019 Minnesota State Trail Visitor Survey" (Minnesota DNR, July 2020).

other access routes to the trail system (the Haul Road and east side of the Gurley Flynn loop), so our counts do not represent a comprehensive tally of trail users.

To complement the permanent counting location on Gurley Flynn, short-duration counts were conducted at nine additional locations across Tioga's trail system. EcoCounter PYRO boxes (infrared counters that count all users) were used at five locations: Iron Maidenhair, Ruby Slipper, Greenway Rough Rider, Thrillseeker, and Good Vibrations. EcoCounter TUBE counts (pneumatic tube counters that only count bicyclists) were used at the other four locations: Windigo, East Gurley Flynn, Iron Chic, and Bloodstone. Sample counts with the pneumatic tube counters were also collected on Ruby Slipper (due to storm damage closing the trail for a few days during the first sample period) and Greenway Rough Rider (concurrently with the infrared counter as a validity test).

Short-duration counts ranged in length from two to three weeks (Figure 33). All trail-counting locations were determined in consultation with Max Peters of the City of Cohasset.

Pneumatic tube counters are not designed to be installed on natural-surface mountain biking trails and were used in this study on an experimental basis. Pneumatic tubes work by sensing a pulse of air as bike tires pass over a set of rubber tubes and are designed to be used on hard, flat surfaces. We tested the validity of using pneumatic tubes on mountain biking trails by installing a tube counter side-by-side with an infrared counter on the Greenway Rough Rider Trail for two weeks in July. Greenway Rough Rider is a beginner-level downhill trail and believed to be used almost exclusively by mountain bikers. Our test found that, while the pneumatic tube counts were on average 15% lower than the infrared counts, the error was systematic. Over our two-week sample period, daily counts from the pneumatic tube counter could be used to predict counts with the infrared counter almost perfectly ($R^2 = .99$, $F(1, 13) = 1{,}653$, $p < .000$).

Figure 33

Trail counting locations and dates

Location	Dates	Duration (days)
Infrared counts (Bikes + Pedestrians)		
West Gurley Flynn	5/28/22 - 9/5/22	101
Iron Maidenhair	5/28/22 - 6/13/22	17
Ruby Slipper	5/28/22 - 6/13/22	17
Greenway Rough Rider	6/21/22 - 7/13/22	23
Thrillseeker	6/15/22 - 6/28/22	14
Good Vibrations	6/30/22 - 7/13/22	14
Pneumatic Tubes (Bikes only)		
Ruby Slipper	7/15/22 - 7/30/22	16
Windigo	8/25/22 - 9/5/22	13
East Gurley Flynn	8/25/22 - 9/5/22	13
Iron Chic	8/1/22 - 8/22/22	22
Greenway Rough Rider	6/30/22 - 7/13/22	14
Bloodstone	8/1/22 - 8/22/22	22

Based on the results of this experiment, we adjusted our pneumatic tube counts by 15% and report them side-by-side with counts collected with the infrared counters. Readers should be aware of the differences in the two counts, however, and remember that the pneumatic tube counts are subject to greater uncertainty.

At the end of the counting season, trail-count data were downloaded, checked, and cleaned. We then analyzed data at each trail location for daily traffic patterns, hourly traffic patterns, and estimated summer average daily traffic (SADT). Fact sheets for each trail count location are provided in Appendix A.

SADT for short-duration count locations was estimated using the day-of-year factoring method. The day-of-year factoring method is a standard method to extrapolate short-duration non-motorized traffic counts because it captures the effects of local conditions such as weather, events, and holidays.[2] Under the day-of-year factoring method, observed traffic at a short-duration site is assumed to equal the proportion of season-long traffic observed at a nearby location (i.e., "reference site") where counts are collected for the entire season. We used the counts collected on the west side of the Gurley Flynn Trail as the reference site to extrapolate data collected elsewhere on the system. For example, if traffic between June 15 and June 28 accounted for 11% of total summer traffic on the Gurley Flynn, it's assumed that observed traffic on the Thrillseeker Trail during the same time period also accounts for 11% of total summer traffic on the Thrillseeker Trail. This method results in estimates with a margin of error of approximately 10-15% for each short-duration trail count location.

All summer traffic estimates are specific to 2022 and are not necessarily representative of an average year. Mountain biking and hiking traffic is highly sensitive to weather, which can vary greatly from year-to-year.

Questionnaire development

The questionnaire was designed through a collaborative process between the Greater Minnesota Regional Parks and Trails Commission (GMRPTC) and Parks & Trails Council (P&TC). GMRPTC designed a draft questionnaire based on the University of Minnesota's *Handbook for Minnesota Parks and Trails Surveying* and previous surveys conducted by the Metropolitan Council.[3] P&TC reviewed the questionnaire and offered recommendations to improve questionnaire clarity, focus, and length. Whenever possible, questions were designed to collect data that is comparable

2 Minge, E., Falero, C., Lindsey, G., Petesch, M., & Vorvick, T. (2017). *Bicycle and Pedestrian Data Collection Manual*. Minnesota Department of Transportation.
3 Pradhananga, A., Davenport, M.A., Saari, H. (2016). *Handbook for Minnesota Parks and Trails Visitor Surveying*. University of Minnesota, Department of Forest Resources.

to visitor survey data collected by the Metropolitan Council and the Minnesota Department of Natural Resources.

The final questionnaire was 20 questions long, with 12 additional questions asked only of specific users (e.g., mountain bikers, tourists). Question topics included trail activities, overall quality of the trail experience, group characteristics, trip planning, information sources, and demographics (Appendix B). The 2022 questionnaire was the same instrument used in GMRPTC visitor profile projects in 2021, with only minor changes made for clarity. On average, respondents took five minutes to complete the survey.

To limit potential language bias, the questionnaire was translated and made available in English, Spanish, and Somali. All respondents completed the survey in English.

Questionnaires were administered to visitors on Samsung 8" tablets using QuestionPro (a professional online survey software). The survey was stored on the tablet and did not require Wi-Fi or cellular phone service. Skips and data validation were programmed into the survey to help speed up completion and improve accuracy of data entered by the visitor. Survey responses were stored on the tablet and later uploaded to P&TC's online account. Paper surveys were also available as a backup or if requested. The vast majority of surveys (92%) were completed electronically on the tablet.

Data collection protocol

The visitor survey was conducted by P&TC staff. All surveyors attended a training session and received an 18-page training manual that reviewed project purpose, study design and procedures, checklists, and frequently encountered issues.

Surveys were conducted at the Basecamp trailhead and parking area. Only adult visitors (age 18 and older) using the trail system were eligible to take the survey, and surveyors were trained to screen all visitors to determine visitor eligibility (Appendix B). Visitors were only allowed to complete the survey once during the summer. If visitors arrived as a group, the adult with the most recent birthday was asked to complete the survey.

To welcome visitors at each survey location, a survey station was set up at the beginning of each survey shift. The station provided a visual presence for staff and included a large "Trail Survey" sign, free water, maps, and a trash bag.

During each survey shift, staff made every effort to talk to each visitor entering or leaving the trailhead. Staff would approach each visitor group, introduce themselves, explain the purpose of the survey, and ask

them to participate. If the visitor agreed, they were handed the tablet and self-administered the questionnaire. If the visitor asked for the questionnaire to be read aloud, staff read the questionnaire verbatim and recorded responses on the tablet. All visitors were assured their participation was completely voluntary and that their identities would be anonymous. Visitors who refused to participate were logged to track any potential non-response bias.

In instances where high-traffic volumes made it impractical to approach every visitor, the "next to pass method" was used to select respondents. During these periods, surveyors simply selected and approached the next group or person to pass the survey site after a questionnaire had been completed by someone else.

Sampling

A stratified sampling plan was developed to ensure the survey sample was as representative of summer visitors as possible. Surveys were conducted for a total of 197 hours stratified across high-use and low-use periods. Surveying hours were split between weekends (35%) and weekdays (65%). On average, 1.9 surveys were completed per hour on weekdays and 2.0 surveys were completed per hour on weekends. A full sampling schedule and collection rates are available upon request.

Response rate and margin of error

A total of 406 eligible visitor groups were approached and asked to complete the questionnaire. Additionally, 52 groups were observed where no adults were present and so no one was eligible to complete the survey. Of the 406 eligible groups, 382 visitors completed a survey, for a response rate of 94%. This response rate is exceptionally high and sufficient to allay any concerns of non-response bias (in which results are biased due to systematic differences between people who are willing to complete the survey and those who are not).

Whenever a potential respondent declined to participate, the surveyor recorded the group size and primary activity and asked if they would be willing to quickly answer two quick "non-response questions."[4] The purpose of these questions was to test if visitors who declined to participate were systematically different from those who participated. Our non-response bias testing found that non-respondents did not significantly differ from respondents in terms of age, visitor origin, or group size. Non-respondents were disproportionately hikers (30% compared to 5% of respondents). Due to the exceptionally high response rate, however, hikers were not underrepresented in our sample. Among all observed groups, 90.8% of visitors were

4 (1) Are you a local or a tourist? and (2) What year were you born?

mountain biking compared to 91.1% in our sample. Where appropriate in the report, data from non-respondents and non-eligible groups are included in the analysis.

The final sample size (n=382) provides 95% confidence that the sampling error does not exceed plus or minus 5.0 percentage points. The margin of error is different for every single question depending on the sample size, the proportion of responses, and the population size. Margins of error are higher in subgroups (Figure 34).

In addition to sampling error, question wording and other biases can introduce error into surveys. To reduce answer option order bias, answers were randomized for non-ordinal answer choices.

Data analysis

Survey data were downloaded from the QuestionPro server and prepped for import into the statistical software SPSS using Microsoft Excel. SPSS was used for accuracy checks, recoding, descriptive statistics, cross-tabulations, and statistical significance testing.

Throughout the report, means are provided where informative, with an accompanying confidence interval. Confidence intervals are written as 95% C.I. [#, #], where the bracketed numbers refer to the upper and lower bounds of the 95% confidence interval for the reported mean.

Figure 34

Margin of error for selected subgroups

Member segment	Sample size	Plus or minus... (percentage points)
All adult visitors	382	5.0
Activity		
Mountain biking	346	5.3
Other	34	16.8
Tourism		
Local visitors	138	8.3
Tourist	241	6.3
Day visitors	42	15.1
Overnight visitors	199	6.9
Gender		
Male	271	6.0
Female	104	9.6
Skill Level		
Beginner/Intermediate	207	6.8
Advanced/Expert	139	8.3

Statistical hypothesis tests are included throughout the report to indicate statistically significant differences between visitor subgroups (e.g., locals and tourists, men and women, skill levels, etc.). Probability values (p-values) are included alongside these tests to indicate the probability the observed differences are due to actual underlying differences in the population rather than sampling error. We use the standard threshold of 5% to indicate "statistical significance" ($p < 0.05$), meaning there is less than a 5% chance the difference would be observed if no actual differences existed between the two subgroups.

Responses to the open-ended question (Q32: Do you have any additional comments about your visit you'd like to share?) were loosely grouped into categories and are provided in Appendix C.

Weighting

Despite our best efforts to sample a representative set of visitors, weekend visitors were slightly underrepresented in our final dataset (Figure 35). To compensate for this sampling bias, the survey data were weighted by day of week (weekday vs. weekend). Weighting the data should provide a more accurate reflection of all visitors, but must be done cautiously because it risks over-representing the views of several people who may not be an accurate reflection of their subgroup. For all analyses, we created two sets of cross-tabulations: one set weighted and one set unweighted. Cross-tabs were compared side-by-side to verify the weighting didn't cause any extreme or unexplainable changes in the dataset.

Figure 35

Data weights

Visitor segment	Percentage of total traffic	Completed surveys	Percentage of survey sample	Weight
Weekday visitors	59%	243	64%	0.92
Weekend visitors	41%	139	36%	1.14

Note: Total traffic based on trail count conducted on the west side of the Gurley Flynn loop

Tioga Recreation Area Ironmaidenhair Trail

2022 TRAFFIC ESTIMATES

Counting Location:

Trail Rating:

Intermediate uphill

Counting Period:

May 28, 2022 - June 13, 2022

Summer ADT: 83
Weekdays: 69
Weekends: 116

Weekday Peak Hour: 5 pm
Weekend Peak Hour: 1 pm

Estimated 2022 Summer Traffic

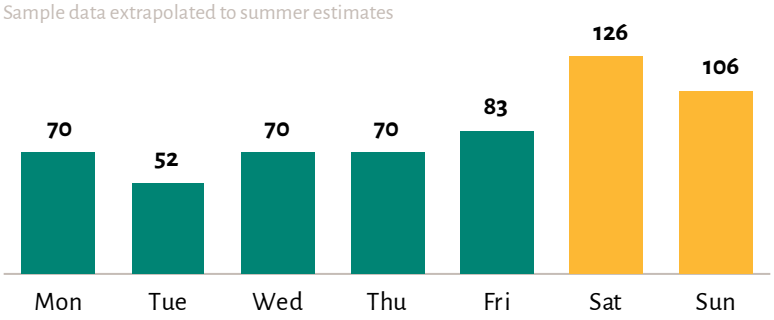
8,393

(Outbound traffic; one-way trail)

Summer Day-of-Week Patterns

Average summer traffic

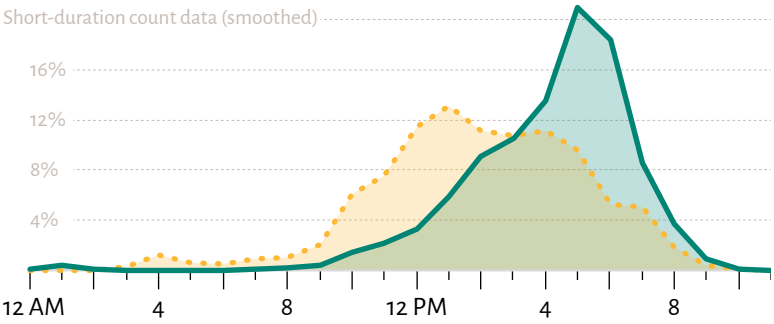
Sample data extrapolated to summer estimates



Summer Hourly Traffic Patterns

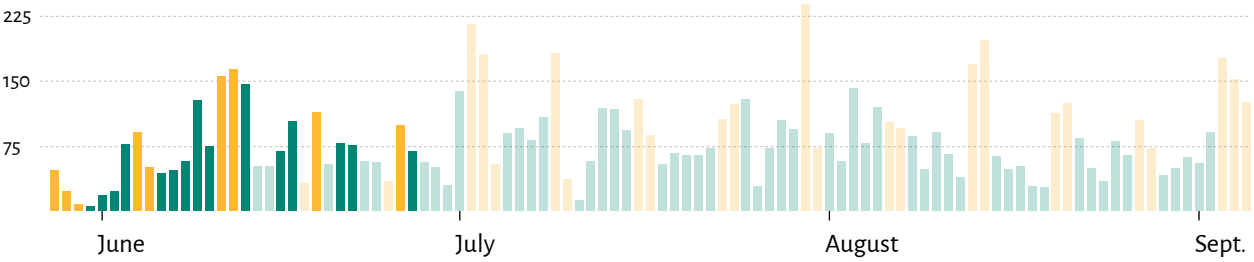
% of daily traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Total Daily Traffic

Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area Windigo Trail

2022 TRAFFIC ESTIMATES

Counting Location:

Trail Rating:

Beginner skills park

Counting Period:

Aug. 25, 2022 - Sept. 5, 2022

Summer ADBT: 107
Weekdays: 86
Weekends: 156

Weekday Peak Hour: 5 pm
Weekend Peak Hour: 12 pm

Bike Count Only

Estimated 2022 Summer Bicycle Traffic

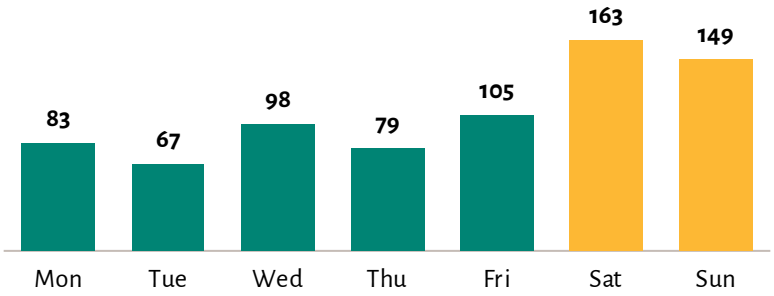
10,794

(Outbound traffic; one-way trail)

Summer Day-of-Week Patterns

Average summer bicycle traffic

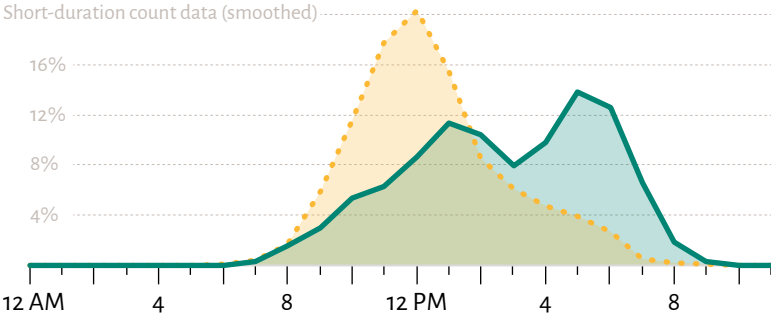
Sample data extrapolated to summer estimates



Summer Hourly Bicycle Traffic Patterns

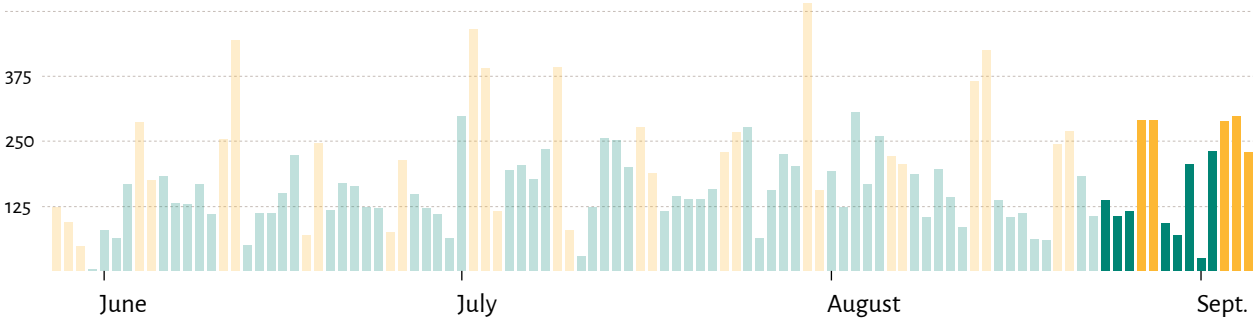
% of daily bicycle traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Bicycle Daily Traffic

Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area Gurley Flynn Trail

2022 TRAFFIC ESTIMATES

Counting Location:

Trail Rating:

Beginner

Counting Period:

May 28, 2022 - Sept. 5, 2022

Summer ADT: 159

Weekdays: 129

Weekends: 229

Weekday Peak Hour: 11 am

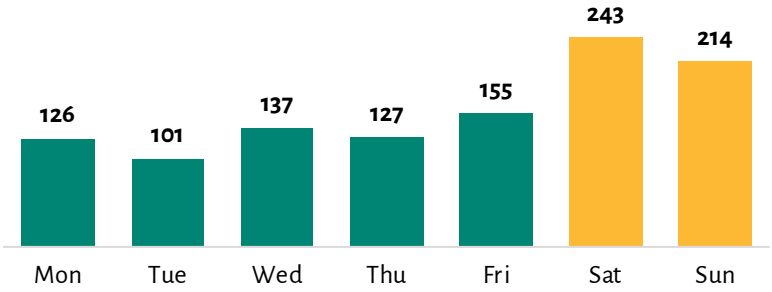
Weekend Peak Hour: 12 pm

Estimated 2022 Summer Traffic

Total Two-Way	**Outbound** (to trails)	**Inbound** (to Basecamp)
16,016	11,809 (74%)	4,207 (26%)

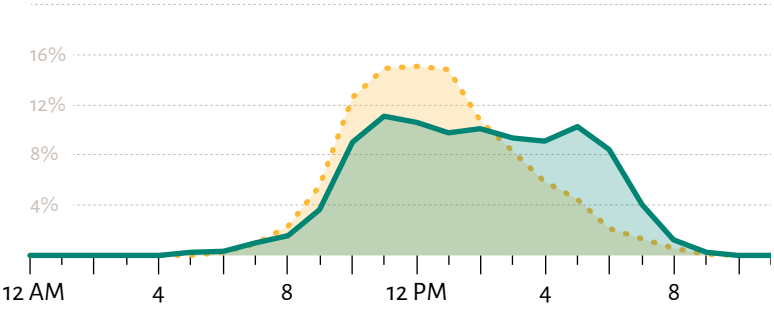
Summer Day-of-Week Patterns

Average summer traffic



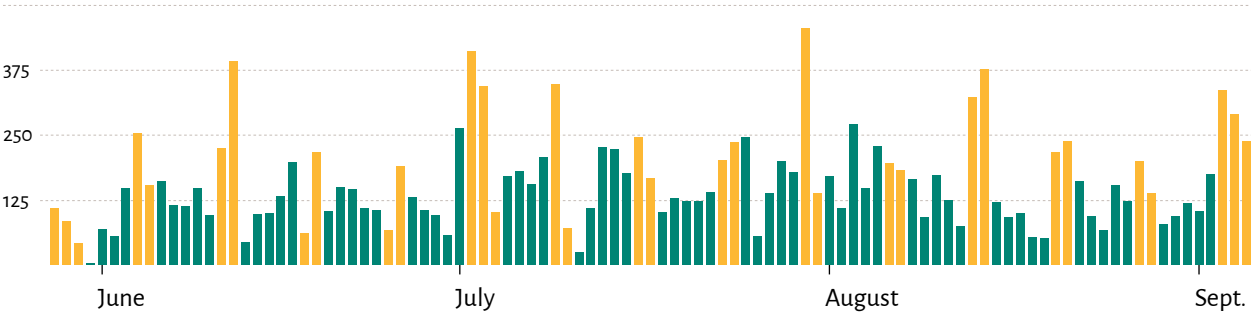
Summer Hourly Traffic Patterns

% of daily traffic Weekday Weekend



2022 Summer Total Daily Traffic

Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area East Gurley Flynn Trail

2022 TRAFFIC ESTIMATES

Counting Location:

Trail Rating:

Beginner

Counting Period:

Aug. 24, 2022 - Sept. 5, 2022

Summer ADBT: 89
Weekdays: 72
Weekends: 131

Weekday Peak Hour: 5 pm
Weekend Peak Hour: 12 pm

Bike Count Only

Estimated 2022 Summer Bicycle Traffic

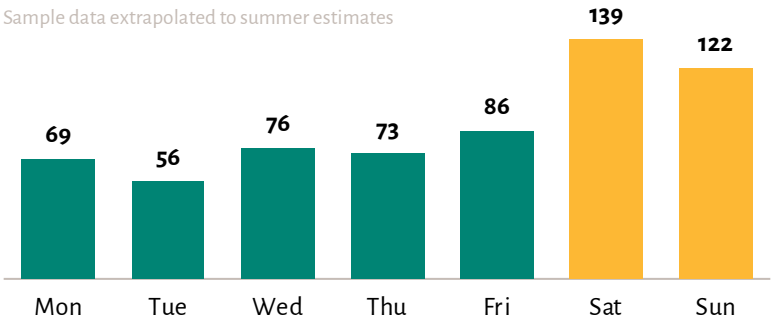
9,030

(Directional traffic not available)

Summer Day-of-Week Patterns

Average summer bicycle traffic

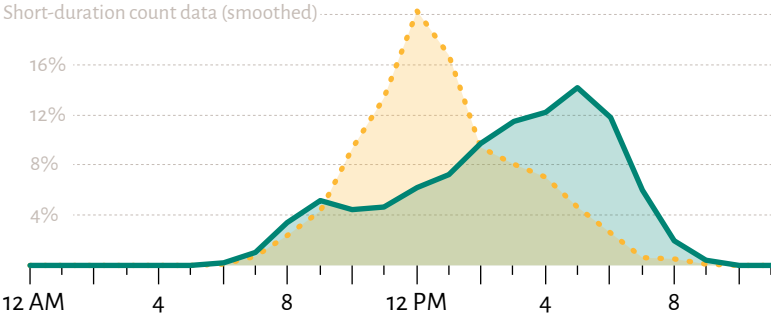
Sample data extrapolated to summer estimates



Summer Hourly Bicycle Traffic Patterns

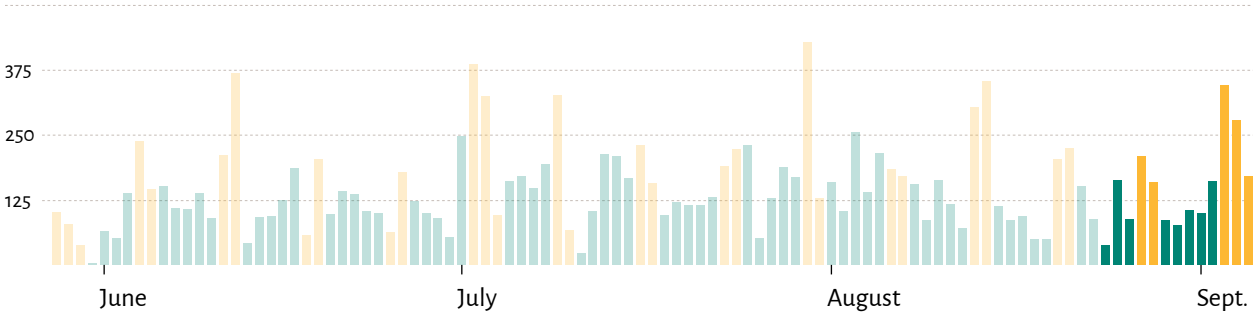
% of daily bicycle traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Bicycle Daily Traffic

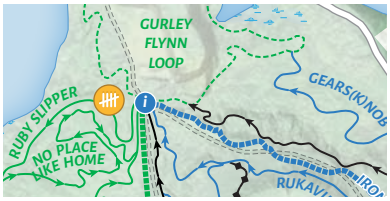
Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area Ruby Slipper Trail

2022 TRAFFIC ESTIMATES

Counting Location:



Trail Rating:

Beginner

Counting Periods:

May 28, 2022 - June 13, 2022
July 15, 2022 - July 30, 2022

Summer ADT: 39
Weekdays: 32
Weekends: 56

Weekday Peak Hour: 5 pm
Weekend Peak Hour: 11 am

Estimated 2022 Summer Traffic

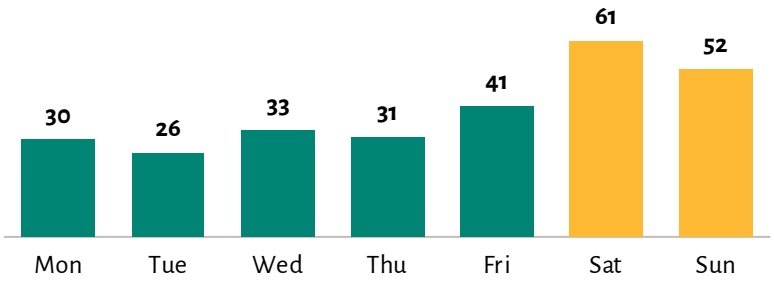
3,969

(Outbound traffic; one-way trail)

Summer Day-of-Week Patterns

Average summer traffic

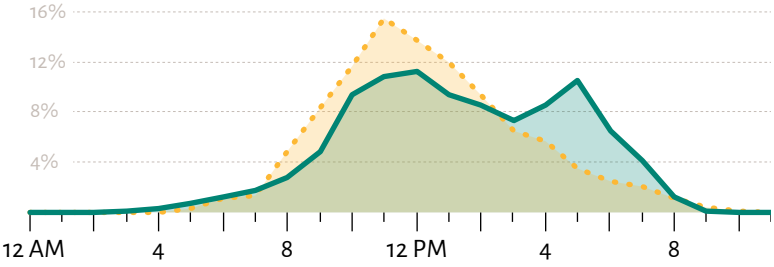
Sample data extrapolated to summer estimates



Summer Hourly Traffic Patterns

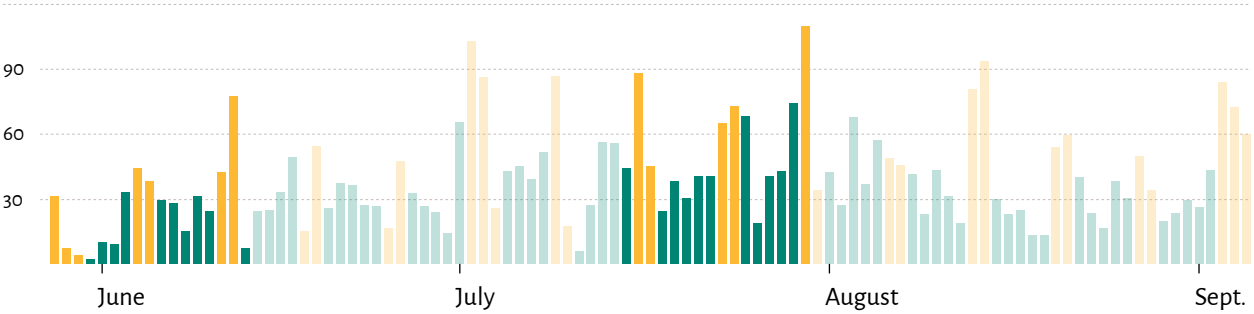
% of daily traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Total Daily Traffic

Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area Iron Chic Trail

2022 TRAFFIC ESTIMATES

Counting Location:

Trail Rating:

Intermediate uphill

Counting Period:

Aug. 1, 2022 - Aug. 22, 2022

Summer ADBT: 27
Weekdays: 22
Weekends: 39

Weekday Peak Hour: 2 pm
Weekend Peak Hour: 1 pm

Bike Count Only

Estimated 2022 Summer Bicycle Traffic

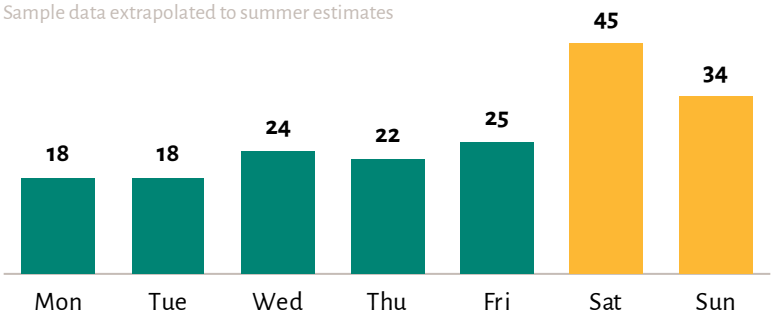
2,715

(Outbound traffic; one-way trail)

Summer Day-of-Week Patterns

Average summer bicycle traffic

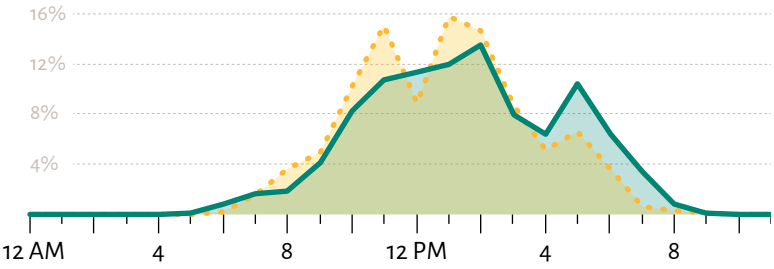
Sample data extrapolated to summer estimates



Summer Hourly Bicycle Traffic Patterns

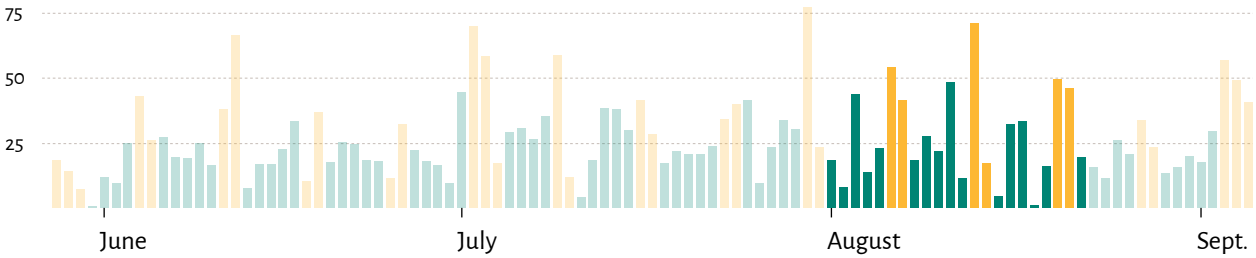
% of daily bicycle traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Bicycle Daily Traffic

Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area Bloodstone Trail

2022 TRAFFIC ESTIMATES

Counting Location:

Trail Rating:

◆ Very difficult

Counting Period:

Aug. 1, 2022 - Aug. 22, 2022

Summer ADBT: 10
Weekdays: 8
Weekends: 16

Weekday Peak Hour: 1 pm
Weekend Peak Hour: 11 am

Bike Count Only

Estimated 2022 Summer Bicycle Traffic

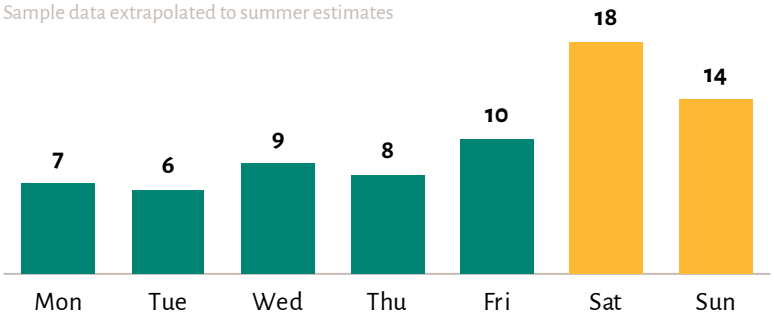
1,041

(Outbound traffic; one-way trail)

Summer Day-of-Week Patterns

Average summer bicycle traffic

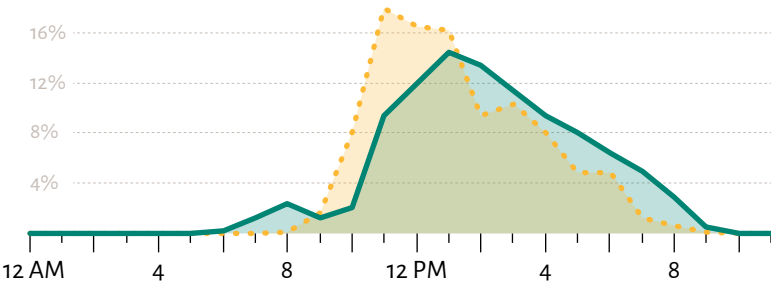
Sample data extrapolated to summer estimates



Summer Hourly Bicycle Traffic Patterns

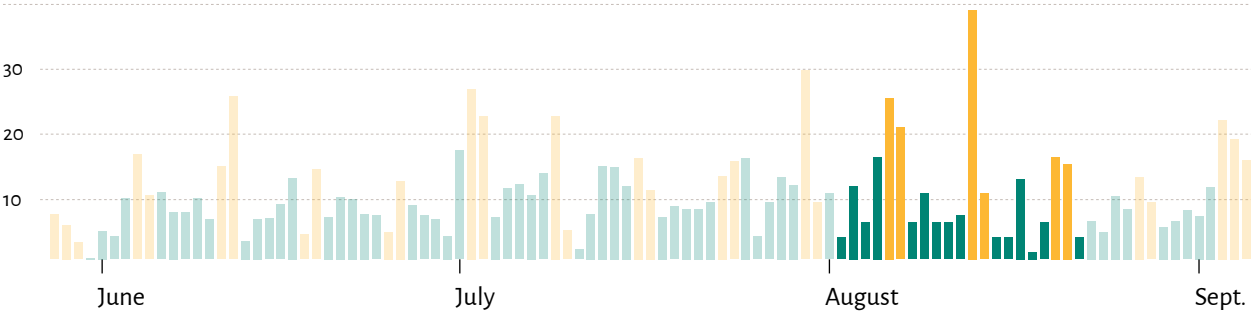
% of daily bicycle traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Bicycle Daily Traffic

Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area Greenway Rough Rider Trail

2022 TRAFFIC ESTIMATES

Counting Location:

Trail Rating:

Beginner downhill

Counting Period:

June 21, 2022 - July 13, 2022

Summer ADT: 30
Weekdays: 25
Weekends: 42

Weekday Peak Hour: 6 pm
Weekend Peak Hour: 12 pm

Estimated 2022 Summer Traffic

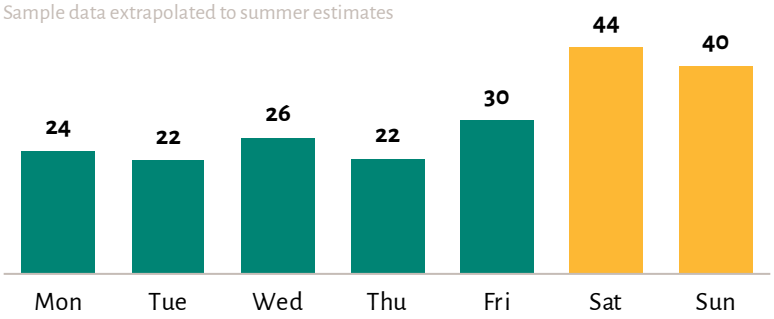
3,019

(Outbound traffic; one-way trail)

Summer Day-of-Week Patterns

Average summer traffic

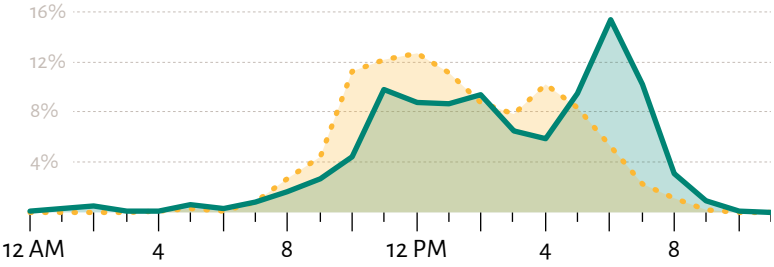
Sample data extrapolated to summer estimates



Summer Hourly Traffic Patterns

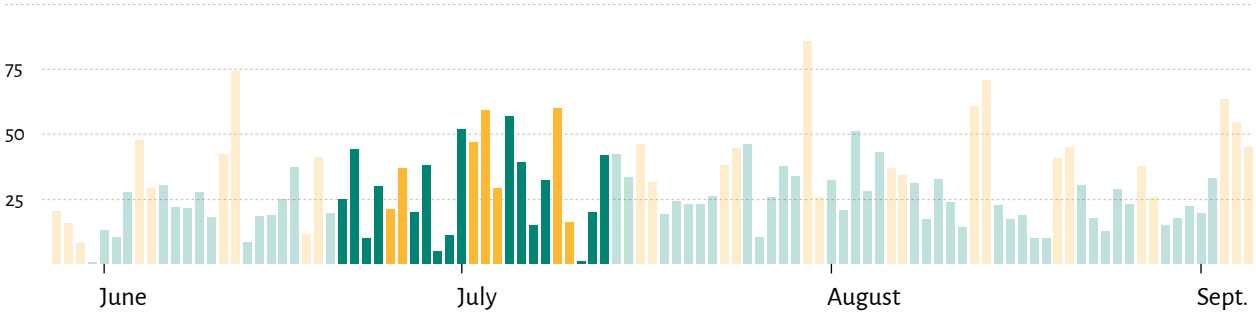
% of daily traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Total Daily Traffic

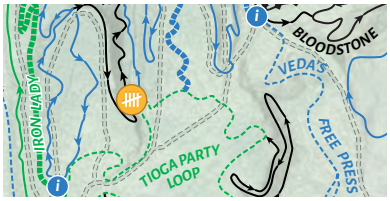
Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area Thrillseeker Trail

2022 TRAFFIC ESTIMATES

Counting Location:



Trail Rating:

◆ Very difficult downhill

Counting Period:

Jun 15, 2022 - Jun 28, 2022

Summer ADT: 33
Weekdays: 27
Weekends: 48

Weekday Peak Hour: 5 pm
Weekend Peak Hour: 9 am

Estimated 2022 Summer Traffic

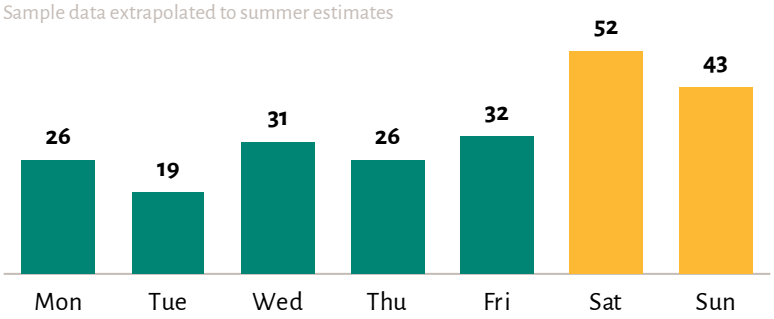
3,327

(Outbound traffic; one-way trail)

Summer Day-of-Week Patterns

Average summer traffic

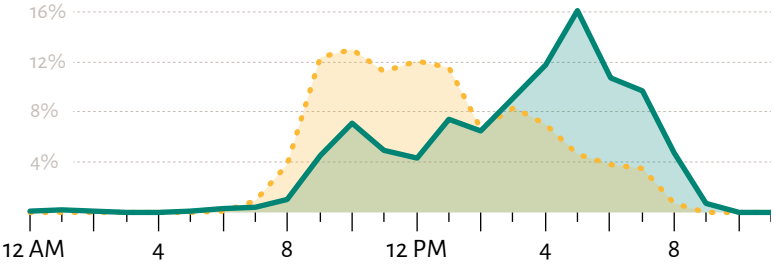
Sample data extrapolated to summer estimates



Summer Hourly Traffic Patterns

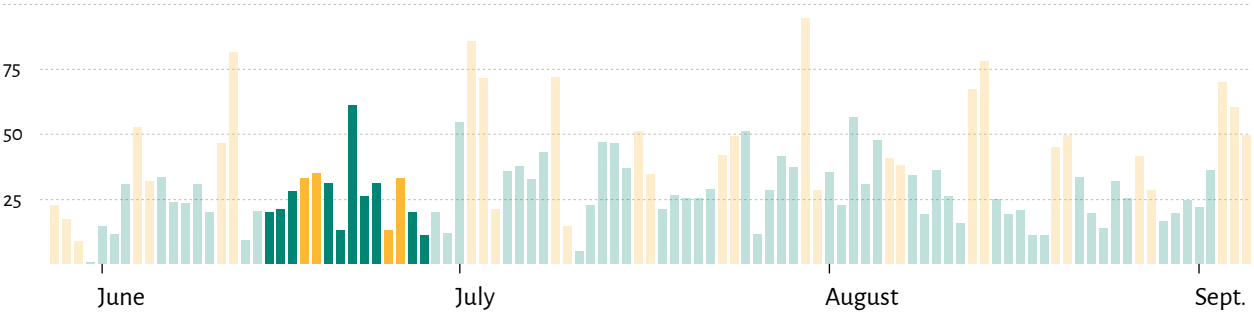
% of daily traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Total Daily Traffic

Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Tioga Recreation Area Good Vibrations Trail

2022 TRAFFIC ESTIMATES

Counting Location:

Trail Rating:
Intermediate

Counting Period:
June 30, 2022 - July 13, 2022

Summer ADT: 11
Weekdays: 9
Weekends: 15

Weekday Peak Hour: 12 pm
Weekend Peak Hour: 2 pm

Estimated 2022 Summer Traffic

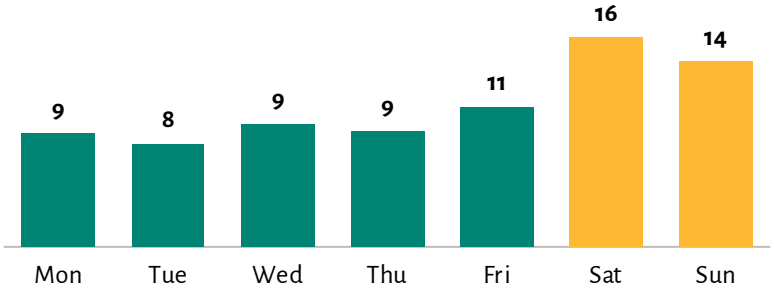
1,110

(Outbound traffic; one-way trail)

Summer Day-of-Week Patterns

Average summer traffic

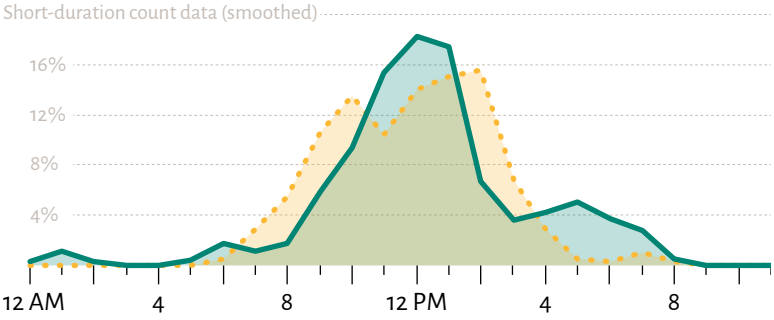
Sample data extrapolated to summer estimates



Summer Hourly Traffic Patterns

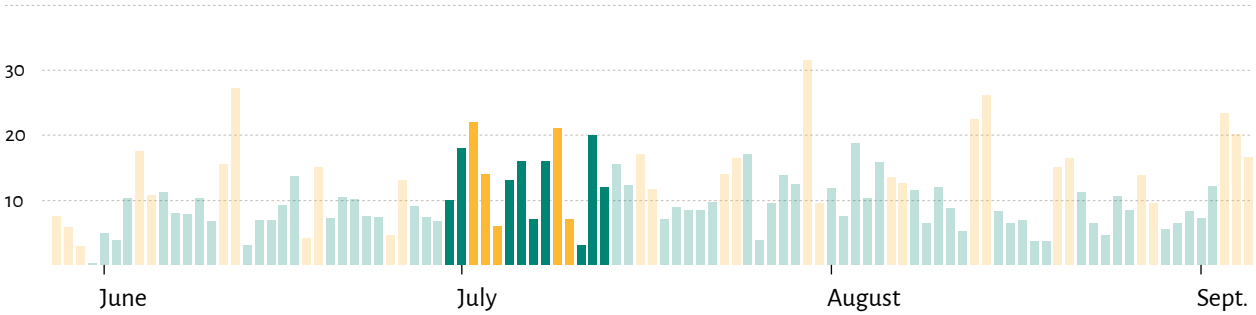
% of daily traffic Weekday Weekend

Short-duration count data (smoothed)



2022 Summer Total Daily Traffic

Weekdays (observed) Weekend / Holiday (observed)
Weekdays (estimated) Weekend / Holiday (estimated)



Appendix B: Survey Instrument

Example Survey Script:

Hi, my name is _____ and I'm working with Parks & Trails Council conducting a 5-minute trail survey to understand visitor experiences at Tioga Recreation Area. Are you using any of the singletrack trails at Tioga today?

- ☐ Yes **[Continue]**
- ☐ No **[Discontinue; thank visitor and let them continue on their day]**

Are you willing to participate in the survey? All your answers are voluntary and confidential.

If **YES:**

Is anyone in your group 18 years old or older?

- ☐ Yes **[Continue]**
- ☐ No **[Discontinue; log Non-Response]**

Have you already taken this survey at this trail this summer?

- ☐ Yes **[Discontinue survey]**
- ☐ No **[Hand visitor the tablet and let them complete the questionnaire; If multiple adults in the group are willing to participate, only the adult in the group with nearest birthday should complete the survey]**

If **NO**:

That's okay, no problem. Thanks for your time. Do you mind if I ask you two quick questions before I let you go?

☐ Yes **[Ask questions, log Non-Response Qs]**

1. Are you a local visitor or a tourist?

   (Tourist is anyone more than 50 miles away from home or staying at least one night away from home)

2. What year were you born?

☐ No **[Discontinue; log Non-Response]**

Tioga Recreation Area Trail Survey

1. Which trail activities did you and your group do during your visit today?
Select all that apply

- ☐ Mountain biking
- ☐ Hiking or walking
- ☐ Dog walking
- ☐ Running or jogging
- ☐ Geocaching
- ☐ Nature photography
- ☐ Birdwatching / wildlife viewing
- ☐ Other: _____

▶ *If multiple activities are checked…*

2. Which one of these activities was your primary reason for visiting this trail today? _____

▶ *If mountain biking…*

3. What is your mountain biking skill level?

- ☐ Beginner
- ☐ Intermediate
- ☐ Advanced
- ☐ Expert

4. Do you have a favorite place in Minnesota to go mountain biking?

- ☐ Yes. Where? _____
- ☐ No

5. Are you riding a fat-tire bike today?

- ☐ Yes
- ☐ No

6. Are you riding your own bike today?

- ☐ Yes
- ☐ No, I'm using a rental bike
- ☐ No, I'm borrowing a bike from a friend or family member

7. What are your most important reasons for visiting the trail today?
Select all that apply

- ☐ Experience nature
- ☐ Improve my physical health
- ☐ Relaxation and/or stress relief
- ☐ Spend time with family or friends
- ☐ Meet new people
- ☐ Training for event or competition
- ☐ Do something exciting and adventurous
- ☐ Learn/practice tricks and skills
- ☐ Getting my children outdoors
- ☐ Other: _____

8. Approximately how much time did you, <u>or do you plan to,</u> spend on the trail during today's visit?

_____ hours _____ minutes

9. Approximately how often do you visit this trail during spring, summer and fall?

☐ This is my first time visiting
☐ Daily
☐ Weekly
☐ Monthly
☐ Once a year
☐ Less than once a year
☐ Unsure

10. Overall, how would you rate your most recent experience on this trail?

☐ Very good
☐ Good
☐ Fair
☐ Poor
☐ Very poor

☐ I've never used this trail before

11. How many people are in the group you're recreating with today?

_____ Adults (18 years and older, including yourself)
_____ Children (under 18 years)

12. What information sources have you used to learn about this trail?

Select all that apply

☐ I've known about this trail for years
☐ Friends and family
☐ From a club or group ride
☐ Recommendation from a business or visitor center
☐ Internet search (e.g., Google)
☐ Social media (e.g., Facebook, Instagram, Twitter)
☐ Print publication (e.g., magazine, newspaper)
☐ TV or radio
☐ Official Website:
  ☐ Tioga Recreation Area website
  ☐ Ride the Range website
  ☐ Visit Grand Rapids website
  ☐ GRIMBA website
  ☐ Iron Range.org
  ☐ "Minnesota Great Outdoors" online park and trail finder
☐ Trail app/website:
  ☐ MTB Project
  ☐ Singletracks
  ☐ MapMyRide
  ☐ Trailbot
  ☐ Trail Forks
  ☐ Strava
  ☐ All Trails
☐ Other: _____

13. To prepare for your visit, did you or your group look for information about this trail before you came?

☐ Yes
☐ No

▶ *If yes…*

14. What information did you search for before your visit today?

Select all that apply

☐ Travel directions
☐ Trail rules / Allowed activities
☐ Trail maps and miles
☐ Trail difficulty
☐ Trail reviews / photos
☐ Cost / Fees
☐ Trail conditions / closures
☐ Equipment rentals
☐ Parking information
☐ Park/trail hours
☐ Nearby lodging options
☐ Nearby restaurants
☐ Other: _____

15. Do you live more than 50 miles from this trail?

☐ Yes
☐ No

16. Are you on a trip where you have or plan to stay at least one night away from home?

☐ Yes
☐ No

▶ *If spending at least one night away from home…*

17. How many total nights do you plan to spend in this area during your trip?

_____

18. What type of overnight accommodations are you staying in during your trip?

Select all that apply

☐ Hotel / motel
☐ Resort / lodge / commercial cabin
☐ Vacation rental by owner (Airbnb, VRBO, etc.)
☐ Bed & Breakfast
☐ Campground
☐ Home/cabin of friend or relative
☐ My own vacation home
☐ Other: _____

▶ *If 50 miles away from home and/or spending at least one night away from home…*

19. How important was the trail in deciding to visit this area?

☐ The trail was the primary reason why I visited the area
☐ The trail was a significant reason why I visited the area
☐ The trail was part of the reason why I visited the area
☐ I would have visited this area even without the trail
☐ Don't know

20. How far in advance did you plan this trip?

☐ Less than 1 week
☐ 1 to 2 weeks
☐ 1 month
☐ 1 - 2 months
☐ 2 - 3 months
☐ 3+ months

21. What country do you live in?
☐ United States. If yes, what is your home ZIP code? _____
☐ Canada If yes, what is your home Postal Code? _____
☐ Other: _____

22. What year were you born? _____

23. What is your gender identity?
☐ Female
☐ Male
☐ Non-binary / third gender
☐ Prefer to self-describe: _____
☐ Prefer not to answer
☐ Don't know

24. Do you identify as transgender?
☐ Yes
☐ No
☐ Prefer not to answer
☐ Don't know

25. How do you describe yourself?
(Select all that apply)
☐ Asian
☐ Black or African American
☐ Hispanic or Latinx
☐ Native American, First Nation or Alaskan Native
☐ Middle Eastern or North African
☐ White or Caucasian
☐ Pacific Islander
☐ Some other race, ethnicity or origin

▶ *If Native American, First Nation or Alaskan Native…*

26. Which tribe do you affiliate with?
(Select all that apply)
☐ Bois Forte Band of Chippewa
☐ Fond du Lac Band of Lake Superior Chippewa
☐ Grand Portage Band of Lake Superior Chippewa
☐ Leech Lake Band of Ojibwe
☐ Lower Sioux Indian Community
☐ Mille Lacs Band of Ojibwe
☐ Prairie Island Indian Community
☐ Red Lake Nation
☐ Shakopee Mdewakanton Sioux Community
☐ Upper Sioux Community
☐ White Earth Nation
☐ Other: _____
☐ Prefer not to answer
☐ Don't know

27. What language do you speak most often at home?

☐ English
☐ Hmong
☐ Somali
☐ Spanish
☐ Other: _____
☐ Prefer not to answer
☐ Don't know

▶ *If you speak a language other than English at home…*

28. How well do you speak English?

☐ Very well
☐ Well
☐ Not well
☐ Not at all
☐ Prefer not to answer
☐ Don't know

29. What is the highest level of education you have completed?

☐ Less than high school
☐ High school graduate or GED
☐ Some college, but no degree
☐ Associate, vocational, or technical degree
☐ Bachelor's degree
☐ Graduate or professional degree
☐ Prefer not to answer

30. Do you, or does someone in your group, have a physical, mental or sensory disability or condition?

☐ Yes
☐ No
☐ Prefer not to answer
☐ Don't know

31. Please indicate your total household income before taxes last year

☐ Less than $20,000
☐ $20,000 - $29,999
☐ $30,000 - $39,999
☐ $40,000 - $49,999
☐ $50,000 - $59,999
☐ $60,000 - $69,999
☐ $70,000 - $79,999
☐ $80,000 - $89,999
☐ $90,000 - $99,999
☐ $100,000 - $149,999
☐ $150,000 - $199,999
☐ $200,000 or more
☐ Prefer not to answer

32. Do you have any additional comments about your visit you'd like to share?

Appendix C: Responses to open-ended "Additional Comments" (Q32)

Positive comments about the trails:

Also love swimming afterwards!

Amazing.

Amazing area!

Amazing jump line.

Amazing trail system. Thank you for developing the area.

Amazing trails. We love the skills park.

Amazingly well designed trails and probably the best in the state.

Appreciate the shelter, I feel safe out here.

Awesome. (3)

Awesome trail! Will be back!

Awesome trails! (2)

Best trails in MN, Moved up here to ride them.

Excellent.

Excellent use of public funds.

Exceptional trail well maintained.

Excited to ride.

Fantastic trail. Will 100% be back.

Favorite place to ride.

Great for beginners, the switchbacks could be wider.

Great place and trails.

Great place to ride and visit.

Great place, easy trails good for beginners.

Great trail system.

Great trails and skills area!

Great trails, we'll be back!

Great trails, well marked.

Great trails; please add water.

Great trails! (10)

Great trails. I love coming to this area.

Happy to have a trail near where I live!

I appreciate this and look forward to more trails.

I live up here during the summer, visiting friends cabin in MN and its a great option to come biking. Didnt know about the trail until they rec'd it.

I love this place.

I love trails and this region.

I think the trails are awesome and have really benifited the area.

It was exhilarating.

It was fun.

Its really fun and I want to keep coming back.

Keep up the awesome work at Tioga!

Keep up the great work!!

Love it (2)

Love it here!

Love the signage and variety of trails, appreciate the bathrooms and covered picnic area. Beautiful space.

Love the trail!

Love the trails for walking and biking!

Love these trails (2)

LOVE these trails! We will be back lots!

Love this place.

Appendix C: Responses to open-ended "Additional Comments" (Q32)

Love this trail. Thanks for building it.

Love tioga.

Loved the varying difficulties.

People making trail for race were very helpful and friendly.

Really fun, we hope to come more often in the future.

So grateful these trails are here.

Thank you for the trails. Keep building.

Thanks for funding such an amazing place to ride!

Thanks! (2)

These trails are a great addition to the community.

This place is amazing.

Tioga is an amazing resource.

Tioga is great for area and wish it was here 20 years ago.

Tioga is great!

Tioga is great. we support it.

Trails are awesome.

Trails were well maintained!

Very grateful and fully support having great trails close to home.

Very nice, well marked trails / nice pavilion.

We are very impressed with the trails here.

We had a blast!

We love coming here.

We love it.

We love it here.

We love this trail.

We loved the trails. Thanks for maintaining them

Well maintained trail system!

Well planned and maintained trails.

With a female born 1956, love riding here.

Wonderful.

Comments about a specific trail:

Great trails, i especially enjoy those which pathfinder built.

I enjoyed thrillseeker and the pathfinder playground.

Love the place , especially pathfinders playground.

General comments about mountain biking:

I appreciate that these are all over the state.

Mountain biking is an amazing experience.

Yay for silent sports trails equals better mental health for ALL.

Appendix C: Responses to open-ended "Additional Comments" (Q32)

Comments about expanding the system:

Build more parks.

Build more trails like these.

Keep building it up.

Keep the trails coming!

More mountain bike trails please!

Northern mn is becoming a world class mtb destination. Its exciting to see more development of this.

The more mountain bike trails the better!

Trails were awesome make more.

We want more mtb trails in northern MN!!!

Comments about family friendliness:

Great family experience here at Tioga. My little kids love it.

Great for the whole family. Thank you for this space.

Tioga is one of my kids favorite places to come in the summer.

Comments about the signage:

Better marking for scenic bloodstone overlook at hub 4 and a bench would be nice.

Could add additional signage on trails in spots.

Fantastic maps and great place to mountain bike, for all levels.

Great signage.

Hub 3 to the power run is hard to find. Additional signage from hub three pointing to that run opens up tons of underutilized trails that i loved like good vibrations which i thought was a gem!

Love the trails. Well marked.

Need more trail signage.

Need to know which directions the trails go. Someone got seriously injured this morning.

Study trail maps well.

Trail SIGNAGE IS TOO COMPLICATED.

Trails were perfect. Signage was awesome.

Well marked and taken care of.

Appendix C: Responses to open-ended "Additional Comments" (Q32)

Recommendations:

A donation box would be useful.

A green trail to the pathfinder playground would be great.

A pump here and camping accommodations would be nice.

Having a specific app would be nice. We'll tell our friends about the trails!

Let us know where the ice cream and bike shops and tacos are at. Thanks very much.

Need a water fillup.

Porta potties at top of trail.

The more jumps the better.

Toilets need to be cleaned more often.

Would love public water source.

Comments about hiker/biker conflicts:

As the new trails were built with funds raised as multi use trails id like to see bikers be more polite.

It is unfortunate that the local bike riders have tried to take over this public land and kick all other users off these trails that were built with public money.

Miscellaneous comments:

Yes, Paul Mullaney was a great host out here!

For more information:

Greater Minnesota Regional Parks and Trails Commission

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