

*The Montana
Trail Users Study*

Research Report 35
August 1994

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Prepared by

Stephen F. McCool
Professor
School of Forestry
The University of Montana

Justin Harris
Research Assistant
Institute for Tourism and Recreation Research
The University of Montana

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Institute for Tourism and Recreation Research
School of Forestry
The University of Montana
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Preface

This study was funded under a cooperative agreement between the Montana Department of Fish, Wildlife and Parks and the Institute for Tourism and Recreation Research at The University of Montana. The study could not have been completed without the cooperation of many individuals, including Neal Christensen, Research Specialist at ITRR who assisted with the data base design, Nancy Menning who provided many of the telephone interviewers and the hundreds of Montanans who graciously completed the questionnaire or answered questions on the phone. Their answers form the bulk of the data used in this report.

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Not included in electronic version.

About the Study

The Montana Trail Users Study was conducted to build a better understanding of who uses the trails in Montana, how they are used, what expectations and preferences users hold, and how use may be affected by other trail users. Results of the study will be used as one source of input into the development of a statewide trails plan.

The study involved two components: (1) a mail questionnaire delivered to a sample of Montana adults, and (2) a telephone interview with a sample of those not responding to the questionnaire. The mail questionnaire was delivered in two phases and followed recommended social science protocols for reminders and followups. The first phase of the questionnaire was mailed on October 2, 1993 and asked respondents about their participation in trail related recreation during the previous six months. The second phase was mailed on April 1, 1994 and likewise asked sampled adults about their participation from October 1 to March 31. A postcard reminder was mailed approximately one week after the initial questionnaire and a followup questionnaire was sent to those not responding two weeks after the postcard. The sample was randomly selected from motor vehicle registrations. Since the sample was weighted toward males, the resulting sample was adjusted to reflect the male-female ratio in the census.

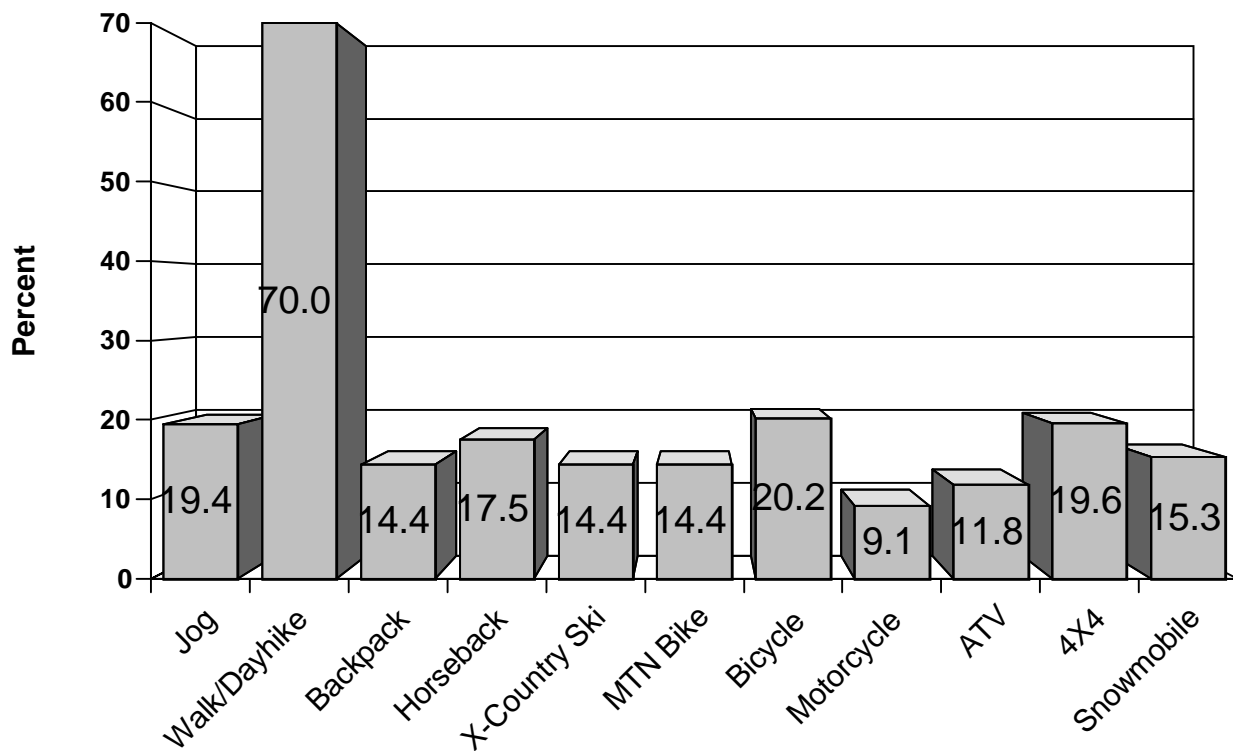
In both phases, the returned questionnaires represented about 50% of the initial sample size. In order to adjust for possible nonresponse bias, a telephone interview was conducted after each phase which produced a sample of about 160 nonrespondents each time. Nonrespondents reported lower rates of participation in trail related recreation and results were adjusted accordingly. Therefore, for information relating to participation rates, the results reflect respondent as well as nonrespondent data.

The study examined rates of participation and participant preferences and behavior in eleven trail activities: jogging, walking for pleasure/dayhiking, backpacking, horseback riding, mountain bicycling, traditional bicycling, off-road motorcycling, using all-terrain vehicles (ATV), operating four-wheel drive vehicles off-road, snowmobiling and cross-country skiing. Respondents were asked to indicate if they had participated in these activities within the last six months, their preferences for trail surfacing, their expectations of compatibility with other trail activities, expenditure patterns on their last trail outing, attitudes toward trail developments and funding sources, and background data.

This report summarizes the data collected in the study.

What is the level of participation?

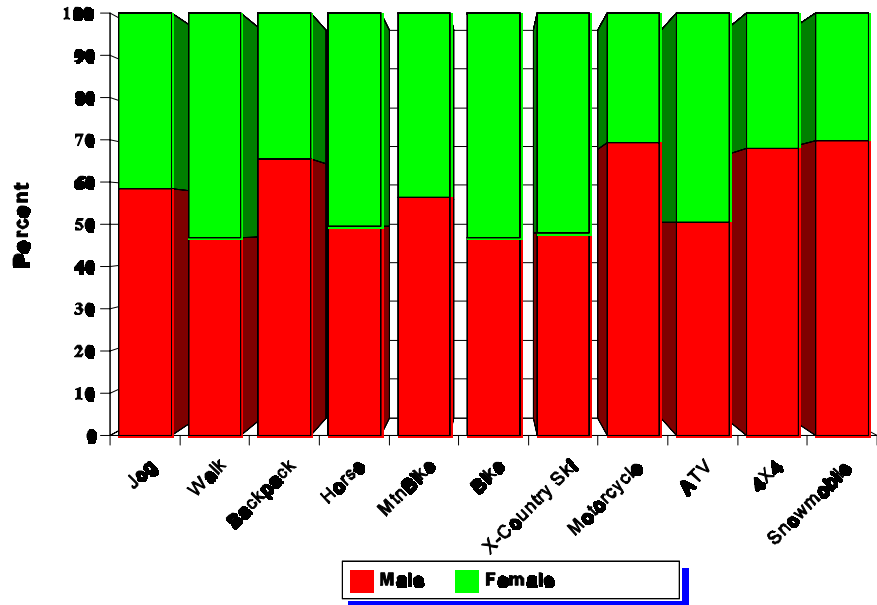
The graph shows the estimated percent of adult Montanans who reported participation in the selected trail activities within six months previous to the mail questionnaire being sent. Walking for pleasure/dayhiking were by far the most popular activities, with bicycling, jogging, and operating four-wheel drive vehicles off-road tied for second place.



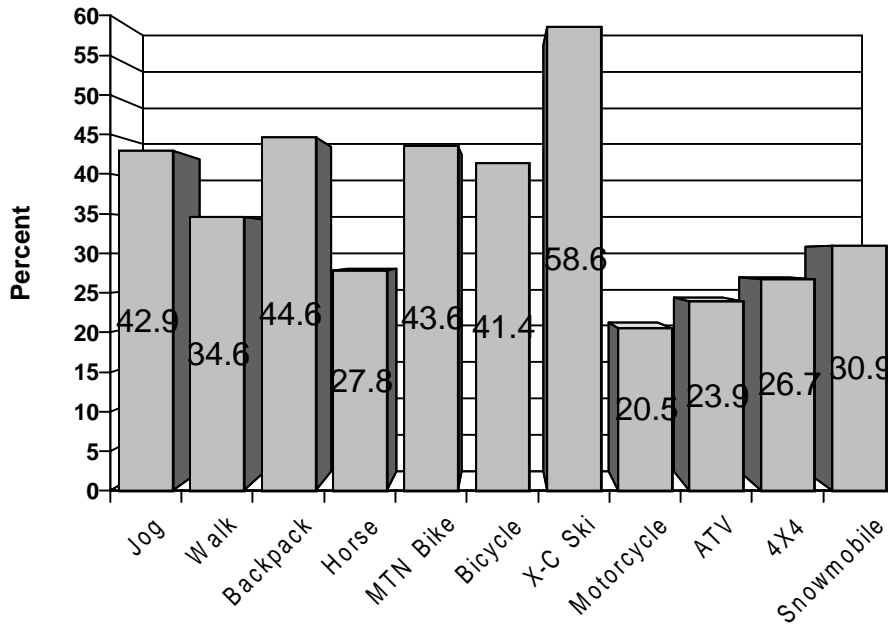
Percent of adult Montanans who indicated participation in activity in six months preceding the survey

Who are the participants?

With the exception of a few activities, trail users were split almost equally between males and females.

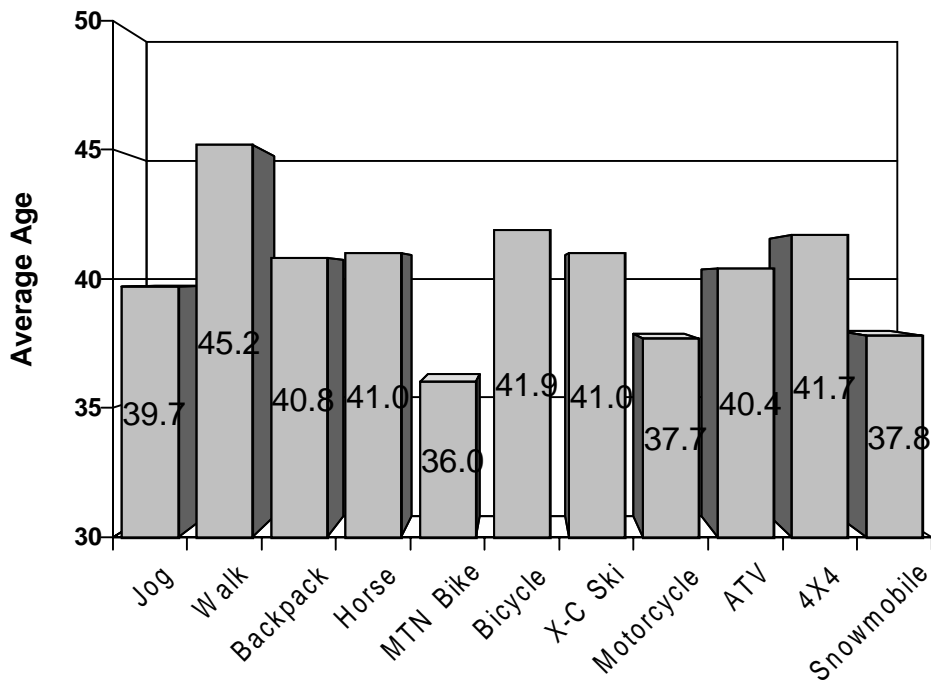


Percent of male and female respondents who participated in each activity



Participants varied significantly on level of educational attainment.

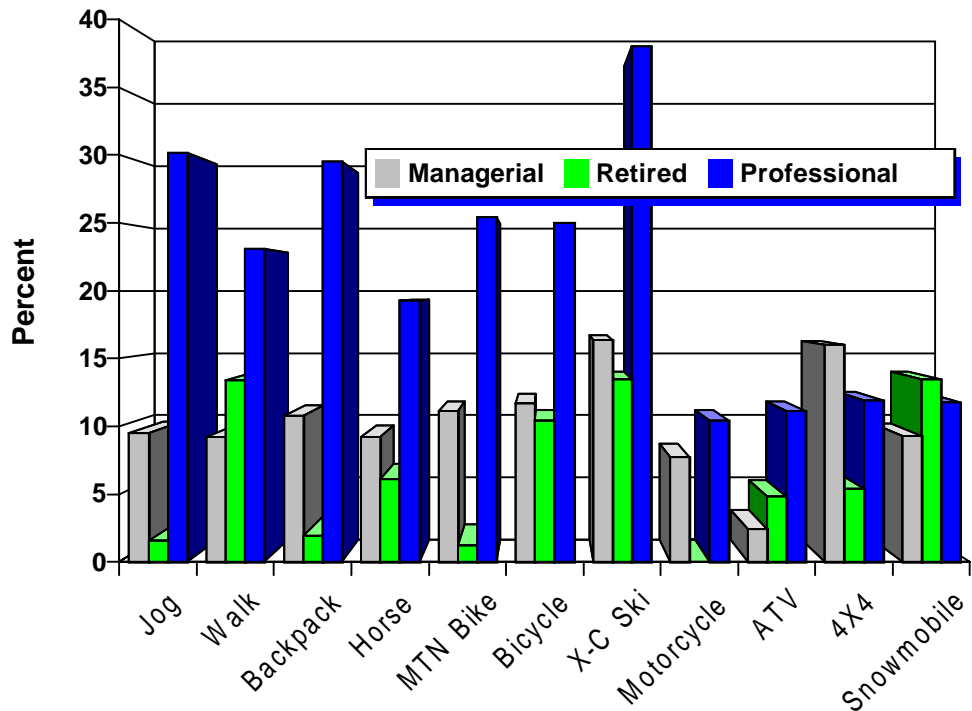
Percent of respondents who have completed college



The average age of adult participants was concentrated in the late 30s and early 40s.

Average age by activity as indicated by respondents

Occupational class of trail participants varied significantly by activity, as shown summarized here.

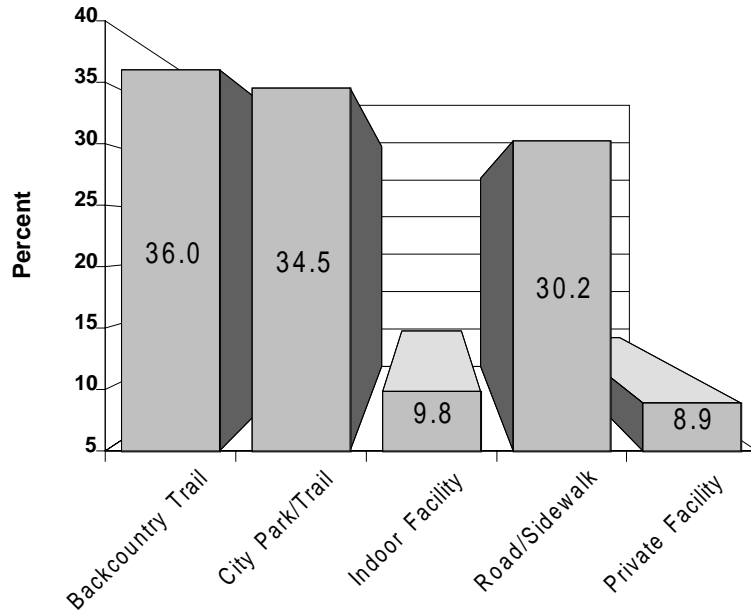


Percent of respondents in selected occupational classes. Respondents were categorized into about 14 classes of occupations. For clarity, only the dominant classes are shown

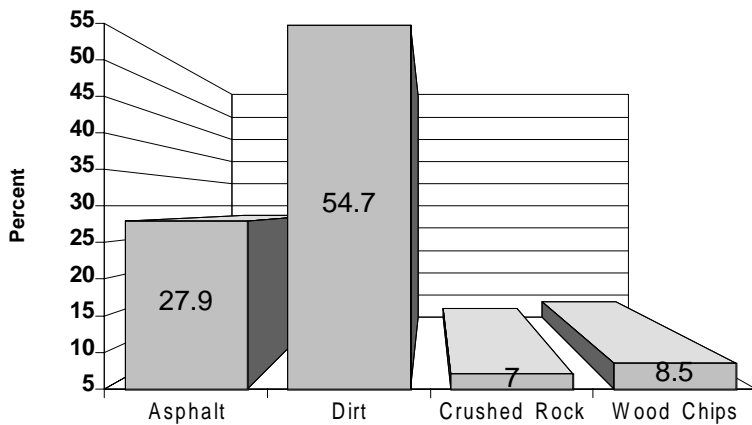
Jogging

19.4% of the sample reported participating in jogging during the period of study. Joggers reported a median of 20 days of participation in this activity during the previous six months, although the distribution of days was highly skewed. An additional five days occurred out of state. The average distance jogged per outing was reported at about 2.5 miles.

Joggers generally preferred parks and “backcountry” areas to indoor and private facilities when engaging in this activity.

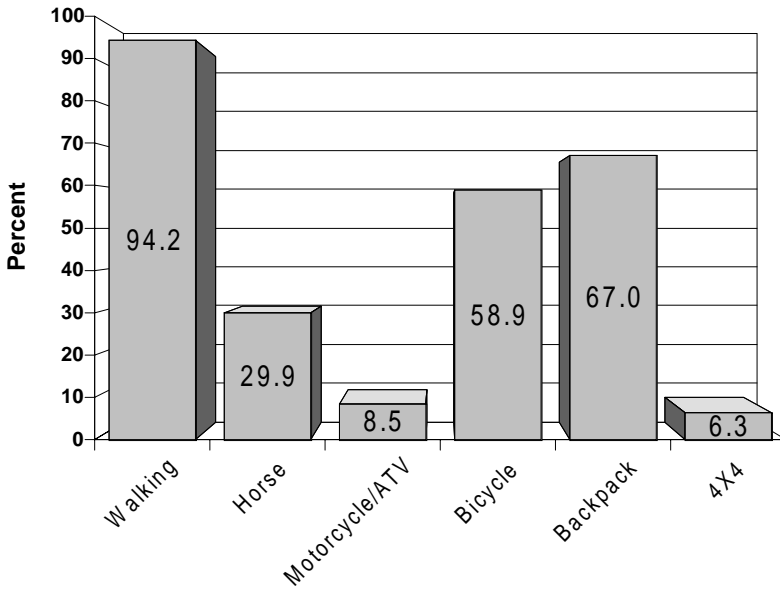


Percent indicated as a “high” preference for setting



Joggers preferred hard, smooth surfaces for their activity.

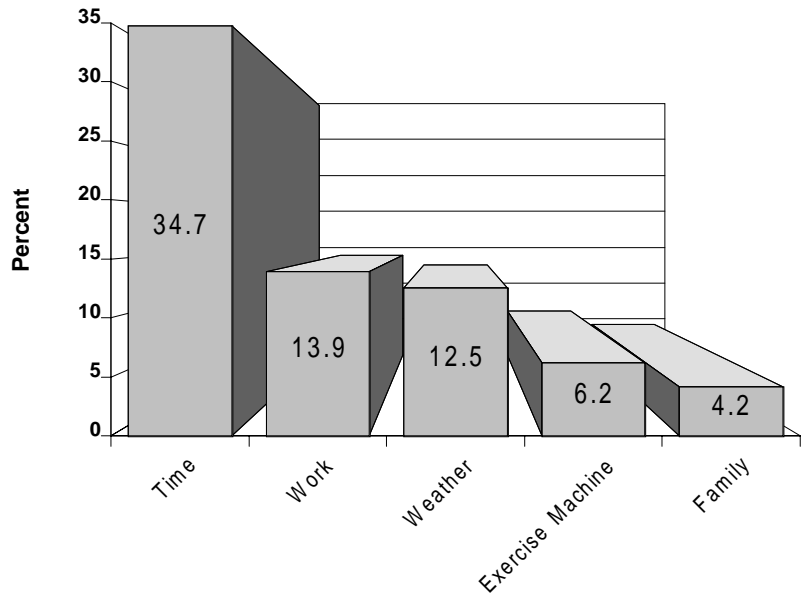
Percent indicated as a preference for trail surface type



Joggers felt that non-mechanized trail activities were more likely to be compatible with jogging.

Percent of joggers who indicated activity was compatible with jogging

About 34% of the joggers stated they would like to jog more frequently.

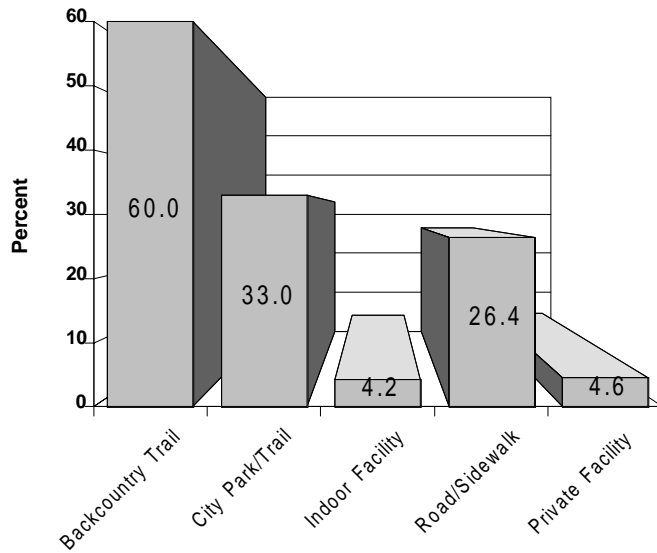


Percent of joggers who indicated that item was a barrier to further participation

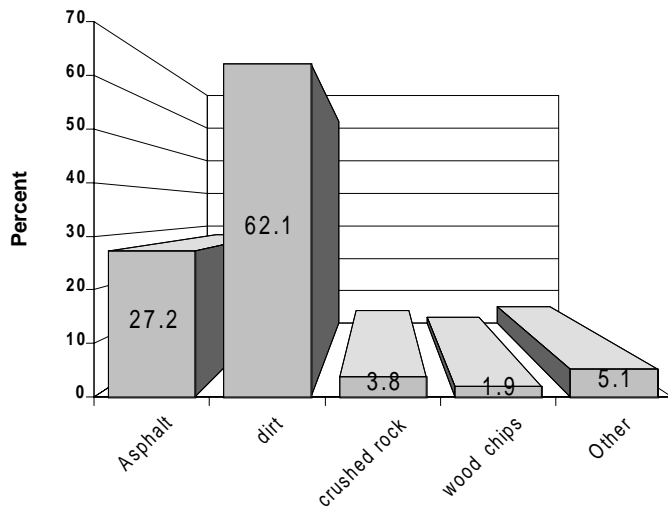
Walking for Pleasure/Dayhiking

About 70.0% of the sample reported walking for pleasure or dayhiking in the previous six months. Respondents participating in walking for pleasure or dayhiking engaged in the activity an average of 19 days in the previous six months. An additional two days occurred out-of-state during the fall-winter period and 4.5 days during spring-summer. Average distance was 2.5 miles.

Walkers/dayhikers preferred backcountry and park areas for their activity.

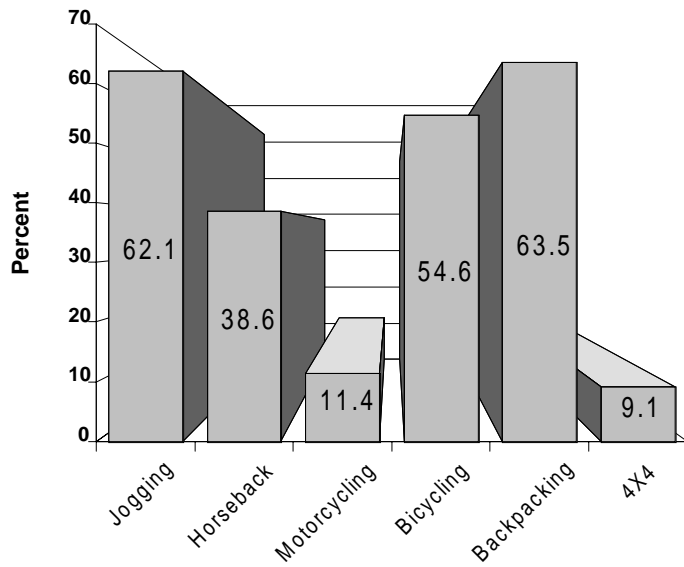


Percent of walkers/dayhikers who indicated a "high" preference for setting



Percent indicated as preference for selected trail surfaces

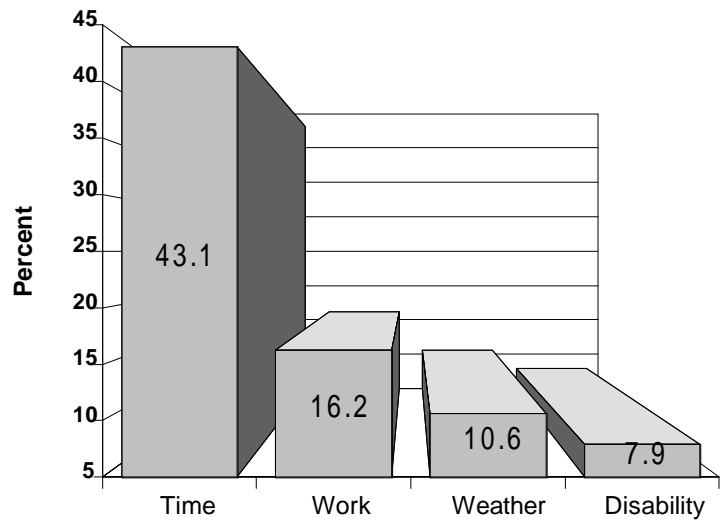
Most walkers and dayhikers preferred dirt for surfacing; some preferred asphalt or cement.



Respondents felt that other non-motorized activities were more likely to be compatible with dayhiking/walking for pleasure than motorized activities.

Percent of walkers/dayhikers who indicated activity was compatible

About 78% of the walkers/dayhikers indicated they would like to engage in this activity more frequently. The most frequently mentioned barrier was lack of time.

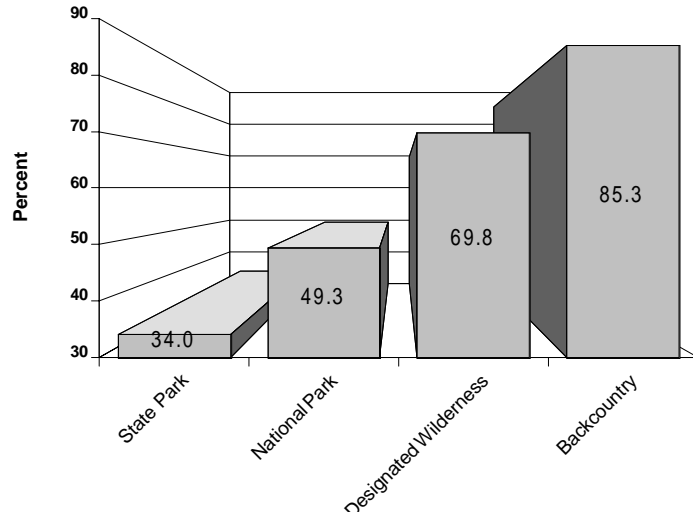


Percent indicating item was a barrier to further participation

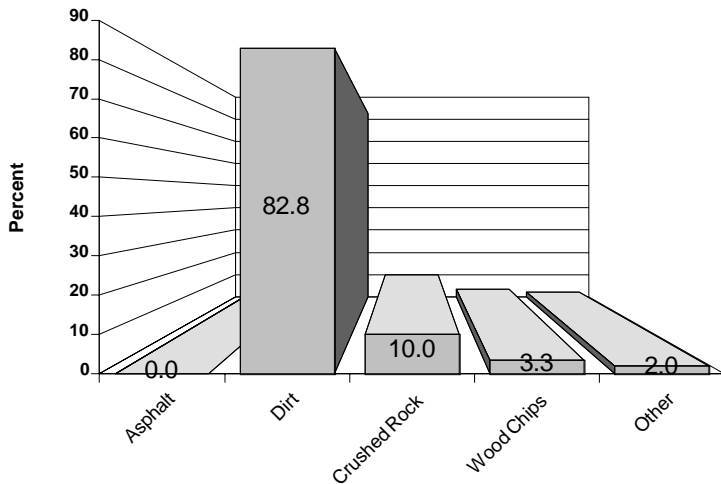
Backpacking

Over 14% of the study respondents indicated participation in backpacking. Montanans who backpack averaged about 4 days during the six months previous to the survey with a median of 1 additional day out-of-state. A median trip length of 8 miles was recorded, with trips in the winter-spring period somewhat shorter at 5 miles.

Most backpackers preferred undeveloped settings to pursue their activity.

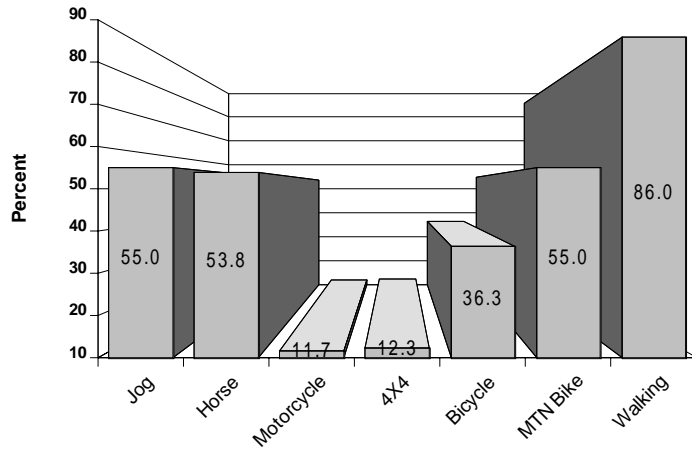


Percent indicated as "high" preference for setting



Backpackers overwhelmingly preferred a dirt trail surface.

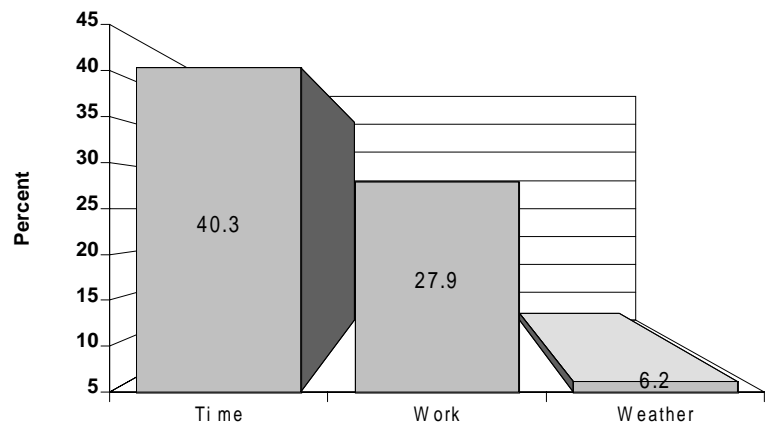
Percent indicated as preference for trail surface type



Backpackers considered other non-mechanized forms of travel most compatible.

Percent of backpackers who indicated compatibility with other trail uses

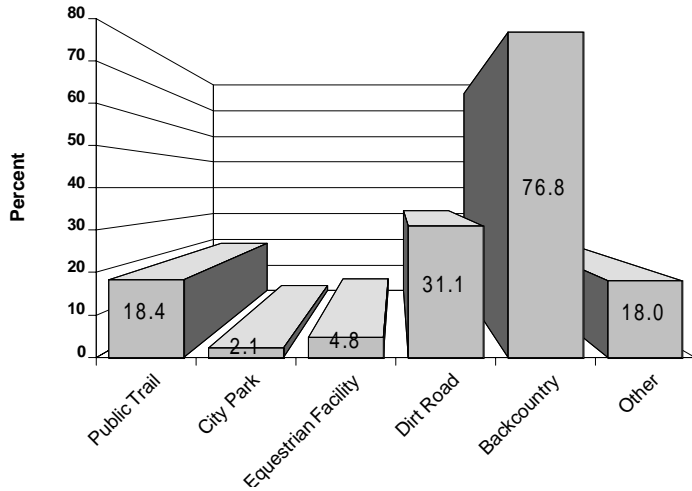
About 65% of the backpackers indicated they would like to pursue their activity more frequently. Lack of time was the most important barrier to participation for backpackers.



Percent indicated as barrier to further participation

Horseback Riding

Over 17% of the sample reported horseback riding in the six months previous to the survey. Horseback riders spent a median of nine days in the six months preceding the survey pursuing their activity. During the fall and winter months, they traveled a median of 5.5 miles, while in the summer, they rode a median of 10 miles on an average occasion.

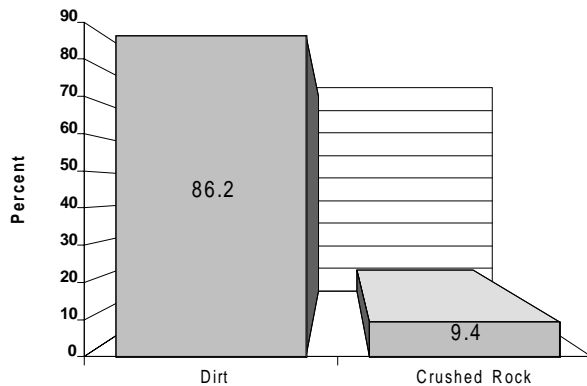


Riders generally preferred backcountry settings to more developed ones, although dirt roads were preferred by nearly one third of the riders in the survey.

Percent indicated as "high" preference for the indicated setting

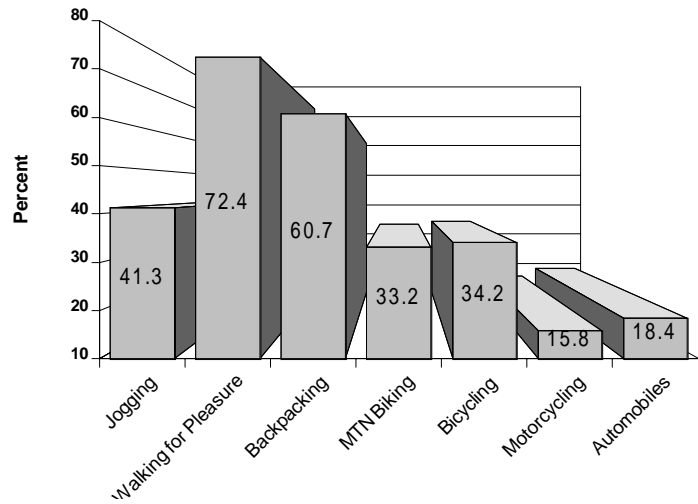
A dirt trail surface was overwhelmingly preferred by

Horseback riders viewed most non-motorized activities as more compatible with their own, as compared to the limited compatibility with motorized uses.

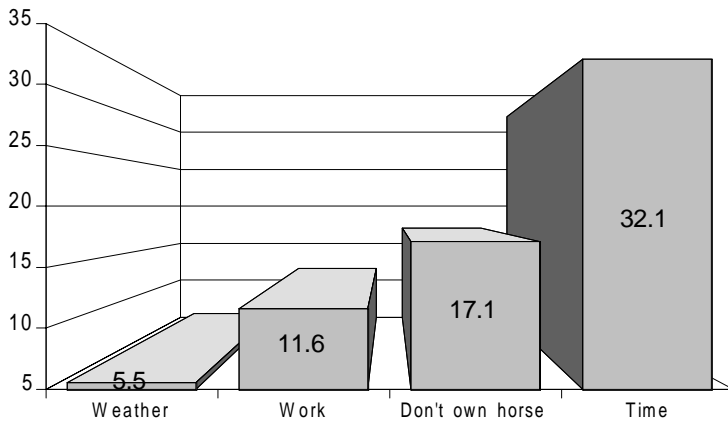


Percent indicated as preference for trail surface

horseback riders.



Percent indicated that activity was compatible with horseback riding



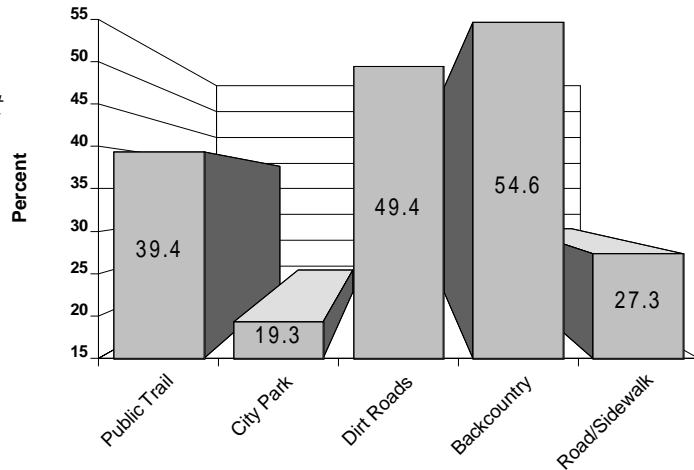
Percent indicated as barrier to further participation

About 74% of the horseback riders felt they would like to pursue their activity more frequently. The principal barriers to further participation deal with lack of time, and not owning a horse.

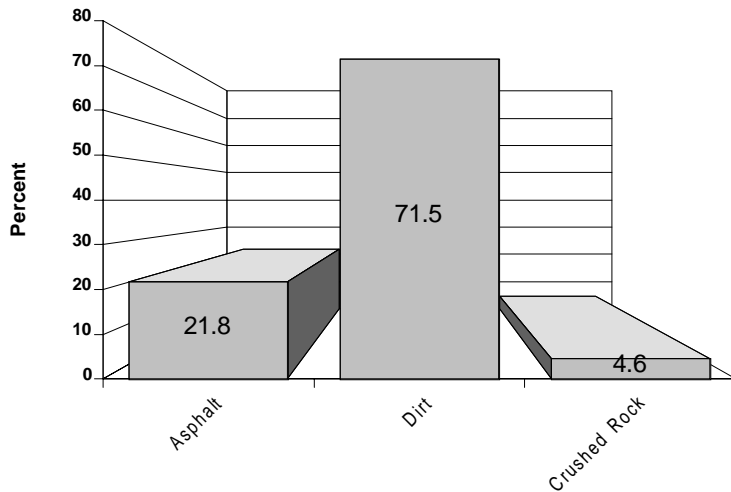
Mountain Biking

Over 14% of the sample reported engaging in mountain biking during the study period. Mountain bikers spent a median of nine days during the preceding six months pursuing their activities. They traveled a median distance of six miles on each occasion.

Mountain bikers preferred dirt roads and backcountry settings to pursue their activity.

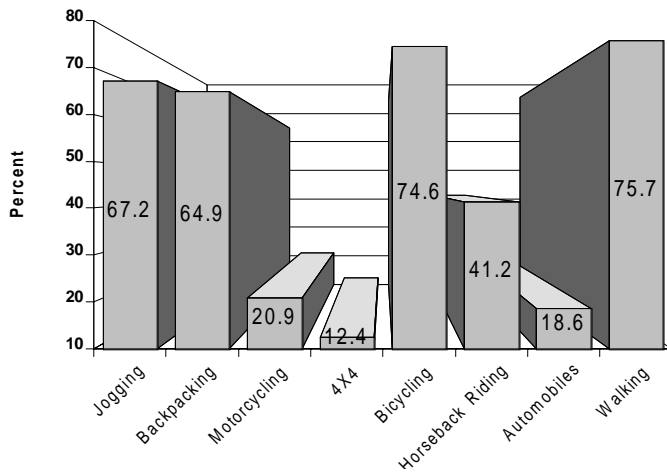


Percent indicated as a "high" preference for the listed setting



Dirt is the preferred trail surface, reflecting the setting preference described above.

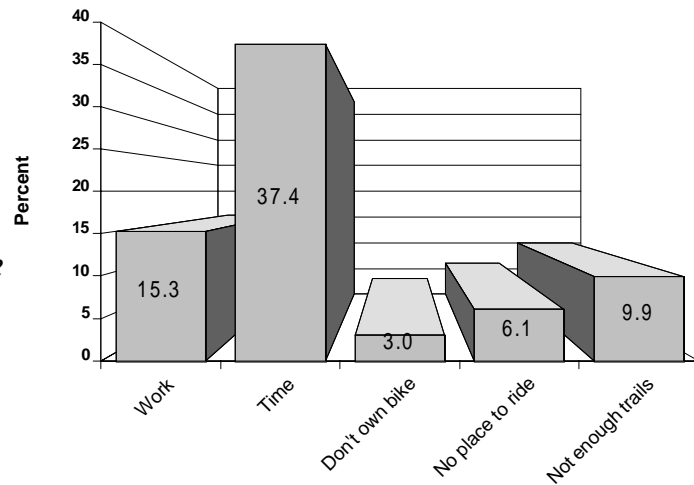
Percent indicating the surface type was the preferred one



Mountain bikers felt that most other non-motorized activities were compatible with theirs.

Percent indicated that the listed activity was compatible with mountain biking

Nearly 78% of the mountain bikers said they would like to pursue their activity more frequently. While lack of time was a significant barrier to further participation, some mentioned lack of trails and places to ride.

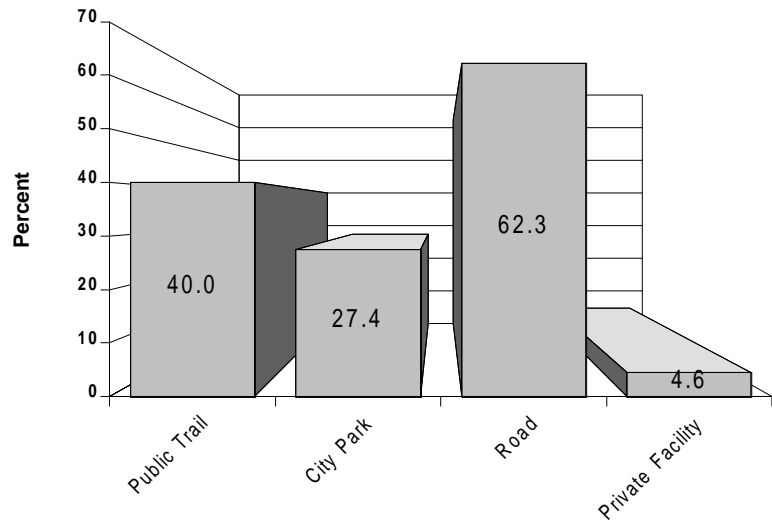


Percent indicated that item was a barrier to further participation in mountain biking

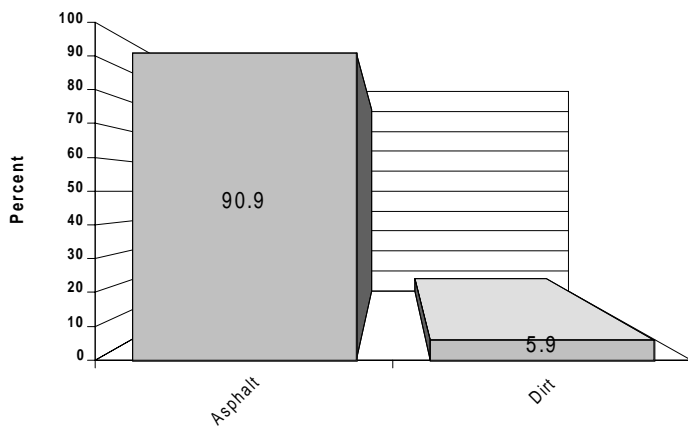
Bicycling

Slightly over 20% of the sample reported participation in bicycling. Bicyclists spent a median of 11 days pursuing their activity during the spring and summer months and 9 days during the fall and winter. Bicyclists reported a median distance traveled per outing of 4 miles.

Bicyclists preferred roads and public trails to pursue their activity. Private facilities were not preferred by many.

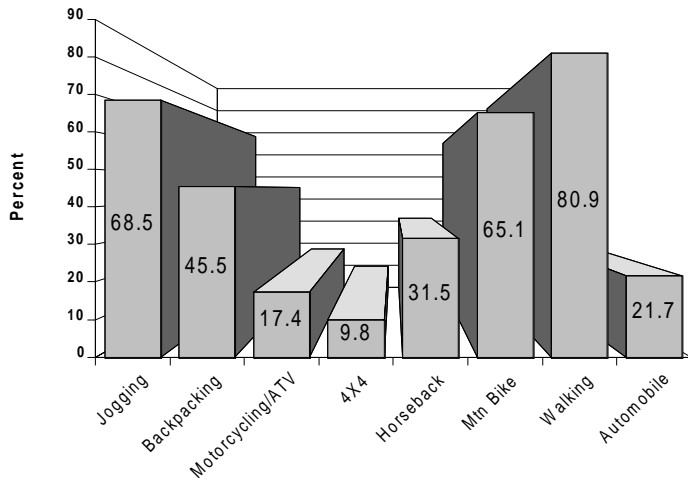


Percent indicated as "high" preference for selected settings



Percent as preferred listed trail surface

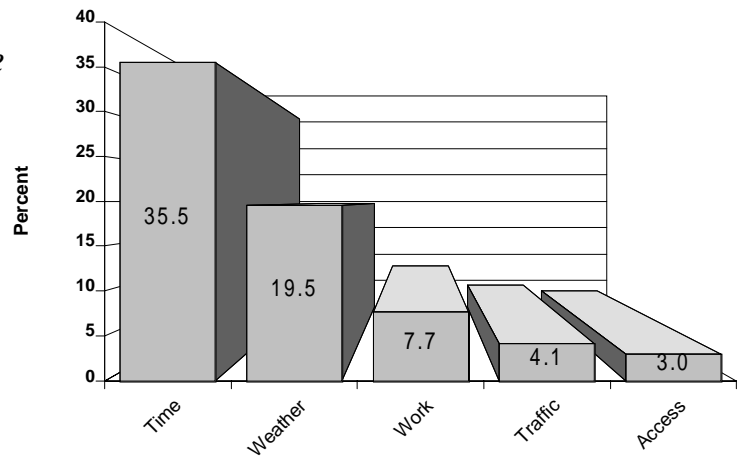
Bicyclists overwhelmingly preferred hard surfaced trails for their activity. Virtually no bicyclists indicated crushed rocks or wood chips as a preferred surface.



Bicyclists reported compatibility with a variety of other trail users, but motorized forms were less likely to be rated as compatible.

Percent of bicyclists who indicated activity was compatible

About 72% of the bicyclists would like to participate more frequently than they do now. Principal barriers to further participation were time and weather.

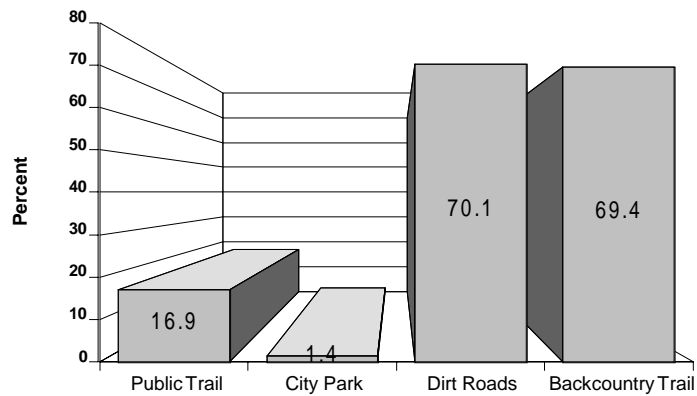


Percent of most frequently cited barriers to more frequent bicycling

Off-road Motorcycling

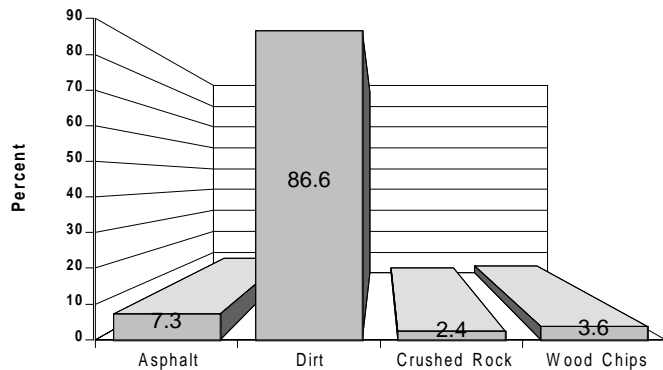
About 9% of the sample reported engaging in motorcycling off-highway during the previous six months (over the spring-summer period). These participants indicated a median of 9.5 days of participation with a median distance of 25 miles for an occasion.

Most motorcyclists indicated a preference for trails in undeveloped settings.

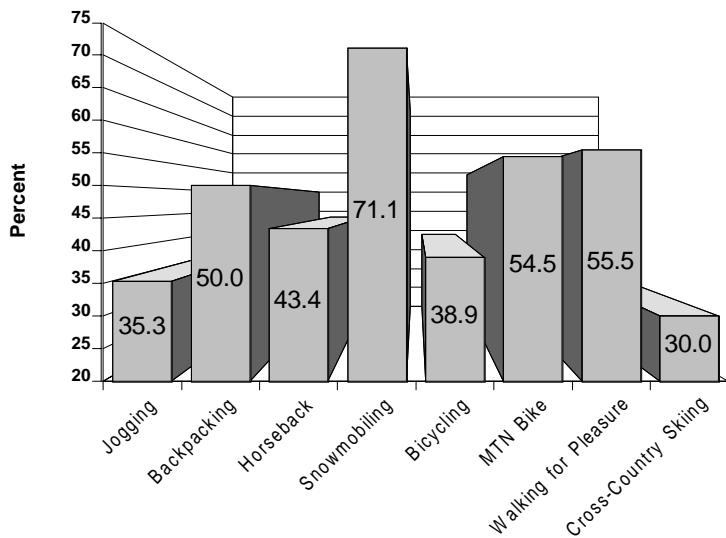


Percent of motorcyclists who indicated a "high" preference for setting

Dirt was selected by most motorcyclists as the surface of choice for trails.



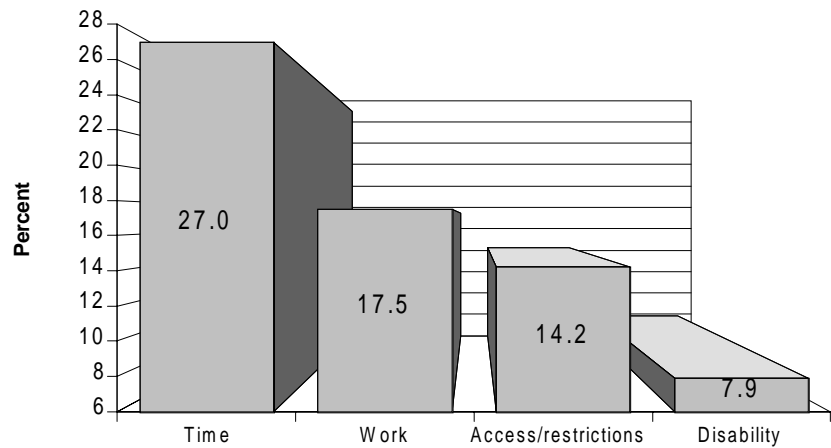
Percent indicated as preference for selected trail surfaces



Motorcyclists had varying opinions about the compatibility of other trail activities.

Percent of respondents who indicated activity as compatible with motorcycling off-highway

About 71% of the motorcyclists would have liked to participate in their activity more frequently, but were confronted with several barriers.

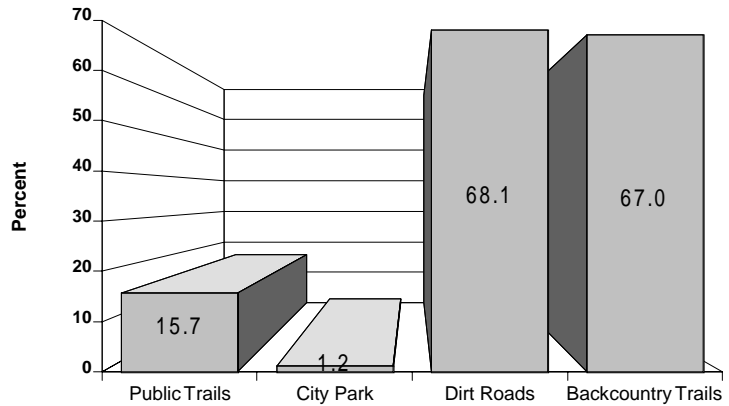


Percent cited as barrier to further participation

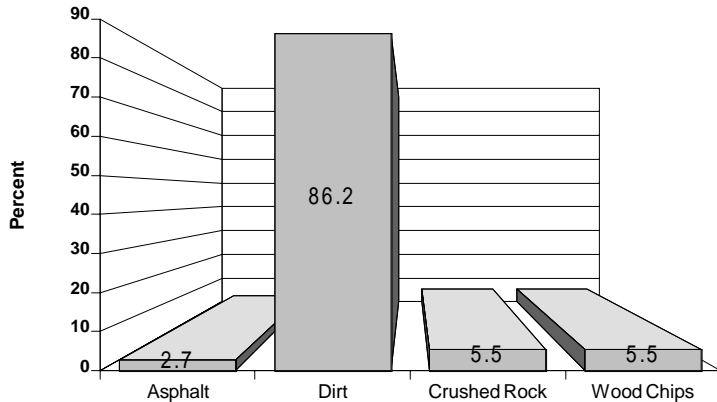
All-terrain Vehicles

About 12% of the sample reported using an all-terrain vehicle in the six month spring-summer season. They indicated a median of five days of participation and demonstrated a median travel distance of 15 miles.

Users of all-terrain vehicles overwhelmingly preferred undeveloped and backcountry settings in which to pursue their activity.

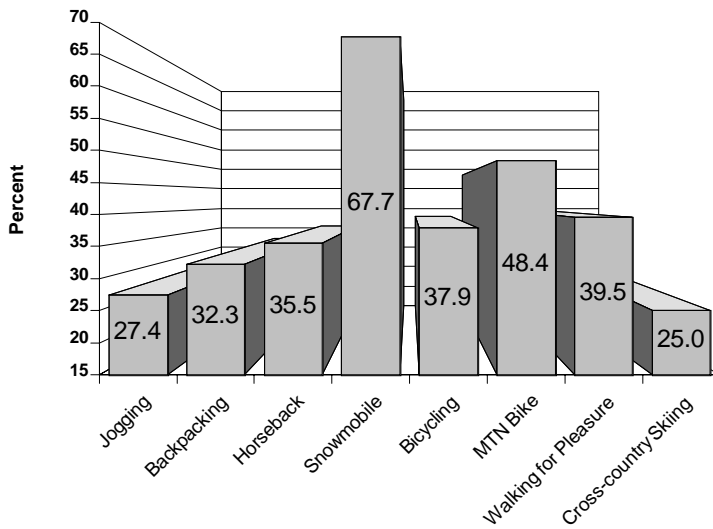


Percent of respondents who stated a "high" preference for setting



Users of all-terrain vehicles generally preferred dirt over more developed trail surfaces.

Percent of respondents who selected trail surface as their preference



All-terrain vehicle users reported different levels of compatibility for many trail activities.

Percent of all-terrain vehicle respondents who indicated activity was compatible

Nearly 64% of the all-terrain vehicle respondents in the study reported a desire to participate in their activity more frequently.

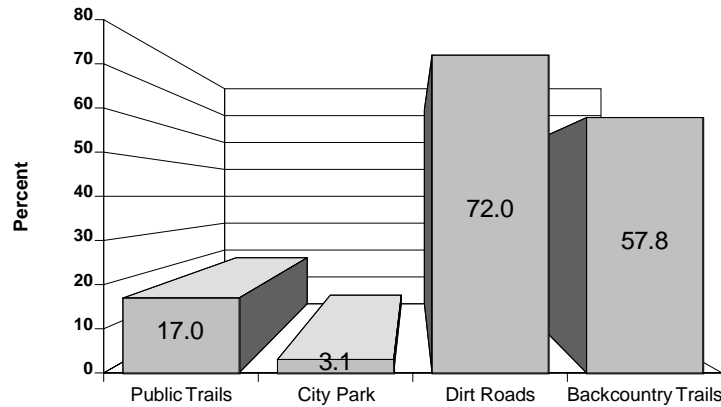


Percent indicated as barrier to further participation

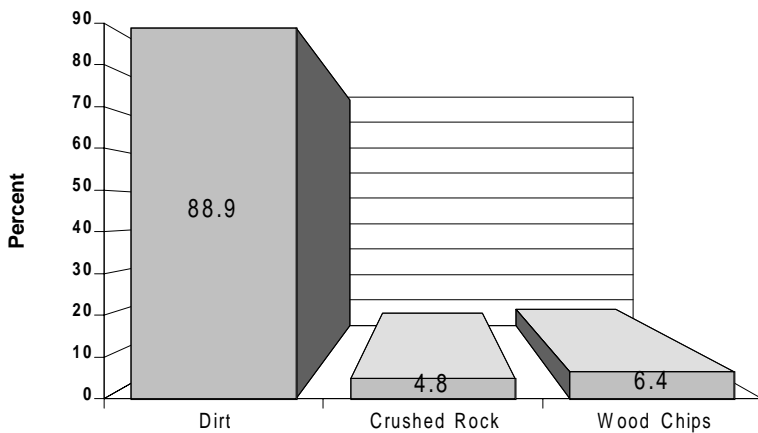
Using Four-wheel Drive Vehicles Off-road

Nearly 20% of the sample reported using four-wheel drive vehicles off-highway during the spring-summer season. They reported a median participation of eight days, and a median distance traveled per occasion of 31 miles.

While some respondents indicated a preference for public trails, most showed a high preference for dirt roads.

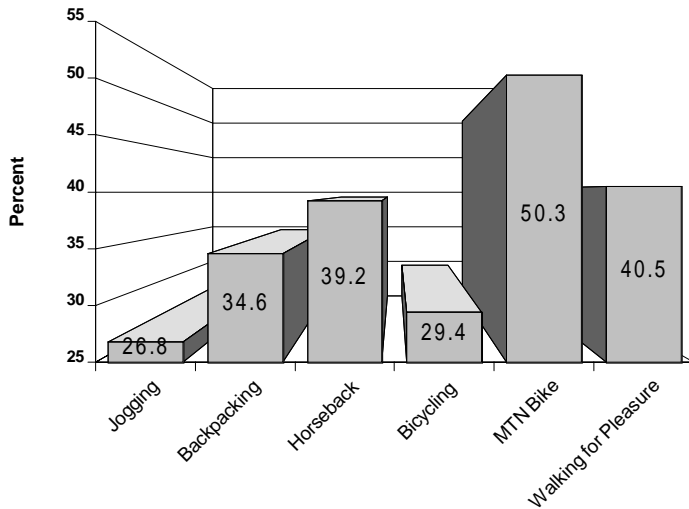


Percent indicated as a "high" preference for the listed setting



Dirt was the overwhelmingly preferred trail surface among users when traveling in a four-wheel drive vehicle off-road. No respondent indicated a preference for asphalt.

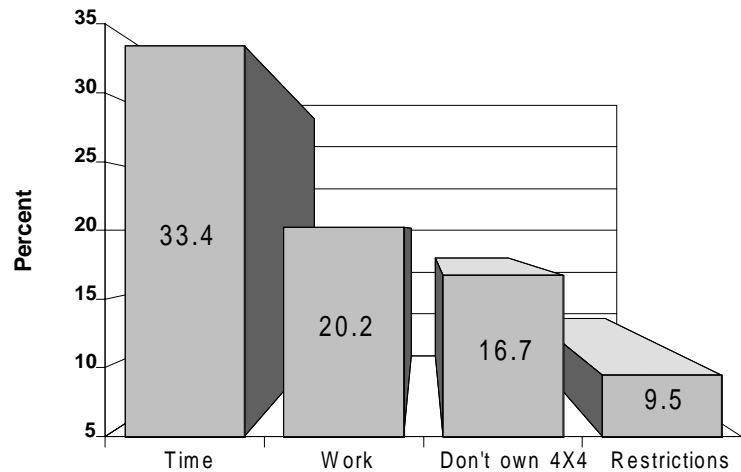
Percent indicated as preference for trail surface type



Only mountain biking was indicated by more than 50% of the respondents to be compatible with driving four-wheel drive vehicles off-road.

Percent indicating activity was compatible with driving four-wheel drive vehicles off-highway

Nearly 57% of the respondents active in driving four-wheel drive vehicles off-road wanted to participate more frequently. Time and work were frequently mentioned barriers to participation.

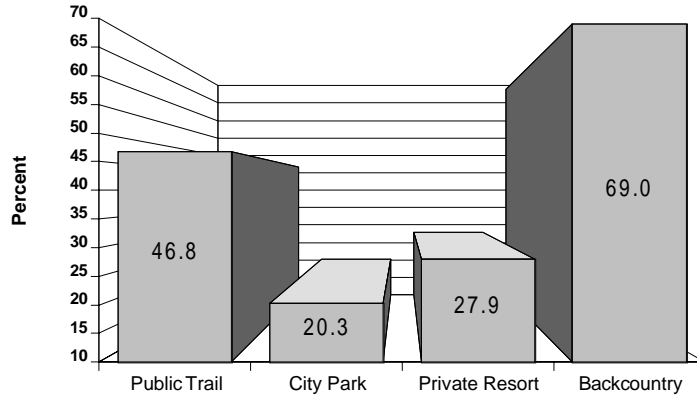


Percent cited as barrier to further participation in driving four-wheel drive vehicles off-highway

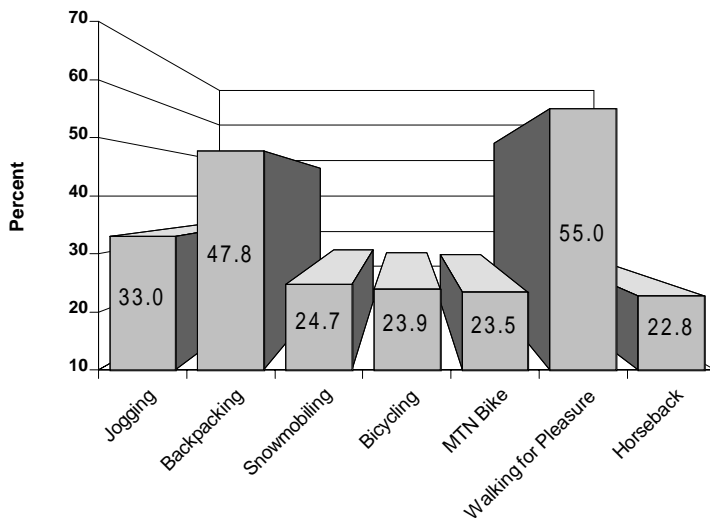
Cross-country Skiing

Nearly 15% of the sample engaged in cross-country skiing during the fall-winter sampling period. They reported a median of 5.5 days of participation, and a typical trip covered a median of 4.5 miles of distance.

Skiers preferred a variety of settings. About 61.5% preferred skiing on groomed trails.



Percent of cross-country skiers who rated each setting as "high" in preference

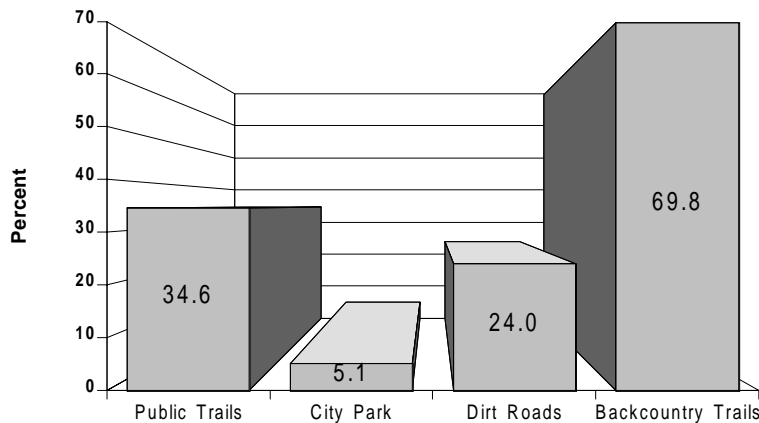


Percent of skiers who indicated activity was compatible

Skiers reported varying levels of compatibility with other activities. Nearly 89% of the skiers wanted to participate more frequently. The most frequently mentioned barriers were time (29.2%), trail and snow conditions (20.6%), and work (10.7%).

Snowmobiling

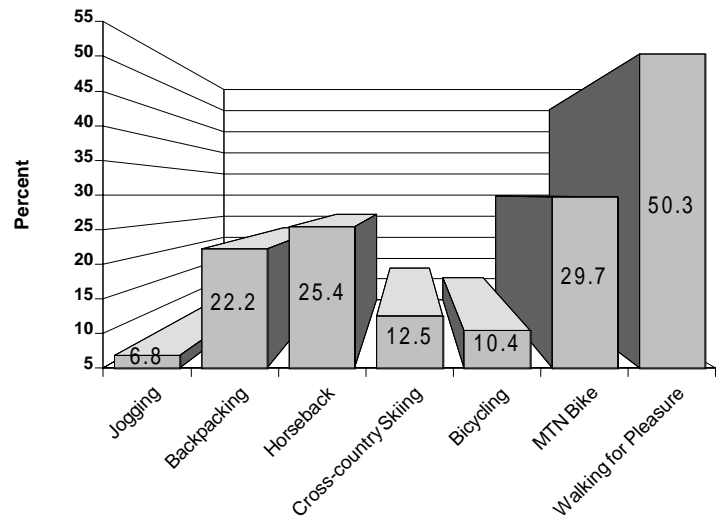
About 15% of the respondents reported going snowmobiling in the fall-winter sampling period. These individuals engaged in snowmobiling on a median of three days, with one additional day of participation out-of-state. The reported median travel distance on the trip was 27 miles.



While roads and trails may be preferred by some, snowmobilers highly prefer backcountry trails. Preference for groomed and ungroomed trails is split, with 51.7% preferring a groomed trail.

Percent of snowmobilers who indicated a "high" preference for setting

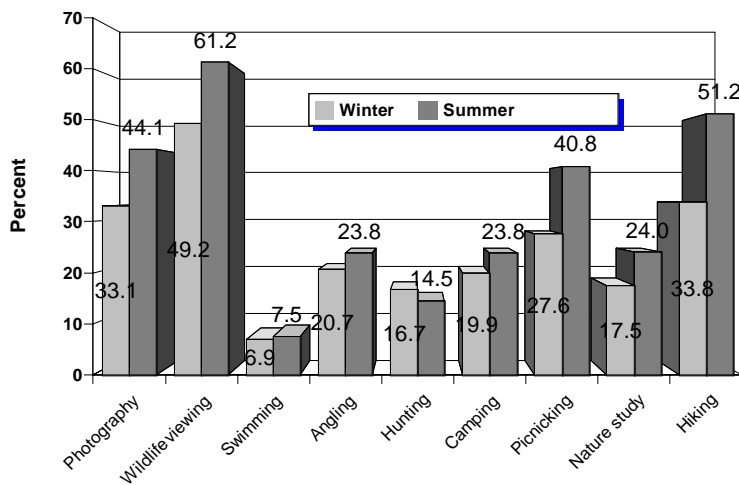
Other trail activities vary in their compatibility with snowmobiling. More than 81% of the snowmobilers reported that they would like to participate more frequently. The most frequently mentioned barriers to participation were time (18.2%), money (13.3%), work (12.7%) and not owning a snowmobile (11.1%).



Percent activity was indicated as compatible with snowmobiling

Trip Profile

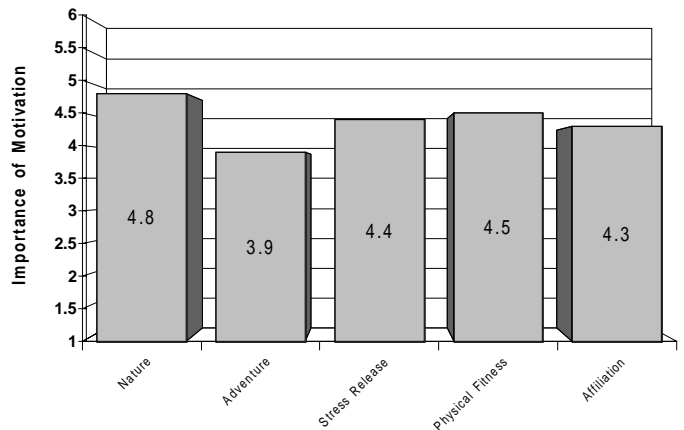
The study shows that Montanans participate in trail related activities in a wide variety of ways. About 51.6% of the fall-winter sample and 54.7% of the spring-summer sample answered a number of questions regarding a recent trail trip. This section provides a profile of those trips. Where characteristics are similar, both samples have been combined. Most (78.5%) trail trips were day trips, but 21.5% involved overnight stays lasting a median of 2 nights. Respondents reported traveling a median of 14 miles to the trip beginning point and traveling a median of six miles on the trail trip. Participation in trail activities for the sample trip reflects overall participation rates. Conflicts during the trip were reported by 9.5% of the respondents. These respondents reported that nearly 80 % of the conflicts involved mechanized forms of trail activities.



Respondents in both samples participated in recreation activities with somewhat different frequencies.

Percent indicating participation in selected recreation activities during a recent trail trip, by season of sample

Nature, stress release and physical fitness were rated as important motivations for taking a trail trip.

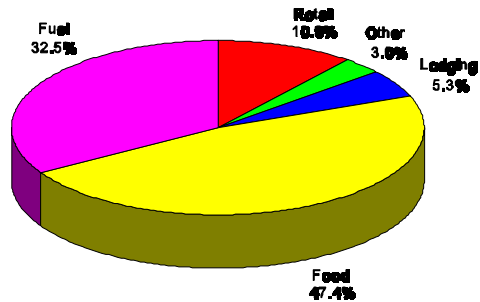


Average importance score for motivations (1= not at all important, 6 = extremely important)

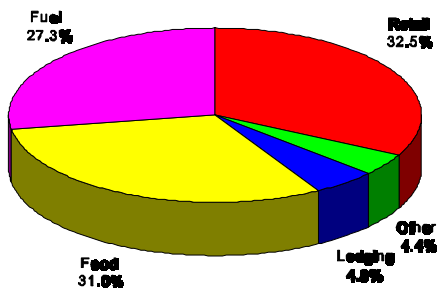
Average Trip Expenses

Expenditures of trail users are difficult to estimate with accuracy. Expenditures are extremely variable from one user to another, a small group of trail users accounted for much of the total spending in the sample studied. Through a multi-variate analysis, expenses were estimated for “typical” trail users--those not exhibiting extremely large spending patterns. However, these typical trail expenses vary significantly among activities. Joggers and bicyclists tend to spend less per trip while others tend to spend more. Furthermore, samples sizes are too small to accurately estimate typical trip expenses for each activity.

Average spring-summer trail trips involve about \$42 in expenditures, with grocery and restaurant expenses accounting for nearly half.



Average percent of total expenditures made during a spring-summer trail trip reported by trail users

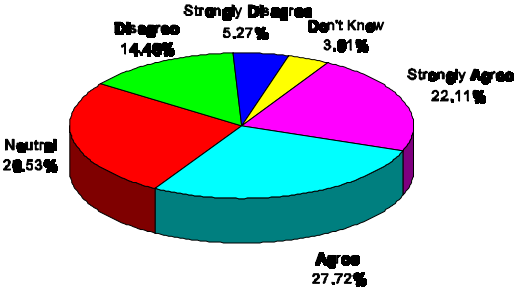


Average percent of total expenditures made during a fall-winter trail trip reported by trail users

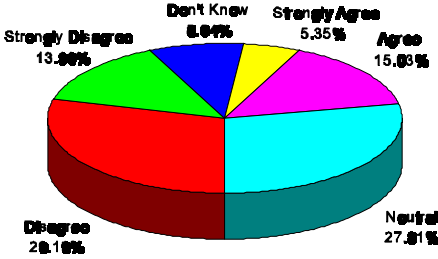
Fall-winter trail users spend an average of \$50 per trip, with nearly one-third devoted to retail purchases.

Attitudes Toward Supply

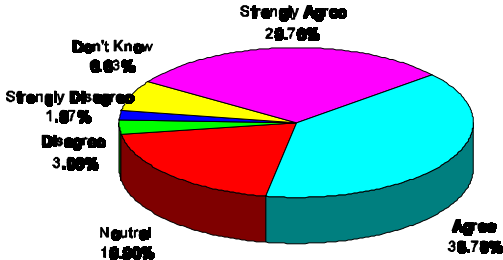
Trail users generally feel that more trails are needed, both in their community and elsewhere in Montana. Many users feel that abandoned railroad grades would make good opportunities for trail locations in Montana.



Extent of agreement that more trails are needed in respondent's community



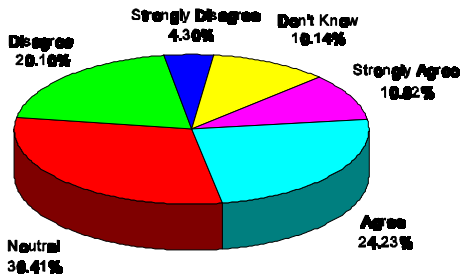
Extent of agreement that there are enough trails in Montana



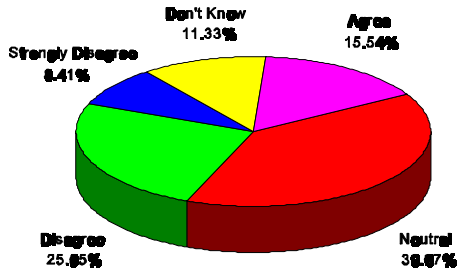
Extent of agreement that abandoned railroad grades should be made into trails

Attitudes about Conflict

Some trail users (about 9%) report conflict with others during their most recent trail experience. The data in the study suggest that while it is somewhat of a concern, most users feel that techniques such as single use trails are not yet needed.



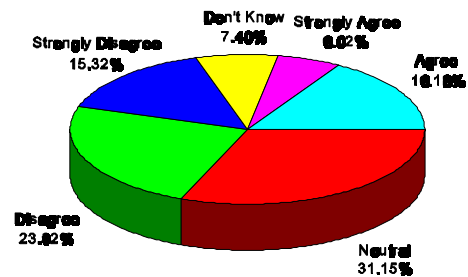
Extent of agreement that there are conflicting uses on local trails



Extent of agreement that there are too many single use trails (Agree and Strongly Agree are combined)



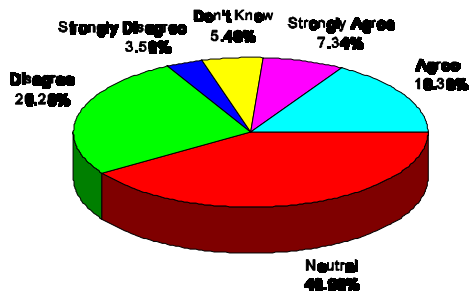
Percent agreeing that conflicts on trails are relatively minor (Disagree and Strongly Disagree are combined)



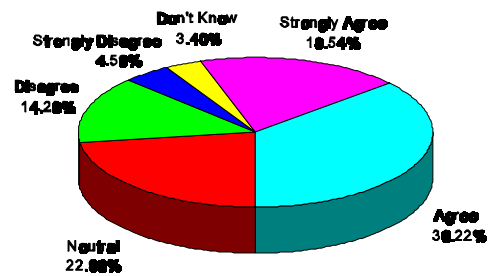
Percent agreeing to a preference for single use trails

Attitudes Toward Trail Use and Management

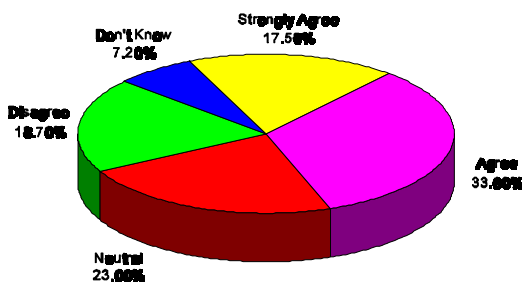
Data indicate that while respondents do not feel crowded on trails, attempts should be made to enlarge the trail system through use of abandoned railroad grades and better information about trail location. Respondents also felt that roads and trails should be made safer for bicyclists.



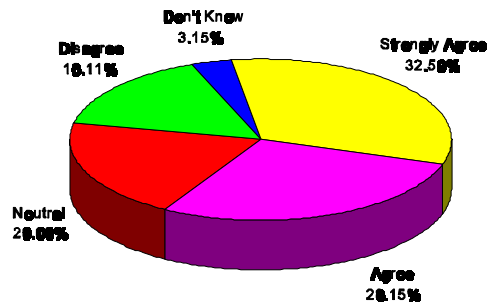
Extent of agreement that there are too many people using favorite trails



Extent of agreement that better information about trail location is needed



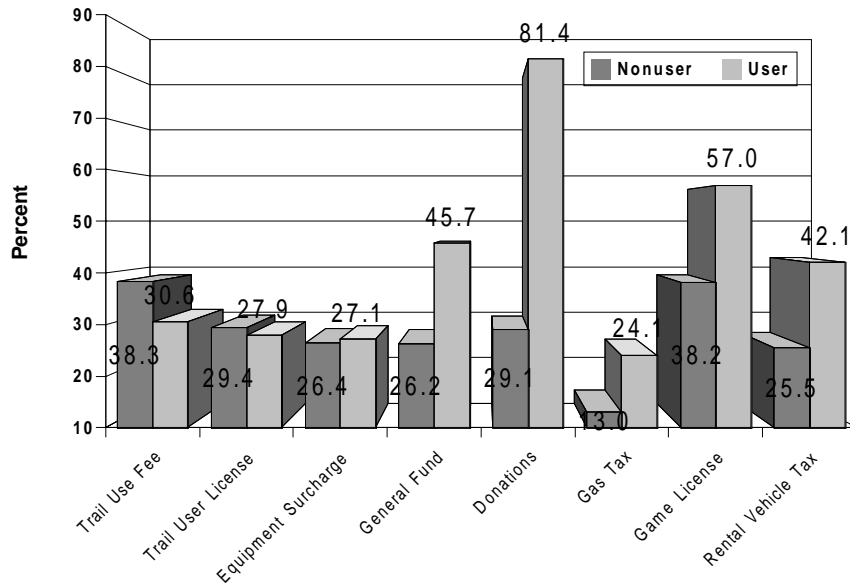
Percent agreeing that trail users lack proper etiquette (Disagree and Strongly Disagree are combined)



Percent agreeing that roads and highways should be made safer for bicyclists (Disagree and Strongly Disagree are combined)

Attitudes Toward Funding

Trail users and those not engaging in trail related activities are lukewarm to most funding sources and differ markedly in attitudes toward others. The most acceptable--donations--is also the most unreliable and may not work well without a designated program. Trail user fees and licenses, which would place the burden of supporting trail programs on those who directly benefit receive support from only about 30% of the users in this study.



Percent of respondents who stated that they "agree" or "strongly agree" with the above programs as a source of funds for trails

Appendix A
Sample Survey Instrument