Grand Teton National Park

Evaluation of Non-Motorized Use in Grand Teton National Park
Phase II: Post-Pathway Construction

by

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EXECUTIVE SUMMARY

The 2006 Transportation Plan for Grand Teton National Park proposed 41 miles of multi-use pathways to enhance safety and mobility for travelers using non-motorized modes of transportation in the most visited and developed areas of the park. Construction of the Phase I Pathway, a 7.7-mile segment between Dornan's Junction and South Jenny Lake Junction along Teton Park Road, began in June 2008 (Figure ES-1). This report summarizes research conducted by the Western Transportation Institute at Montana State University before and after this construction occurred. Researchers counted non-motorized travelers, primarily bicyclists and pedestrians, and administered surveys to learn about visitor perceptions regarding the conditions for non-motorized travel in the park. The primary purpose of this research was to compare the conditions before and after Phase I Pathway was constructed. These results also offer a "point-in-time" glimpse of current non-motorized usage of this region of the park.

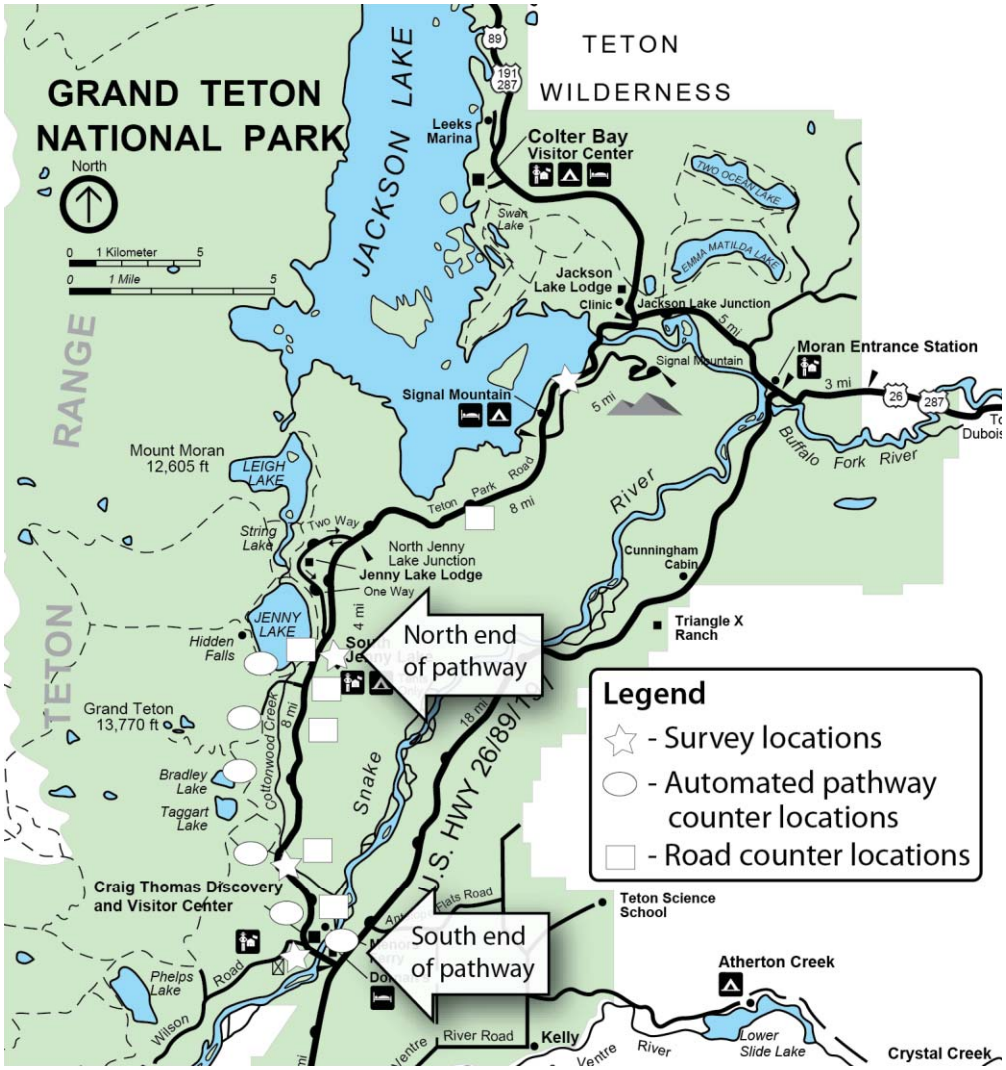


Figure ES-1: Location of Phase I Pathway

Non-Motorized Traveler Counts

Researchers conducted counts of non-motorized users over a three-day period (Friday, Saturday and Sunday) during four time-periods (Table ES-1):

- The first count was conducted from April 27 through 29, 2007, which represented use during the pre-season closure of Teton Park Road to motor vehicles. The annual tradition of biking the road on the last weekend prior to the seasonal road opening resulted in high usage during this data collection period and is not considered typical non-motorized use during the season. As such, it is only included in the appendix.
- Researchers returned on August 24 through 26, 2007. The August data are intended to estimate typical non-motorized use during the peak visitation period of May through September.
- After the Phase I Pathway was completed, data were collected again in August 2010 to compare with the August 2007 data. Counts were made on August 20 through 22, 2010.
- To capture the peak usage, another data collection trip was completed on July 22 through 24, 2011. Although the August data provided a before-after comparison, the July data indicate the highest use of the summer season.

Table ES-1: Average Daily Directional Counts for Non-Motorized Travel

Day of Week	Pre-Construction August 2007	Post-Construction August 2010	Post-Construction July 2011
Friday	10	116	127
Sat./Sun.	18	113	155

The count data show that non-motorized usage during a typical week in August increased significantly after the pathway was constructed. With the pathway available, there was slightly more usage in July 2011 than August 2010.

Non-Motorized Traveler Survey

Researchers surveyed travelers at the same times and locations where they conducted the traveler counts. A total of 279 surveys were completed in April 2007; 58 surveys were completed in August 2007; 180 surveys were completed in August 2010; and 192 surveys were completed in July 2011. The surveys asked park visitors where they began their non-motorized trip and where they were headed, the purpose of the trip, some general demographic questions, their experience and opinions regarding park facilities, and the nature of any interactions they might have had with wildlife. Non-motorized user survey results collected after the pathway was constructed were compared to results prior to pathway construction. Based on this comparison, the average non-motorized user after pathway construction:

- Felt safer,
- Was more satisfied with non-motorized travel,
- Was older,
- Was less likely to be travelling alone,
- Was more likely to be traveling with children, and
- Was more likely to be non-local.

In addition, non-motorized users had a more even distribution by gender after the pathway was constructed. The presence of the pathway did not have much impact on the trip purpose, whether users entered the park in a motorized vehicle, or their parking satisfaction.

Summary

The construction of the Phase I Pathway has increased non-motorized travel nearly ten-fold. The pathway has also improved the visitor experience, as non-motorized travelers feel safer and are more satisfied with non-motorized travel options in the park. The change in user type also indicates that the presence of a separated pathway attracts more types of individuals to use non-motorized modes of travel.

1. INTRODUCTION

The 2006 Transportation Plan for Grand Teton National Park proposed 41 miles of multi-use pathways to enhance safety and mobility for travelers using non-motorized modes in the most visited and developed areas of the park (Figure 1). As part of this effort, park management officials wanted to understand the relationship between multi-use pathways and visitor use patterns. The goal of this research project is to collect data on non-motorized user distributions, volume, user types, behaviors, satisfaction, and conflicts to determine the pathways' effects on visitor use and experience. The first phase of the pathway was constructed from Dornan's to South Jenny Lake in 2008. In order to evaluate the impacts, data were collected regarding non-motorized use along the Teton Park Road corridor in the spring and summer of 2007 (prior to pathway construction) and in the summers of 2010 and 2011 (after pathway construction). This report summarizes and compares these datasets.

Figure 1: Section of Pathway

1.1. Project Background

Visitors use a variety of motorized and non-motorized modes to enjoy the park. As stated in the September 2006 Transportation Plan/Final Environmental Impact Statement (EIS):

> "Bicycling has become an increasingly popular activity in [Grand Teton National Park], despite the lack of designated bike lanes and bike paths. Evidence of the interest in bicycling occurs each spring, prior to opening the Teton Park Road to motor vehicles. After the road is cleared of snow by April 1, it remains closed to motor vehicles until May 1. During this time, it is available for non-motorized uses (e.g., bicycling, walking, wheelchairs, rollerblading). The popularity of these activities, especially with local residents, is evident on most days, and during nice weather the Taggart Lake parking lot is often filled beyond capacity, with the overflow continuing down the road toward Beaver Creek." (1)

Consequently, the plan recommended the adoption of separated multi-use pathways and widened shoulders along several roadway corridors within the park. Phase I of the Transportation Plan EIS implementation included installation of a multi-use pathway along Teton Park Road from Dornan's to South Jenny Lake. This is one of the most visited sections of the park, which connects two major developed visitor use areas.

> "This corridor is a relatively easy area to monitor the effects of pathway users on wildlife and collect visitor use and experience data on pathways use. The information collected on this pathway segment would be used to inform planning and design of future pathway construction in more resource-sensitive, conflict-prone, and challenging design areas of the park." (1)

As stated in the 2007 EIS/Record of Decision (ROD) (2), pre- and post-pathway construction monitoring will collect data on pathway user distributions, volume, user types, behaviors, satisfaction, and conflicts to determine the pathway's effects on visitor use and experience. Through a comparison of 2007 baseline data and 2010-2011 post-pathway data, park officials wish to explore questions such as:

- If multi-use pathways are built, will they increase non-motorized travel in the park?
- Would these pathways affect non-motorized user perceptions of safety within the park?

While the answers may seem intuitive, these questions have seldom been quantified in a national park setting.

1.2. Project Location

Phase I multi-use pathways parallel Teton Park Road for 7.7 miles between Dornan's and South Jenny Lake. Teton Park Road, commonly referred to as the "inside park road," runs roughly north–south along the base of the Teton Range and parallels the main highway, U.S. Highway 26/89/191. The road provides access to several park features including the Craig Thomas Discovery and Visitor Center, Taggart Lake trailhead, Lupine Meadows trailhead, Jenny Lake Visitor Center, Signal Mountain Lodge and Jackson Lake Dam. Figure 2 shows the roadway, along which the Phase I multi-use pathways were constructed, as well as the locations where surveys were conducted for this project.

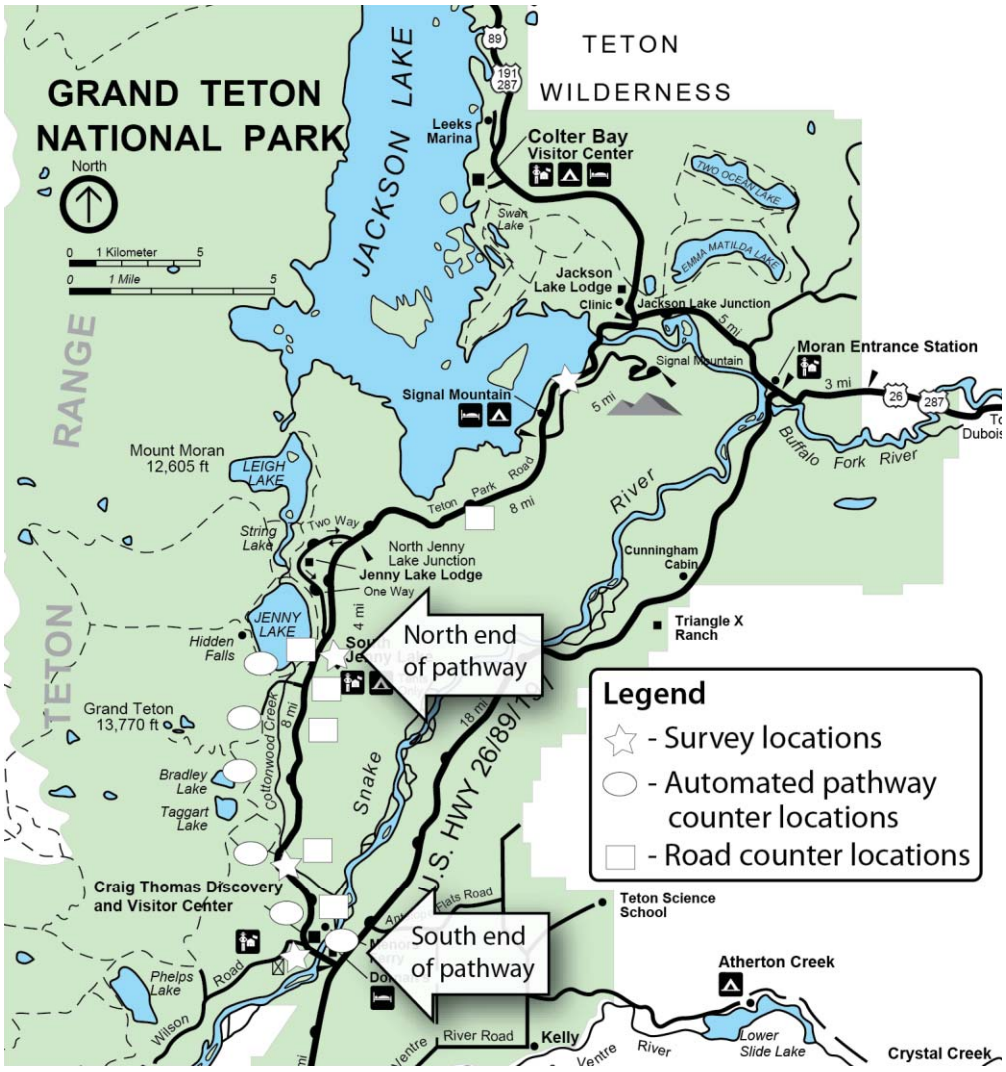


Figure 2: Phase I Pathway and Non-Motorized Survey Locations

1.3. Report Organization

This report describes the research methods employed in the study, and provides a summary of the data collected. Section 2 provides an overview of the counting and survey methodologies used by researchers in their data-gathering sessions in the park. Section 3 summarizes findings on the volume of visitors who were observed using non-motorized modes of travel. Section 4 provides some detail of the non-motorized traveler survey results. Section 5 provides a limited analysis of parking lot usage. Section 6 presents an overall summary of current findings.

2. METHODOLOGY

This section summarizes the methodology for the non-motorized counts and surveys. The counts were completed to quantify the number of people using Teton Park Road or the adjacent pathway for their non-motorized travel. Manual counts were conducted for non-motorized users on both the pathway and the road shoulder. Automated counters were also investigated. Due to questionable accuracy found with the automated counters, research staff felt only manual counts should be used for this evaluation. Automated count data are included only in Appendix A. The surveys provide more descriptive information about the individual trips and the users themselves. These data will form the foundation of the before/after evaluation discussed in Chapters 3 and 4.

2.1. Manual Counts of Non-Motorized Travelers on the Roadside/Pathway

For this study, the Western Transportation Institute (WTI) collected the number of non-motorized travelers using Teton Park Road by:

- Mode of travel (bicycle, inline skater, walker or jogger), and
- Direction of travel (northbound or southbound from point of origin).

Research staff created a data collection form to document this information (Appendix B contains an example of a completed form). There were four data collection periods that spanned a Friday, Saturday and Sunday time period:

- Prior to construction
    - On April 27 through 29, 2007 when the road was closed to automobile traffic, and
    - On August 24 through 26, 2007 when the road was open to automobile traffic;
- After construction
    - On August 20 through 22, 2010 to compare with August 2007 data, and
    - On July 22 through 24, 2011 to capture the seasonal peak.

2.2. Non-Motorized Traveler Survey

The specific goals of the non-motorized visitor survey were to collect visitor reported data on a number of relevant topics:

Goal 1—Origins, destinations and parking locations of current non-motorized visitors
Goal 2—Primary purpose of trip (exercise, commute, wildlife viewing, etc.)
Goal 3—Perceptions and attitudes about safety of non-motorized facilities/conditions in the park
Goal 4—Demographics of non-motorized visitors (age, gender, visitor/local, etc.)

WTI researchers developed a survey instrument for non-motorized users. To achieve the goals described above, the survey included questions on the following topics:

- Mode of transportation the visitor used to arrive at the park (Goal 1).
- Through which entrance the visitor entered the park (Goal 1).
- Length of non-motorized trip and planned destination (Goal 1).
- Primary purpose of visitor's non-motorized trip (Goal 2).
- Parking location of visitor's vehicle (Goal 2)
- Level of satisfaction with non-motorized transportation conditions and parking facilities (Goal 3).
- Perceived level of safety while using non-motorized modes of travel (Goal 3).
- Factors that impact a visitor's decision to use a non-motorized mode of transport (Goal 3).
- Suggestions for facility improvements (Goal 3).
- Information about the visitors, including age, gender, zip code of primary residence, number of people in group, and frequency of visits to the park (Goal 4).

In addition, the survey asked visitors to describe any wildlife they encountered during their trip on Teton Park Road. Wildlife encounters were not a focus of this particular study, but researchers took this opportunity to gather the information as it may provide a useful complement to ongoing wildlife studies relating to pathways in the park. To limit the respondent effort, the wildlife question was simplified for the last two survey periods.

The survey administered during the April 2007 study period is included in Appendix C. When researchers conducted the April survey, many respondents complained about the survey length; moreover, about 10 percent of the people who started the survey did not complete it. The original survey had 20 questions printed on four pages—two sheets of paper, double-sided. Researchers proposed survey results might improve if a shorter form were used for the August 2007 survey and for the post-pathway survey in 2010/2011. WTI discussed this issue with park officials, who agreed that some questions could be omitted from future surveys. The condensed survey had 16 questions printed on two pages—one sheet, double-sided. Appendix D contains the condensed August 2007 survey. The survey was further refined for the third and fourth data collection period. The font size was increased to improve readability resulting in 15 questions on four pages. The survey for August 2010 (Appendix E) and July 2011 (Appendix F) remained essentially the same as the survey in Appendix D. The only major change was the question related to wildlife.

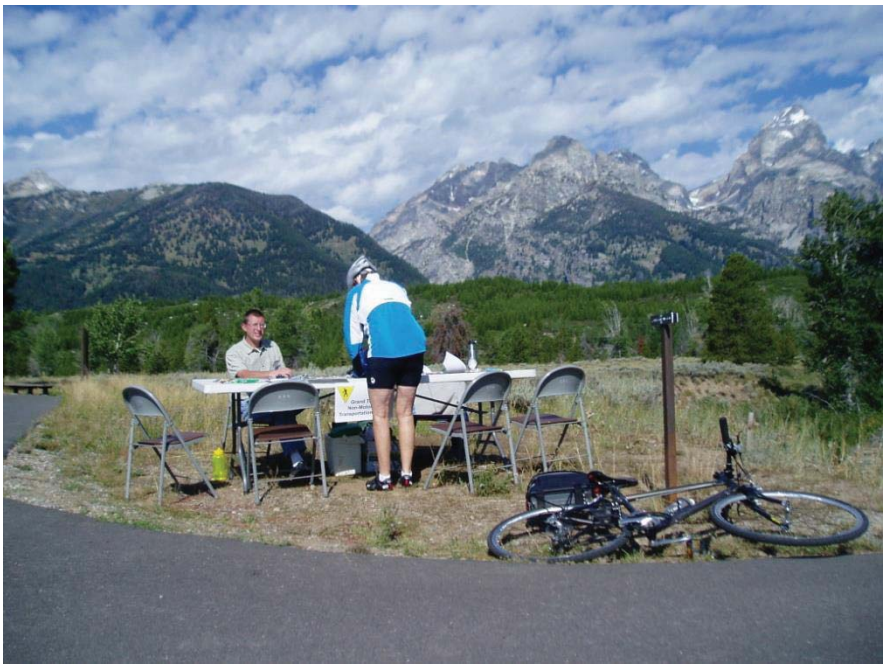


Figure 3: Example of Survey Station

WTI researchers typically worked in teams of two. One researcher administered surveys to non-motorized visitors, while the other researcher counted cyclists and pedestrians. Surveys were administered and counts were performed in April 2007; August 2007; August 2010; and July 2011.

To administer the survey, WTI employees asked non-motorized visitors if they were willing to participate in a survey on non-motorized travel use in the park. Those who agreed were given a clipboard, survey and a pen. Detailed maps of the park were available as a reference and WTI employees were available to answer questions.

2.2.1. Survey Administration Description: April 2007

In the fall, snow plowing is done as needed on the Teton Park Road until the first of November, when the road is closed to motor vehicles. After that time, if the road remains clear, visitors are welcome to use the roadway for non-motorized recreation such as walking, bicycling and in-line skating. Once the snow begins to accumulate on the roadbed, winter season activities, such as cross-country skiing, skate skiing and snowshoeing, become possible. In mid-March, the park begins again to plow the road, but it remains closed to vehicle traffic until May 1st. Many local people take advantage of the plowed roads for non-motorized recreation.

Data collection for this project took place April 27–29, 2007, dates that fell on the last weekend the road was closed to motor vehicles. During data collection, the weather was sunny and warm (70–80 degrees Fahrenheit). Due to the favorable conditions, the large number of visitors was more representative of use associated with special events than typical non-motorized use in the park throughout the tourist season. On April 27 and 28, data were collected at Taggart Lake parking lot and South Jenny Lake Junction. On Sunday April 29, data were collected at Taggart Lake parking lot and at the northern gate closing Teton Park Road to vehicles, located near the

Signal Mountain turnoff. Since there was no motor vehicle traffic, a table was set up on the road shoulder near South Jenny Lake Junction, to be near the path of non-motorized visitors. Signs were placed along the roadway north and south of the surveyor to encourage bicyclists to stop for the survey.

2.2.2. Survey Administration Description: August 2007

During the August 2007 sample period, Teton Park Road was open to motorized travel, with the road shoulder available for non-motorized users. Data were collected Friday through Sunday, August 24–26, 2007. This time period was near the end of peak traffic season. Survey forms were distributed between about 9 a.m. until 4 or 5 p.m. each day and were collected on site by WTI researchers. The weather was sunny and warm with temperatures ranging from 60 to 80 degrees Fahrenheit. A small table was set up with one surveyor located a safe distance from the roadway near South Jenny Lake Junction (instead of on the road shoulder as in April). Signs were placed along the roadway north and south of the surveyor to encourage bicyclists to stop for the survey and alert motorists to the activity. This surveyor collected responses primarily from cyclists, as there were few other non-motorized visitors present.

2.2.3. Survey Administration August 2010

During this sampling period, researchers collected data in order to match to similar dates in the August 2007 data collection. These data will provide the primary comparison for the impact of pathways on travel. Data were collected on Friday, August 20 through Sunday, August 22, 2010. Research teams collected data from 8 a.m. until 5 p.m. The weather was sunny and warm. The Taggart data collection location was the same as 2007. The construction of the pathway allowed for collecting data at an additional location at Moose directly adjacent to the pathway. The survey location at Moose was visible from the road shoulder. The South Jenny Lake survey location was now directly on the northern terminus of the pathway where it connected to the South Jenny Lake parking lot. This location was not visible from the road shoulder. There were two survey teams of two people each, so full coverage of all three sites (Moose, Taggart, South Jenny Lake) was not possible. The locations were alternated each day to provide a representative sample.

2.2.4. Survey Administration July 2011

This survey period was intended to capture pathway usage during the peak period of annual visitation. The dates of this visit were Friday, July 22 through Sunday, July 24, 2011. The locations of the data collection were identical to the August 2010 data collection. Surveyors collected data from 8 a.m. to 5 p.m. Weather was sunny and warm. Table 1 summarizes the survey locations and dates.

Table 1: Survey/Count Locations

Date	Location			
	Moose Near Post Office	Taggart Lake Parking Lot	South Jenny Lake Junction	Gate Near Signal Mountain
Fri, Apr 27, 2007		X	X	
Sat, Apr 28, 2007		X	X	
Sun, Apr 29, 2007		X		X
Fri, Aug 24, 2007		X	X	
Sat, Aug 25, 2007		X	X	
Sun, Aug 26, 2007		X	X	
Fri, Aug 20, 2010		X	X	
Sat, Aug 21, 2010	X		X	
Sun, Aug 22, 2010	X	X		
Fri, Jul 22, 2011		X	X	
Sat, Jul 23, 2011	X		X	
Sun, Jul 24, 2011	X	X		

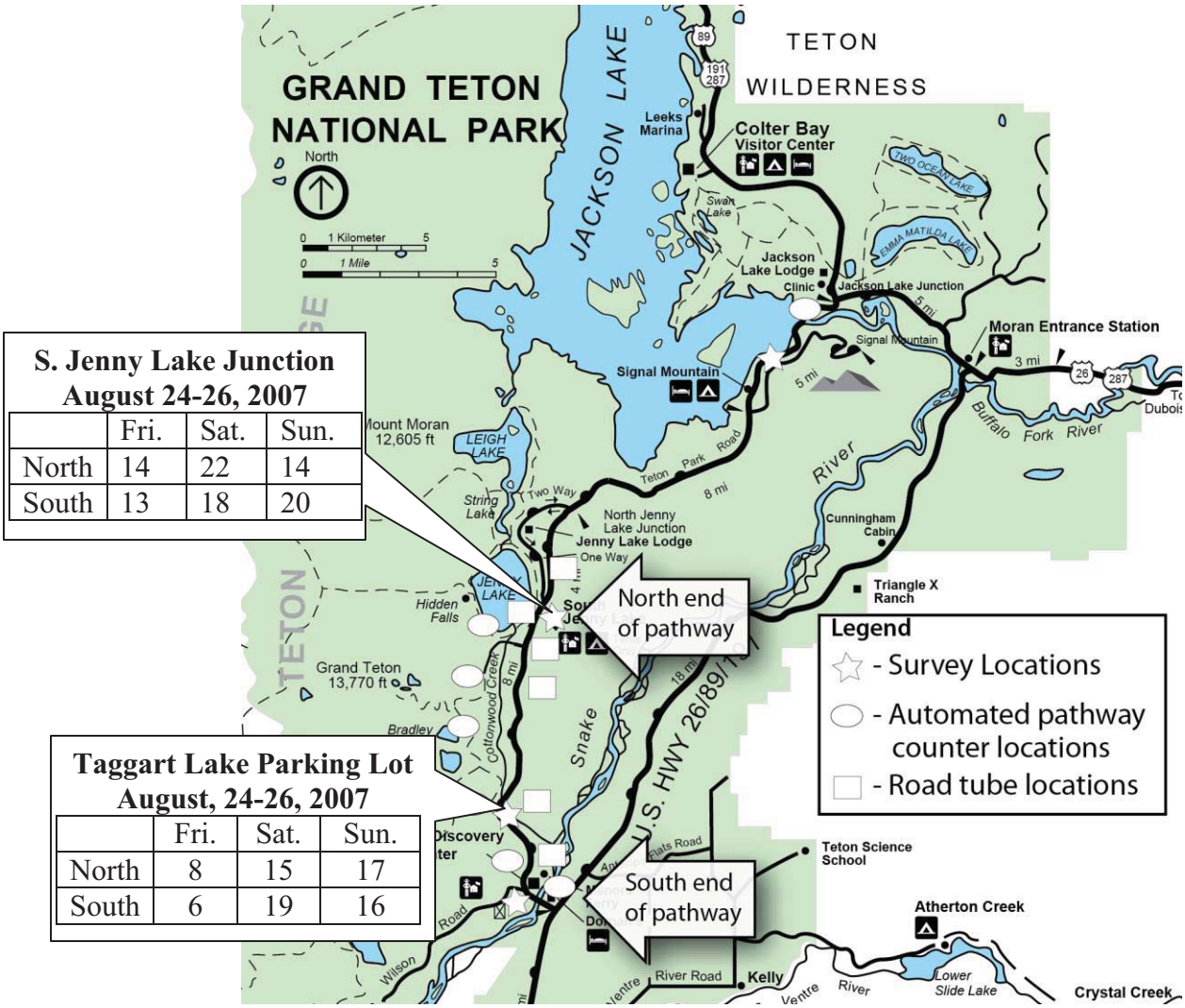
3. SUMMARY OF NON-MOTORIZED TRAVELER COUNT DATA

This section provides a summary of the traveler count data collected manually by WTI researchers during the four data collection periods described in Chapter 2. The data are presented by direction of travel and mode of travel.

Counts were made in April 2007, when cyclist and pedestrians travel on the roadway, which is closed to motorists. The warm, sunny weather, the closure of Teton Park Road to motor vehicles, and the annual tradition of riding the road on the last weekend prior to the road opening to motorists resulted in significantly high usage that is not representative of what is typical throughout the tourist season. Thus, April 2007 counts are not directly comparable, but are included in Appendix G if the reader is interested.

The manual counts in August 2007, prior to construction of the pathway, are shown in Figure 4. In August, the roadway is open to motorists and cyclists typically travelled on the roadway shoulder. Many riders made a round trip from one end of Teton Park Road to some destination along the road and back. Therefore, the number of individual users will be lower than the values presented in this part of the report, because some individuals were counted a second time on the return trip.

During the August 2007 effort, there was no clear observed parking pattern. Non-motorized visitors left their vehicles at various locations inside and outside of the park. Non-motorized counts for one direction at a single location in August ranged from six people per day up to twenty-two.



	Fri.	Sat.	Sun.
North	14	22	14
South	13	18	20

	Fri.	Sat.	Sun.
North	8	15	17
South	6	19	16

Figure 4: Pre-Construction Manual Non-Motorized User Counts

The August 2007 counts, representing typical non-motorized use prior to pathway construction, were less than 25 users per day.

For the post-construction time period, data were collected in July to correlate with the peak tourist season, and in August to match with the pre-construction data. Because of contracting and survey approval issues, data collection could not be started by July 2010, so the data collection spanned two summers (Figure 5). For both pre- and post-construction time periods, there were only two data collection teams. For the post-construction time period, the data collection included counts in the Moose area.

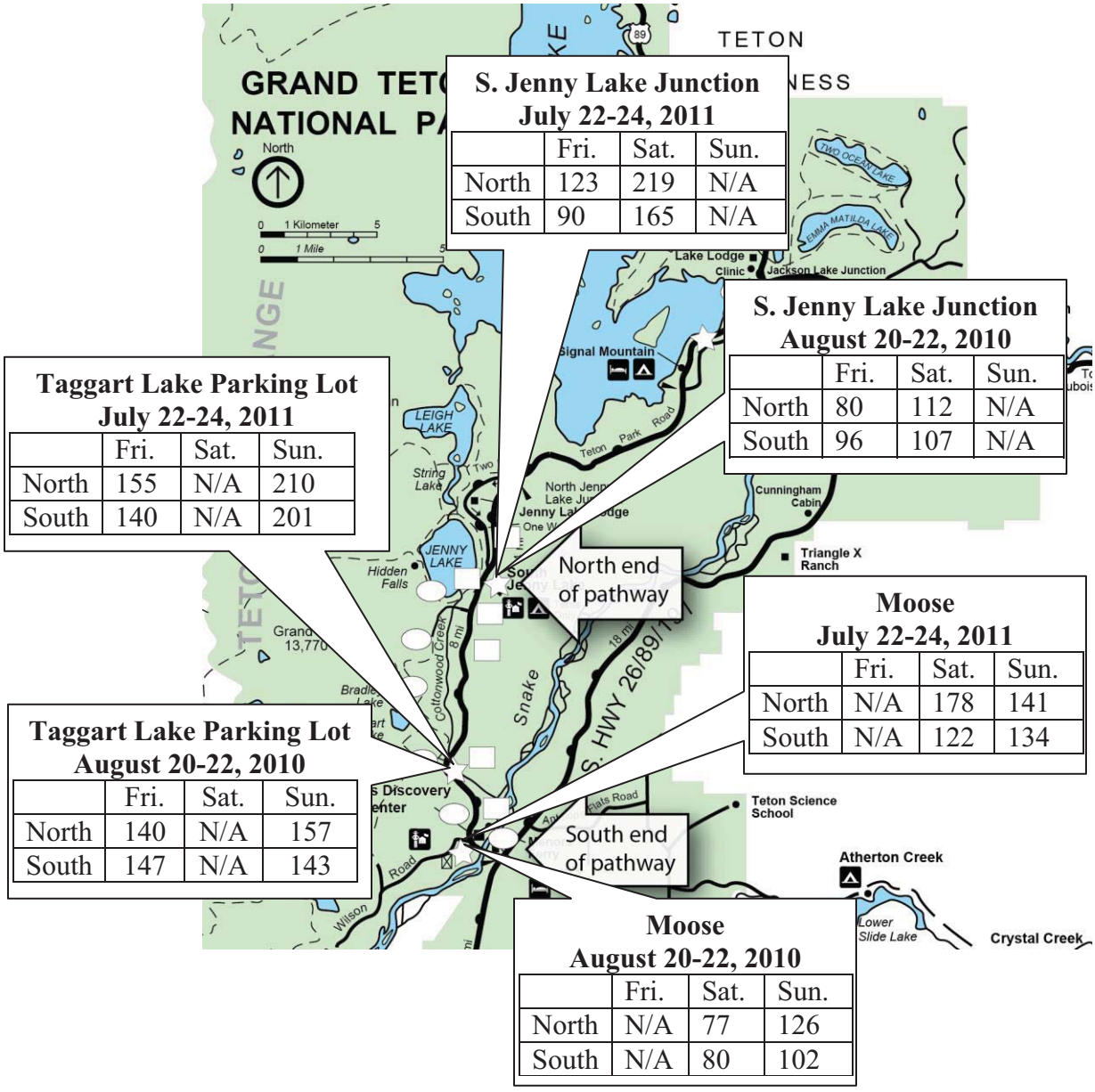


Figure 5: Post-Construction Manual Non-Motorized User Counts

For post-construction data, there were sometimes more non-motorized users travelling north than south on the pathway, but on average the directional split was close to even. Conversations with survey participants indicated that some of riders enter the area on Moose-Wilson Road from Teton Village, use the amenities at the Craig Thomas Discovery and Visitor Center or at Dornan's, and then continue north on the shared use pathway as part of a long loop ride that returns on highway 89 to Jackson. This loop could account for the small directional difference. Overall there was slightly lower usage in August 2010 than in July 2011.

When comparing pre- and post-construction counts in August 2007 and 2010, there is approximately a tenfold increase in non-motorized use. Separating out the weekday and weekend daily counts, the average directional non-motorized volumes along Teton Park Road are shown in Table 2. The directional count is used as a better estimate of the number of visitors since many visitors are counted twice in a day, once in each direction.

Table 2: Average Daily Directional Counts for Non-Motorized Travel

Day of Week	Pre-Construction August 2007	Post-Construction August 2010	Post-Construction July 2011
Friday	10	116	127
Sat./Sun.	18	113	155

3.1. Mode of Travel

Bicycling was the primary mode of non-motorized travel on Teton Park Road during the August 2007 sampling periods. As shown in Figure 6, bicyclists accounted for 99 percent of non-motorized travelers. The August 2007 time period was prior to the pathway being constructed.

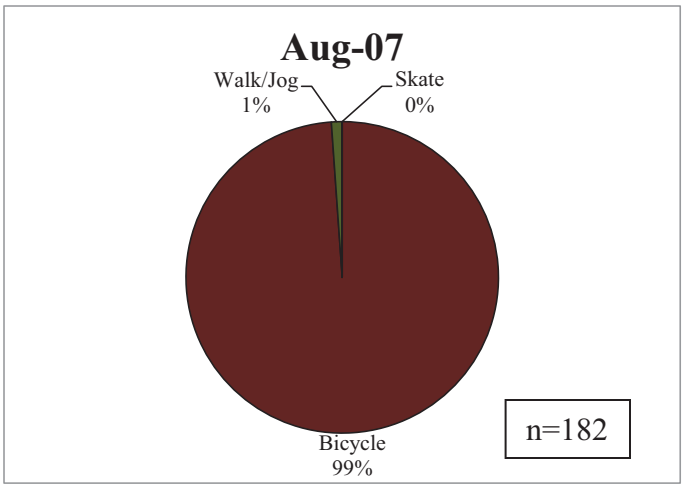


Figure 6: Percent Bicyclists, Skaters and Pedestrians Before Pathway Construction

After the pathway was constructed, the observed mode was still predominantly bicycle (Figure 7). There was a slight increase in the percentage users walking and jogging.

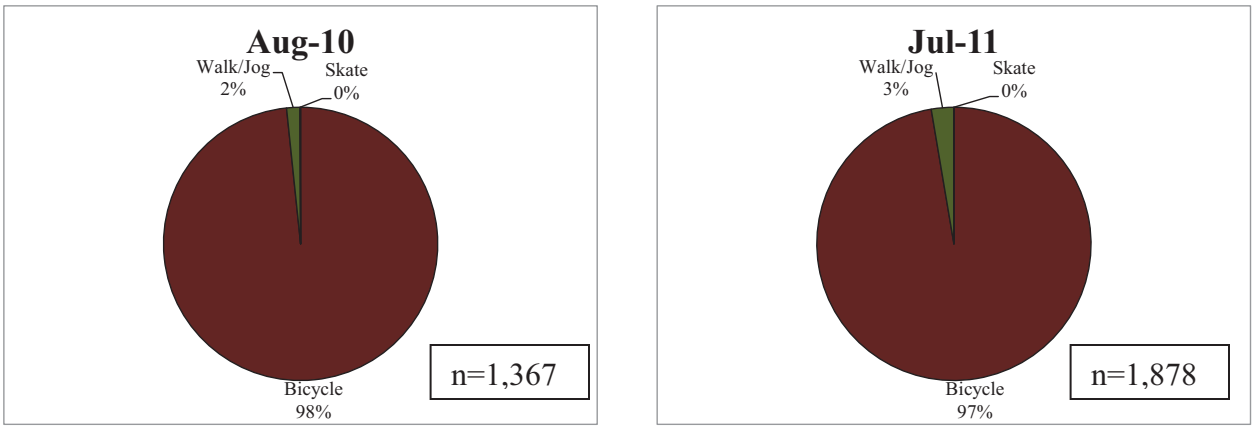


Figure 7: Percentage Bicyclists, Skaters and Pedestrians After Pathway Construction

3.2. Summary of Pathway Impact on Non-Motorized Use

The construction of the pathway resulted in a ten-fold increase in the non-motorized use along Teton Park Road. The counts in 2010 and 2011 were almost entirely pathway users, although a few bicyclists were counted on the road shoulder of Teton Park Road. The road shoulder use by bicyclists reduced after the pathway was completed, but did not entirely disappear. This finding is also seen in the analysis of road tube data included in Appendix A.

4. SUMMARY OF NON-MOTORIZED TRAVELER SURVEY DATA

The results of all four survey periods (April 2007, August 2007, August 2010, and July 2011) are included in Appendix H. This section summarizes data collected in 2007 and 2010 during the August surveys to provide a more direct comparison of survey results pre- and post-construction. In general, the July 2011 results were very similar to the August 2010 results. As stated earlier, the goals of the non-motorized visitor survey were to collect baseline data on the following topics:

Goal 1—Origins, destinations and parking locations of current non-motorized visitors
Goal 2—Primary purpose of trip (exercise, commute, wildlife viewing, etc.)
Goal 3—Perceptions and attitudes about safety of non-motorized facilities/conditions in the park
Goal 4—Demographics of non-motorized visitors (age, gender, visitor/local, etc.)

The response rate to the survey indicates the survey results should be representative of the actual users. A total of 279 surveys were completed in April 2007. This is approximately 16 percent of the total non-motorized visitors observed traveling along Teton Park Road during the April sample period. A total of 58 surveys were completed in August 2007, which represents 64 percent of the estimated non-motorized visitors observed during the sample period. A total of 180 surveys were completed in August 2010, which represents 25 percent of the estimated non-motorized visitors observed during the sample period. A total of 192 surveys were completed in July of 2011, which represents 19 percent of the estimated non-motorized visitors observed during the sample period. A breakdown by mode of non-motorized travel by respondents was similar to the proportions observed by researchers during the manual counts (shown in Figures 6 and 7). Gender and group size percentages were also similar between those surveyed and the observational counts of non-motorized users. The following sections present survey results.

4.1. Entrance and Parking Locations

This section presents information on how (via motor vehicle or non-motorized mode) and where (through which entrance) visitors entered the park. Parking information is also included here, such as parking location and visitor satisfaction with parking facilities.

Some non-motorized users enter the park in their vehicle, park their vehicle, and travel by non-motorized mode. Others parked outside of the park and biked, walked or skated into the park. The construction of the pathway did not impact the percentage of non-motorized users who entered the park with a personal vehicle. In both August 2007 (prior to pathway construction) and August 2010 (after pathway construction), 63 percent entered in a personal vehicle, as shown in Figure 8.

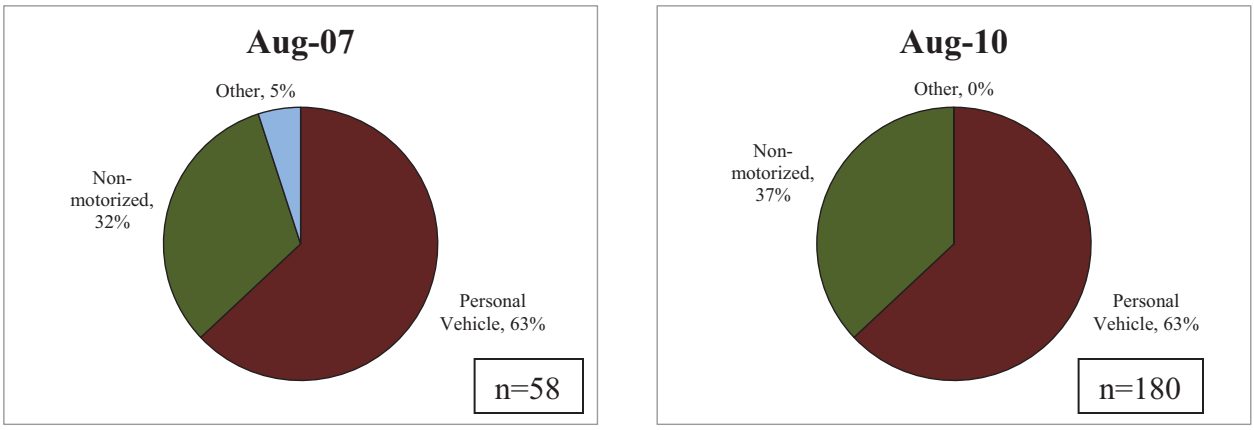


Figure 8: Mode of Entrance into the Park

Parking locations were generally dispersed (Figure 9). Many bicyclists rode into the park from nearby areas. Many parked at Dornan's, Craig Thomas Discovery and Visitor Center, or one of the Jenny Lake parking lots. A few people parked at Signal Mountain, Colter Bay, roadside pull-offs or campgrounds. The construction of the pathway seemed to increase the amount of parking at the south terminus of the pathway (Moose and Dornan's).

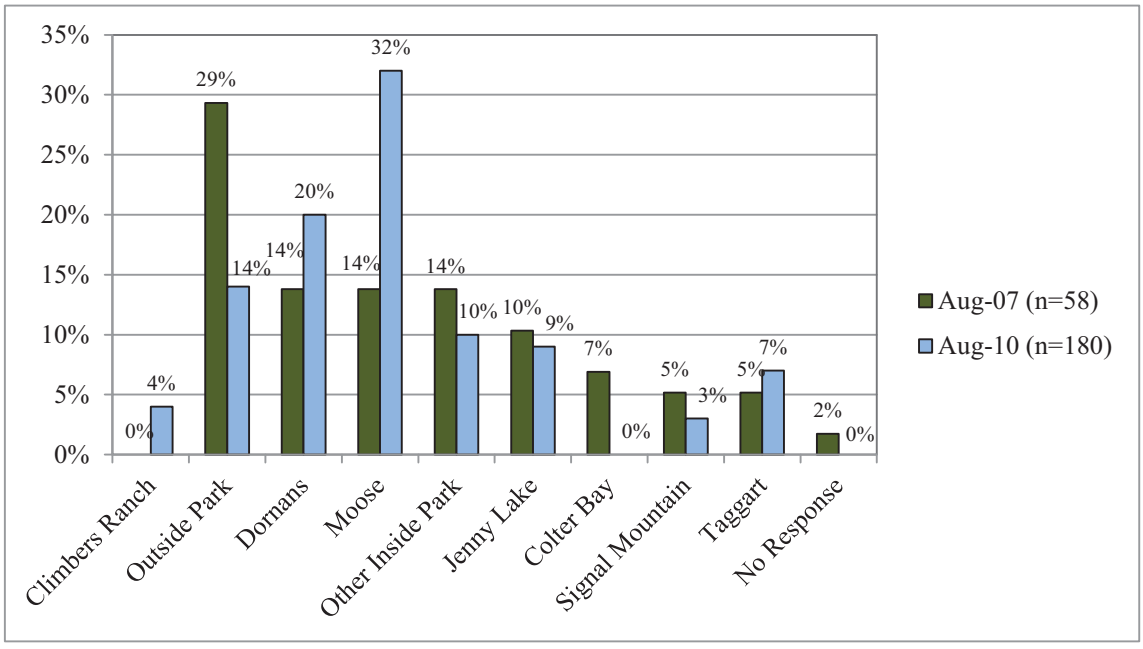


Figure 9: Parking Location of Non-Motorized Users

The main parking lots often face capacity issues during peak season visitation. Taggart Lake parking lot filled up by mid-morning during the April survey, but was not as busy during the August and July surveys. The South Jenny Lake parking lot filled up by mid-morning during the August and July surveys, apparently due to other visitor activities and amenities. Figure 10 shows parking demand at Taggart exceeded the lot capacity in April, leading some people to

park along Teton Park Road. For more information on parking lot usage of all visitors refer to Chapter 5.

Figure 10: Taggart Parking Lot and Teton Park Road, April 2007

The majority of survey respondents said they were satisfied with their parking location, as shown in Figure 11. The major difference is more non-responses in 2007. The people who were not satisfied with their parking arrived after noon, when lots were often filled to capacity. The majority of the written comments on parking were made by drivers who were forced to park on the roadway after the lots were full. April parking comments are listed in Appendix I.

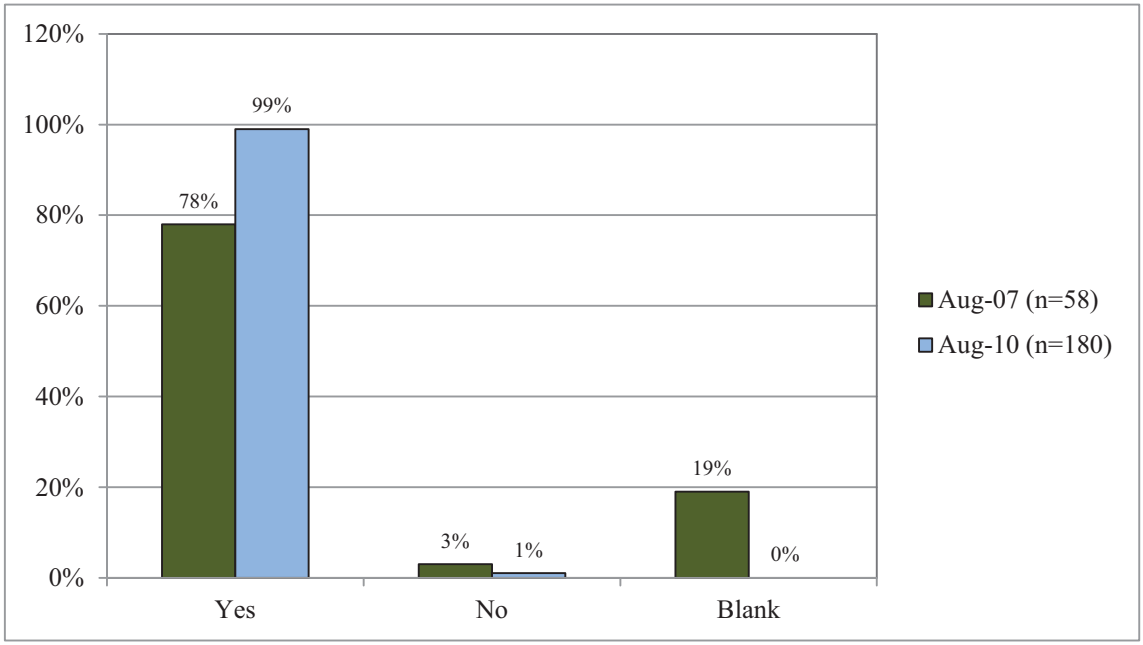


Figure 11: Parking Satisfaction

People were asked how far they are likely to travel by non-motorized mode. The wording of the question caused some confusion in April 2007 and was simplified for the remaining surveys. The percentage of non-motorized users that travelled more than ten miles decreased after the pathway was constructed. During the August 2007 survey, 86 percent of respondents reported they would likely travel more than 10 miles by non-motorized mode, compared to 72 percent in August 2010.

4.2. Primary Purpose of Trip

Survey responses to a question asking the purpose of a visitor's trip are summarized in Figure 12. People were given six categories to choose from—exercise, work commute, view wildlife, spend time with family and friends, view scenery, and "other." Space was provided to specify purpose for those choosing "other." The respondents were asked to check all activities that apply. Most respondents checked multiple reasons for their trip purpose so the numbers in Figure 12 add to more than 100 percent.

In all survey time periods, three-quarters or more of all respondents indicated that exercise was the primary purpose for their trip. Viewing scenery, wildlife and spending time with family and friends were also common responses. Among those purposes reported as "other" were recreation, enjoyment, fun, mountain guiding work, picnic, and a school bicycle trip.

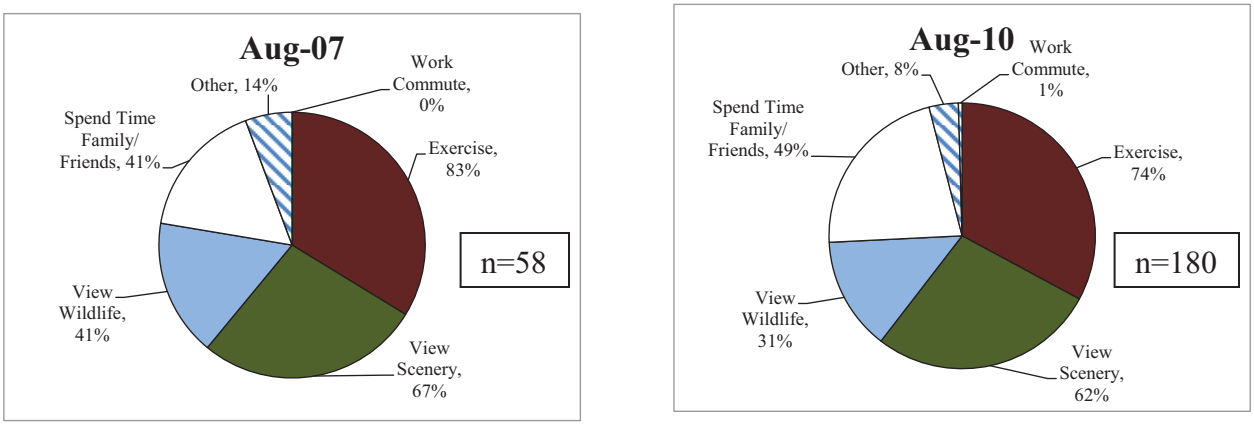


Figure 12: Trip Purpose
(Note: Many people had multiple answers, so values do not sum to 100 percent)

4.3. Perceptions on Safety, Current Facilities and Improvements Needed

Figure 13 compares the level of safety felt by non-motorized travelers in the park during the two August sample periods. The percentage of non-motorized users that felt very safe went from 22 percent to 81 percent with the construction of the pathway. Comments received on the August 2007 survey indicated people felt narrow road shoulders with the presence of motor vehicles was a safety concern. A complete list of the safety-related comments collected during all survey periods is presented in Appendix I.

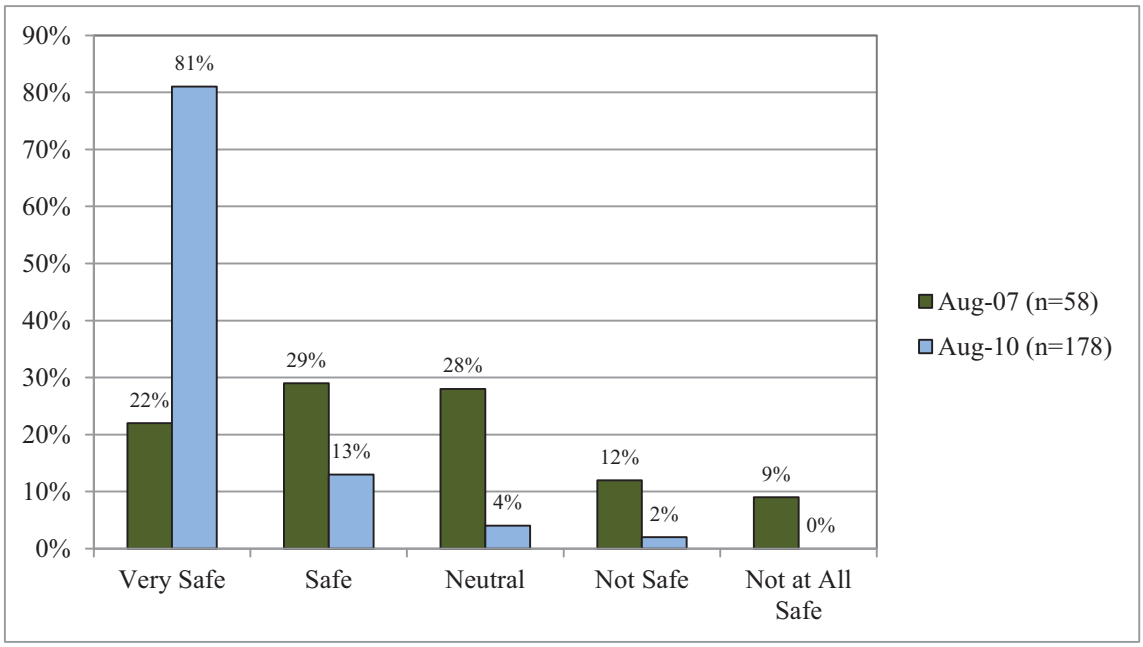


Figure 13: Non-Motorized Traveler Safety Concerns

One question asked whether travelers were satisfied with the current non-motorized transportation conditions in the park. From 2007 to 2010, there was a dramatic change in the satisfaction level, which increased from 35 percent to 61 percent with the construction of the pathway (Figure 14). The most frequent comment from users about non-motorized improvements in August 2010 was a desire to see the pathway extended.

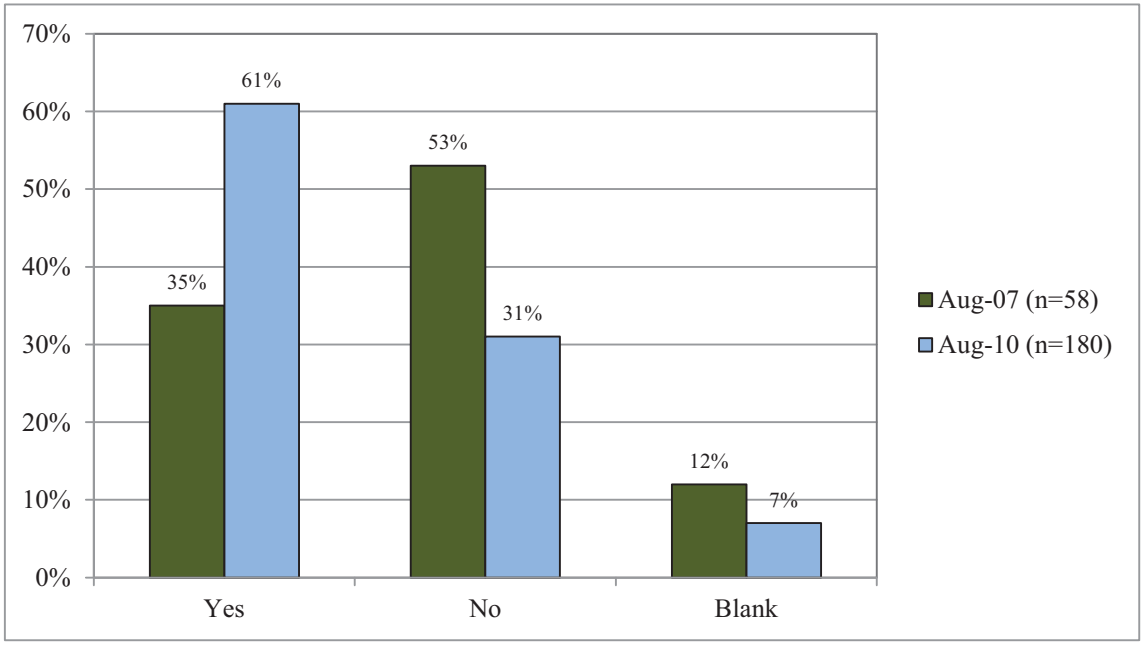


Figure 14: Satisfaction Levels with Non-Motorized Facilities

4.4. Visitor Demographics

Demographic questions attempted to create a profile of non-motorized travelers, including their age and gender, where they live and how often they visit the park.

Categories of survey respondents by age are shown in Figure 15. Note that only adults (age 18 and over) were allowed to respond to the survey. The average age of adults traveling by non-motorized mode increased after the pathway was constructed. During both periods, more than half of the respondents reported their age as between 31 and 56.

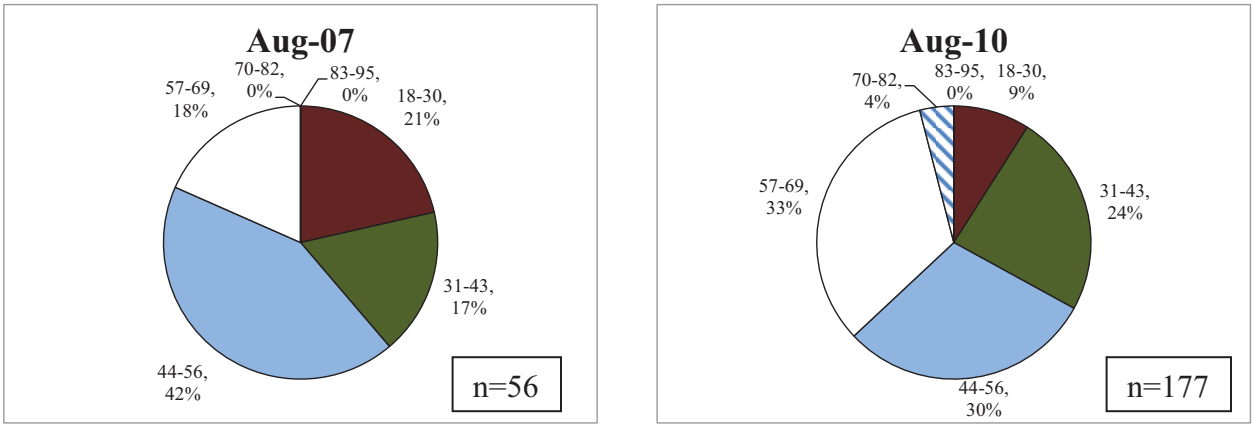


Figure 15: Respondent Age

The percentage of male and female survey respondents is shown in Figure 16. The proportion of female users increased from 24 to 44 percent after the pathway was constructed.

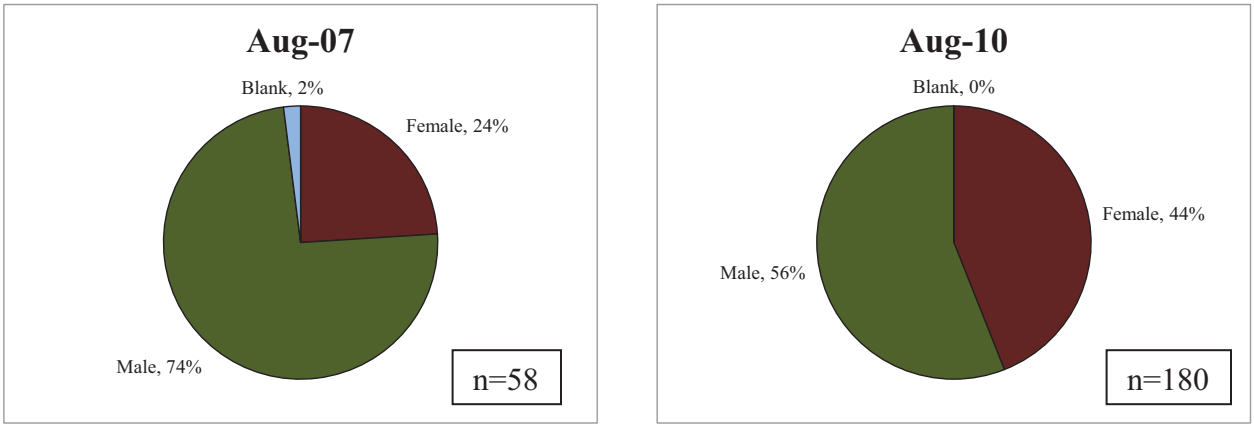


Figure 16: Survey Respondent Gender

Figure 17 shows that group size was larger after the pathway was constructed. Only 22 percent of respondents were solo travelers in 2010 versus 56 percent in 2007.

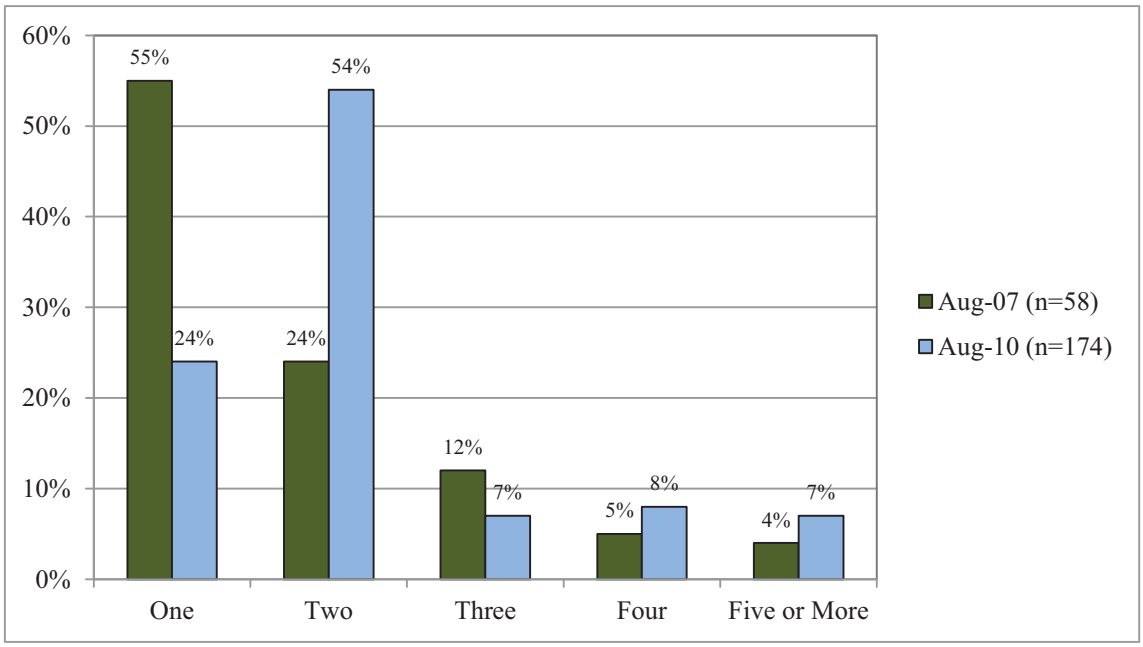


Figure 17: Number of Adults in Group

In 2007, prior to pathway construction, bicyclists had to ride single-file and be cautious of motorized traffic. Fewer children were present in 2007, as shown in Figure 18.

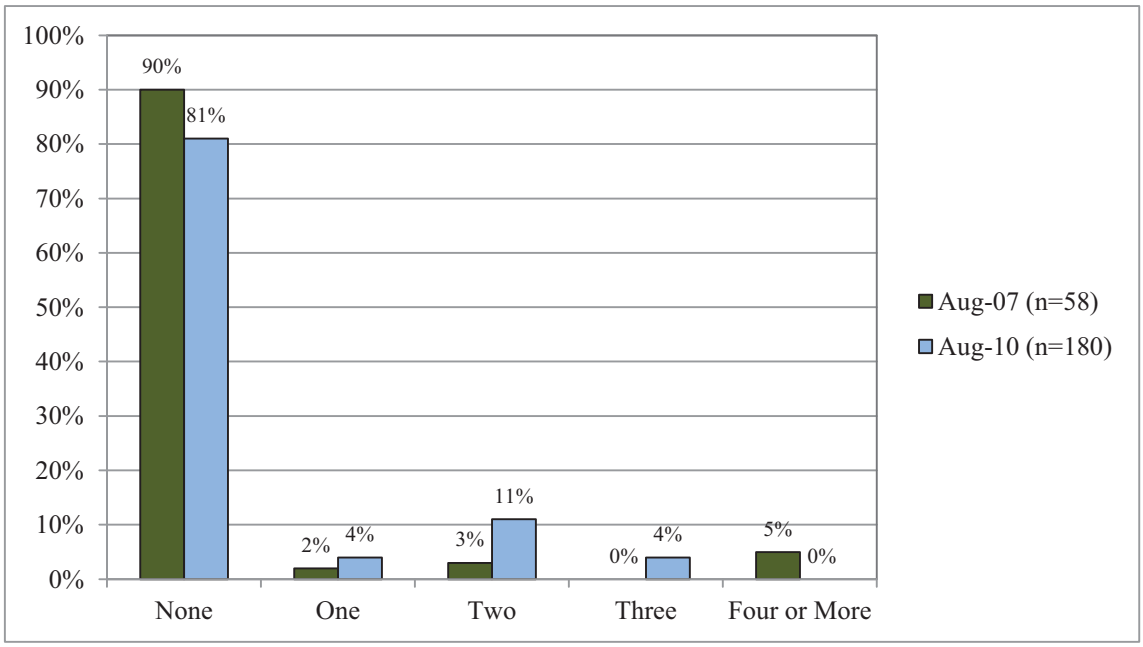


Figure 18: Number of Children in Group

Respondent zip code was used as an indicator of a traveler's place of residence, primarily to distinguish local from non-local travelers. Figure 19 shows the percentage of local and non-local

zip codes reported. Data show a higher percentage of non-local people present after the pathway was constructed. Appendix J provides a list of zip codes that were defined as local for this study.

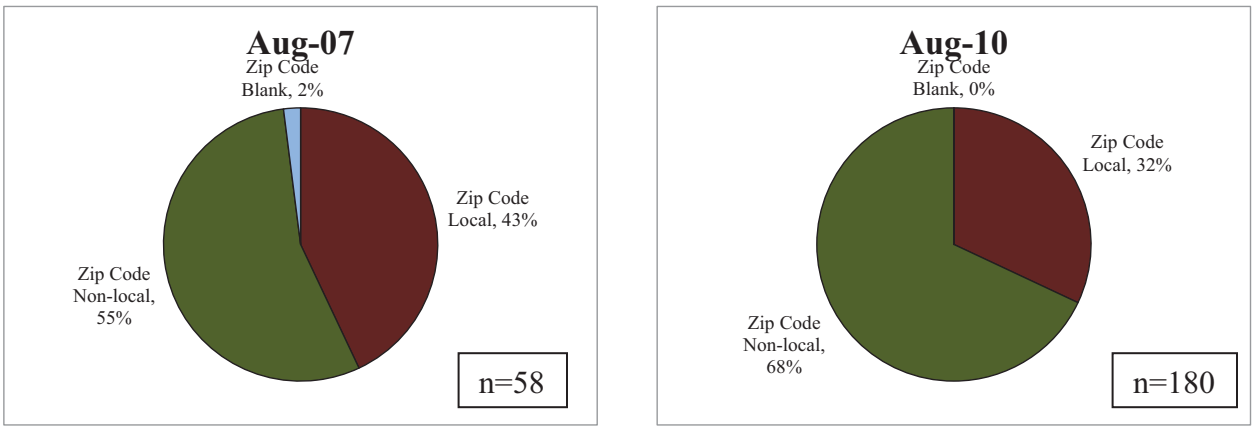


Figure 19: Local and Non-Local Zip Codes

Figure 20 shows frequency of non-motorized travel for the 12 months prior to the survey. There is a relatively even spread among the August 2010 survey respondents, while in August 2007 most respondents were either traveling via non-motorized mode in the park for the first time (36 percent) or regular riders who rode more than ten times (33 percent) in the park.

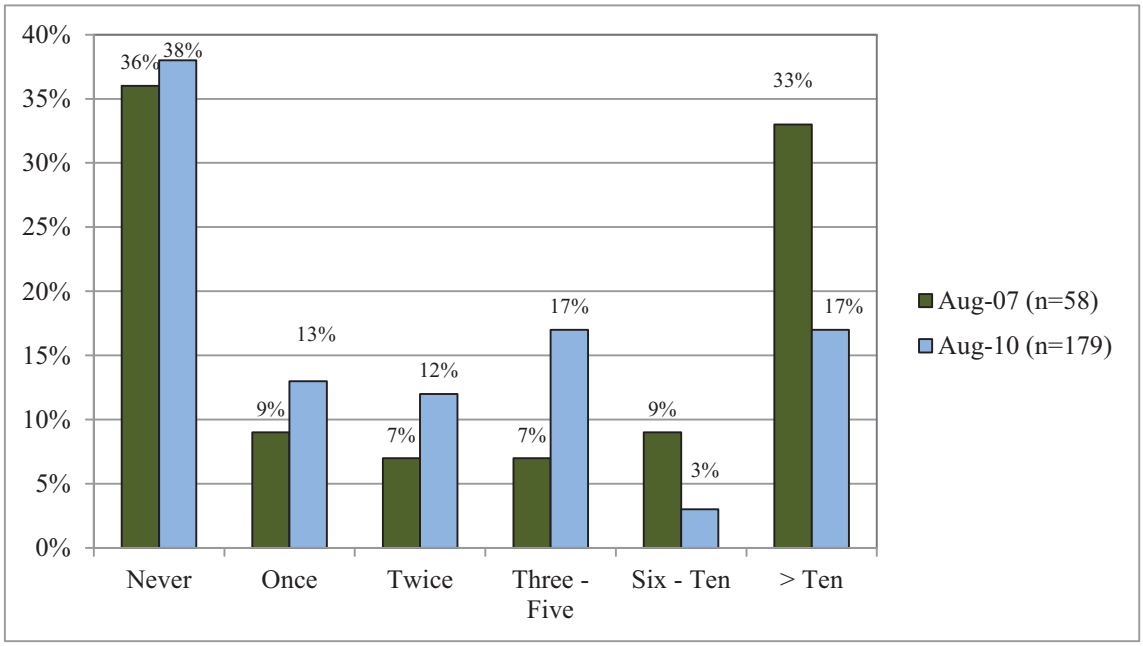


Figure 20: Frequency of Non-Motorized Travel in the Park in Past 12 Months

Figure 21 shows where travelers learned about non-motorized options in the park. A website and friends were the most common method of learning about non-motorized options in the park.

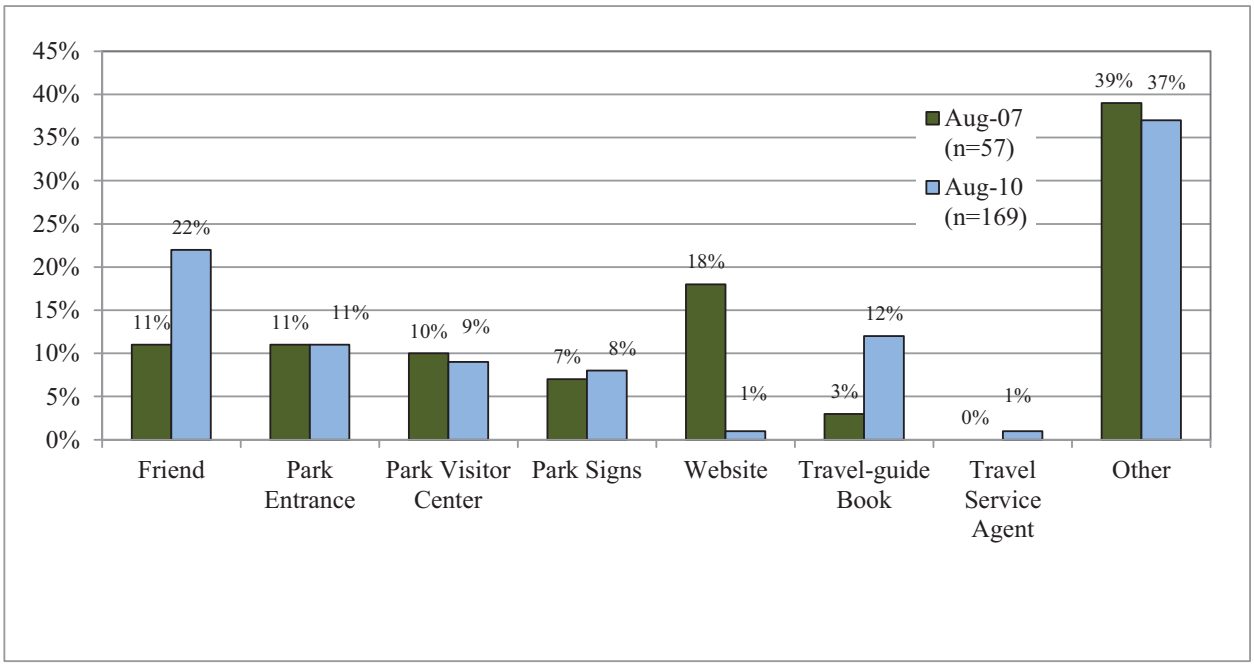


Figure 21: Information Source for Non-Motorized Travel Options

4.5. Wildlife Conflicts

The survey also provided an opportunity to ask respondents about their interactions with wildlife, allowing researchers to get a sense of whether there are significant conflicts between non-motorized travelers and wildlife. Sightings were common and included primarily coyotes, birds, butterflies, chipmunks and squirrels. Respondents reported only occasional sightings of large wildlife such as bear, moose, bison and elk. The following subset of comments from the survey provides some examples of interactions with wildlife.

- Bears and deer jumped into the woods.
- Two bears left area while group of 8 people watched.
- Buffalo chased me.
- Coyote ran off.
- Coyote spooked.
- Elk went into the woods.
- Elk seemed frightened and slightly confused.
- Elk ran across road after seeing me on my bike.
- Elk watched us and moved away as we approached on the road.

To reduce the length of time needed to complete the survey, the wildlife question was simplified for the August 2010 and July 2011 surveys. Respondents were only asked how the pathway impacted the viewing of wildlife. For these surveys, the comments were generally that having the pathway improved the viewing of wildlife. Complete lists of the responses to wildlife-related questions are provided in Appendix I.

4.6. Summary of Pathway Availability on Users

When comparing survey data from before and after pathway construction, there were some noticeable changes in the types of users, as well as their attitudes. On average, non-motorized users who responded to the post-construction survey:

- Felt safer,
- Were more satisfied with non-motorized travel,
- Were older,
- Were less likely to be travelling alone,
- Were more likely to be traveling with children, and
- Were more likely to be non-local.

In addition, non-motorized users had a more even distribution by gender after the pathway was constructed. The presence of the pathway did not have much impact on the trip purpose, whether users entered the park in a motorized vehicle, or their parking satisfaction.

5. PARKING LOT USAGE

Although not part of the original scope, researchers did make parking lot usage counts when time permitted during the 2011 data collection period. These counts were made sometime between 1:00 pm and 2:30 pm on each day (Friday July 22, 2011 to Sunday July 24, 2011). A single count during this time period was made of available parking stalls and the number of vehicles parked illegally or on the shoulder of Teton Park road. There are several locations where one can park along the pathway. The main parking opportunities are described in this section along with the availability of parking (number of empty parking spaces) found during the July 2011 data collection. The numbers are summarized in Table 3.

Table 3: Parking Availability for a Weekend in July 2011

	Spaces Available		
Parking Lot Location	**Friday**	**Saturday**	**Sunday**
Craig Thomas Discovery and Visitor Center	38	73	66
Windy Point	17	13	12
Taggart	9	7	9 (6)
Cottonwood Creek	10	3	3
Southern Pullout	5	6	5
Teton Glacier Turnout	18	20	16
Northern Pullout	6	4	6
South Jenny Lake	5	3 (2*)	7 (5*)

() values in parentheses show number of vehicles parked illegally or on the shoulder of Teton Park Road

* These do not include numerous vehicles parked on the Jenny Lake parking lot entrance road

At Moose, parking is available at the Craig Thomas Discovery and Visitor Center, which has a large parking lot with approximately 150 spaces. There was adequate spare parking capacity with 38, 73, and 66 empty spaces counted on Friday, Saturday and Sunday respectively.

The Windy Point parking lot has about 20 parking spaces. This parking lot is located at the top of the only major grade on the pathway. It is possible that individuals who drive in with bicycles attached to their automobile may be more likely to choose this as a starting point in order to avoid cycling up the hill. At any given time approximately half of the vehicles parked in this lot had a bike rack (Figure 22). Despite this observation, there appeared to be plenty of room for vehicles, with 17, 13 and 12 empty spaces on Friday, Saturday and Sunday respectively.

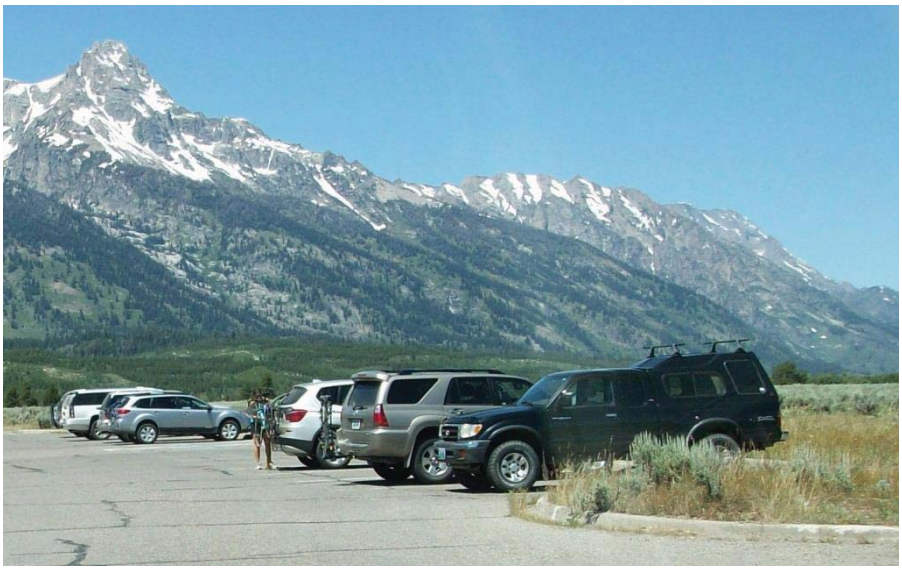


Figure 22: Bike Racks on Vehicles at Windy Point

Taggart parking lot has about 70 parking spaces. One reason that visitors park in this lot is to access a hiking trailhead. There are typically several horse trailers parked in this lot. This lot was observed to have occasional capacity issues. There were nine empty spots on Friday and seven on Saturday. On Sunday there were nine empty spots, but six vehicles were parked on the shoulder of Teton Park Road indicating that at a point earlier in the day the lot was over capacity (Figure 23).

Figure 23: Vehicles Parked on Teton Park Road at Taggart Parking Lot

A parking lot adjacent to Cottonwood Creek makes a nice place to stop for a picnic lunch. This lot has about 15 parking spots. No illegally parked vehicles were found in this lot, and there were always empty spaces available (10, 3, and 3 empty spaces available on Friday, Saturday and Sunday).

There are two locations that have a pullout on each side of the road. Each side of each location can accommodate several vehicles. The southern location had one vehicle on Friday and Sunday, but was empty on Saturday. The northern location had two vehicles parked on Saturday, but was empty on Friday and Sunday.

Teton Glacier Turnout is between the two pullouts and has about 20 spaces. This parking lot was nearly empty most days.

South Jenny Lake is the largest parking lot along the pathway, and also has the most parking available. There are over 200 spots in this parking lot. There are some locations that are marked with white stripes for parking, but the curb is painted red. This is parallel parking that is intended for recreational vehicles. The entrance road connecting the parking area to Teton Park Road is another potential parking area (Figure 24). Not striped for parking, this entrance road has enough shoulder for vehicles to park.

Figure 24: Vehicles Parked Along Entrance Road at South Jenny Lake

Each of the three days, there were at least a few empty parking spots found in the South Jenny Lake Parking Lot (5 on Friday, 3 on Saturday, 7 on Sunday). In addition, there were several parking spots that were on a red curb (6 on Friday, 10 on Saturday, 4 on Sunday). There were also some empty handicapped stalls (6 on Friday and 1 on Sunday). However, having to hunt for these empty stalls may be problematic for large vehicles. Figure 25 shows a recreational vehicle attempting to turn around because it cannot make it through a bottle neck. Aside from parking on the entrance road, researchers discovered additional illegal parking. They observed vehicles parked in yellow striped pedestrian crossings (two on Saturday, one on Sunday), as well as four vehicles parked on the shoulder of Teton Park Road on Sunday.

Figure 25: Recreational Vehicle Attempting to Turn Around in Parking Lot

Researchers observed parking lots at the Craig Thomas Discovery and Visitor Center, Windy Point, Taggart Lake Trailhead, Cottonwood Creek, the southern pullout, Teton Glacier turnout, the northern pullout and South Jenny Lake. The parking lots at Taggart Lake Trailhead and Jenny Lake have capacity issues during the peak times of day during the peak visitation season in July resulting in illegal or roadside parking. The remaining parking lots appear to have spare parking capacity even during peak times.

The Record of Decision (2) states that parking lots may be improved as part of scheduled maintenance or on an as needed basis. Further, they may be reconfigured to improve capacity. However, the amount of impervious surface (i.e., pavement and compacted gravel) for parking will not be increased as a result of the multi-use pathway.

6. SUMMARY OF FINDINGS

This report summarizes the number of non-motorized travelers along Teton Park Road for sampling periods in 2007, 2010 and 2011. Use was compared both before and after the construction of Phase I Pathway in 2009, a 7.7-mile segment between Dornan's and South Jenny Lake on Teton Park Road. The report also summarizes survey results with details of non-motorized user travel patterns, perceptions of non-motorized travel, and user demographics. There are several measured impacts resulting from the construction of the Phase I Pathway:

- Non-motorized use increased nearly ten-fold after the pathway was constructed.
- There is still bicycle use of the road shoulder where the pathway is in place, but it is much lower than pre-pathway road shoulder use. Road shoulder use north of the northern pathway terminus is similar to road shoulder use prior to pathway installation.
- With the pathway, non-motorized travelers felt safer and were more satisfied with non-motorized travel options in the park.
- The type of non-motorized travelers in the park changed with the construction of the pathway. Proportionally, there were more older travelers, more children, more females, larger groups and more non-locals.

The presence of the pathway did not have much impact on the trip purpose, whether travelers entered the park in a motorized vehicle, or their parking satisfaction.

Similar to many national parks, Grand Teton National Park's main transportation corridors were designed primarily for motor vehicle travel. Multi-use paved pathways represent a major change to the park's infrastructure, providing visitors with improved opportunities to reach major park features such as visitor centers, campgrounds and trailheads, by non-motorized means. During the study period (2007-2011), approximately 2.6 million people visited the park each year. Extrapolating the manual count data in 2010 and 2011, the proportion of visitors using the separated pathway is approximately one percent of visitors.

7. APPENDIX A: AUTOMATED COUNT DATA

This appendix provides a summary of automated counter data. First, challenges with the pathway counters are discussed. Data from the automated pathway counters are not included in this report since they are not directly comparable to data collected prior to the construction of the pathway. Second, the road tube data analysis is provided. Road tube data has similar accuracy problems to pathway counter data. But road tube data was collected prior to pathway construction allowing for a before/after comparison. The results in this appendix mirror the manual counts in that bicycle use on the road shoulder decreased significantly after the construction of the pathway, but did not entirely disappear.

The park installed automated counters at various locations along the pathway (Figure 26). These devices will count every non-motorized pathway user that is detected passing by the counter. These data can characterize use at locations other than those where manual counts were conducted. The automated counters can also provide seasonal totals.

Figure 26: Automated Pathway Counter

These automated counters have some limitations. They do not capture travelers on the road shoulder, and they do not record the direction of travel. Also, they have been found to be more prone to error when their totals are compared to manual counts, as discussed in a previous memo to the park (3). This memo summarized the manual counts taken in 2009 at the exact automated counter locations. The summary data from this memo is shown in Table 4. On average, the totals from automated counters are 39 percent lower than manual counts. Because of these accuracy issues, data from automated pathway counters were not used to quantify pathway use.

Table 4: Errors Found in Automated Pathway Counters

Location Name	Counter Number	Date	Day of Week	Hour Beginning	Automated Count	Hand Count	Error
Windy Point to Moose	5	8/21/2009	Friday	4 PM	21	25	-16%
		8/21/2009	Friday	5 PM	10	12	-17%
		8/21/2009	Friday	6 PM	5	5	0%
Moose to Dornan's	6	8/22/2009	Friday	11 AM	5	6	-17%
		8/22/2009	Friday	12 PM	19	28	-32%
Highlands to Taggart Lk. Trailhead	3	8/22/2009	Saturday	3 PM	10	28	-64%
		8/22/2009	Saturday	4 PM	22	42	-48%
		8/22/2009	Saturday	5 PM	5	13	-62%
Jenny Lake to Lupine Meadows	1	8/23/2009	Sunday	10 AM	30	45	-33%
		8/23/2009	Sunday	11 AM	15	23	-35%
		8/23/2009	Sunday	12 PM	21	39	-46%
Total					163	266	-39%

Road tubes have been used by the park to collect motor vehicle traffic data on the main roadway. The road tube counters were made by MetroCount and installed in a classifier configuration (two parallel tubes) which allows them to record speed, direction of travel, and vehicle class (Figure 27). Vehicle class is determined by the number of axels and their spacing. Of interest for this study are the counts associated with vehicles classified as motorcycles.

Figure 27: Typical Road Tube Layout

Bicycles traveling on the road shoulder are often recorded by these road tubes as slow-moving motorcycles. A test of the performance of these counters in comparison to human observation conducted in 2008 showed that the road tube will routinely undercount the bicycle traffic on the road. The counter cannot be relied upon to give an accurate cyclist count, but with enough days of data, the average error should be fairly consistent. The automated pathway counters discussed

previously only collected data after the pathway was constructed. Road tube data was collected the same way before and after pathway construction. Assuming seasonal counts have a consistent error they could still be compared to each other to estimate a percentage of change in non-motorized travel before and after the pathway was constructed. The counters were placed at the following locations (from south to north) for the summer season every year from 2007 to 2010:

- Just south of Windy Hill,
- Near Taggart Lake Trailhead,
- South of Highlands,
- Near Timbered Islands,
- Just south of South Jenny Lake Junction,
- Just north of South Jenny Lake Junction,
- On the entrance road to South Jenny Lake parking lot, and
- North of North Jenny Lake.

Speed was used to separate out bicycles and motorcycles. Motorcycles typically ride faster than bicyclists and the speed distribution of each type is assumed to be bell shaped. Using the summer 2008 data, researchers graphed the speeds of the motorcycle classified vehicles, which includes bicycles, for the eight counter stations. A distinct two humped curve resulted (Figure 28). For each station location the speed of low spot between the two speed distributions was determined and used to separate bicycle counts from motorcycle counts. The counter station on the entrance road to the Jenny Lake parking lot was omitted because it was in a 15 mile per hour speed zone and did not have two distinct speed distributions. The ideal bicycle cutoff speed was found to be 25 mph at all locations.

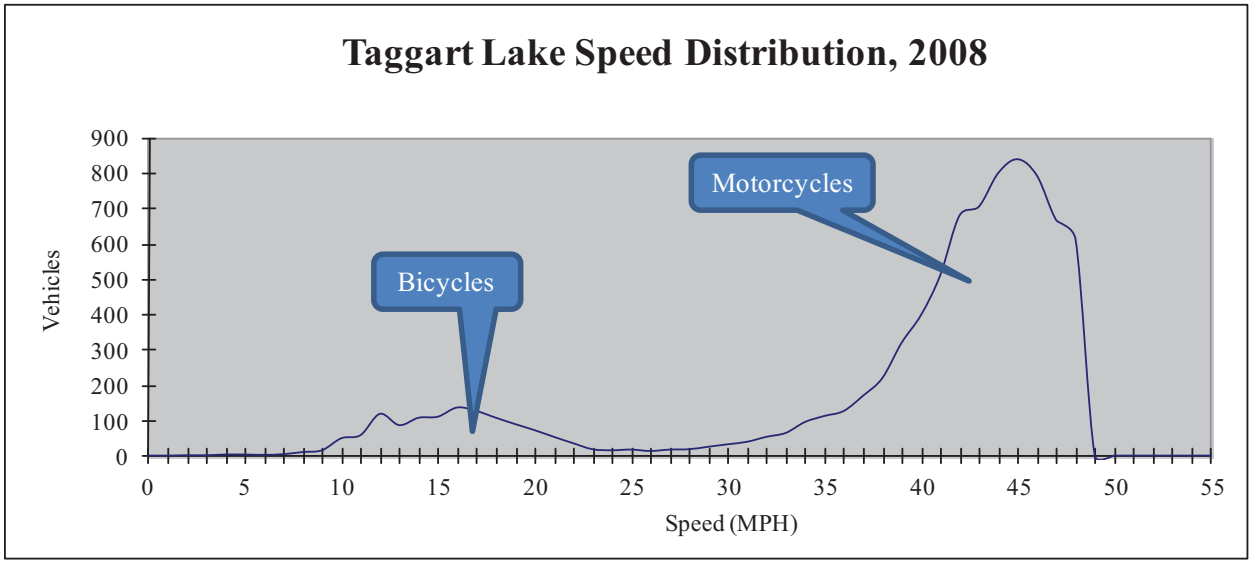


Figure 28: Typical Speed Distribution of Motorcycle Classified Vehicles

The resulting count of bicycles could include slow moving motorcycles and will not count some bicycles. For this analysis all vehicles classified as motorcycles moving less than 25 mph were considered bicycles. The method described above is adequate for the purpose of providing

general trends in bicycle use on the road shoulder. The speed distributions for each site are shown below.

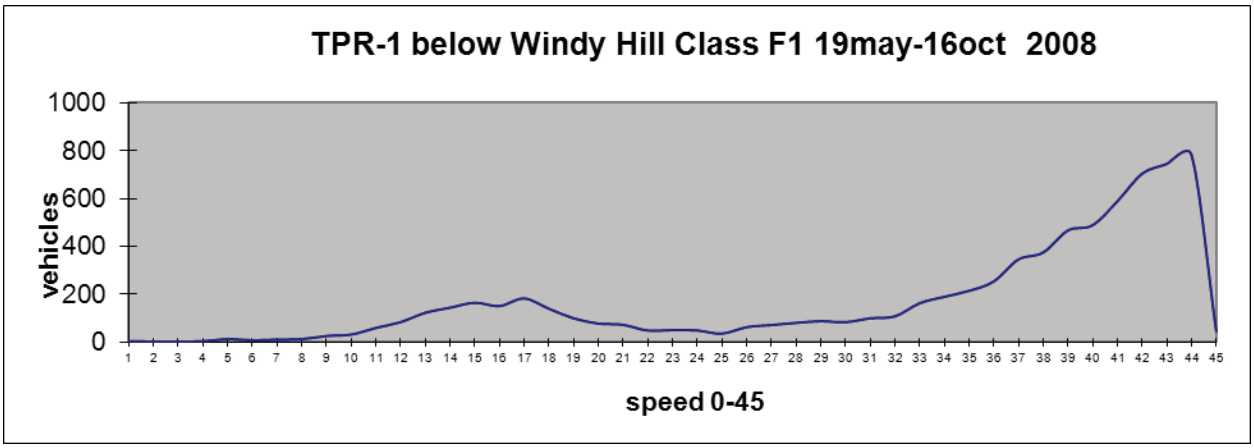


Figure 29: Speed Distribution of Motorcycle Classified Vehicles at Site 1

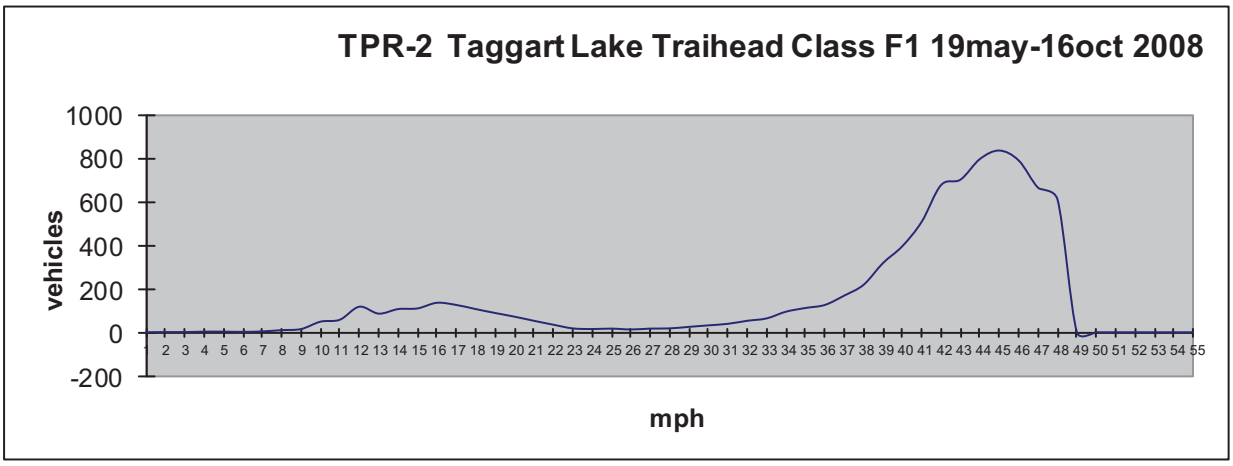


Figure 30: Speed Distribution of Motorcycle Classified Vehicles at Site 2

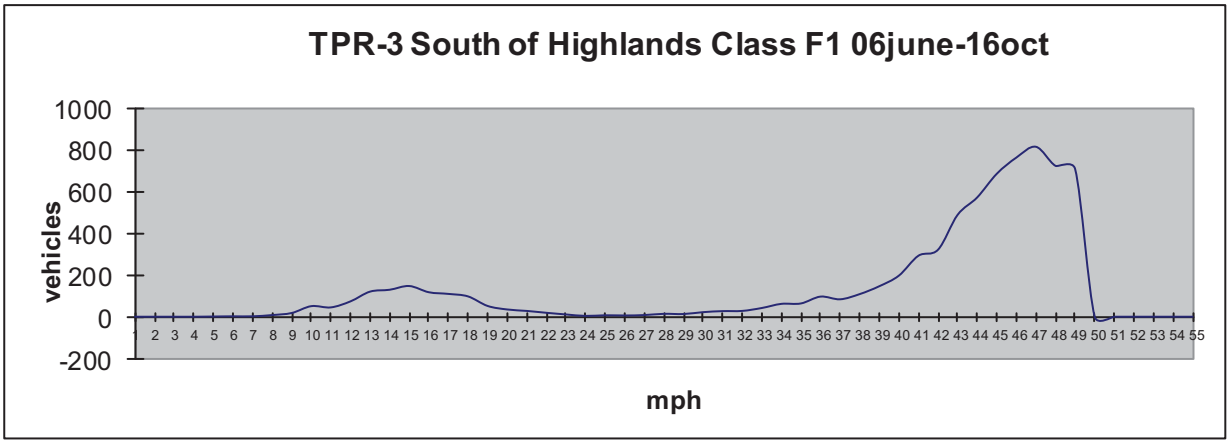


Figure 31: Speed Distribution of Motorcycle Classified Vehicles at Site 3

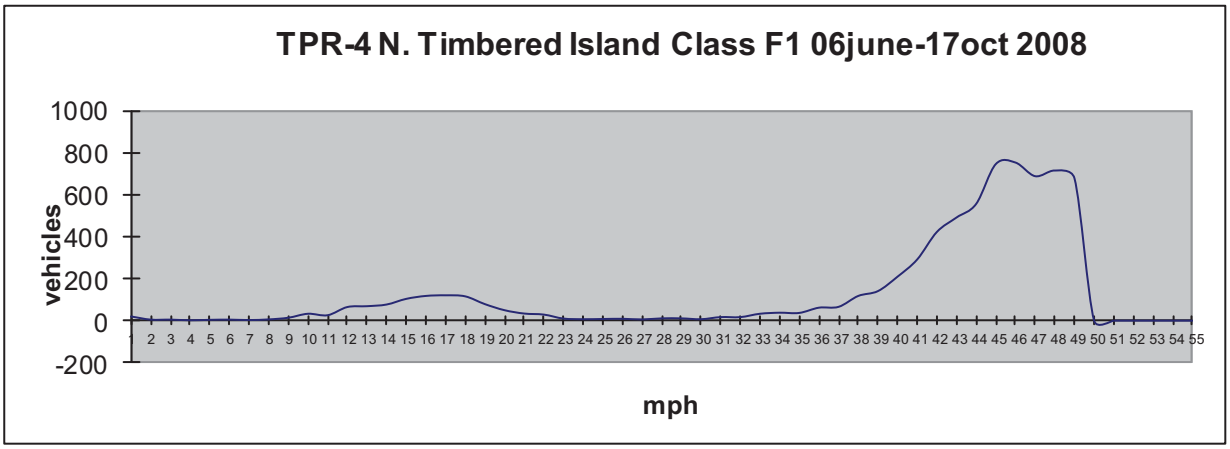


Figure 32: Speed Distribution of Motorcycle Classified Vehicles at Site 4

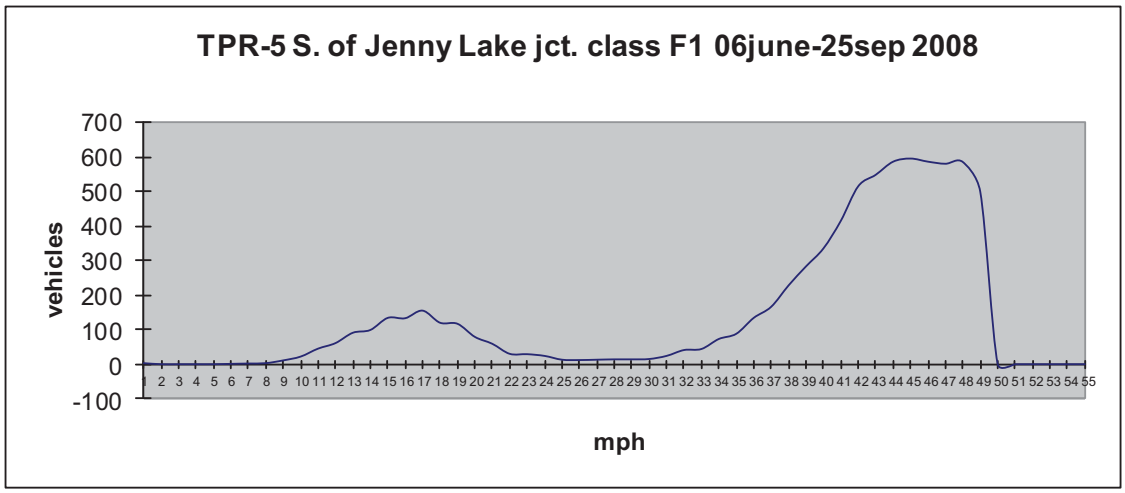


Figure 33: Speed Distribution of Motorcycle Classified Vehicles at Site 5

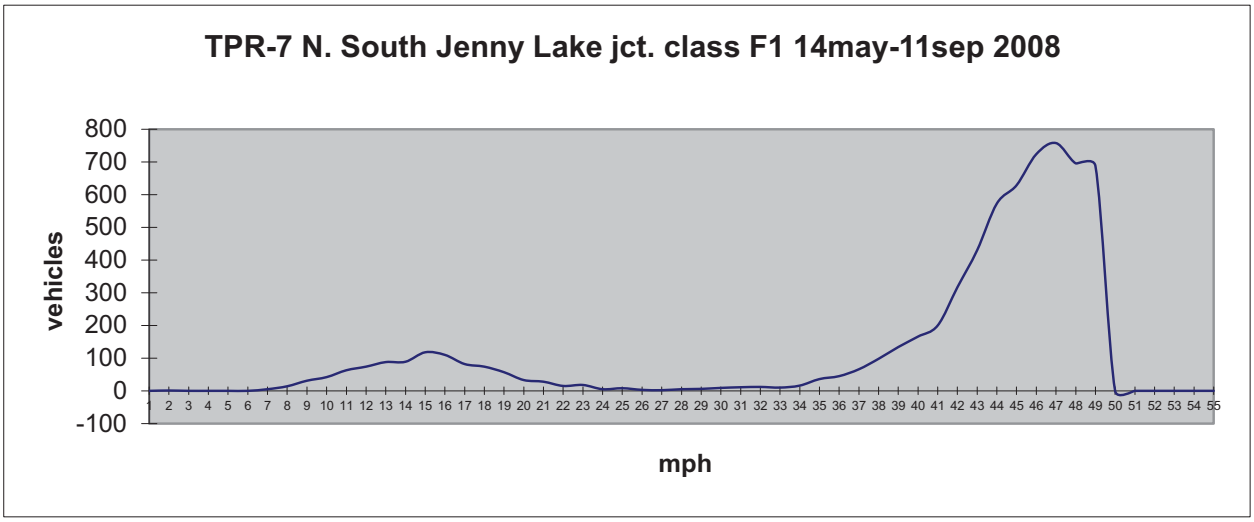


Figure 34: Speed Distribution of Motorcycle Classified Vehicles at Site 7

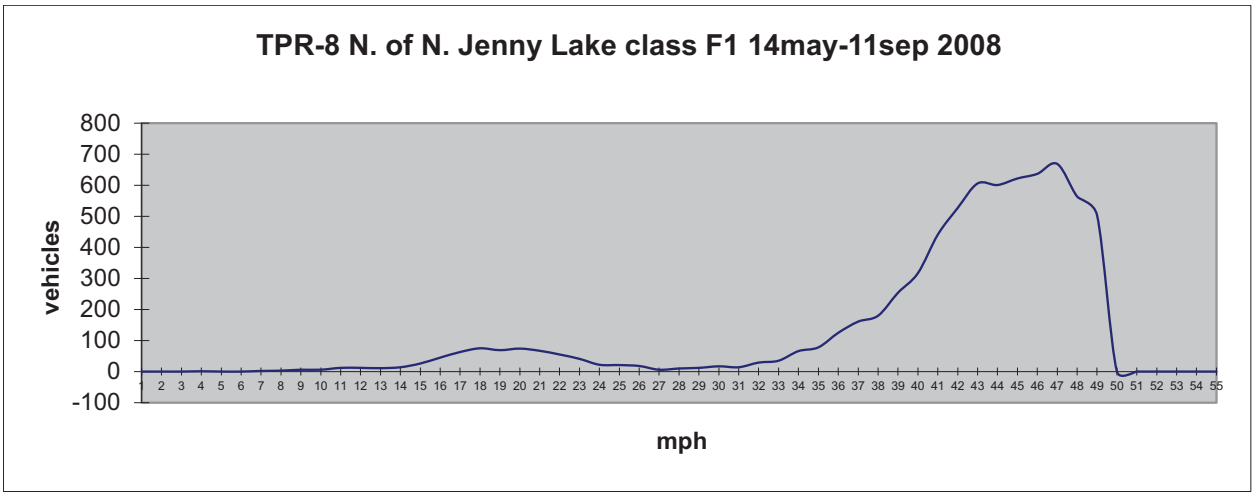


Figure 35: Speed Distribution of Motorcycle Classified Vehicles at Site 8

Using this classification rule (motorcycle classified vehicles travelling less than 25 mph), relative changes in bicycle use on the road shoulder of Teton Park Road can be seen. Looking at the weekly totals for the summer season, the five road tube data collection sites south of Jenny Lake Junction showed the same general trend. Prior to the construction of the pathway (2007 and 2008), bicycle use on the road shoulder started at around 50 bicycles per week and increased to about 100 or more bicycles per week at the peak time of the season, then gradually dropped back to around 50 in the fall. After the installation of the pathway there were around 10 bicycles per week on the road shoulder throughout the season. The southernmost site is shown in Figure 36. Considering the weekly total extrapolated from the manual counts in August 2007 was around 140 per week (see Appendix G), these numbers seem reasonable.

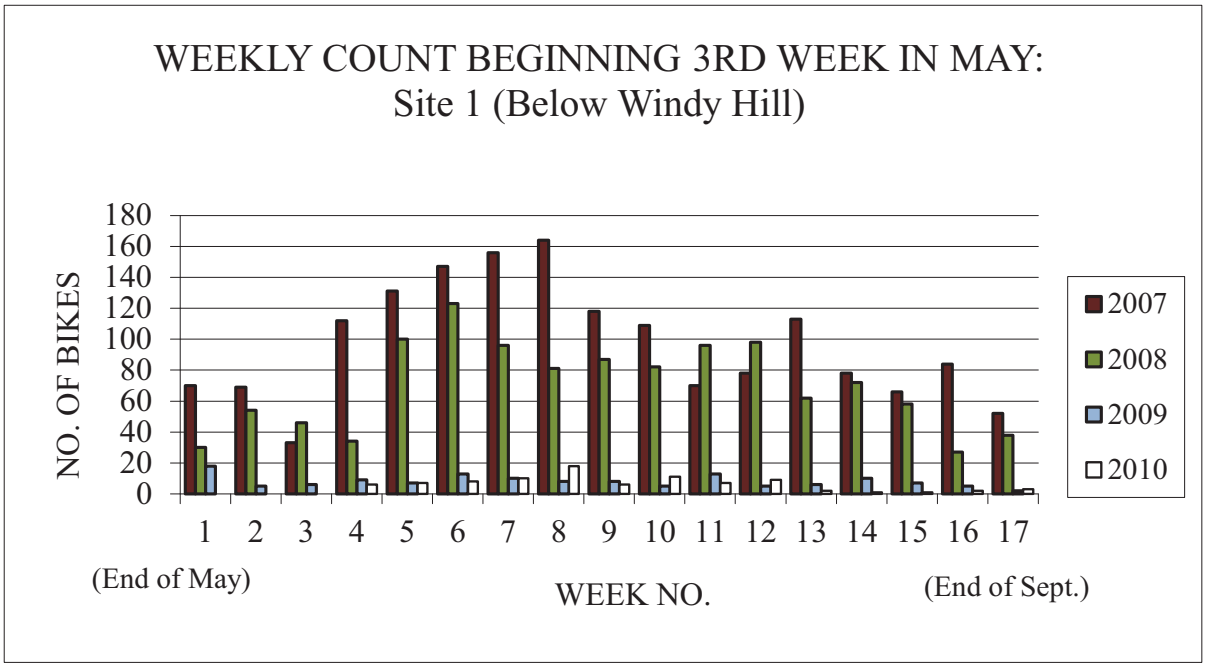


Figure 36: Road Shoulder Automated Bicycle Counts Site 1

Sites two through five demonstrated a similar trend and are shown in the figures below.

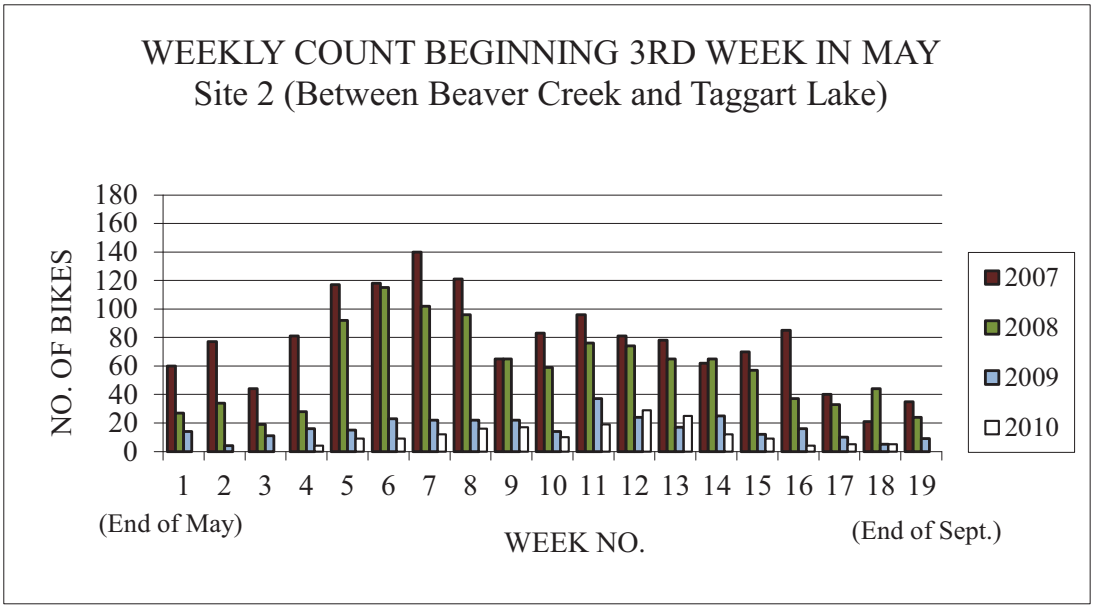


Figure 37: Road Shoulder Automated Bicycle Counts Site 2

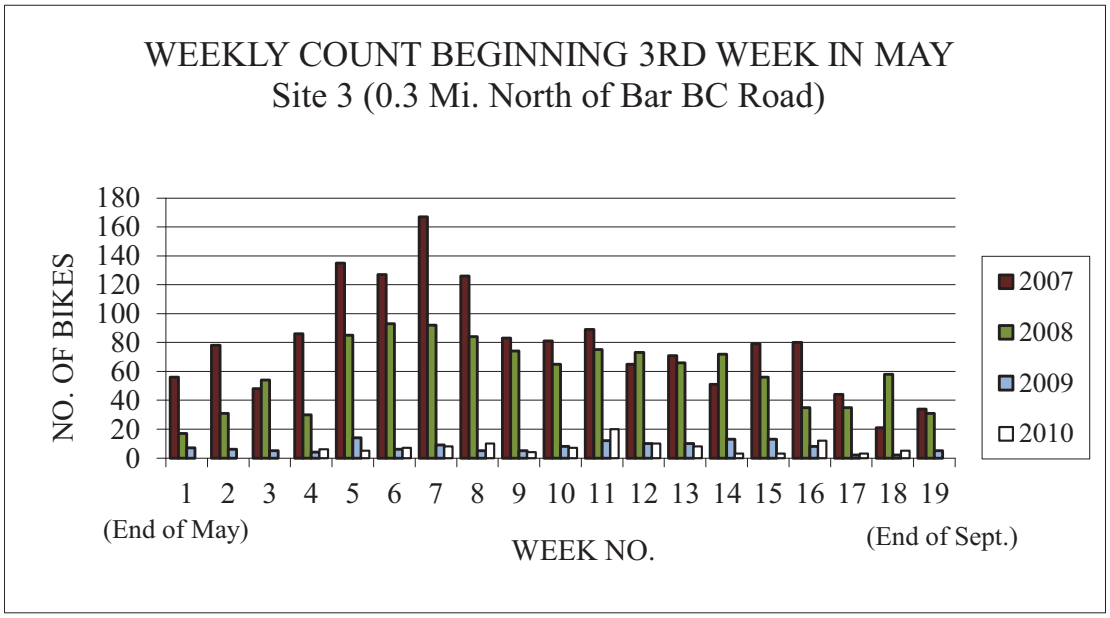


Figure 38: Road Shoulder Automated Bicycle Counts Site 3

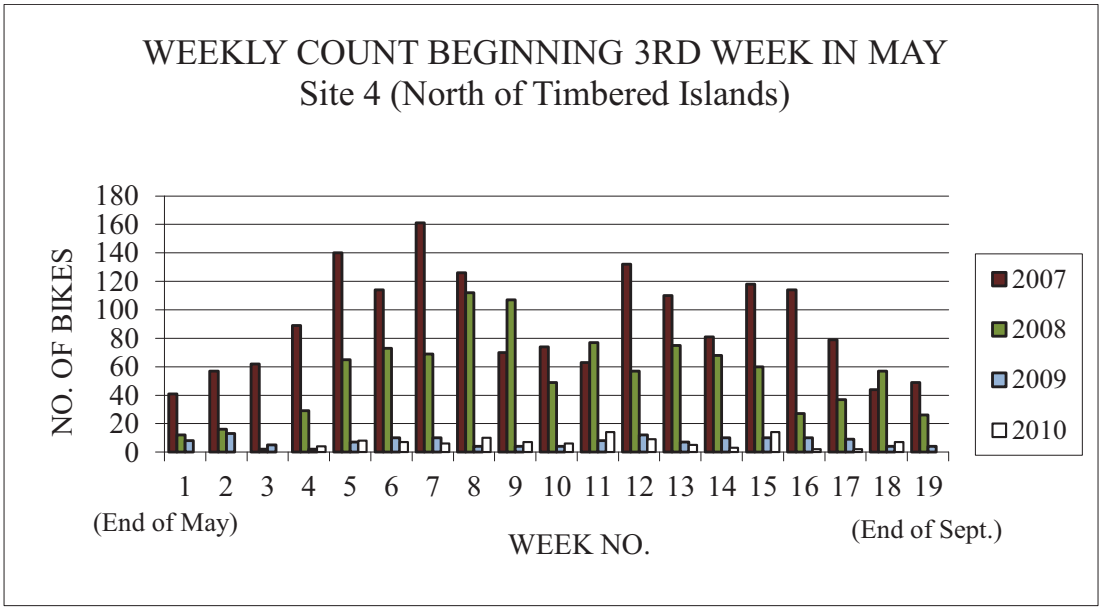


Figure 39: Road Shoulder Automated Bicycle Counts Site 4

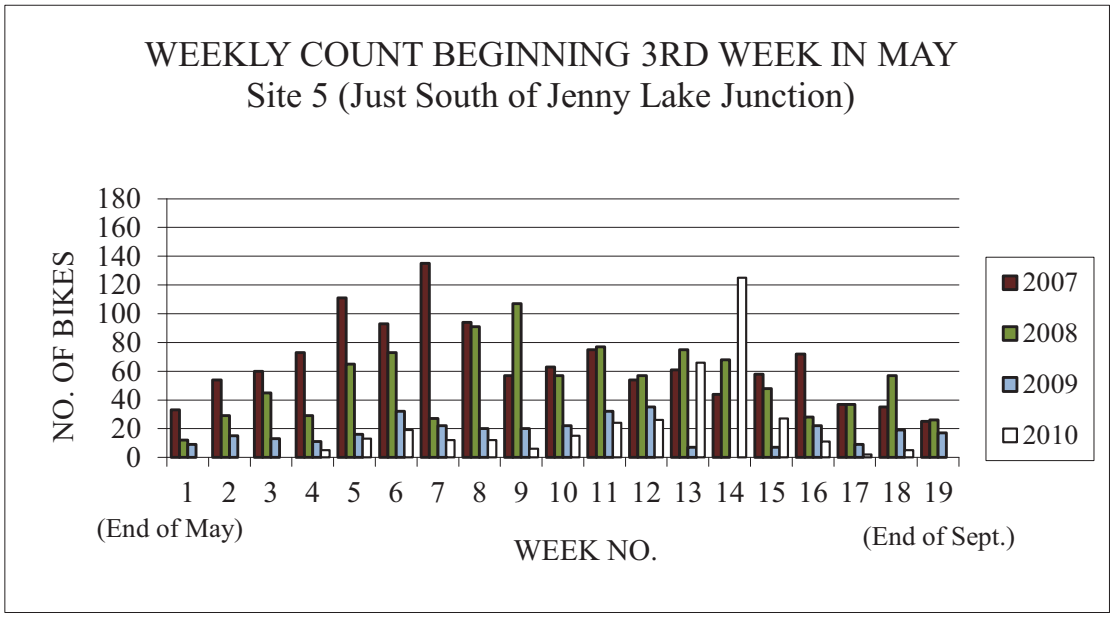


Figure 40: Road Shoulder Automated Bicycle Counts Site 5

The first phase of the pathway available in 2009 and 2010 had its north terminus at Jenny Lake. Just north of Jenny Lake Junction, the same trend (50 to 100 bicycles per day) is seen in the years prior to the pathway construction and the years following the pathway construction (Figure 41). In fact, there seems to be in increase in road shoulder use in the years following the pathway construction.

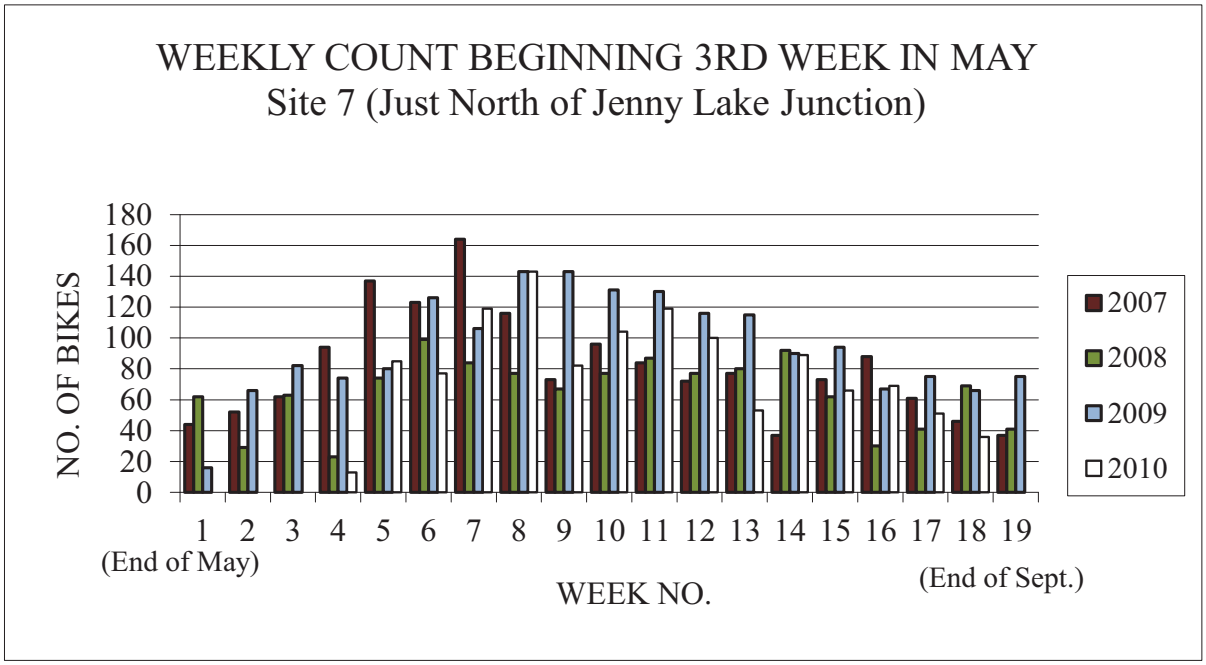


Figure 41: Road Shoulder Automated Bicycle Counts Site 7

The bicycle traffic on the road shoulder north of Jenny Lake Junction could be mostly visitors that ride the pathway to Jenny Lake and decide to continue north on the road shoulder. If this is the case, most do not travel very far before turning around as the traffic drops off further north of Jenny Lake Junction (Figure 42).

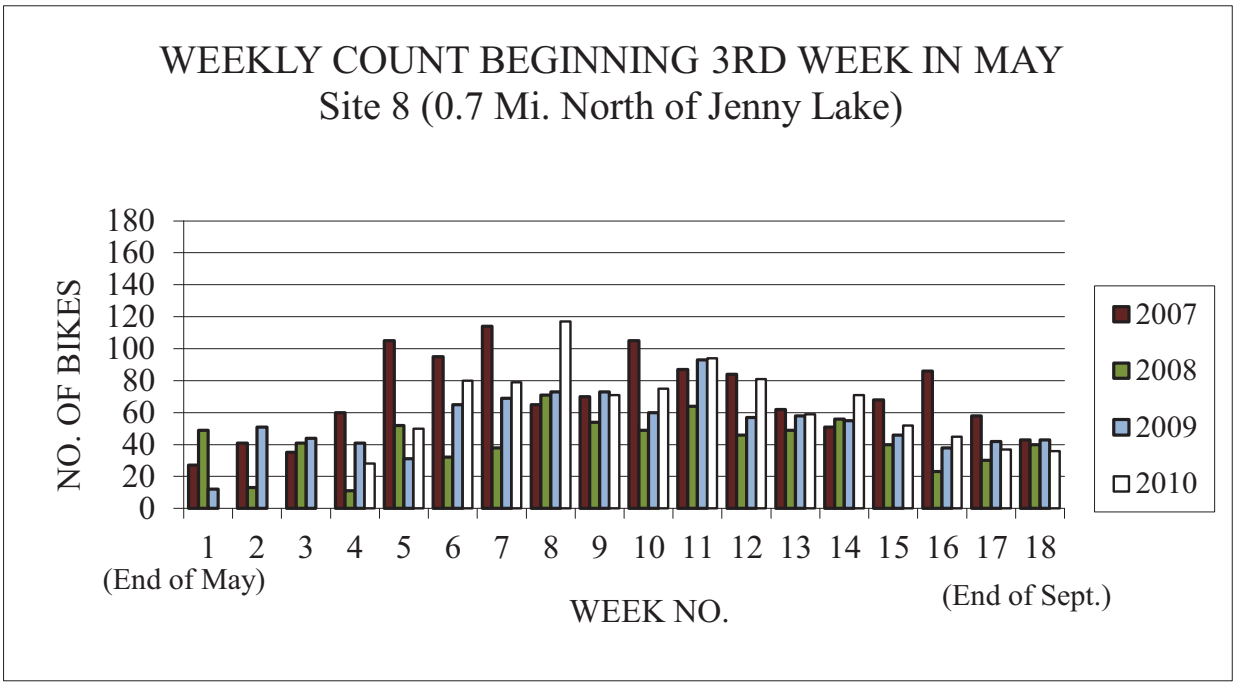


Figure 42: Road Shoulder Automated Bicycle Counts Site 8

Based on the road shoulder automated counters, there is still some road shoulder use even when the pathway is available, but significantly less compared to the time period prior to the construction of the pathway. This was also observed by the surveyors during their 2010 and 2011 visits.

8. APPENDIX B: EXAMPLE COUNT FORM

Grand Teton National Park Non-motorized Data Collection

Surveyor Name: Q. Bloom, R. Gleason Location: Taggart Lake Trailhead Parking Lot
Date: 4/27/2007 Friday
Weather: Sunny and warm (60-70 F)

	mode				Direction		Age		
Time	Bicycle	Rollerbladers /skates /scooter	Walker or jogger	Other	northbound	southbound	Adult	Child (under 18)	Comment
8:00									Survey started at 8:00 am. First people passed gate at 8:45 am
8:45	2				2		2		Exum Mountain guide group
	2				2		2		
9:15									
	4	1			5		5		
9:30	1				1		1		
	1				1		1		
10:00	5				5		5		
	1				1			1	
	1				1		1		
	1				1		1		
10:15	1				1		1		
	1				1		1		
	1				1			1	
	1				1			1	
	1				1			1	
10:30			1		1		1		
			1		1		1		
	1				1		1		
	1				1		1		
	8				8		8		
	22				22		6	16	Large kids school group

9. APPENDIX C: APRIL 2007 SURVEY

Grand Teton National Park Non-Motorized Pre-Pathways Survey 2007

Date_____ **Location**_____
Surveyor Name_____ **Weather**_____
Time_____ _____

1. **How many people are in your group today?** ____**adults,** ____ **children** (under 18)

2. **What is your mode of non-motorized travel in Grand Teton National Park today?**
□ Bicycle(type) _____ □ Walking/running □ Wheelchair
□ Scooter (non-motorized) or Skateboard □ Inline Skates/ Rollerblades □ Other_____ _____

3. **In regards to your trip today:**
3.1. How did you enter Grand Teton National Park?
□ Personal vehicle □ Non-motorized mode □ Other _____

3.2. Where did you enter Grand Teton National Park? _____

3.3. Where did you park your vehicle? _____

3.4. Where was (is) your destination for the non-motorized portion of your trip?
_____
_____

3.5. Where are you in the non-motorized portion of your trip today?
□ Start □ Middle □ End

4. **Were you satisfied with your parking location/facility today?** □ Yes □ No
If no, please list reasons _____
_____

5. **What is the primary purpose of your trip today?**
□ Exercise □ Work commute □ View wildlife
□ Spend time with family/ friends □ View scenery □ Other _____

6. **How many times in the past 12 months have you traveled by <u>non-motorized</u> modes on any portion of the road from Dornans to South Jenny Lake (not including this visit)?**
□ Never □ Once □ Twice
□ 3-5 times □ 5-10 times □ More than 10 times

7. **How many times in the past 12 months have you traveled exclusively by <u>motor vehicle</u> on any portion of the road from Dornans to South Jenny Lake (not including this visit)?**
□ Never □ Once □ Twice
□ 3-5 times □ 5-10 times □ More than 10 times

8. **When have your <u>non-motorized</u> visits occurred in the past 12 months?** (check all that apply)
□ April (before road opens to cars) □ May □ Jun □ Jul □ Aug □ Sep □ Oct □ Other _____

Page 1 of 4

Grand Teton National Park Non-Motorized Pre-Pathways Survey 2007

9. What is the average distance that you typically go using non-motorized modes?

Bicycle	*Other* (describe_____)
□ Under 2 miles	□ less than 1 mile
□ 3-10 miles	□ 1-3 miles
□ 11-20 miles	□ 4-6 miles
□ 21-30 miles	□ 7-10 miles
□ 30-40 miles	□ 10-15 miles
□ More than 40 miles	□ More than 15 miles

10. Please rate how likely the following items are to impact your decision to use non-motorized modes in Grand Teton National Park?

	Less likely to travel non-motorized	**Indifferent**	**More likely to travel non-motorized**
Availability of bicycles in or near Park	□	□	□
Separation of pathway and traffic	□	□	□
Low volumes of motor vehicles	□	□	□
Low speeds of motor vehicles	□	□	□
Shoulder with minimal potholes/ debris	□	□	□
Presence of large trucks	□	□	□
Costs of other travel modes	□	□	□
Presence of hills (steep grade)	□	□	□
Ability to hear natural sounds that might not be heard when traveling in a vehicle	□	□	□
Concern for environment	□	□	□
Other_____	□	□	□

11. Please rank your preference for non-motorized travel.

	Most Preferred	**Indifferent**	**Least Preferred**
Widened road shoulder	□	□	□
Paved multi-use pathway	□	□	□
Dirt roads (open to public)	□	□	□

12. How likely would you be to leave your vehicle at a parking lot if safe pathways/routes were available for you to view major park features by a non-motorized mode?

□ Very likely □ Likely □ Neutral □ Unlikely □ Very Unlikely

13. How safe did you feel bicycling, walking or recreating today in Grand Teton National Park?

□ Very safe □ Safe □ Neutral □ Not safe □ Not at all safe

If you felt unsafe, describe location_____

_____

Why? _____

_____

_____

Grand Teton National Park Non-Motorized Pre-Pathways Survey 2007

14. Are you satisfied with current non-motorized transportation conditions in Grand Teton National Park?

□ Yes □ No □ Don't know

15. What non-motorized facility improvements would you like to see in Grand Teton National Park?

_____
_____
_____
_____
_____

16. Did you encounter any wildlife while using non-motorized modes? ____ Yes ____ No

Where was encounter

_____

Type of wildlife_____

Appr. Distance from wildlife_____

Appr. Number of wildlife_____

Number of bicyclists/pedestrians in group when interaction occurred: _____

Describe interaction (what was your group doing, what did wildlife do)

_____

_____

_____

_____

(Please list any additional wildlife encounters on the back of this sheet)

17. Where did you learn about non-motorized travel options for Grand Teton National Park?

□ National Park Service website
□ Other website _____
□ Travel-guide book
□ Park entrance brochures or maps
□ Park signs or kiosks
□ Travel service/agent
□ Friend
□ Park visitor center brochures or maps
□ Other-please describe

18. What kind of information would you like developed in the future to help improve your pathways experience?

□ Brochures
□ Signs
□ Internet information
□ Other _____

19. What is the zip code of your primary residence? _____

20. What is your age? _____ **What is your gender?** □ female □ male

THANK YOU FOR COMPLETING THIS SURVEY!

Page 3 of 4

[Note: Page 4 of 4 is extra space for describing wildlife encounters reported in Question 16, and is not included here.]

10.APPENDIX D: AUGUST 2007 SURVEY

Grand Teton National Park Non-Motorized Pre-Pathways Survey 2007

Time_____ **Weather**_____

1. **How many people are in your group today?** ____**adults,** ____ **children** (under 18)

2. **What is your mode of non-motorized travel in Grand Teton National Park today? (pick one)**
   - □ Bicycle(type) _____
   - □ Walking/running
   - □ Wheelchair
   - □ Scooter (non-motorized) or Skateboard
   - □ Inline Skates/ Rollerblades
   - □ Other_____ _____

3. **In regards to your trip today:**
   - **3.1. How did you enter Grand Teton National Park?**
     □ Personal vehicle □ Non-motorized mode □ Other _____
   - **3.2. Where did you enter Grand Teton National Park?** _____
   - **3.3. Where did you park your vehicle?** _____
   - **3.4. Where was (is) your destination for the non-motorized portion of your trip?**
     _____
     _____
   - **3.5. Where are you in the non-motorized portion of your trip today?**
     □ Start □ Middle □ End

4. **Were you satisfied with your parking location today?** □ Yes □ No
   If no, please list reasons _____
   _____

5. **What is the purpose of your trip today? (check all that apply)**
   - □ Exercise
   - □ Work commute
   - □ View wildlife
   - □ Spend time with family/ friends
   - □ View scenery
   - □ Other _____

6. **How many times in the past 12 months have you traveled by <u>non-motorized</u> modes on any portion of the road from Dornans to South Jenny Lake (not including this visit)?**
   - □ Never
   - □ Once
   - □ Twice
   - □ 3-5 times
   - □ 5-10 times
   - □ More than 10 times

7. **Please rank your preference for non-motorized travel from 1 to 3 (where 1 is most preferred and 3 is least preferred).**
   ____ Widened road shoulder ____ Paved multi-use pathway ____ Dirt roads (when open to public and motorized vehicles)

8. **How likely would you be to leave your vehicle at a parking lot if safe pathways/routes were available for you to view major park features by a non-motorized mode?**
   □ Very likely □ Likely □ Neutral □ Unlikely □ Very Unlikely

Over ⇨

Page 1 of 2

Grand Teton National Park Non-Motorized Pre-Pathways Survey 2007

8a. What is the furthest distance you would be likely to travel by non-motorized mode (bicycle, walk/run, roller blade etc.) between parking lot and Park features?

□ < 1 mile □ 1-5 miles □ 5-10 miles □ >10 miles

9. How safe did you feel bicycling, walking or recreating today in Grand Teton National Park?

□ Very safe □ Safe □ Neutral □ Not safe □ Not at all safe

If you felt unsafe, describe location_____
Why? _____
_____

10. Are you satisfied with current non-motorized transportation conditions in Grand Teton National Park?

□ Yes □ No □ Don't know

11. What non-motorized facility improvements (e.g. bicycle parking, wayfinding signs, bicycle lanes on roadway, multi-use pathways separated from roadway, etc…) would you like to see in Grand Teton National Park?_____
_____

12. Did you encounter any wildlife while using non-motorized modes? ____ Yes ____ No
Where was encounter_____ Type of wildlife_____
Appr. Distance from wildlife _____ #of wildlife ____ # of people in group:_____
Describe interaction (what was your group doing, what did wildlife do)
_____
_____

13. Where did you learn about non-motorized travel options for Grand Teton National Park?

□ National Park Service website
□ Other website
□ Travel-guide book _____
□ Park entrance brochures or maps
□ Park signs or kiosks
□ Travel service/agent
□ Friend
□ Park visitor center brochures or maps
□ Other-please describe

14. What kind of information would you like developed in the future to help improve your pathways experience?

□ Brochures
□ Signs
□ Internet information
□ Other _____

15. What is the USA zip code or international postal code of your primary residence? _____

16. What is your age? _____ **What is your gender?** □ female □ male

THANK YOU FOR COMPLETING THIS SURVEY!

Page 2 of 2

11.APPENDIX E: AUGUST 2010 SURVEY

Grand Teton Non-Motorized Survey 2010  OMB Control #_1024-0224 (NPS #10-027)
Expiration: June 30, 2011

The Western Transportation Institute at Montana State University is administering this survey on behalf of Grand Teton National Park. This information will be used to help park managers better understand bicycle and pedestrian issues in the park. **Participation in this survey is strictly voluntary**.

1. **What is your mode of non-motorized travel in Grand Teton National Park today? (Please mark only one.)**

☐ Road bike	☐ Walking/running	☐ Wheelchair
☐ Mountain bike	☐ Scooter	☐ Skateboard
☐ Hybrid or "town" bike	☐ Inline Skates/ Rollerblades	☐ Other_____

2. **In regards to your trip today:**

   2.1 **What form of transportation did you use to enter Grand Teton National Park? (Please mark only one.)**
   ☐ Personal vehicle ☐ Walking (running) ☐ Bicycling ☐ Other _____

   2.2 **On this visit, which entrance did you and your group first use to enter the park? (Please mark only one.)**
   ☐ Granite Canyon (Moose-Wilson Rd.) ☐ Yellowstone (north)
   ☐ Jackson Entrance (south) ☐ Moran Entrance (east)
   ☐ Other (specify) _____

   2.3 **Where did you park your vehicle today?**_____

   2.4 **What is the starting point, route, and destination for the non-motorized part of your trip today? Refer to the map if you need to.**

   Start:_____ Route: _____Destination:_____

   2.5 **Which facility are you <u>primarily</u> using for your non-motorized travel today? (Please mark only one.)**
   ☐ Roadway shoulder ☐ Separated pathway ☐ Other_____

   2.6 **How far did you (or will you) travel today by non-motorized mode (bicycle, walk/run, roller blade etc.) in and around Grand Teton National Park? (Please mark only one.)**
   ☐ < 1 mile ☐ 1-5 miles ☐ 6-10 miles ☐ 11-15 miles ☐ > 15 miles

Over ⇨

Grand Teton Non-Motorized Survey 2010 OMB Control #_1024-0224 (NPS #10-027)
Expiration: June 30, 2011

3. **How many times in the past 12 months have you traveled by <u>non-motorized</u> modes on any portion of the road from Dornan's to South Jenny Lake (not including this visit)?**
   ☐ Never ☐ Once ☐ Twice
   ☐ 3-5 times ☐ 6-10 times ☐ More than 10 times

4. **Were you satisfied with your parking location today?** ☐ Yes ☐ No
   If No, please list reasons _____

5. **What is the purpose of your trip to Grand Teton National Park today? (Please mark all that apply.)**
   ☐ Exercise ☐ Work commute ☐ View wildlife
   ☐ Spend time with family/ friends ☐ View scenery ☐ Other_____

6. **Describe what effect, if any, the multi-use pathway had on your wildlife viewing experience in Grand Teton National Park today?**_____
   _____

7. **How safe did you feel traveling by non-motorized mode today in Grand Teton National Park? (Please mark only one.)**
   ☐ Very safe ☐ Somewhat safe ☐ Neutral ☐ Somewhat unsafe ☐ Very unsafe
   If you felt unsafe or very unsafe, describe why_____
   _____

8. **Are you satisfied with current non-motorized transportation conditions in Grand Teton National Park?**
   ☐ Yes ☐ No ☐ Don't know
   If no, describe why_____

Over ⇨

Grand Teton Non-Motorized Survey 2010  OMB Control #_1024-0224 (NPS #10-027)
Expiration: June 30, 2011

9. **What non-motorized facility improvements (e.g. bicycle parking, directional signs, bicycle lanes on roadway, multi-use pathways separated from roadway, etc. would you like to see in Grand Teton National Park in the future?** _____

_____

10. **How did you obtain information about non-motorized travel options for Grand Teton National Park? (Please mark all that apply.)**
    - ☐ National Park Service website
    - ☐ Other website _____
    - ☐ Travel-guide book_____
    - ☐ Park entrance brochures or maps
    - ☐ Park signs or kiosks
    - ☐ Travel service/agent
    - ☐ Friend
    - ☐ Park visitor center brochures or maps
    - ☐ Other-describe _____

11. **On a future visit, what type of information would you like to improve your <u>non-motorized</u> experience in Grand Teton National Park? (Please mark all that apply.)**
    - ☐ Brochures
    - ☐ Signs
    - ☐ Internet information
    - ☐ Other _____

12. **Do you live in the United States?**

    ___Yes → What is your Zip Code? _____

    ___No → What country do you live in? _____

13. **What is your age?** _____

14. **What is your gender?** ☐ Female ☐ Male

15. **How many people are in your group today, including yourself?**

    ____Adults (18 and older) ____ Children (under 18)

THANK YOU FOR COMPLETING THIS SURVEY!

Grand Teton Non-Motorized Survey 2010  OMB Control #_1024-0224 (NPS #10-027)
Expiration: June 30, 2011

16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by park managers to better serve the public. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

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Margaret Wilson
Environmental Planning and Compliance
Grand Teton National Park
Park P.O. Drawer 170
Moose, WY 83102
(307) 739-3465
Margaret_Wilson@nps.gov

THANK YOU FOR COMPLETING THIS SURVEY!

12.APPENDIX F: JULY 2011 SURVEY

Grand Teton Non-Motorized Survey 2011  OMB Control #_1024-0224 (NPS #10-027)
Expiration: July 30, 2011

The Western Transportation Institute at Montana State University is administering this survey on behalf of Grand Teton National Park. This information will be used to help park managers better understand bicycle and pedestrian issues in the park. **Participation in this survey is strictly voluntary**.

1. **What is your mode of non-motorized travel in Grand Teton National Park today? (Please mark only one.)**

☐ Road bike	☐ Walking/running	☐ Wheelchair
☐ Mountain bike	☐ Scooter	☐ Skateboard
☐ Hybrid or "town" bike	☐ Inline Skates/ Rollerblades	☐ Other_____

2. **In regards to your trip today:**

   2.1 **What form of transportation did you use to enter Grand Teton National Park? (Please mark only one.)**
   ☐ Personal vehicle ☐ Walking (running) ☐ Bicycling ☐ Other _____

   2.2 **On this visit, which entrance did you and your group first use to enter the park? (Please mark only one.)**
   ☐ Granite Canyon (Moose-Wilson Rd.) ☐ Yellowstone (north)
   ☐ Jackson Entrance (south) ☐ Moran Entrance (east)
   ☐ Other (specify) _____

   2.3 **Where did you park your vehicle today?**_____

   2.4 **What is the starting point, route, and destination for the non-motorized part of your trip today? Refer to the map if you need to.**

   Start:_____ Route: _____Destination:_____

   2.5 **Which facility are you <u>primarily</u> using for your non-motorized travel today? (Please mark only one.)**
   ☐ Roadway shoulder ☐ Separated pathway ☐ Other_____

   2.6 **How far did you (or will you) travel today by non-motorized mode (bicycle, walk/run, roller blade etc.) in and around Grand Teton National Park? (Please mark only one.)**
   ☐ < 1 mile ☐ 1-5 miles ☐ 6-10 miles ☐ 11-15 miles ☐ > 15 miles

Over ⇨

Grand Teton Non-Motorized Survey 2011  OMB Control #_1024-0224 (NPS #10-027)
Expiration: July 30, 2011

3. **How many times in the past 12 months have you traveled by <u>non-motorized</u> modes on any portion of the road from Dornan's to South Jenny Lake (not including this visit)?**
   ☐ Never ☐ Once ☐ Twice
   ☐ 3-5 times ☐ 6-10 times ☐ More than 10 times

4. **Were you satisfied with your parking location today?** ☐ Yes ☐ No
   If No, please list reasons _____

5. **What is the purpose of your trip to Grand Teton National Park today? (Please mark all that apply.)**
   ☐ Exercise ☐ Work commute ☐ View wildlife
   ☐ Spend time with family/ friends ☐ View scenery ☐ Other_____

6. **Describe what effect, if any, the multi-use pathway had on your wildlife viewing experience in Grand Teton National Park today?**_____
   _____

7. **How safe did you feel traveling by non-motorized mode today in Grand Teton National Park? (Please mark only one.)**
   ☐ Very safe ☐ Somewhat safe ☐ Neutral ☐ Somewhat unsafe ☐ Very unsafe
   If you felt unsafe or very unsafe, describe why_____
   _____

8. **Are you satisfied with current non-motorized transportation conditions in Grand Teton National Park?**
   ☐ Yes ☐ No ☐ Don't know
   If no, describe why_____

Over ⇨

Grand Teton Non-Motorized Survey 2011  OMB Control #_1024-0224 (NPS #10-027)
Expiration: July 30, 2011

9. What non-motorized facility improvements (e.g. bicycle parking, directional signs, bicycle lanes on roadway, multi-use pathways separated from roadway, etc. would you like to see in Grand Teton National Park in the future? _____

_____

10. How did you obtain information about non-motorized travel options for Grand Teton National Park? (Please mark all that apply.)

- ☐ National Park Service website
- ☐ Other website _____
- ☐ Travel-guide book_____
- ☐ Park entrance brochures or maps
- ☐ Park signs or kiosks
- ☐ Travel service/agent
- ☐ Friend
- ☐ Park visitor center brochures or maps
- ☐ Other-describe _____

11. On a future visit, what type of information would you like to improve your <u>non-motorized</u> experience in Grand Teton National Park? (Please mark all that apply.)

- ☐ Brochures
- ☐ Signs
- ☐ Internet information
- ☐ Other _____

12. Do you live in the United States?

___Yes → What is your Zip Code? _____

___No → What country do you live in? _____

13. What is your age? _____

14. What is your gender? ☐ Female ☐ Male

15. How many people are in your group today, including yourself?

____Adults (18 and older) ____ Children (under 18)

THANK YOU FOR COMPLETING THIS SURVEY!

Grand Teton Non-Motorized Survey 2011  OMB Control #_1024-0224 (NPS #10-027)
Expiration: July 30, 2011

16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by park managers to better serve the public. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

BURDEN ESTIMATE STATEMENT: Public reporting burden for this form is estimated to average 10 **minutes** per response. Direct comments regarding the burden estimate or any other aspect of this form to:

Margaret Wilson
Environmental Planning and Compliance
Grand Teton National Park
Park P.O. Drawer 170
Moose, WY 83102
(307) 739-3465
Margaret_Wilson@nps.gov

THANK YOU FOR COMPLETING THIS SURVEY!

13.APPENDIX G: MANUAL COUNT DATA

Manual counts of non-motorized users were collected in April 2007. After consideration it was decided that the April numbers were not comparable to other manual counts conducted during this study. The April counts were unique due to the warm, sunny weather, the closure of Teton Park Road to motor vehicles, and the annual tradition of riding the road on the last weekend prior to the road opening to motorists. Thus the April counts are not typical of what was seen throughout the tourist season. The April counts are included in this appendix. The other counts described in the body of the report are also repeated here for context.

During the April 2007 data collection, surveyors observed that the majority of non-motorized users parked at the Taggart Lake parking lot and traveled north along the Teton Park Road for various distances, before turning around and heading back south to their vehicles. A smaller number parked at Signal Mountain, at the north end of the road closure, and traveled out and back from there. Taggart northbound had the highest flows, ranging from 221 people on Friday to 733 on Sunday. Daily non-motorized flows observed at the three sites are shown in Figure 43 with reference made to northbound or southbound travel. Note that the northbound and southbound visitor numbers were relatively equal, indicating an out-and-back travel pattern from the Taggart Lake parking lot on the south end of the road closure and Signal Mountain at the north end.

As noted in Figure 43, direction of travel was not recorded for South Jenny Lake on April 27th due to an error in data collection. A total of 181 people were counted on that day at this location. Based on the researchers' observations and data for other days, researchers estimated that about half of the people traveled north and half traveled south.

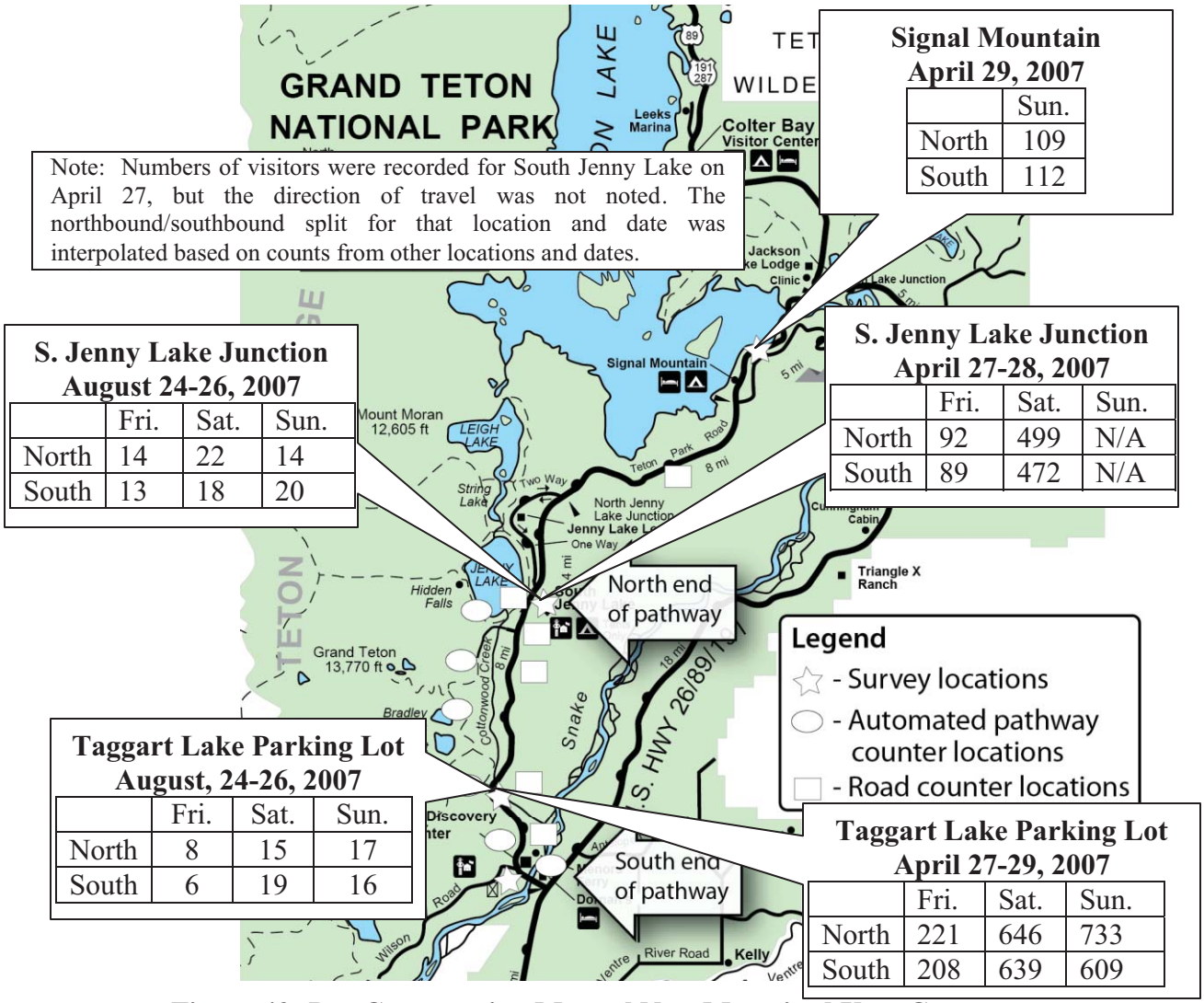


Figure 43: Pre-Construction Manual Non-Motorized User Counts

For context the manual counts made during 2010 and 2011 are include in Figure 44.

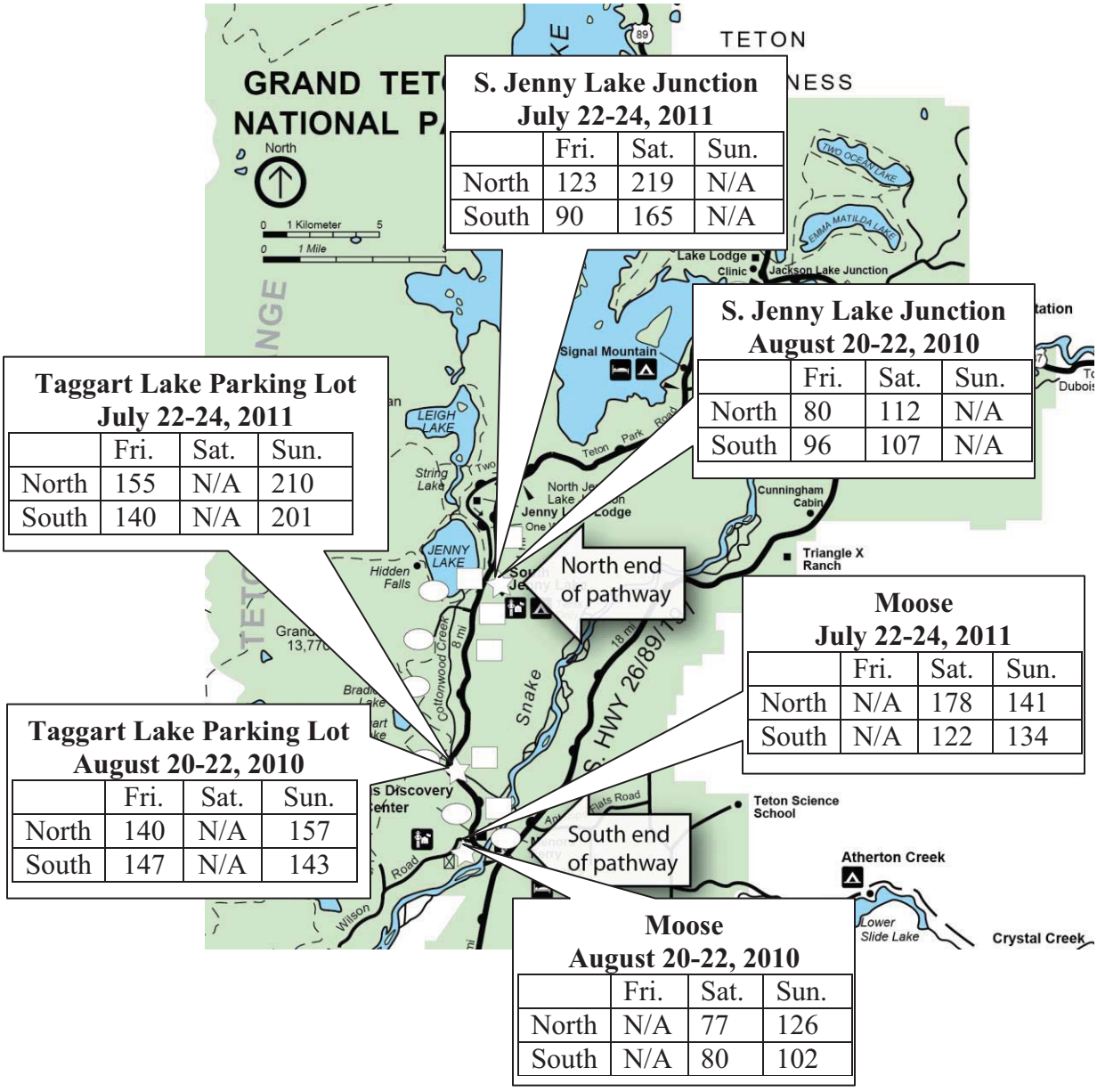


Figure 44: Post-Construction Manual Non-Motorized User Counts

The average daily directional count is separated by weekday and weekend and shown in Table 5.

Table 5: Average Daily Directional Non-Motorized Count

Day of Week	Pre-Construction April 2007 (road closed to motorists)	Pre-Construction August 2007	Post-Construction August 2010	Post-Construction July 2011
Friday	153	10	116	127
Sat./Sun.	600	18	113	155

14. APPENDIX H: SURVEY DATA

The survey results are summarized in Chapter 4. Detailed results for all years are included in this appendix.

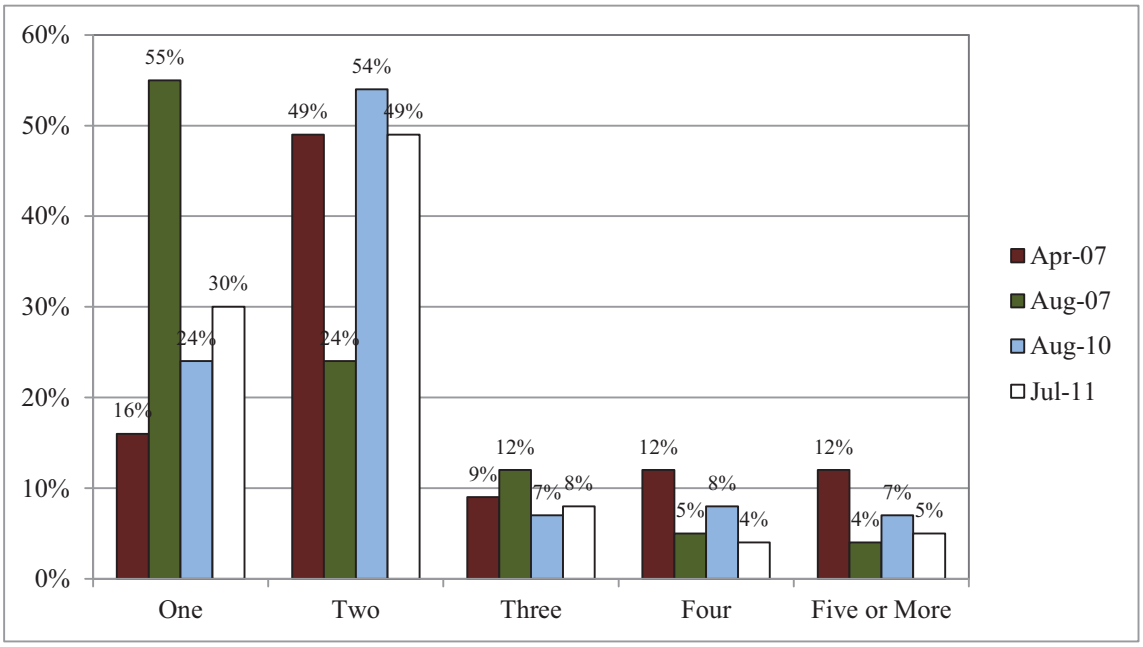


Figure 45: How many adults are in your group today?

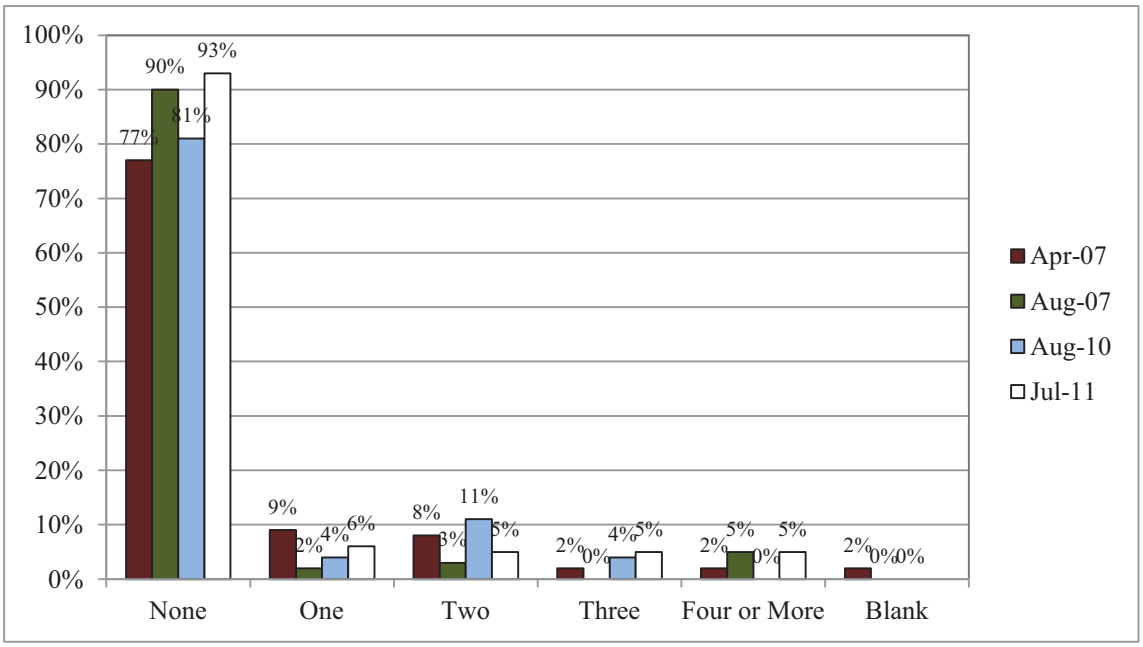


Figure 46: How many children are in your group today?

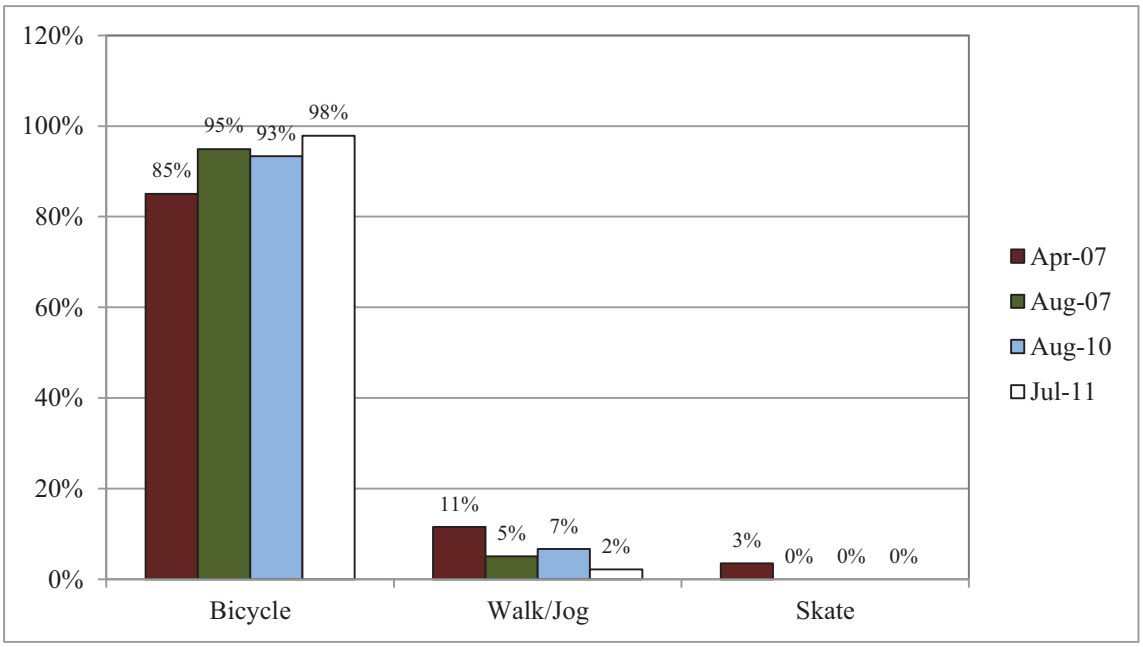


Figure 47: What is your mode of non-motorized travel in Grand Teton National Park today?

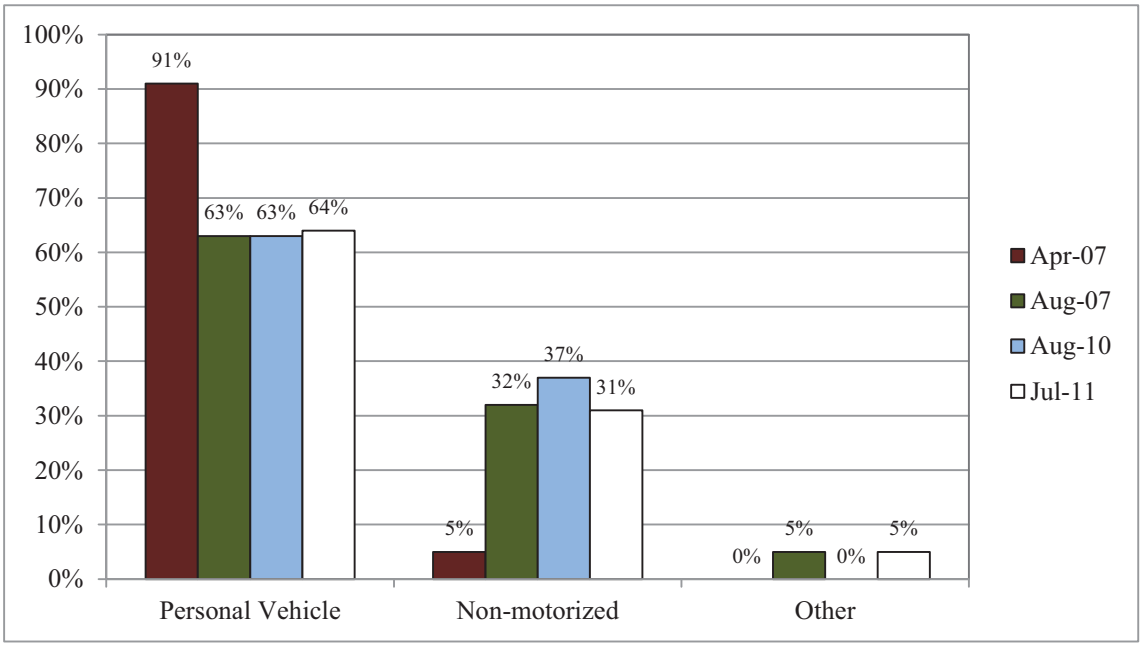
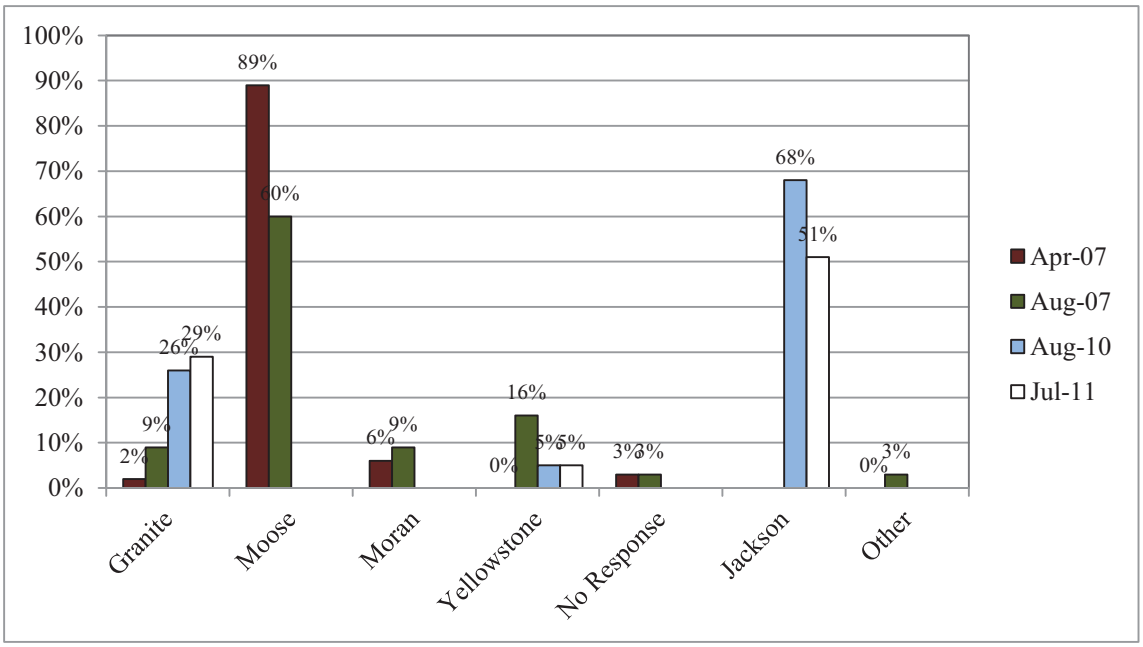


Figure 48: How did you enter Grand Teton National Park?



(note: question changed from open ended to provided list)

Figure 49: Where did you enter Grand Teton National Park?

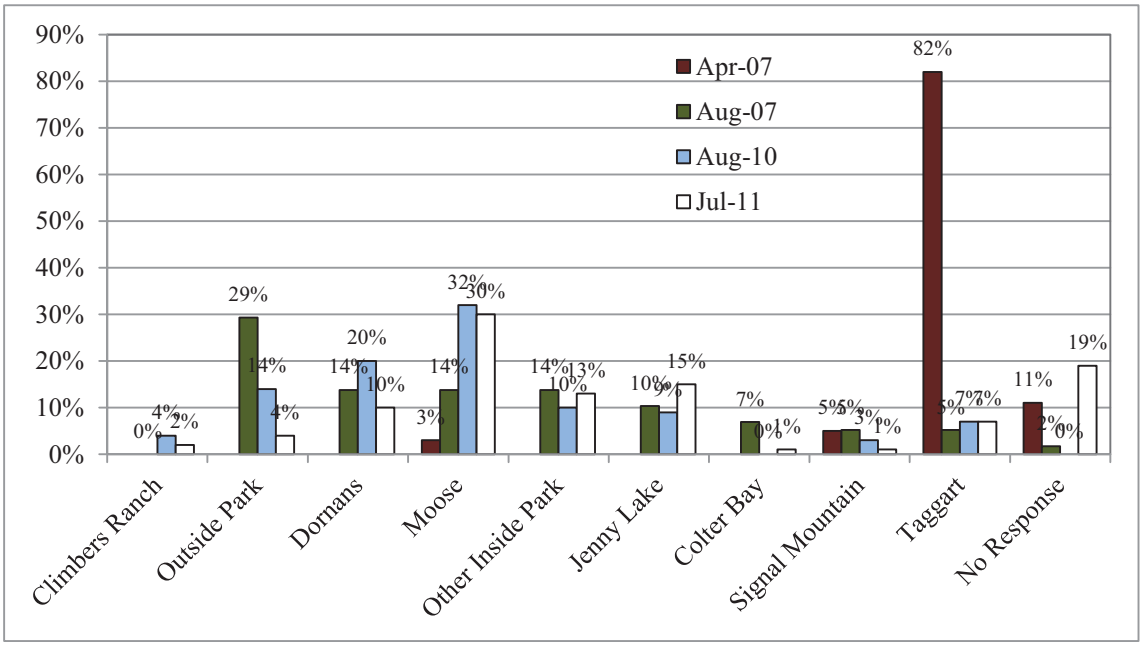


Figure 50: Where did you park your vehicle?

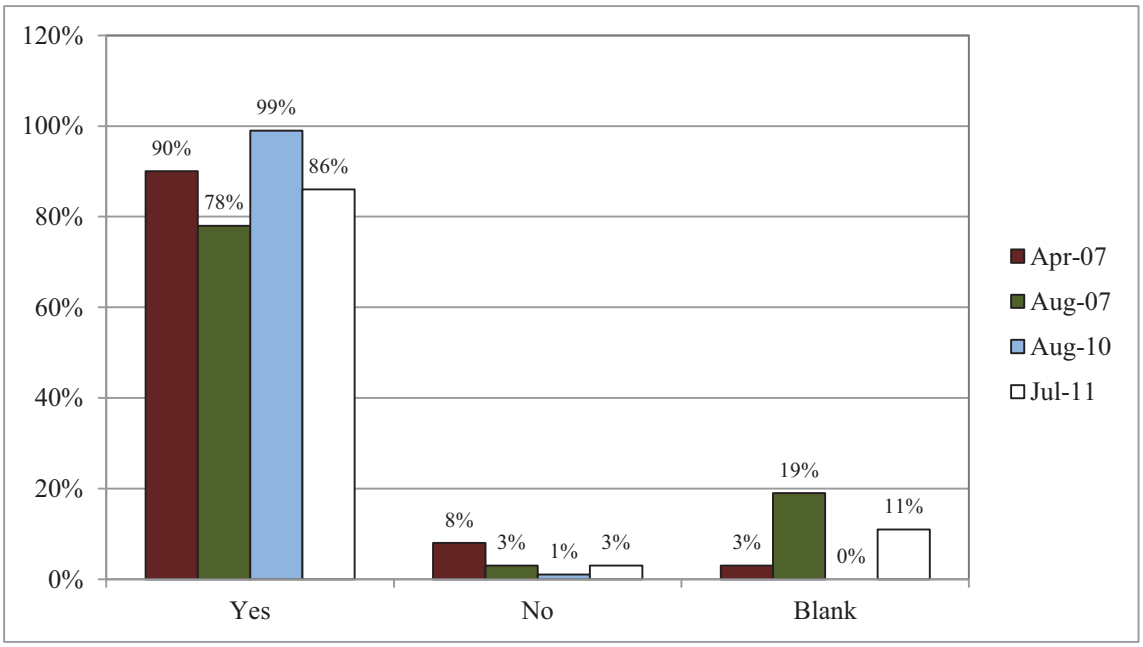


Figure 51: Were you satisfied with your parking location today?

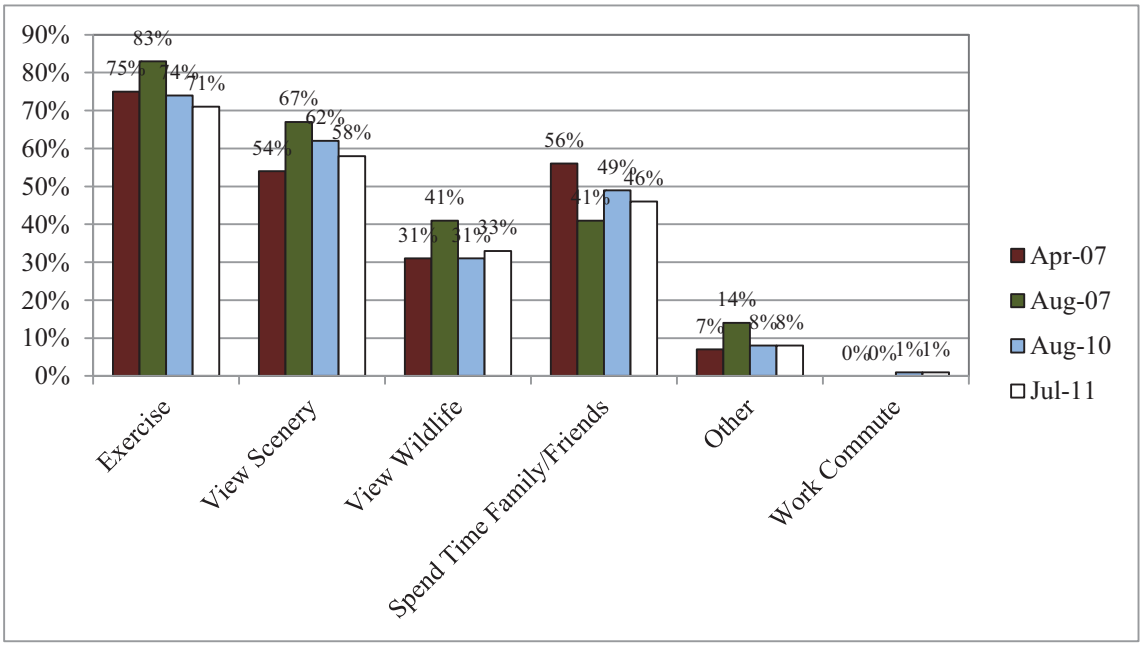


Figure 52: What was the purpose of your trip to day (check all that apply)?

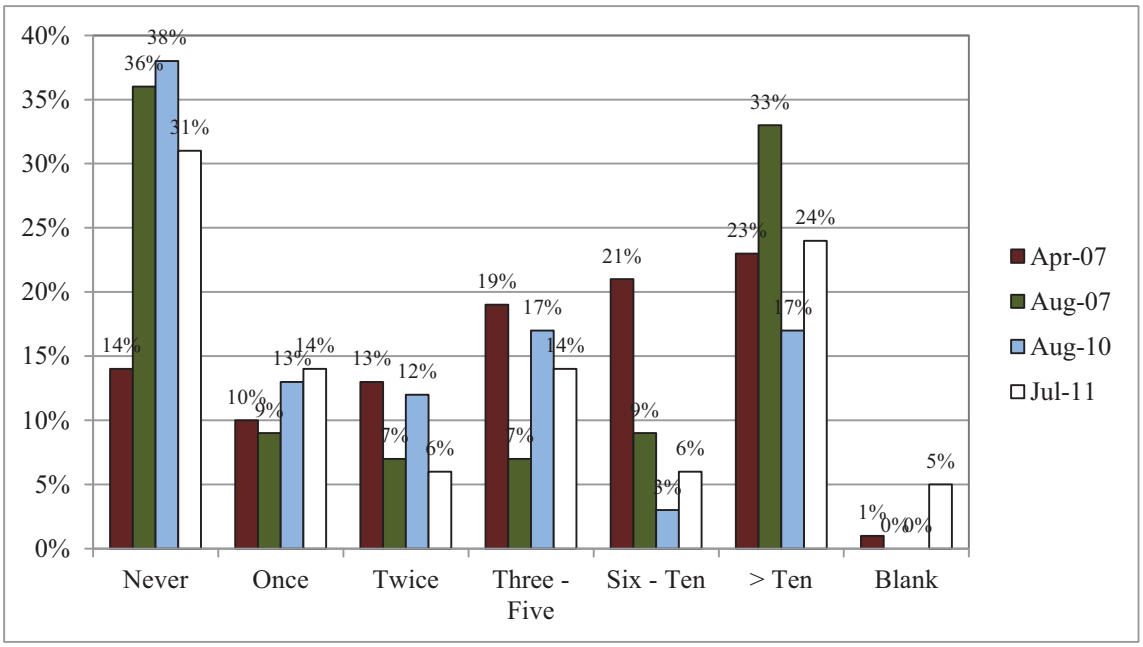


Figure 53: How many times in the past 12 months have you traveled by non-motorized modes on any portion of the road from Dornan's Junction to South Jenny Lake (not including this visit)?

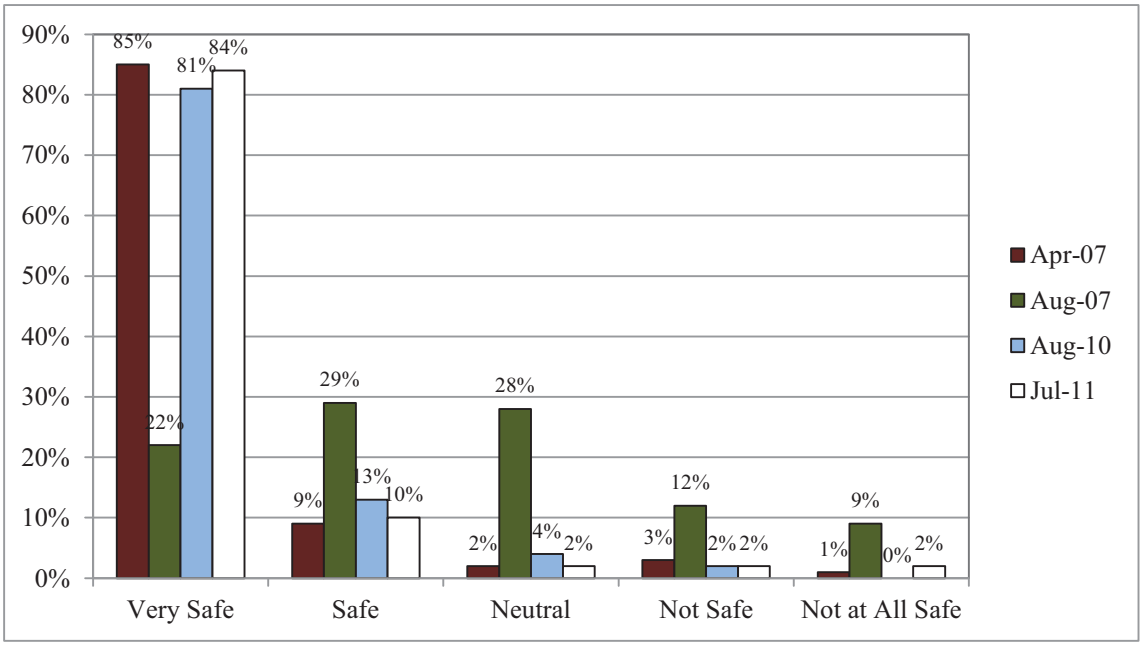


Figure 54: How safe did you feel traveling by non-motorized mode today in Grand Teton National Park?

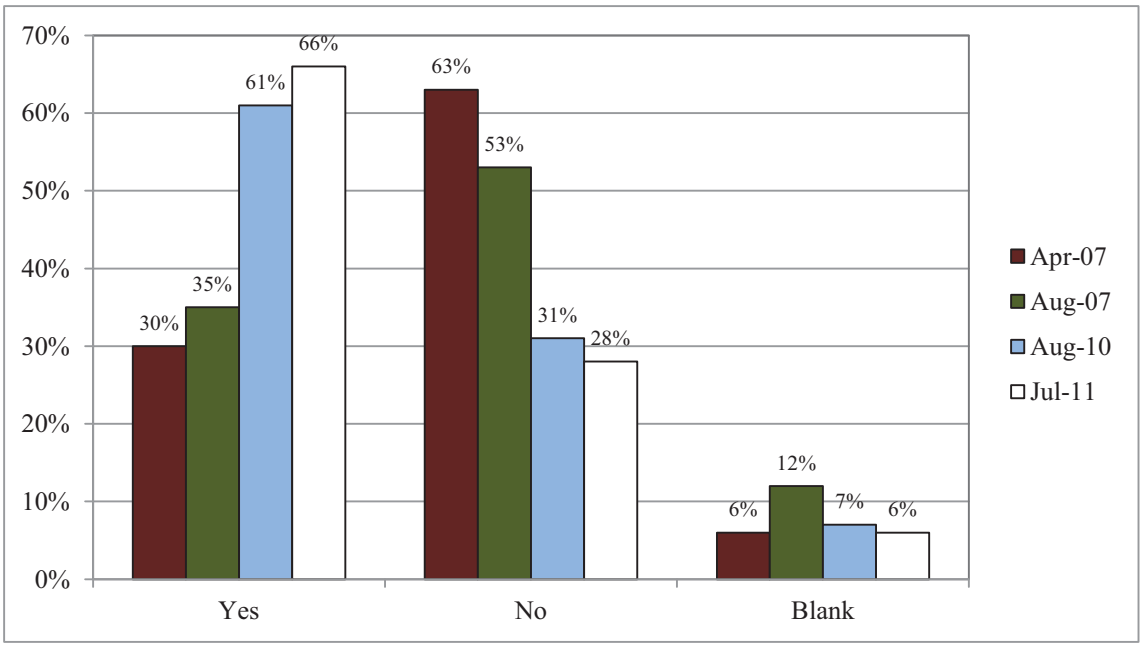


Figure 55: Are you satisfied with current non-motorized transportation conditions in Grand Teton National Park?

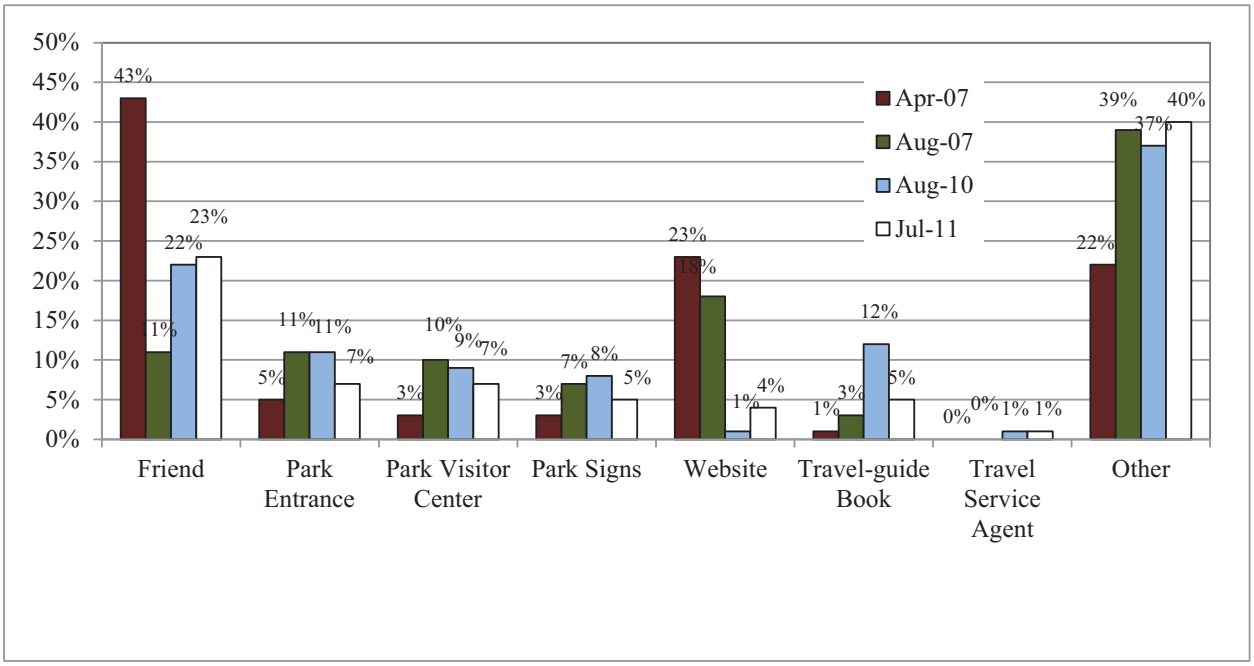


Figure 56: Where did you learn about non-motorized travel options for Grand Teton National Park?

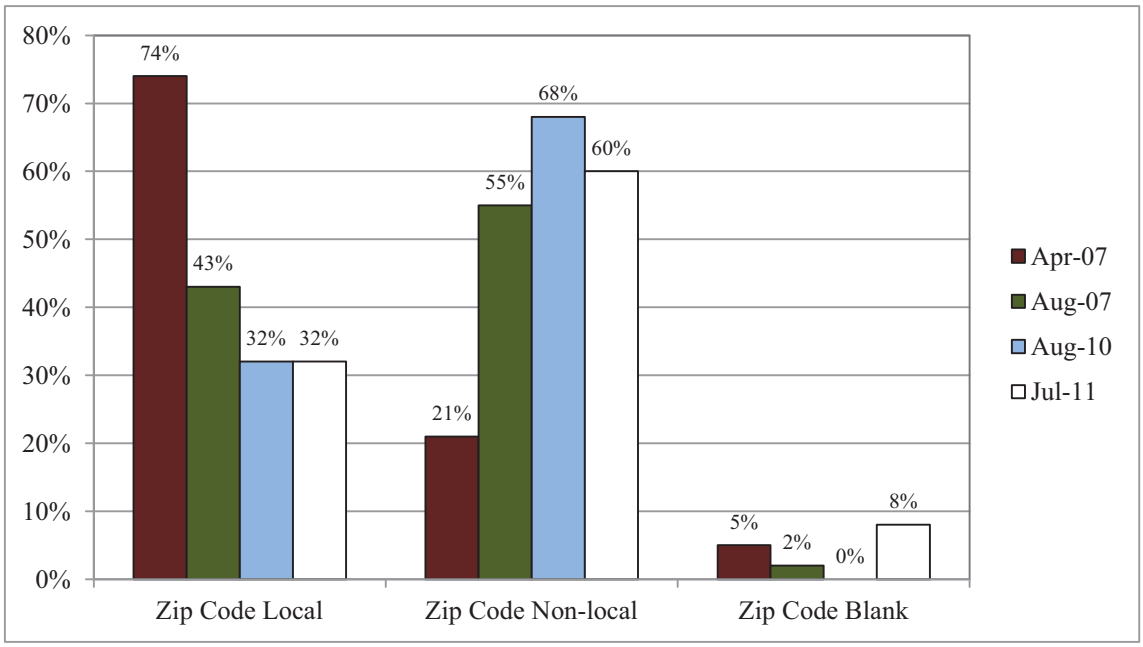


Figure 57: Do you live in the United States (If Yes What is your Zip Code)?

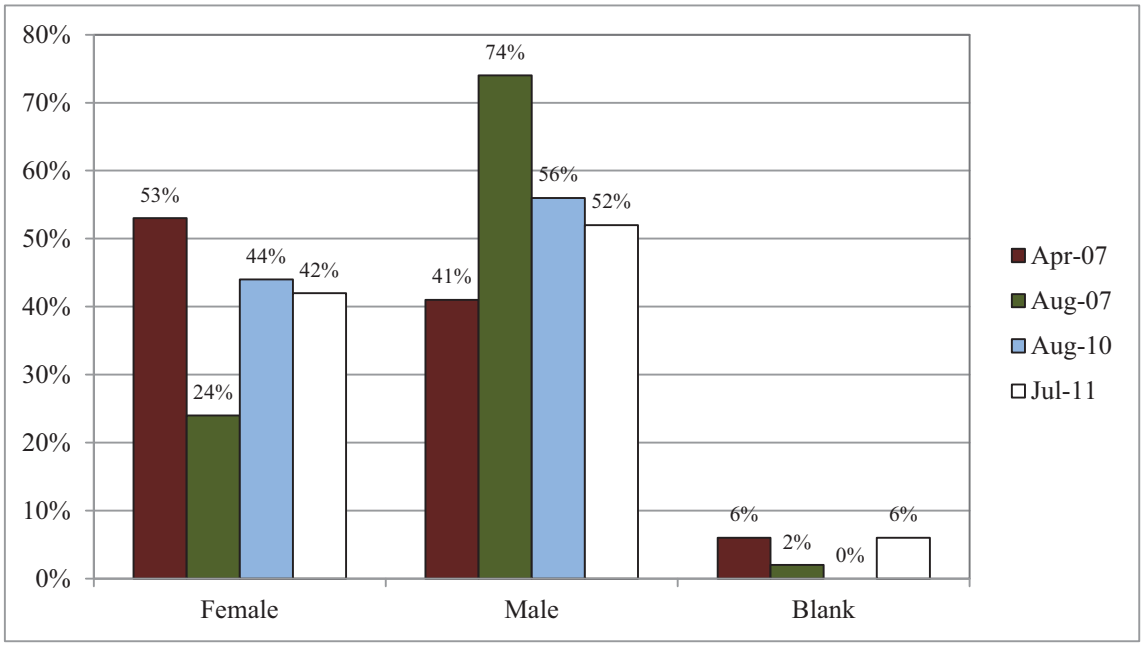


Figure 58: What is your gender?

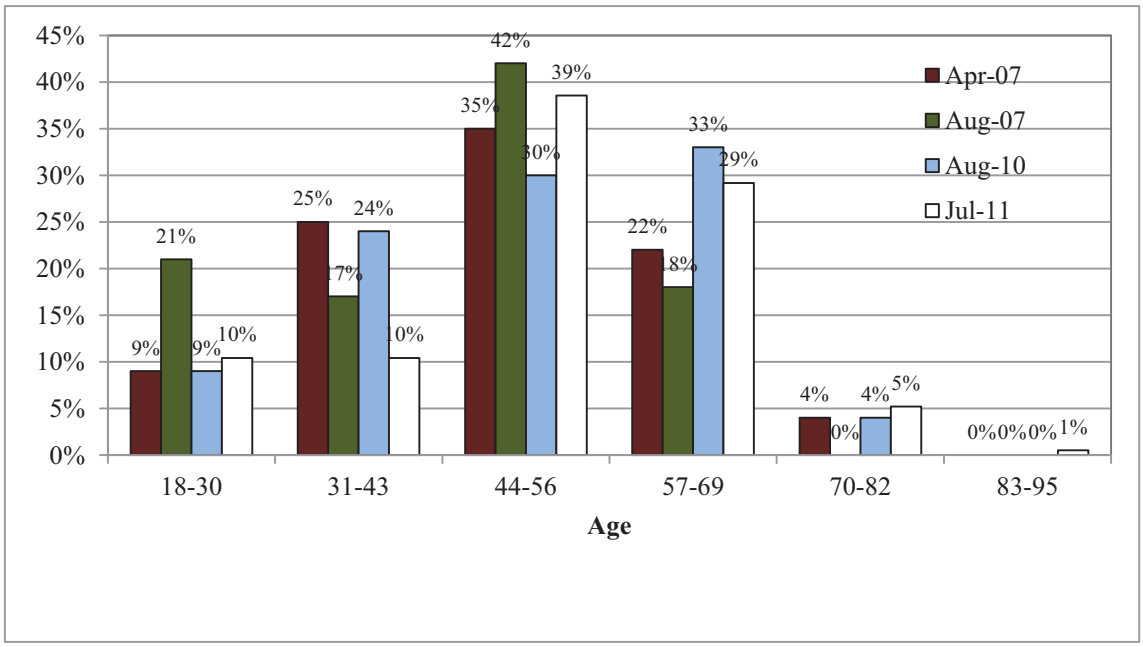


Figure 59: What is your age?

15. APPENDIX I: COMMENTS

Several of the survey questions allowed for open-ended answers. In some cases these answers were categorized by research staff and summarized in the body of the report. The full comments provided by the respondents to these open-ended questions are included in this appendix.

15.1. Trip Destinations

April 2007 responses to parking location and trip destination are shown in Table 6. When comments were identical, they were grouped and only listed once (followed by the number of responses).

Table 6: Trip Destination Answers for April 2007 Survey

Destination (April 2007)	Number of Responses
1 hour walk	1
1 Hr walk	1
4 mile walk	1
5 miles down road	1
apex of teewinots east face	1
around Jenny Lake	1
As far as we can go, until we get tired.	1
as far as we could get	1
Bar BC Road	1
Down the road.	1
Exum Mountain Guides office	3
Grand Teton	1
Jenny and String Lakes	8
Jenny Lake and Signal Mountain	1
inner road	1
into the park to ride	1
Jackson Lake/Dam	84
Jackson Lake Dam, Signal Mountain Lookout	1
Jackson lake/ string lake	1
Jenny Lake	106
just 1 hour north and back	1
Just a walk	2
just as far as our legs will take us	1
just out for a ride	3
Leigh Lake	2
Live Here	1
Lupine Meadows	2
Meadows in Garnet Canyon	1
moose	1
Mt. Moran Overlook	1

Destination (April 2007)	Number of Responses
Mt. Moran Turnout	1
North	1
Oxbow	1
Parking Lot	1
Pic Loop	1
Pothole turnout	2
recreational ride	1
ride down the road	4
roadway rollerblading	1
roundtrip in park	1
roundtrip moose to Moran	1
roundtrip more to Moran to more	1
short ride for 15 min	1
Signal Mountain	33
Spaulding Bay Rd	1
String Lake	30
String Lake to Jenny Lake and back	1
Sunny lane	1
Taggart Trailhead	7
Taggart Lake- Some road the loop	1
Taggart, Moran junction signal Mountain	1
Teton Park Road	1
To Climbers Ranch	1
to gate at other end, signal mountain, jenny lake	1
top of Signal Mountain	4
Walk up the road	1
walked 3.6 miles around lakes	1
walking on park roads no destination	1
where ever we get to	1
where we could get to - signal mountain	1
Wherever	1
Wilson	1

August 2007 responses to parking location and trip destination are shown in Table 7. When comments were identical they were grouped and only listed once.

Table 7: Trip Destination Answers for August 2007 Survey

Destination (Aug. 2007)	Number of Responses
40 mile loop	1
back and forth	1
Bar BC Dude Ranch and along Snake River	1
Deadmans Bar to Jackson Dam	1
Dornans	2
Climbers Ranch	1
Colter Bay to Jenny Lake	1
day rides	1
day rides- loop around Antelope Flats	1
Grand Teton National Park	1
Inspiration Point	1
Jenny Lake	12
Jackson Lake	3
Jackson Hole	5
Kelly, antelope, Moose, Village-return	1
Leeks (Marina)	1
loop road ride	3
loop inner-outer road or out and back-Leeks or further	1
Moose	2
Moose- signal-Moose	1
Moran and Signal Mountain	1
New visitors center	1
Signal mountain	6
Signal Mountain to Jenny Lake and back	1
S. Jenny Lake (shuttle van from Colter to Jenny)	1
Teton National Park	1
Teton Park Road/ Hwy loop (about 45 miles)	1
up valley and back (Wind Point to Jackson	1
Wilson, WY- "round the rock" ride 190 miles around the Tetons	1
Yellowstone	3

August 2010 responses to parking location and trip destination are shown in Table 8. When comments were identical they were grouped and only listed once.

Table 8: Trip Destination Answers for August 2010 Survey

Destination (August 2010)	Number of Responses
Bar BC	1
Blacktail	1
Climbers Ranch	3
Colter Bay	8
Dornans	13
Teton Glacier	1
Grand	1
Jackson Hole	5
Jackson Lake Lodge	1
Jenny Lake Visitors Center	66
Jenny Lake Lodge	2
Kelly	2
Lupine	2
Moose Jct Post Office or Visitor Center	33
Path	1
Rafter J	1
Sentinal Pk	1
Signal Mountain	3
String Lake Trailhead	4
Taggart Lake Trailhead	7
Teton Glacier	1
Teton Village	1
Wilson	5
Windy Point Pullout	3
Yellowstone	2

July 2011 responses to parking location and trip destination are shown in Table 9. When comments were identical they were grouped and only listed once.

Table 9: Trip Destination Answers for July 2011 Survey

Destination (July 2011)	Number of Responses
Cathedral	1
Climbers Ranch	1
Coulter Dam	2
Inspiration	1
Jackson	6
Jackson Lake	2
Jackson Lake Lodge	1
Jenny Lake	88
Lupine	2
Menors	1
Moose Jct. Post Office or Visitor Center	32
Murie Center	1
Moose Wilson Road	1
Pathway	1
Road North	1
Signal Mountain	5
String Lake Trailhead	9
Taggart Lake Trailhead	8
Teton Village	2
Windy Point Pullout	5

15.2. Parking Satisfaction Comments

Parking satisfaction comments for April 2007 are provided in Table 10. Also provided are the location where the respondents parked their vehicle, the time and date they took the survey, and whether or not they were satisfied with the parking.

Table 10: Parking Satisfaction Answers for April 2007 Survey

Were you satisfied with your parking location today?					
Parking Location	**Time**	**Date**	**Yes**	**No**	**Parking Comments**
Taggart	12:30	4/28/2007		1	Not enough parking room
Taggart	12:45	4/28/2007		1	it is full
Taggart	1:30	4/28/2007	1		ok with side of road parking
Taggart	3:20	4/28/2007		1	need a permanent pathway from moose
Taggart	4:20	4/28/2007		1	Shaded Areas would be nice
Taggart	4:55	4/28/2007		1	larger parking lot
Taggart	12:10	4/29/2007	1		we came early otherwise it was a mess
Taggart	12:30	4/29/2007	1		but we arrived early and on return we saw cars on the road far past the lot at taggert
Taggart	12:40	4/29/2007	1		could use more parking room
Taggart	1:00	4/29/2007		1	it could be bigger
Taggart	1:00	4/29/2007		1	too crowded – can't begin to handle the demand
Taggart	1:30	4/29/2007		1	there weren't that many places to park
Taggart	2:05	4/29/2007		1	Not enough parking room
Taggart	2:30	4/29/2007		1	expand parking
Taggart	3:00	4/29/2007		1	need more parking space we parked on the road
Taggart	3:25	4/29/2007		1	need more parking
Taggart	3:35	4/29/2007		1	Not enough parking room
Taggart	4:00	4/29/2007	1		we were lucky to get a spot in the lot, but many were not so.
Taggart	4:10	4/29/2007		1	lots of cars but we found a spot to park
S. Jenny Lake	1:20	4/28/2007	1		but there was no more room in lot had to park on the street
S. Jenny Lake	2:00	4/28/2007		1	could use more parking room
S. Jenny Lake	3:00	4/28/2007		1	not close enough to Jenny lake
S. Jenny Lake	4:30	4/28/2007		1	parking lot full had to park on road
S. Jenny Lake	5:00	4/28/2007		1	I don't want to walk
N. Gate near Signal Mountain	12:45	4/29/2007		1	had to park on the road because lot was full
N. Gate near Signal Mountain	12:45	4/29/2007	1		lot full
N. Gate near Signal Mountain	1:45	4/29/2007	1		crowded parking, had to park on road (way down)
N. Gate near Signal Mountain	2:00	4/29/2007		1	parked in overflow on the road

Parking satisfaction comments for August 2007 are provided in Table 11. Also provided are the location where the respondents parked their vehicle, the time and date they took the survey, and whether or not they were satisfied with the parking.

Table 11: Parking Satisfaction Answers for August 2007 Survey

Were you satisfied with your parking location today?					
Parking Location	Time	Date	Yes	No	Parking Comments
Moose Visitor Center	11:42	8/26/2007		1	Bike paths
Jenny Lake	3:15	8/25/2007		1	Near misses and vehicles on signal mountain

Parking satisfaction comments for August 2010 are provided in Table 12. Also provided are the location where the respondents parked their vehicle, the time and date they took the survey, and whether or not they were satisfied with the parking.

Table 12: Parking Satisfaction Answers for August 2010 Survey

Were you satisfied with your parking location today?					
Parking Location	Time	Date	Yes	No	Parking Comments
Climbers Ranch	12:10	8/21/2010		1	Not enough restrooms, long line

Parking satisfaction comments for July 2011 are provided in Table 13. Also provided are the location where the respondents parked their vehicle, the time and date they took the survey, and whether or not they were satisfied with the parking.

Table 13: Parking Satisfaction Answers for July 2011 Survey

Were you satisfied with your parking location today?					
Parking Location	Time	Date	Yes	No	Parking Comments
Jenny Lake	12:35	7/24/2011		1	Crowded
Moose	4:00	7/24/2011		1	I like the old visitor center
Jenny Lake	2:25	7/22/2011		1	Not enough parking
Colter Bay	2:25	7/22/2011		1	The lot was full
Jenny Lake	12:40	7/23/2011		1	Busy

15.3. Safety Comments

Safety comments for the four surveys are provided in the Tables 14-17. In addition, the tables show the category selected by the respondents to categorize their level of personal safety (ranging from "Not at all Safe" to "Very Safe").

Table 14: Safety Answers for April 2007 Survey

How Safe did you feel today?	If you felt unsafe, describe location. Why did you feel unsafe? April 2007
Very Safe	2 weeks ago I had a moose on the road that wouldn't let me pass for about 20 minutes and trotted toward me for about 1/4 of a mile
Very Safe	I only feel very safe because the road is closed to cars. I would never bike during the summer because it is way too dangerous to ride when there are cars
Very Safe	no cars!
Very Safe	Only because the park is closed now.
Very Safe	Safe, but road was closed.
Very Safe	very safe when road closed neutral to not safe when open. Felt unsafe due to cars trucks, bikes
Very Safe	no motor vehicles
Very Safe	road not open to cars
Very Safe	road closed
Very Safe	road not yet open to motorized vehicles
Very Safe	closed to motor vehicles
Very Safe	Road closed
Very Safe	no cars
Very Safe	no cars
Very Safe	road closed to vehicles
Very Safe	roads closed to cars
Very Safe	not safe when park is open to motor vehicles
Very Safe	decent shoulder, decent vehicle speed
Very Safe	road closed to traffic
Very Safe	I would not cycle w/ automobiles today - here w/ the advent of cell phones millions of tourists
Very Safe	if I was to feel unsafe its when a park vehicle drives by too fast
Very Safe	NO MOTORIZED TRAFFIC - VERY SAFE!!
Very Safe	no cars
Very Safe	road was closed to motor vehicles
Very Safe	no motor vehicles today
Safe	only when road closed. very unsafe with traffic
Safe	Road closed to motorized vehicles (April) Not safe when cars are on the road
Safe	safe during shoulder season not safe during peak season. too much traffic people not looking out for cyclists

How Safe did you feel today?	If you felt unsafe, describe location. Why did you feel unsafe? April 2007
Safe	Kids were biking on wrong side
Safe	two to three park trucks went by
Safe	road closed to traffic today
Safe	safe because no motorized vehicles were allowed
Safe	young children not watching ahead when biking
Safe	feel that bikes should slow down when a lot of walking kids around
	There are no cars at this time
Neutral	having to park south of taggart lot - no room to gear up
Neutral	fast bike riders around children
Not Safe	I never bike in the park when cars on the road except Tully Rd and that is questionable, but I need to exercise close to home. visitors are too distracted looking around
Not Safe	on any road, scenery viewing motorists
Not Safe	roads open to vehicles, they will kill you
Not at all Safe	along the road
Not at all Safe	anywhere on park roads, too narrow shoulders
Not at all Safe	The park roads too narrow
Not at all Safe	In the past on 191 with RV's going at a high speed with the steps down.
Not at all Safe	no shoulders, road is too narrow
Not at all Safe	Taggart to jenny, traffic
Not at all Safe	when road is open in summer too much traffic - tourist gawking = danger!
Not at all Safe	road open to motor vehicles

Table 15: Safety Answers for August 2007 Survey

How Safe did you feel today?	If you felt unsafe, describe location. Why did you feel unsafe? August 2007
Very Safe to Not safe	Narrow shoulders, cars passing
Very Safe to Safe	lots of cars/buses are unsettling
Very Safe	main highway, speed
Safe	couple places side of roadbed is narrow such as at bridges
Safe	Park road speed limit should be 35, not 45 mph
Neutral	a lot of the road has a narrow shoulder, and the shoulder surface is terrible-worse than the road. RVs are way too big for the roads and are dangerous for bikes.
Neutral	on roadway (all the time), dealing with vehicles, plus I am deaf
Neutral to Not Safe	shoulder not wide enough, inattentive motorists
Neutral	shoulders are narrow, especially by Colter Bay? Felt unsafe any place where Winnebago's go through
Neutral	shoulders narrow with gravel/or potholes on many sections
Neutral	the hills and turns between Signal and S. Jenny Lake. Poor vehicle visibility and narrow shoulders.
Neutral	thin shoulders, overgrown by Signal Mountain to North Jenny Lake Road.
Neutral	where I share the road with cars, Drivers are looking at the Tetons, or otherwise distracted
Neutral	narrow shoulder
Not safe	Between Pacific Creek and Jackson dam
Not safe	driver too close to shoulder
Not safe	narrow, cars
Not safe	road, vehicles
Not safe	The entire route. Motor coaches are too big-shoulder is too small. Changes need to be made.
Not at all safe	all spots on hwy, I did CPR on Gabriella Axelrod on my wedding in July 24th.
Not at all safe	Antelope Flats, Moose-Wilson
Not at all safe	narrow shoulder
Not at all safe	On all roads, all the time wide vehicles. There are lots of stories in local newspaper about people being hit by cars. On smaller roads cars often drive on wrong side of road to photograph beasts.
Not at all safe	too small shoulders, lots and lots of potholes on first mile of Signal. Terrible section north of Colter bay.

Table 16: Safety Answers for August 2010 Survey

How Safe did you feel today?	If you felt unsafe, describe location. Why did you feel unsafe? August 2010
Somewhat Unsafe	Lack of bike paths
Somewhat Safe	Autos at speed
Neutral	People blocking pathway
Somewhat Unsafe	There are not pathways all the way from Jackson to the park
Very Safe	Traffic paying attention or no?
Somewhat Safe	Bollards, I hate them
Somewhat Unsafe	Children and walkers scare bikers because they are unpredictable

Table 17: Safety Answers for July 2011 Survey

How Safe did you feel today?	If you felt unsafe, describe location. Why did you feel unsafe? July 2011
Neutral	Close call at crossing
Somewhat Unsafe	RVs
Very Unsafe	Jenny Lake Loop is unsafe
Somewhat Unsafe	Traffic
Very Unsafe	Sweep shoulders
Somewhat Unsafe	Road
Somewhat Unsafe	No shoulder

15.4. Facility Improvement Comments

Comments on desired facility improvements are provided in Tables 18-21.

Table 18: Answers to Facility Improvement Questions for April 2007 Survey

What non-motorized facility improvements would you like to see in the park? April 2007 (due to the large volume, only comments made in the "other" category are listed here)
more bike education to tourists better shoulders and pathways
wider shoulder, non-motorized path, shuttle service leading to less traffic
more separate pathways for cycling, more months of cycling, more grooming for skating
flush toilets, lattes at the beginning, more bike paths
path for bikes and hikers only, use of bikes on trails
pathway mountain bike trails
Some bike path & Better "Bikes on Road" or "Share Road" Signage
multi-use pathway with benches spaced along pathway
dirt multi use double track way away from paved roads
bike paths with parking facilities that are equal to current and future demand
separate pathway but mostly less allowance of vehicles. Public transportation in parks
separate pathway, debris removal, good signage
1.Paved separate pathway through park. 2. Groom moose Wilson road for Nordic skiing in winter!
wider lanes access to bikes to rent once roads areas are improved
wide shoulders, slow vehicles
reduce speed limit widen shoulders. Do not pave our park for bike paths
Wider road shoulders. Parking at key bicycle entry points.
who would be paying for new pathways? The park service funds need to be used for other purposes not pathways. I think pathways would change the park. Keep it like it is. Wider shoulders would be good, but lot of people don't stay in the, plus they ride side by side, I was taught you ride single file.
wide bike lane + slow traffic
widened shoulders, offer a shuttle bus service and reduce vehicle traffic
wider roads/ bike paths, more rest stops (bathrooms)
wider shoulders/close road to cars/shuttle bus
alternating day use
As many as possible-spend less on defense
Good as is
in the winter Find it interesting that non-dog recreators play on the dog side and will not then yield to those of us human/canine pairs who are trying to stay in the groove, fight conditions etc.
keep pathway off moose - Wilson rd
more routes available
None, spend money somewhere else for instance on personnel
PLEASE NO BIKE PATH!!! Bike paths are dangerous for fast moving cyclist don't force us off the road
signs with mileage
smoother road for rollerblading
better pavement where we rollerblade or bike
a place to ride safely
would like more options
another parking lot to park cars instead of Taggart lake

Table 19: Answers to Facility Improvement Questions for August 2007 Survey

What non-motorized improvements would you like to see in the park? August 2007
all of the above bicycle parking, way finding signs, lanes on roadway, multi-use pathways)
bicycle lane on roadway, way finding signs, multi-use pathway off road.
wider shoulders, better signage, awareness and pathways. The bike lane on Jenny Lake loop is not marked at start.
bicycle lanes, pathway
bike paths, wider shoulders. Why no mountain bikes on trails? Why horses on trails, but no bikes?
more bike paths, wider shoulders
See number 7. (Pathways most preferred, widened road shoulder next and dirt roads least preferred)
Separated pathway, more bike racks, don't chip seal, warning signs for motorists
bike lanes or multi-use path
multi-use pathways separate from roadway
multi use
multi-separated season pathways
multi-use pathway, bike lanes
multi-use pathways and better bicycle (wider) lanes along roadway
multi-use pathways separate from road
multi-use pathways separate from roadway
pathway
pathways or bike lanes
pathways should link inner Road
Pave Moose-Wilson Road and/or have pathways through out the park
paved pathways separate from roads
separate bike paths
Bike lanes on roadway! The bike lanes/shoulder should have good surface. More signs altering drivers that cyclists share the road.
bike signs, wider bike lanes
way finding signs, bicycle lanes on roadway. I don't know about multi-use
wider shoulders, signs
better shoulders: wide, clean smooth
bicycle lane on roadway
bicycle lanes
bicycle lanes on all roads
Bicycle lanes on roadway
bigger bike lanes
bike lane or wider shoulder
bicycle parking and bicycle lanes on roadway.
paved shoulders could be smoother in some areas. Only paved shoulders
wide shoulder designated for cyclists
wide shoulders
widened shoulders north of Jackson lake Junction to Yellowstone
widened shoulders, signs for bike awareness
wider shoulder
wider shoulder on (?) near Kelly springs
bike lane signage
more signing of potential bike treks- i.e. paved closed road near Jenny Lake campground
more signs
way finding and distance signs
availability of bathrooms
cheap rentals just for transportation
more horseback trails, mountain bike rentals in park. Least impact (no paved pathway)
not enough shoulder, not enough in literature about bike safety, more education about cyclists

Table 20: Answers to Facility Improvement Questions for August 2010 Survey

What non-motorized improvements would you like to see in the park? August 2010
Add center stripe
All of the above
All of the above
Bigger yield signs
Bike lane on Moose Wilson
Bike lanes
Bike lanes
Bike lanes
Bike parking
Happy
Install benches along path
Limit motorized use
Make cars yield at crossing
Maps/info
Mile markers
More toilets
More, add center stripe
More, bike lanes
More, mile markers
More, widen shoulder
More, all of the above
More, bike lanes
More, center stripe
More, mile markers
More, plow in spring
More, widen shoulder
More, widen shoulder
Need shuttle
Remove bollards
Remove bollards
Remove bollards
User education
Widen curves
Widen shoulder
97 additional responses like “build more pathways,” or “extend the pathway.”

Table 21: Answers to Facility Improvement Questions for July 2011 Survey

What non-motorized improvements would you like to see in the park? July 2011
Bathrooms
Bathrooms
Bathrooms
Better signs
Better stop signs
Bicycle
Bike lanes
Bike lanes
Bike lanes
Bike rest/turnouts
Close MWR
Further seperation
Further seperation
Improve Dornans Rd
Improve Jenny Lk Loop
Improve MWR
Improve MWR
Improve MWR
Improve MWR
Improve MWR
Less signs/more path
Maps
Markers, water, callbox, shade
Mile markers
Mile markers
Mile markers
More separation
More, bike lanes, signs
More/turnouts
More/better shoulders
More/bike lanes
Post rules, more
Pullouts/bike racks
Rest areas
Sheltered stop
Signs
Signs, mile markers
Smooth bridge
Water
Water, more
100 additional responses like “build more pathways,” or “extend the pathway.”

15.5. Wildlife Sighting Comments

Respondents were asked to provide details on their encounters with wildlife, to support other research projects on the impacts of the pathway on wildlife. These results were provided to that research team. The raw data are provided here (Table 22).

Table 22: Answers to Wildlife Encounter Questions for April 2007 Survey

Did you encounter any wildlife while using non-motorized mode? April 2007						
Date	**Location**	**Type**	**Distance**	**No. Wildlife**	**No. People**	**Interaction**
4/27/2007	Jackson Lake	beaver	25 feet	1 to 10	2	just observing
4/27/2007	park rd	birds				
4/27/2007	1/2 way to Jenny Lake	Bluebird	12 feet	1	1	riding
4/27/2007		Clarks nutcracker		2	2	begged food from us
4/27/2007	?	coyote		2	6	riding
4/27/2007	Jenny lake area	Coyote				
4/27/2007	Jenny Lake loop	coyote	50 yards	3	1	riders stopped coyote neutral
4/27/2007	Jenny Lake South entrance	coyote	1/4 mile	2	5	we watched as wildlife ran off
4/27/2007	North of Jenny	Coyote	50 yards	1	6	riding
4/27/2007	North of Jenny	Coyote	50 yards	1	1	
4/27/2007	South entrance to Jenny lake	Coyote	100 yards	1	5	biking
4/27/2007		coyote / deer	200 yards	5	2	
4/27/2007	Jackson Lake	coyote/ beaver	300 feet	1	2	no interaction
4/27/2007	?	deer/elk (fall '06)	50 yards	24	1	I stopped they stopped
4/27/2007		eagle		1	2	
4/27/2007	1 mile N of Taggart	elk	500 Yards	2	3	we kept going they went into the woods
4/27/2007	2 miles N of Taggart	elk	1/4 mile	1	3	I stopped other bikers were stopped Elk seemed frightened and slightly confused
4/27/2007	between moose and south entrance to jenny lake	elk	1/2 Mile	40	4	
4/27/2007	climbers ranch	elk		1		moving along
4/27/2007	Jenny Lake	Elk	500 Yards	2	2	no interaction
4/27/2007	viewing in field	elk	across field	50+	1	
4/27/2007	Taggart Lake Trail	Elk, grouse, ground squirrels, chipmunks, voles, marmots	3-50 yards	12	0	hiking
4/27/2007	jenny lake circle north end	fox	100 yards	1	6	
4/27/2007	Jenny lake by	Ground Squirrel	4 feet		2	

Did you encounter any wildlife while using non-motorized mode? April 2007						
Date	**Location**	**Type**	**Distance**	**No. Wildlife**	**No. People**	**Interaction**
	boat dock					
4/27/2007		grouse / coyote	20 feet	2	2	riding
4/27/2007	between string and Jenny lake	marmot	3 feet	1	1	I was hiking along the trail saw marmot and we stared at each other for a while then we each moved along
4/27/2007	cottonwood creek	moose	50 yards	6		
4/27/2007	moose Wilson rd	moose	100 feet		1	
4/27/2007	Signal Mountain	moose	35 yards	1	2	stopped, looked, left
4/27/2007		restrus (some type of Bird)	100 yards	2	2	bird flew over twice
4/27/2007	string lake	sand hill cranes		2	4	enjoying the view
4/28/2007		antelope	3/4 mile	2	4	rode on they stayed put
4/28/2007	road	antelope, elk	100 yards	30	6	no reaction of wildlife to us
4/28/2007	Jenny lake	Bald Eagle	100 feet	1	1	
4/28/2007	Jenny lake	bald eagle	40 yards	2	2	flying looking
4/28/2007		bald eagle	just overhead	1		
4/28/2007	signal mountain	bird	10 feet	1	2	turkey - type of bird crossed in from of our bikes on the road
4/28/2007		Birds				
4/28/2007		birds			10	
4/28/2007		birds				
4/28/2007	Jenny Lake	birds, squirrels	100 yards	2	2	riding
4/28/2007	highway	buffalo	200 yards	40 to 50	2	looked
4/28/2007	Moran area	buffalo	50 yards	many	2	waiting with cars for wildlife to cross
4/28/2007		butterfly				
4/28/2007	Jenny Lake	chipmunks	2 feet	6		picnic / mooch
4/28/2007	cottonwood creek	chipmunks	crossed road	1		
4/28/2007	everywhere	chipmunks and birds		lots	4	
4/28/2007	between taggart and jenny lake	coyote / moose	10 feet	3 to five	2	riding on road stopped to look coyote turned and then continued on, moose were indifferent
4/28/2007		coyote / moose	close		6	
4/28/2007	Jenny lake	coyotes, elk	200 yards	3	3	riding by
4/28/2007	tiuben island	coyotes, elk	200 yards	20	6	coyote spooked elk did nothing
4/28/2007	String Lake	ducks	50 yards	3	4	

Did you encounter any wildlife while using non-motorized mode? April 2007						
Date	**Location**	**Type**	**Distance**	**No. Wildlife**	**No. People**	**Interaction**
4/28/2007	both sides of the park	elk	100 feet	300	1	enjoyed looking at them didn't seem to effect them
4/28/2007	jenny lake	elk		10	4	no response
4/28/2007	near nolan jen?	elk	150 yards	3	1	
4/28/2007	signal mountain	Elk	1-2 miles	6	4	no interaction
4/28/2007	String Lake	Elk	30 feet	1	1	Elk ran across road after seeing me on my bike
4/28/2007	near windy corner lot	fox	200 yards	6	1	
4/28/2007	Jenny Lake	ground squirrel	2 feet	1	10	squirrel normality people chaos
4/28/2007	Taggart Lake	marmot, grouse	25 feet	3	2	on hiking trail, quietly watched, moved on
4/28/2007		moose				
4/28/2007		moose, buffalo, antelopes, elk, deer	300 yards	less than 50		eating no interaction
4/28/2007	String lake	Raptors and other birds		lots		biking along
4/28/2007	signal mountain	sage grouse	3 feet	1	2	riding slowly uphill
4/28/2007	Jenny Lake	wolf	25 yards	1	1	wolf heard me approach crossed road and ran took up an observation position and watched me approach and leave on bike
4/28/2007	string					
4/28/2007	view from a distance					no interaction
4/29/2007	Along Teton Park	Bald Eagle			2	no change in eagle- it was soaring
4/29/2007	on the road	bear	20 feet	1	3	
4/29/2007	signal mountain	bear			4	came upon back of bear on road
4/29/2007	signal mountain	bear and cub	75 yards	2	3	passive viewing - wildlife did not react - motor vehicles were also present
4/29/2007	Everywhere	Birds			2	
4/29/2007		birds				
4/29/2007	all over	birds			2	
4/29/2007	everywhere	birds, butterflies, chipmunks			7	we were riding bikes and the birds were flying and the chipmunks were

Did you encounter any wildlife while using non-motorized mode? April 2007						
Date	**Location**	**Type**	**Distance**	**No. Wildlife**	**No. People**	**Interaction**
						skittering
4/29/2007	everywhere	blue bird	30 feet	3	6 to 10	
4/29/2007	jenny lake	butterflies		several	7	stopping to have lunch
4/29/2007	jenny lake	butterflies	landed on person	1	7	
4/29/2007		butterflies				
4/29/2007		coyote	100 yards	1	4	
4/29/2007	Jenny Lake	coyote	100 yards	1	4	watched it watch us
4/29/2007	Jenny Lake	coyote, elk	200 yards	herd	5	just rode by they did not react
4/29/2007	Glacier Turnout	coyotes	1/2 mile	3	1	watched from a distance for about 5 minutes
4/29/2007	jenny lake	coyotes	200 feet	1	2	just observed
4/29/2007	on the road	coyotes	30 yards	2	2 + dog	slowed my dog down and made him sit didn't want to have take off after him
4/29/2007	Taggart Lake	coyotes	200 feet	1	7	coyote did not see us and crossed the field
4/29/2007	in the distance	deer		4		
4/29/2007	Exum cabins	elk	1/2 mile	20		
4/29/2007	North of Taggart	Elk	200 yards	herd	5	they were in the distance
4/29/2007	off road between highway and park road, north of Bradley Taggart	Elk	1/4 mile	herd-20	7	cycling, then stopped to view them.
4/29/2007		elk	400 yards	30	10	running in the distance
4/29/2007		Elk, Birds		100 Elk		
4/29/2007	multi areas- early in am	elk, birds, peregrine falcon	several hundred yards	100		
4/29/2007		elk, butterflies, downy woodpecker, robins				
4/29/2007	road	ground squirrel	feet	7	3	
4/29/2007		moose	100 feet	1	1	
4/29/2007	jenny lake	otter	50 feet	1	6	watched otter swimming
4/29/2007	jenny lake	otter			6	having lunch at boat dock
4/29/2007	jenny lake	otter				
4/29/2007		ravens				
4/29/2007	lupine meadows	ruffed grouse	10 feet		1	I was hiking animals ambled

Did you encounter any wildlife while using non-motorized mode? April 2007						
Date	**Location**	**Type**	**Distance**	**No. Wildlife**	**No. People**	**Interaction**
						away
4/29/2007	lupine meadows	sand hill cranes	100 yards	2	6	wildlife continues walking along the meadow wheel we sat talking looking thru binoculars and eating lunch
4/29/2007	lupine meadows	sand hill cranes	100 yards	2	6	eating picnic lunch heard and saw cranes
4/29/2007		the moose encounter 2 weeks ago				
4/29/2007	all over	wolf, birds, elk, deer, bear tracks	200 yards	1	3	riding and looking
4/29/2007	Jenny Lake	woodpecker	50 feet	1	3	we stopped for water and listened to it peck a hole
4/30/2007	Signal Mountain	Bear	100 yards, 50 yards	2	8	Bears didn't move.
4/30/2007	Signal Mountain	Bear	100 yards, 50 yards	2	8	Group stopped till bears left area
4/30/2007	Signal Mountain Road	Bear, Chipmunk, 3 Ruffed Grouse, Red-Tail Hawk	2-1000 ft.	3-Jan	2	Observing
4/30/2007		Bears		2		
4/30/2007		birds				
4/30/2007	signal mountain	Elk	150 yards	5	1	
4/30/2007	signal mountain	elk, hawk, bald eagle, pelicans	varies	a lot	1	
4/30/2007	Pond near dam	Grizzlies	200 Ft.	2	1	Observation
4/30/2007		Just Birds				
4/30/2007	moose entrance	moose, bear	1/4 mile	2	1	bears were very close to road we just kept biking no impact on moose

In August 2007, respondents were also asked to provide details on their encounters with wildlife, to support other research projects on the impacts of the pathway on wildlife. These results were provided to that research team. The raw data are provided here (Table 23).

Table 23: Answers to Wildlife Encounters for the August 2007 Survey

Did you encounter any wildlife while using non-motorized mode? August 2007						
Date	**Location**	**Type**	**Distance**	**No. wildlife**	**No. people**	**Interaction**
8/24/2007		antelope, red tail hawks, rabbits			1	
8/24/2007	Signal Mountain	bears and deer	20 yards			we rode and they watched.
8/24/2007	Signal Mountain	bears and deer	120 ft	2	6	Riding past them, then they jumped into the woods.
8/24/2007	Antelope flats	buffalo	20 ft	2	1	chased me, not happy experience
8/24/2007	Hidden Falls Trail	chipmunk, birds, snake	1-2 ft	lots	4	just watched
8/24/2007	Jenny Lake, Colter Bay	coyote, fox, antelope	20 ft	3	1	
8/24/2007	RKO road half way to river	elk	150 yards	50	2	elk watched us and then moved away as we approached on road
8/24/2007	one way Jenny Lake and Jackson Lake	fox, 1 bear, deer	10 ft	1	3	riding bicycles, no reaction-kept on moving.
8/25/2007	Signal Mountain	bear	?	1	19	biking
8/25/2007	Moose Wilson	bear, bison, moose, elk	20 yds		1	they watched me and I watched them
8/25/2007	Signal/Oxbow	bear/moose	close	1		100 meters from road is was eating, the moose was in the lake
8/25/2007		buffalo	100m			no interaction, don't go down Moran rd because of buffalo (mock charge)
8/25/2007	?	coyote	5 ft	1		
8/25/2007		deer	close			
8/25/2007	near Jackson Lake	elk	60 yds	5	2	stopped to watch elk graze
8/25/2007	Signal Mountain	grizzly	200ft	1		animal jam (sitting on previous trip)
8/25/2007	Moose Wilson Road	moose	10 ft	1		
8/25/2007	Pacific Creek	moose	50 yds	1		just viewing
8/25/2007	N. of Cunningham cabin	pronghorn	1000yds	15	1	road past pronghorn in open area
8/26/2007	near Kelly	Antelope, bison	50 meters	50+	3	Riding, antelope crossed road ahead of us. Bison congregated

Did you encounter any wildlife while using non-motorized mode? August 2007						
Date	**Location**	**Type**	**Distance**	**No. wildlife**	**No. people**	**Interaction**
						on road-had to wait for a car to move through the bison.
8/26/2007	N. side of Jenny Lake	baby grizzly	10 yards	1	4	turned around
8/26/2007	Antelope flats	bison	10m	30	1	rode by
8/26/2007	restroom near Gros Ventre	Bison, (?? Road)	50 ft	20-30	20	stopped and waited
8/26/2007	Antelope flats	bison, antelope, coyote	200-300 yards	50+	2	were stopped by side of road, wildlife was grazing and/or walking
8/26/2007	Sacred Heart church area	black bear	30 feet	1	20	picnicking
8/26/2007	Signal Mountain	black bear and elk	40 yards	1	2	pretty accustomed to people
8/26/2007	Antelope flats	buffalo	30 feet	1	2	stopped until he left the road
8/26/2007	Antelope flats	buffalo	20 feet		3	stop, saw, rode
8/26/2007	Lupine meadows	deer	1/4 mile	3		
8/26/2007		pronghorn	100m	1		
8/26/2007						not yet, but have seen griz, black bear, elk, deer, bison, pronghorn, moose, coyote this summer

After reviewing the data in previous surveys, researchers determined that the wildlife question required too much response time. Also it was difficult to determine if the respondents were referring to wildlife interactions on the current trip or a previous one, or even a trip by vehicle. In August 2010, the wildlife question was changed to ask simply how the pathway impacted the person's experience viewing wildlife (Table 24). When comments were identical, they were grouped and only listed once.

Table 24: Answers to Impact of Pathway on Wildlife Viewing Question for August 2010 Survey

Describe what effect, if any, the multi-use pathway had on your wildlife viewing experience in Grand Teton National Park. August 2010	
Comment	**Number of Responses**
Better	78
Easy stopping	1
Little	2
Safer	1

The simplified question of the pathway impact on wildlife viewing was also asked in July 2011 (Table 25).When comments were identical, they were grouped and only listed once.

Table 25: Answers to Impact of Pathway on Wildlife Viewing Question for July 2011

Describe what effect, if any, the multi-use pathway had on your wildlife viewing experience in Grand Teton National Park. July 2011	
Comment	**Number of Responses**
Awesome	3
Beautiful	2
Best	1
Better	9
Comfort	1
Enabling	1
Enhanced	4
Enjoy	1
Enjoyable	1
Excellent	7
Exceptional	1
Fantastic	2
Fuller	1
Good	3
Great	13
Happy	1
Improved	3
Increased	2
Less stress	1
Little	1
More possible	1
More time	1
Neutral	1
Nice	3
Not bad	1
Out of car	1
Outstanding	1
Phenomenal	1
Positive	2
Safe	4
Safer	3
Safety	2
Super	1
The best	1
Very good	2
Wonderful	2

16.APPENDIX J: LOCAL ZIP CODES

The zip codes in Table 26 were defined as local for the purpose of this study.

Table 26: Zip Codes Used to Identify Locals

Local zip codes	City	County
83001	Jackson, WY	Teton
83002	Jackson, WY	Teton
83011	Kelly, WY	Teton
83012	Moose, WY	Teton
83013	Moran, WY	Teton
83014	Wilson, WY	Teton
83025	Teton Village, WY	Teton
83101	Kemmerer, WY	Lincoln
83110	Afton, WY	Lincoln
83111	Auburn, WY	Lincoln
83112	Bedford, WY	Lincoln
83114	Cokeville, WY	Lincoln
83116	Diamondville, WY	Lincoln
83118	Etna, WY	Lincoln
83119	Fairview, WY	Lincoln
83120	Freedom, WY	Lincoln
83121	Frontier, WY	Lincoln
83122	Grover, WY	Lincoln
83123	La Barge, WY	Lincoln
83124	Opal, WY	Lincoln
83126	Smoot, WY	Lincoln
83127	Thayne, WY	Lincoln
83128	Alpine, WY	Lincoln
83414	Alta, WY	Teton
83422	Driggs, ID	Teton
83424	Felt, ID	Teton
83452	Tetonia, ID	Teton
83455	Victor, ID	Teton

17. REFERENCES

1. *Grand Teton National Park Transportation Plan/Final Environmental Impact Statement*, National Park Service, U.S. Department of the Interior, September 2006.

2. *Grand* Teton *National Park Transportation Plan/Environmental Impact Statement/ Record of Decision*, National Park Service, U.S. Department of the Interior, March 2007.

3. McGowen, P. Memorandum to Grand Teton National Parks regarding 2009 Non-motorized Counts. May 18, 2010.