

Trail and Pathway Use in Jackson Hole, Wyoming

Methods and Data Sources, June 2016



Background

During the summer and fall of 2015 as well as during the winter and spring of 2016, Headwaters Economics partnered with Friends of Pathways, the Town of Jackson, Teton County, Wyoming, the Bridger-Teton National Forest, and the Jackson Hole Chamber of Commerce to inventory trail and pathway use in the Jackson Hole, Wyoming area (Link: <http://headwaterseconomics.org/dataviz/jackson-area-trail-use>).

The primary purpose of these count exercises is to establish the amount, type, and timing of trail and pathway use at specific locations. This information can be used to help manage and plan for the future with the goal of improving the quality of the recreation and transportation experience on trails and pathways.

Methods and Data Sources

This section describes data collection and decisions made during data processing.

Two types of equipment—infrared counters and motion-sensor cameras—were used to gauge trail and pathway use. Counters were used to collect information on the overall volume of trail and pathway use by day of the week, hour of the day, and direction traveled. Cameras were used to collect information about the type (runners, dog walkers, mountain bikers, etc.) and gender of trail and pathway users.

Project partners jointly determined the location of counts, which were selected for a variety of reasons: because little is known about the extent of use and the mix of users; to answer questions about whether infrastructure is ‘right sized’ for the level and type of use; to determine if there is a clear pattern of use, such as time of day, direction of travel, or front country versus backcountry; and to inform current discussions about the need for changes in management based on use or its impacts.

In the case of Pathway 22, a missing link recently was completed between Jackson and Wilson. Baseline use data were collected here shortly after the segment was completed to allow partners to measure the future change in use attributable to this new connection.

COUNTER DATA

Counter data were collected during 64 days between August 27, 2015 and October 30, 2015 and during 122 days between November 21, 2015 and April 5, 2016.

Counters were active throughout a range of weather conditions, weekdays and weekends, and during a period generally considered favorable for outdoor activity on Jackson Hole area trails and pathways.

Counter equipment was used to collect information about the overall volume and timing of trail and pathway use. Counter data describe the total number of outbound and inbound individuals for every 15-min increment, 24-hrs per day, while the counter is active.

Importantly, the infrared counters detect each passerby—both those outbound and inbound. Individuals that leave and return from the same trailhead will pass the counter two times. One-way travelers doing point-to-point excursions will pass the counter once. Every time the infrared counter detects a passerby, it records a use. Therefore, the count should not be interpreted as being equal to the number of individual trail and pathway users, but rather the number of times users passed by.

Counter equipment collected information at the following 16 trailheads and pathway sections during the summer & fall (August – October) data collection period:

1. Arrow
2. Cache Creek Road A¹
3. Cache Creek Sidewalk
4. Cache Creek Road B (Only counter data collected. No camera data.)
5. Fish Creek
6. Garaman
7. Hagen
8. Josie's Ridge
9. KC
10. Munger Mountain
11. Nelson Drive
12. Old Pass Road
13. Path 22—Skyline Tunnel
14. Shade Monkey
15. Ski Lake (Only counter data collected. No camera data.)
16. Summit

Counter equipment collected information at the following 16 trailheads and pathway sections during the winter & spring (November – April) data collection period:

1. Cache Creek Road Mile 0
2. Cache Creek Road Mile 1
3. Cache Creek Road Mile 2
4. Emily's Pond Northeast Levee
5. Game Creek Trail
6. Garaman
7. Hagen
8. Mail Cabin
9. Mt. Glory Bootpack
10. Nelson Drive
11. Old Pass Road
12. Path 22
13. South Highway 89
14. South Teton Pass
15. Village Road Pathway at Stilson
16. Wilson Centennial Pathway

The counter data are shown in the trail and pathway interactive by day of use, hour of use, continuous one-hour intervals, and direction travelled. Daily median use is shown as well by day of the week and hour of the day.

CAMERA DATA

Camera data (photos) were collected during 57 days between July 28, 2015 and October 30, 2015 and during 112 days between November 21, 2015 and April 4, 2016.

Motion-sensor cameras were placed at trailheads and pathway sections to establish the share of users by type of activity (mode of travel) and the gender of each trail and pathway user. Cameras were not used to establish overall counts, which is more accurately done with infrared counters.

Camera equipment collected information at the following 16 trailheads and pathway sections for the summer & fall (July – October) data collection period:

1. Arrow
2. Cache Creek Road Mile 0²
3. Cache Creek Sidewalk
4. Fish Creek
5. Garaman
6. Hagen
7. Josie's Ridge

8. KC
9. Munger Mountain
10. Nelson Drive
11. Old Pass Road
12. Path 22—Emily Stevens' Pond (Only camera data collected. No counter data.)
13. Path 22—Indian Springs Ranch (Only camera data collected. No counter data.)
14. Path 22—Skyline Tunnel
15. Shade Monkey
16. Summit

Each individual trail and pathway user recorded by the cameras was assigned to one of eight user types:

1. Walker
2. Dog Walker/Runner
3. Runner
4. Mountain Biker
5. Road Biker
6. Roller Skier/Blader
7. Horseback Rider
8. Wagon Rider

These user types were determined in consultation with project partners after reviewing a wide range of user photos across data collection locations. Since there were fewer than five skateboarders and hunters, these individuals were assigned to the roller skier/blader and walker categories, respectively.

Camera equipment collected information at the following 16 trailheads and pathway sections during the winter & spring (November – April) data collection period:

1. Cache Creek Road Mile 0
2. Cache Creek Road Mile 1
3. Cache Creek Road Mile 2
4. Emily's Pond Northeast Levee
5. Game Creek Trail
6. Garaman
7. Hagen
8. Mail Cabin
9. Mt. Glory Bootpack³
10. Nelson Drive
11. Old Pass Road
12. Path 22
13. South Highway 89
14. South Teton Pass

15. Village Road Pathway at Stilson
16. Wilson Centennial Pathway

Each individual trail and pathway user recorded by the cameras was assigned to one of eight user types:

1. Walker
2. Runner
3. Cyclist
4. Nordic Skier
5. Downhill Skier/Snowboarder
6. Snowmobiler
7. Groomer
8. Other

These user types were determined in consultation with project partners after reviewing a wide range of user photos across data collection locations. Snowshoers and hunters were assigned to the walker category.

Data Visualization: <http://headwaterseconomics.org/dataviz/jackson-area-trail-use-interactive>.
Web post with additional details: <http://headwaterseconomics.org/economic-development/trails-pathways/jackson-area-trail-use>.

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ABOUT HEADWATERS ECONOMICS

Headwaters Economics is an independent, nonprofit research group whose mission is to improve community development and land management decisions in the West, <http://headwaterseconomics.org/>.

¹ With the counters we were not able to determine the number of covered wagon riders traveling by Cache Creek Road A. Chris Warburton with Bar T 5, the Forest Service permittee that operates the covered wagon business, provided total client numbers and validated the number and timing wagon runs for the days counters were in the field at Cache Creek Road Mile 2.

² The camera photographs were not able to discern the gender of covered wagon clients transported by Cache Creek Road Mile 0. Chris Warburton with Bar T 5 estimates that his client base, mainly couples and families with children, is evenly split between male and female. As a result we use a 50/50 ratio to assign the gender of covered wagon riders.

³ The camera photographs were frequently unable to discern the gender of trail users on the Mt. Glory Bootpack trail.