



Executive Summary



Grand Teton National Park Transportation & Visitor Movement Study

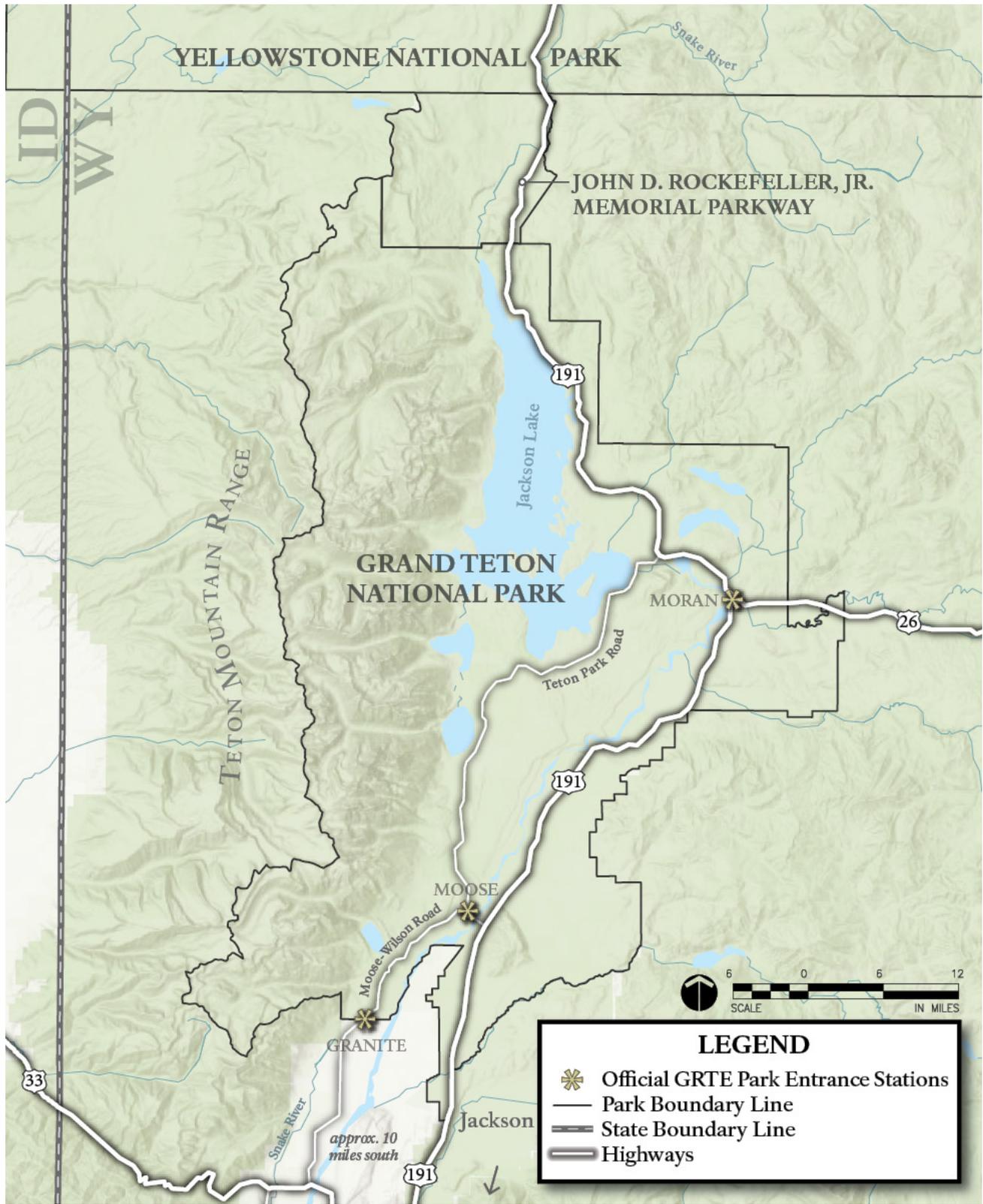
Prepared by Otak
with Fehr & Peers, &
L2 Data Collection, Inc.

Project Purpose

Grand Teton National Park is located in northwestern Wyoming and includes the Teton Range as well as the upper stem of the Snake River and numerous lakes. From 1993 through 2014, Grand Teton park visitation was relatively consistent from year to year and generally ranged between 2.3 million and 2.8 million annual recreation visits. In recent years, however, the park has experienced an unprecedented rise in visitation. The total number of annual recreation visits surpassed 3 million in 2015, and between 2015 and 2021, that count increased by 23%, with a record-breaking annual total of over 3.8 million park visits in 2021. Changes in visitation are stressing park operations and infrastructure, park fundamental resources and values, and visitor experiences and safety. The National Park Service has completed a comprehensive study to gain an understanding of transportation and visitor movements to, through, and within Grand Teton National Park and the John D. Rockefeller, Jr. Memorial Parkway. The park context studied is shown in the map (Figure ES-1), on the next page. Please refer to the full Grand Teton National Park Transportation and Visitor Movement report and appendix documents for additional information and the full study results.



Figure ES-1 Grand Teton National Park and the John D. Rockefeller, Jr. Memorial Parkway map



Types of Data Collected

Five types of data were collected in Grand Teton:

- (1) Wejo connected vehicles data
- (2) Traffic volume counts
- (3) Video from monitoring cameras
- (4) Passive mobile data from Bluetooth device detectors
- (5) Calibrated trail counter data

The Wejo connected vehicles mobility data are comprised of regularly uploaded location data (GPS coordinates) and time (via timestamps) of the vehicle at regular intervals, as well as event data (coordinates and timestamps of discrete events, such as power on/off, sudden braking, and hard acceleration). Wejo data are anonymized and provided at the trip level (beginning with a vehicle turning on and ending when the vehicle turns off). Based on these data sources, analyses of origin/destination travel patterns, parking activity/dwell time, traffic speeds, and potential safety-related indicators were identified by the project team.

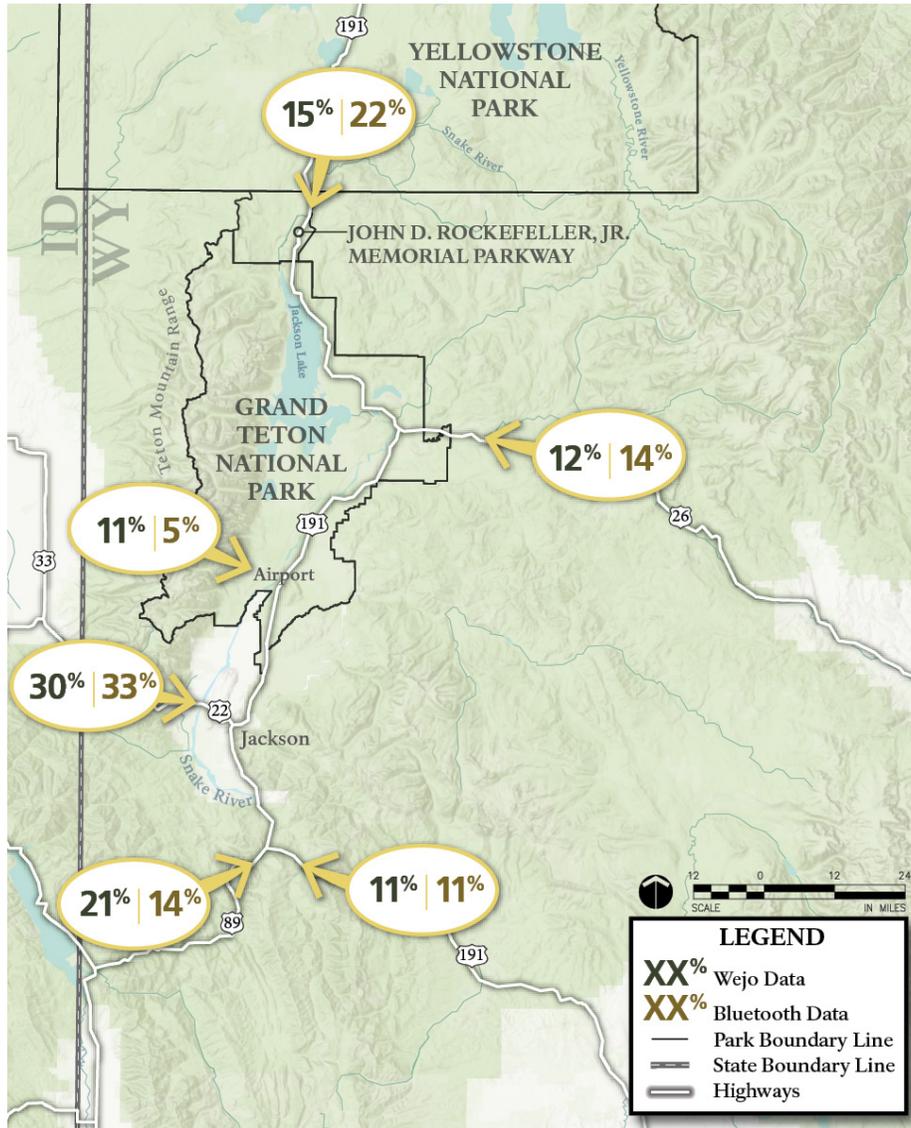
Table ES-1 below summarizes major data sources collected as part of this study, as well as the quantity/sample size and the dates represented in the sample. All data collected are representative of a snapshot in time. Some, such as Wejo connected vehicle data contain a bigger snapshot in time with a larger sample size, while others (Bluetooth, parking, etc.) are a smaller snapshot in time with a smaller sample size. However, all data sources, when evaluated collectively, are valuable in helping tell the overall transportation and visitor movement story.

Table ES-1 Major data sources collected for this study

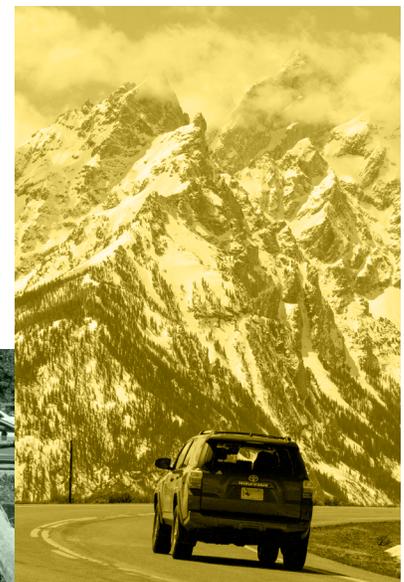
Data Source	Description	Quantity/Sample Size	Dates
Wejo Connected Vehicles	Connected vehicle location data providing origin/destination, routing, speeds, and event data	Full Sample: 1.58 million raw trips Detailed Sample: 80,000 trips	May-September, 2021
Traffic Counters	Temporary pneumatic tube counters that collect data on volumes of traffic	16 counters	August 6-8, 2021
Parking Video Monitors	Traffic monitor video recording of parking lot entries/exits, calibrated to daily early AM parking counts; helps in assessment of the number of vehicles parked and turnover	22 parking locations	Colter Bay: July 16-26, 2021 All Others: August 6-8, 2021
Bluetooth Devices	Bluetooth device detectors provide passive mobile data source showing linked trip patterns within specific timeframes	22 detectors; 20,477 trips	August 6-8, 2021
Trail Counters	Calibrated Trail Counters	12 trail locations	July 15-August 15, 2021

Parkwide Data

Figure ES-2 Percentages of trips entering the study area from gateways



The first analysis of travel patterns in the study was based on distribution of trips through regional gateways, defined as major roadways providing access into and out of Teton County, Wyoming, as well as the Jackson Hole Airport. Figure ES-2 shows the distribution percentages from each gateway into the region—note that these are not necessarily visitors to Grand Teton, but the total number of trips into the region from the six gateways. Figure ES-2 also shows a range of trip distribution values (the low-end and high-end), as this information was derived from two sources - the Wejo data and the Bluetooth data.



91% *of vehicles that enter Grand Teton stop at least once somewhere in the park*

The data results suggest the majority (91%) of vehicle-based travelers who enter park boundaries during May through September stop at least once somewhere in the park.

Of those few that pass through the park without stopping and turning off their vehicle engines, 4% pass through between Jackson and Dubois, and 3% pass through between Jackson and Yellowstone.

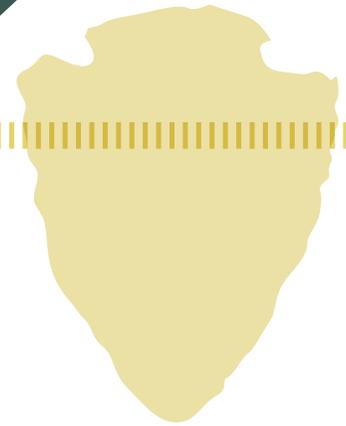


Table ES-2 Overlook utilization

Location	Percentage of Trips on Adjacent Roadway Accessing Overlook
Jenny Lake Overlook	41%
Jackson Lake Overlook	21%
Snake River Overlook	14%
Elk Ranch Flats Overlook	8%
Oxbow Bend Overlook	13%
Willow Flats Overlook	13%

Visitors are not traveling directly to a destination

Data indicate that visitors are making multiple stops on the way to their final destination. Some of those stops include overlooks and pullouts, which are well utilized by vehicles traveling on the adjacent roadways (Table ES-2).

Locations visitors stop are highly varied. Of all the locations that visitors turn their vehicles off, the top five locations constitute 30% of all trip ends (i.e. locations where visitors turn their vehicles off). The remaining 70% of trip ends include other locations such as trailheads, overlooks, campgrounds, etc. This is a good illustration that visitors are well distributed throughout the park, with only 12% making up the highest amount of trip ends (Colter Bay), and 70% making up the combination of smaller percentages of trip ends from numerous other visited areas. This reflects the dispersed nature of recreation and visitation within the park.

Top 5 Areas with the Most Trip Ends in Grand Teton

Colter Bay (12%)

Jackson Lake Lodge (7%)

Jenny Lake (6%)

Craig Thomas Discovery & Visitor Center (3%)

Signal Mountain Overlook (2%)

All other locations account for the remaining 70% of stops.

Dwell Times

Inferred median parking durations/dwell times at popular locations were documented as less than one hour in all locations except Jenny Lake during the study period

Table ES-3 Wejo-based inferred dwell times for locations with > 1,000 observations

Location	Dwell Times (HH:MM)			Sample Size
	15th Percentile	Median	85th Percentile	
Jenny Lake Parking	0:07	1:04	4:06	3,473
Colter Bay Campground	0:03	0:49	14:04	6,629
Gros Ventre Campground	0:02	0:31	13:58	4,252
Jackson Lake Lodge	0:04	0:29	7:11	4,854
Colter Bay Cabin Area	0:02	0:24	11:14	1,331
Craig Thomas Discovery & Visitor Center	0:09	0:23	0:50	3,150
Colter Bay Village (General Store, Visitor Center, Boat Ramp)	0:03	0:16	1:21	6,047
Moulton Barn Turnout	0:05	0:13	0:30	1,015
Signal Mountain Lodge	0:03	0:13	1:44	2,490
Signal Mountain Summit Overlook	0:05	0:10	0:19	2,050
Snake River Overlook	0:04	0:08	0:15	1,536
Flagg Ranch	0:03	0:08	0:29	5,376
Jenny Lake Overlook	0:03	0:08	0:22	1,538
Oxbow Bend Turnout	0:02	0:06	0:14	1,108
Upper Willows Flats Turnout	0:02	0:05	0:11	1,725
Sawmill Ponds Overlook	0:01	0:05	0:23	1,515
North Boundary Turnout	0:02	0:04	0:09	2,740
Colter Bay Gas Station/Convenience Store	0:02	0:04	0:09	2,244
Jackson Lake Overlook	0:01	0:04	0:12	1,214



Roads and intersections function really well – some parking areas have congestion

Based on observations from the several days of field work, the park roadways and intersections operationally function well with minimal congestion. Based on the collected data, travel speeds on the roadways generally are within the range of the posted speed limit with a few instances of speeds that exceed the posted speed limit at the easternmost periphery of the park on US HWY 26/287. Several parking areas experience over-capacity conditions at certain times of the day leading to excessive vehicle circulation (e.g. Jenny Lake) and parking overflowing to the adjacent roadway (particularly onto Teton Park Road) or into unmarked/designated parking areas (e.g. Death Canyon).

Guide to Full Report Contents

See the selected table of contents below for how to find information in the full study

Introduction.....	1
Methods.....	3 (Appendix pg. 1)
Results.....	21
Regional and Parkwide.....	21 (Appendix pg. 5)
Gros Ventre/Antelope Flats Subarea.....	65 (Appendix pg. 13)
Moose-Wilson Subarea.....	74 (Appendix pg. 36)
Moose to Signal Mountain Subarea.....	97 (Appendix pg. 60)
Moran to Leeks Marina Subarea.....	137 (Appendix pg. 124)
John D. Rockefeller, Jr. Memorial Parkway Subarea.....	156 (Appendix pg. 149)
Conclusion.....	168

